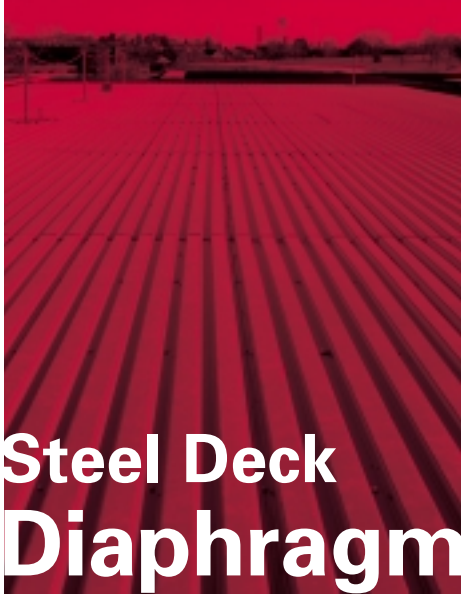


Steel Deck Diaphragm

CANAM
Solutions + Service

A division of Canam Group

TABLE OF CONTENTS

- Other Tables Available from Canam Web Site Combining Various Connectors.

INTRODUCTION

Standards

This Canam steel deck publication presents diaphragm load tables based on the *North American Specification for the Design of Cold-Formed Steel Structural Members* (CAN/CSA-S136-01) as approved by the Canadian Standards Association (CSA) and recommended by the Steel Deck Institute (SDI).

Warning (Disclamer)

Although every effort was made to ensure that all data in this catalogue is factual and the numerical values are accurate to a degree consistent with cold-formed design standards, Canam is not responsible for errors or oversights that may result from the use of the information contained herein. Anyone making use of the contents of this catalogue assumes all liability arising from such use. All suggestions for improvements to this publication will receive full consideration for future printings.

Design

The steel deck sheets used for roofs and floors provide support for gravity loads between the joists and/or beams. Once installed, these sheets can also be used as a horizontal brace and therefore the steel deck acts as a diaphragm. The fluted deck is equivalent to the web of a horizontal beam of which the flanges are the perimeter structural members connected to the deck. The span of that horizontal beam is defined by the distance between the vertical lateral load resisting systems connected to the deck. The secondary elements form stiffeners for the web produced by the fluted deck. As for normal beams, the deck (web of horizontal beam) must be attached to the perimeter members (flange of horizontal beam) to ensure transfer of the shear forces.

Reference

The SDI published the 3rd edition of the *Diaphragm Design Manual* in 2004 based on the results compiled from a series of tests conducted in the laboratories of the University of West Virginia. The Manual explains the theory behind the equations, provides examples on how to calculate the shear in the diaphragm, and indicates how to use the load tables. The load tables show the shear resistance of steel deck diaphragms based on various sheet thicknesses and profiles using welds, screws, or power-driven fasteners.

Diaphragm Tables

This catalogue presents the most common diaphragm tables for Canam steel deck profiles utilizing welds or Hilti pins at the support and screws or button punches at the side-lap. The diaphragm **factored shear resistance tables** in this catalogue are derived following the methods of the SDI and the resistance factors of the *Supplement 2004 to the North American Specification for the Design of Cold-Formed Steel Structural Members* (CAN/CSA-S136S1-04). The resistance factor is assumed to be 0.50 for bare deck and for filled concrete slab diaphragms.

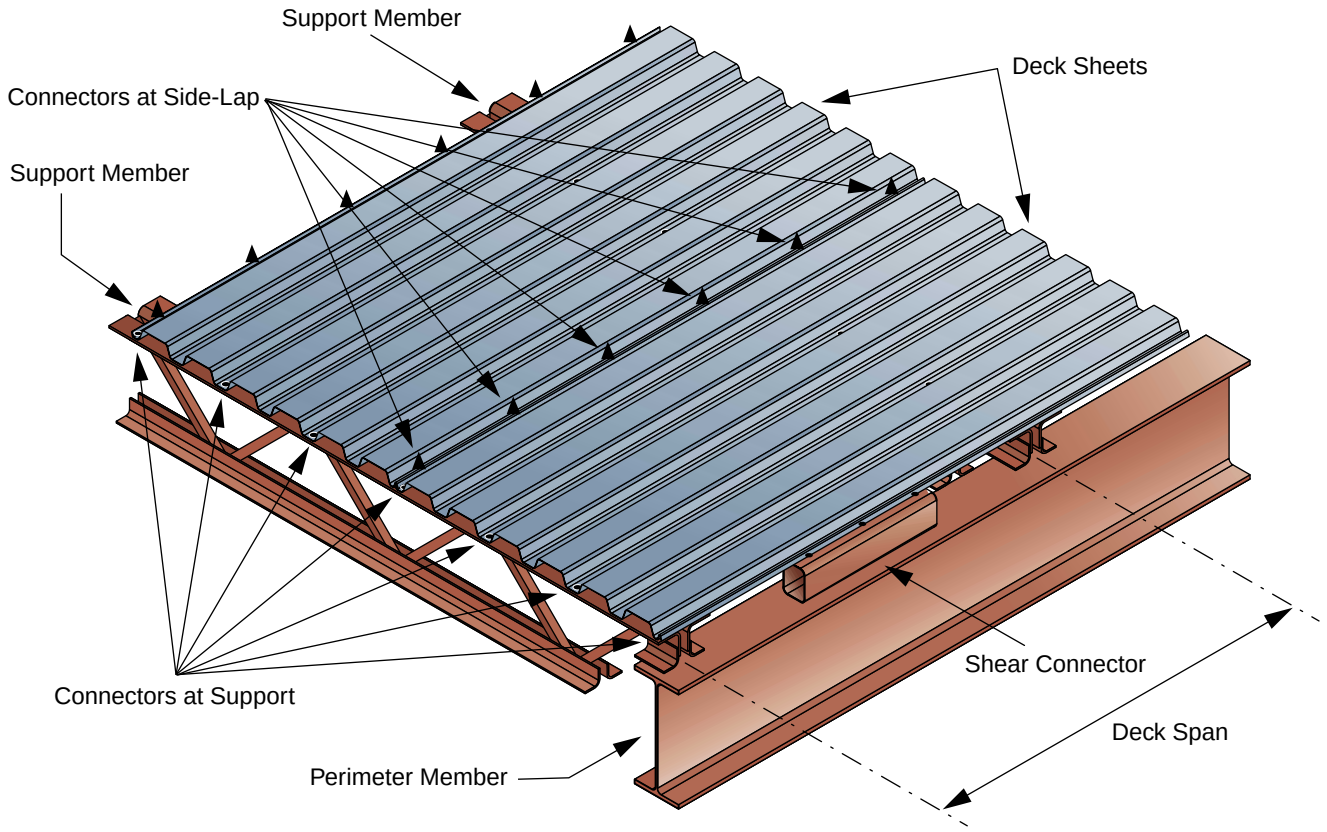
Consideration

The resistance and rigidity of the diaphragm depend upon the geometry, frequency, and type of fastener used to connect to the structural elements and the side-lap joints. In addition to this criteria, the value and source of the applied diaphragm shear must be clearly specified on the structural engineer's drawings. This information will ensure that the cost, material, and installation of steel deck reflect the structural engineer's design and that any alternate proposals will meet the engineer's requirements.

Designer's Requirements

The designer controls the resistance and the stiffness of the diaphragm by determining:

- The deck profile and thickness;
- The spacing and the type of connectors at support (sheet-to-structure);
- The spacing and the type of connectors at side-lap (sheet-to-sheet);
- The span of the deck (support spacing).



Minimum Requirements

In Canada, regardless of the shear loads, the deck must be installed to meet the maximum connector spacing specified by the Canadian Sheet Steel Building Institute (CSSBI).

Maximum Connector Spacing

	Connector at support	Connector at side-lap
Roof Deck	Every 300 mm (12 in.)	Every 900 mm (36 in.)
Floor Deck	Every 300 mm (12 in.)	Every 600 mm (24 in.)

Side-Lap Joints

The choice of connectors at the side-lap can influence the deck profile. Some profiles have a similar shape but the side-lap joints are different. Therefore, the profile must be specified in order to match the connectors according to:

- The shear requirements;
- The project requirements;
- The erector preferences.

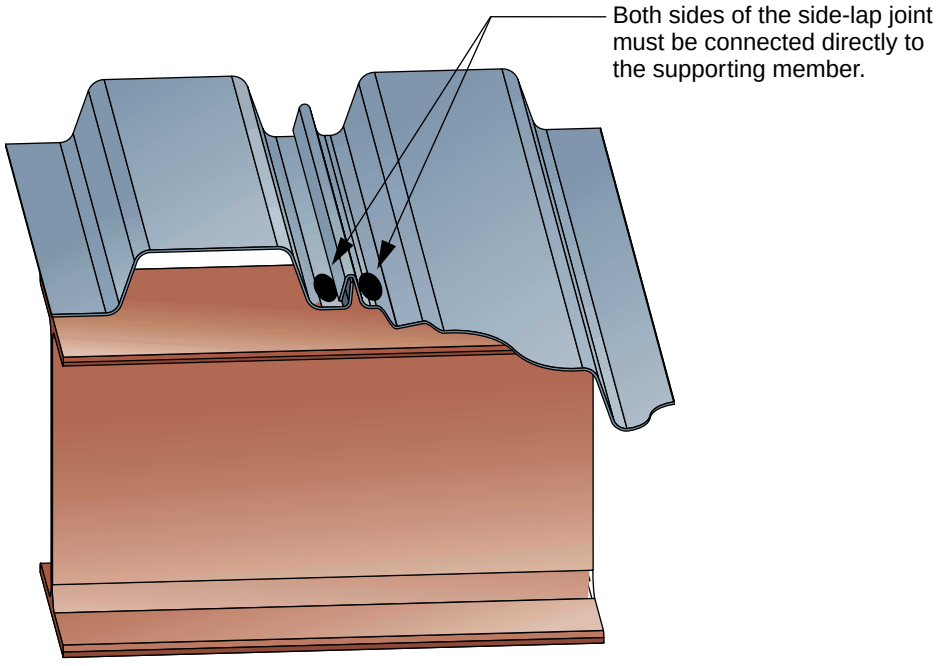
Side-Lap Connector vs Type of Joint

Type of joint	Profile	Connector at side-lap	Connector at support
"Interlocking Joint" 	• P-3615 • P-2436 • P-3623 • P-2432	• Button punch • Weld **	• Weld * • Power-driven fastener • Screw
"Overlapping Joint" 	• P-3606 • P-2404 • P-3012	• Screw • Weld **	

* Welds at support require welding washers when the deck thickness is less than 0.71 mm (0.028 in.).

** Welding of side-laps is not recommended for material of 0.71 mm (0.028 in.) or thinner.

Note: The edge of the sheet must be connected to the structural supporting member as illustrated below.



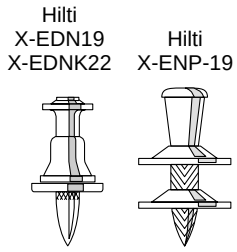
Types of Connectors

Welds at Support

A puddle weld has a visible diameter that must be at least equal to a specified dimension usually recommended as 16 mm (5/8 in.) or 19 mm (3/4 in.).

Power-Driven Fasteners

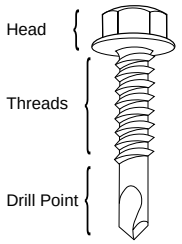
Power-driven fasteners used to connect steel deck to the structure must be selected according to the material thickness of the supporting members. (See page 15).



Self-Drilling Screws

Screws are used to connect steel deck to supporting members and to tie deck sheets together at the side-lap. It is important to provide the following information when specifying screws:

- Screw number (corresponding to the diameter);
- Drill point number;
- Screw length.



Screws Commonly Used with Steel Deck

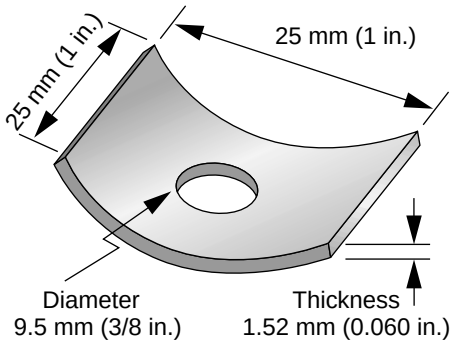
Screw Number	Diameter	Drill Point	Maximum Thickness of All Connected Parts	Use
10	4.8 mm (0.190 in.)	2	2.8 mm (0.110 in.)	At side-lap
12	5.3 mm (0.210 in.)	2	3.6 mm (0.140 in.)	
12	5.3 mm (0.210 in.)	5	12.7 mm (0.500 in.)	At support
14	6.1 mm (0.240 in.)	5	12.7 mm (0.500 in.)	

Button Punches

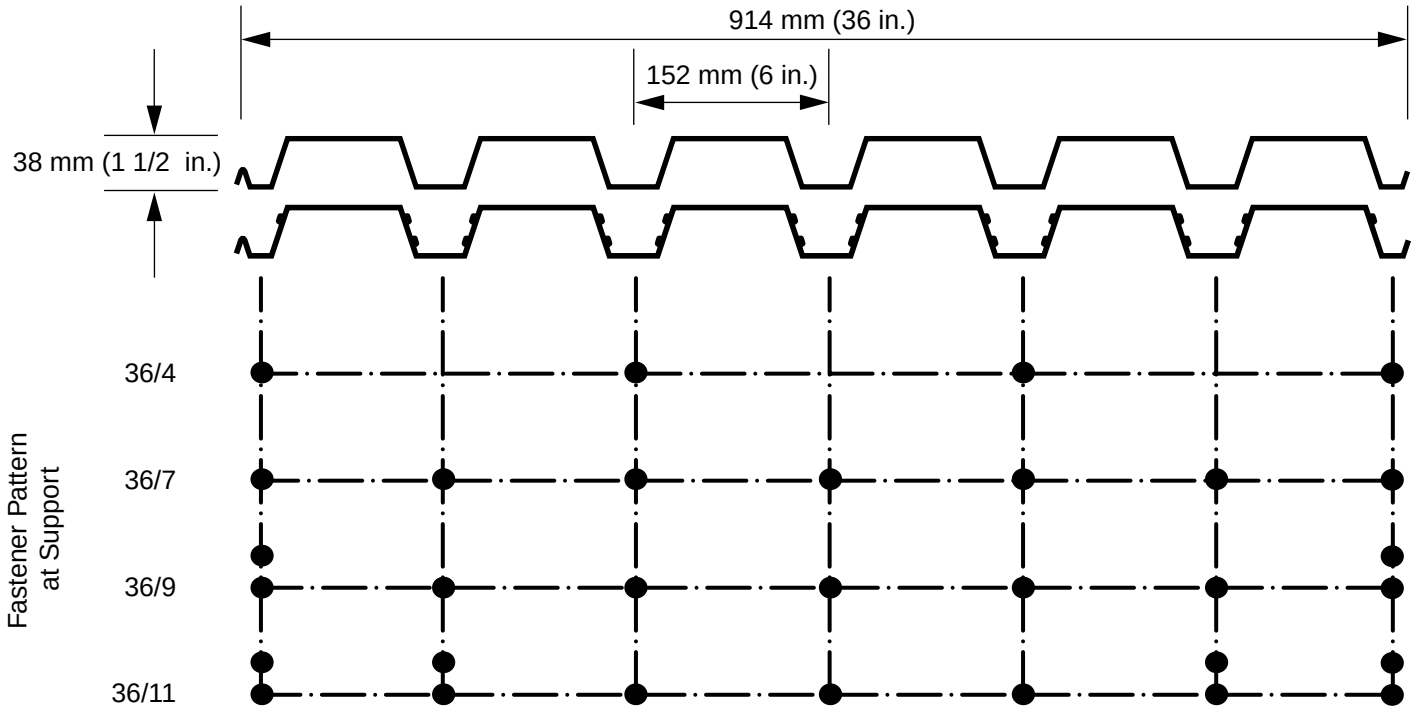
A button punch is formed by crimping the interlocking deck side-lap with a special tool called a crimper. The crimper has a round die that forms a button when it presses the two sides of the joint together to provide shear resistance.

Welding Washers

Welding washers should be used for welds at support when the sheet steel thickness is less than 0.71 mm (0.028 in.) as specified in the *North American Specification for the Design of Cold-Formed Steel Structural Members* (CAN/CSA-S136-01). The use of weld washers for material thicknesses greater than 0.71 mm (0.028 in.) can affect the weld quality and tests have proven that they are not required or recommended. Welding, as well as all other types of connectors, must always be monitored on site to ensure that the required size is provided and that the proper procedures are followed.



P-3615 & P-3615 Composite



Physical Properties

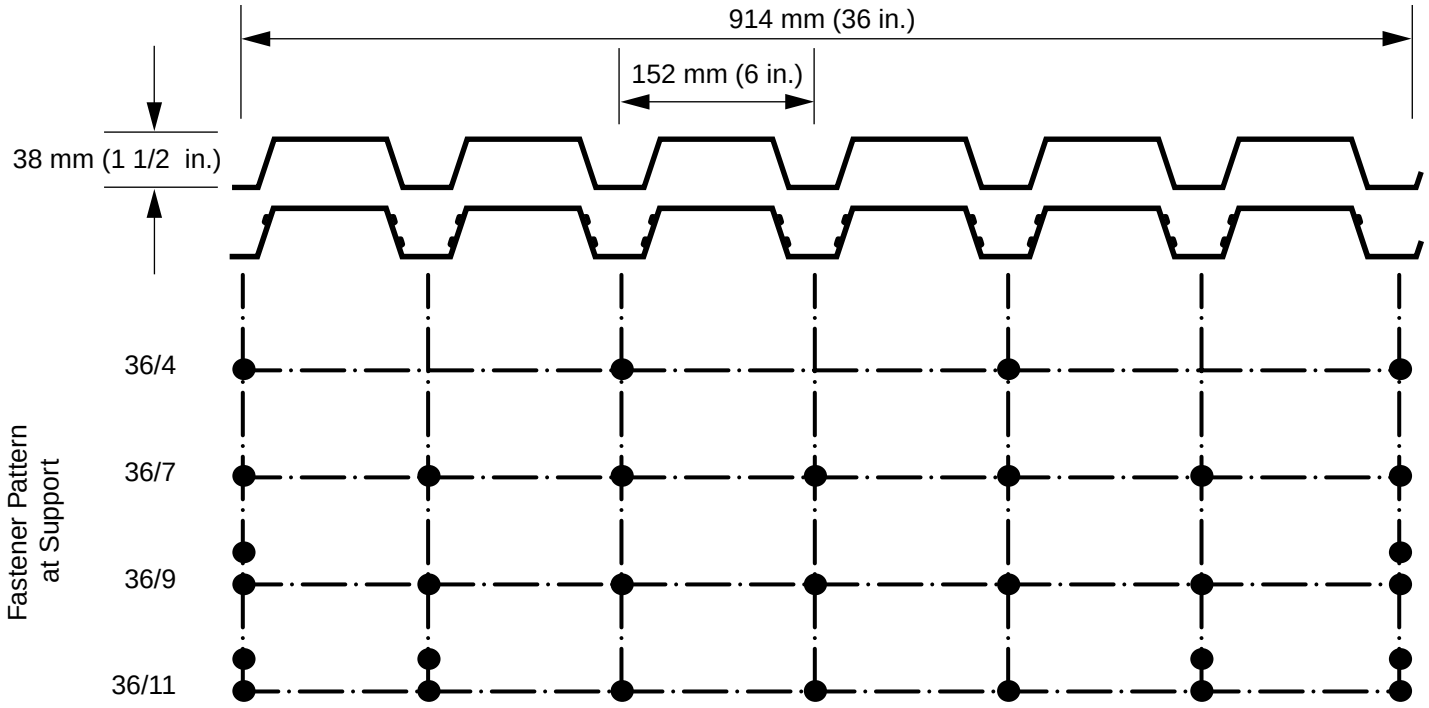
Type	Nominal Thickness	Overall Depth	Weight	Gross Moment of Inertia
	mm (in.)	mm (in.)	kg/m² (lb./ft.²)	mm⁴/m (in.⁴/ft.)
22	0.76 (0.030)	37.4 (1.47)	8.50 (1.74)	228 227 (0.1671)
20	0.91 (0.036)	37.5 (1.48)	10.07 (2.06)	272 365 (0.1994)
18	1.21 (0.048)	37.8 (1.49)	13.26 (2.72)	364 468 (0.2669)
16	1.52 (0.060)	38.1 (1.50)	16.34 (3.35)	452 803 (0.3316)

Possible Connectors

At Support	At Side-Lap
Weld, Power-Driven Fastener, Screw	Weld, Button Punch

- Welding of side-laps is not recommended for material of 0.71 mm (0.028 in.) or thinner.
- Button punching of 1.52 mm (0.060 in.) thick material is not practical using manual tools (i.e. crimper).

P-3606 & P-3606 Composite



Physical Properties

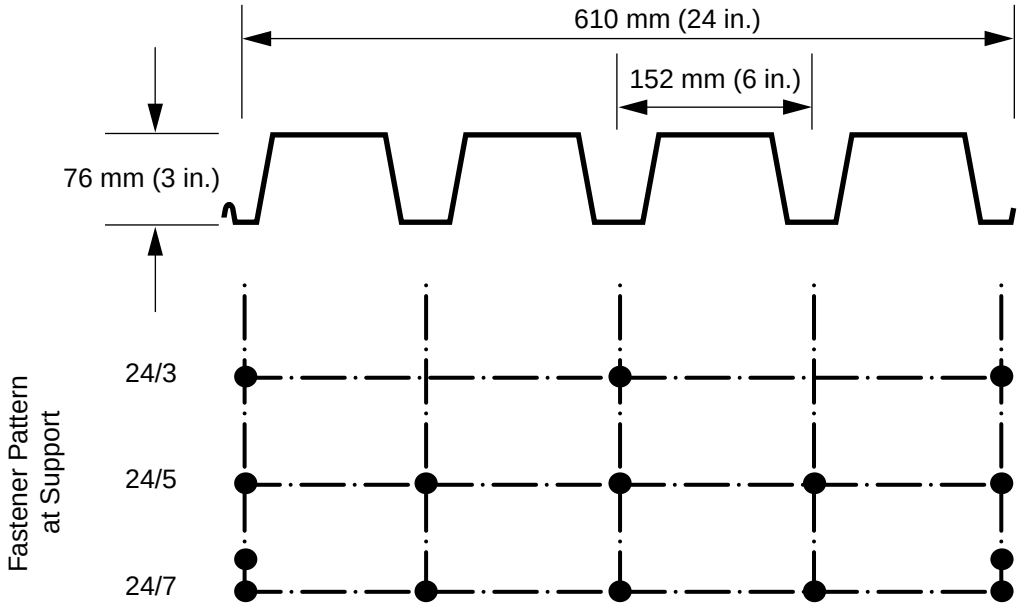
Type	Nominal Thickness	Overall Depth	Weight	Gross Moment of Inertia
	mm (in.)	mm (in.)	kg/m² (lb./ft.²)	mm⁴/m (in.⁴/ft.)
22	0.76 (0.030)	37.4 (1.47)	8.50 (1.74)	228 227 (0.1671)
20	0.91 (0.036)	37.5 (1.48)	10.07 (2.06)	272 365 (0.1994)
18	1.21 (0.048)	37.8 (1.49)	13.26 (2.72)	364 468 (0.2669)
16	1.52 (0.060)	38.1 (1.50)	16.34 (3.35)	452 803 (0.3316)

Possible Connectors

At Support	At Side-Lap
Weld, Power-Driven Fastener, Screw	Weld, Screw

• Welding of side-laps is not recommended for material of 0.71 mm (0.028 in.) or thinner.

P-2436



Physical Properties

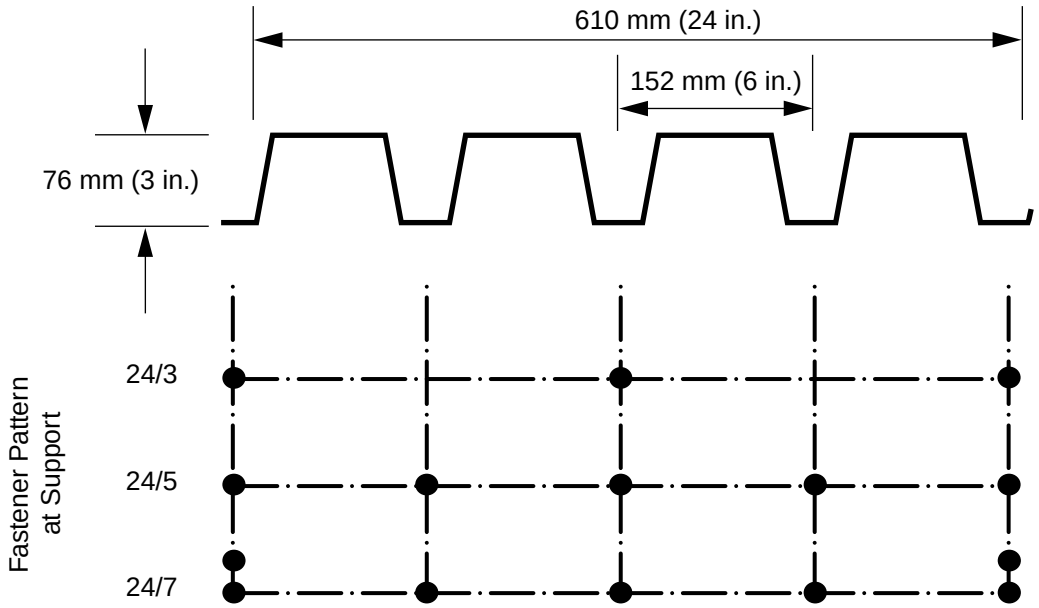
Type	Nominal Thickness	Overall Depth	Weight	Gross Moment of Inertia
	mm (in.)	mm (in.)	kg/m^2 (lb./ft.^{2})	mm^4/m (in.^{4}/ft.)
22	0.76 (0.030)	76.2 (3.00)	11.85 (2.43)	1 156 626 (0.8470)
20	0.91 (0.036)	76.4 (3.01)	14.04 (2.88)	1 380 254 (1.0107)
18	1.21 (0.048)	76.7 (3.02)	18.33 (3.75)	1 846 814 (1.3524)
16	1.52 (0.060)	77.0 (3.03)	22.71 (4.65)	2 294 134 (1.6800)

Possible Connectors

At Support	At Side-Lap
Weld, Power-Driven Fastener, Screw	Weld, Button Punch

- Welding of side-laps is not recommended for material of 0.71 mm (0.028 in.) or thinner.
- Button punching of 1.52 mm (0.060 in.) thick material is not practical using manual tools (i.e. crimper).

P-2404



Physical Properties

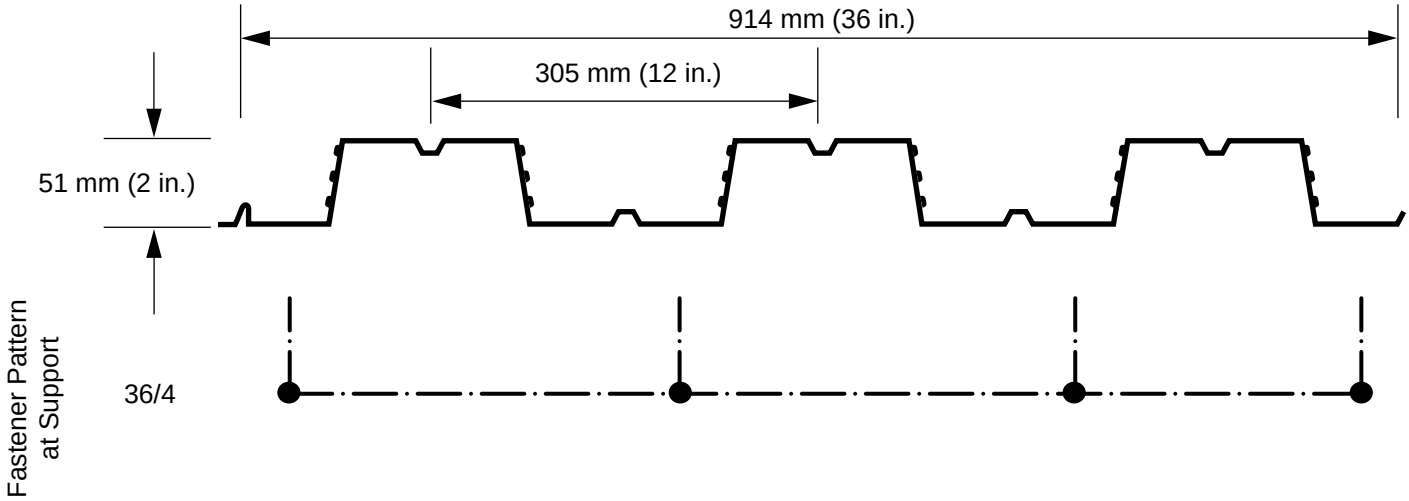
Type	Nominal Thickness	Overall Depth	Weight	Gross Moment of Inertia
	mm (in.)	mm (in.)	kg/m^2 (lb./ft.^{2})	mm^4/m (in.^{4}/ft.)
22	0.76 (0.030)	76.2 (3.00)	11.85 (2.43)	1 156 626 (0.8470)
20	0.91 (0.036)	76.4 (3.01)	14.04 (2.88)	1 380 254 (1.0107)
18	1.21 (0.048)	76.7 (3.02)	18.33 (3.75)	1 846 814 (1.3524)
16	1.52 (0.060)	77.0 (3.03)	22.71 (4.65)	2 294 134 (1.6800)

Possible Connectors

At Support	At Side-Lap
Weld, Power-Driven Fastener, Screw	Weld, Screw

• Welding of side-laps is not recommended for material of 0.71 mm (0.028 in.) or thinner.

P-3623 Composite



Physical Properties

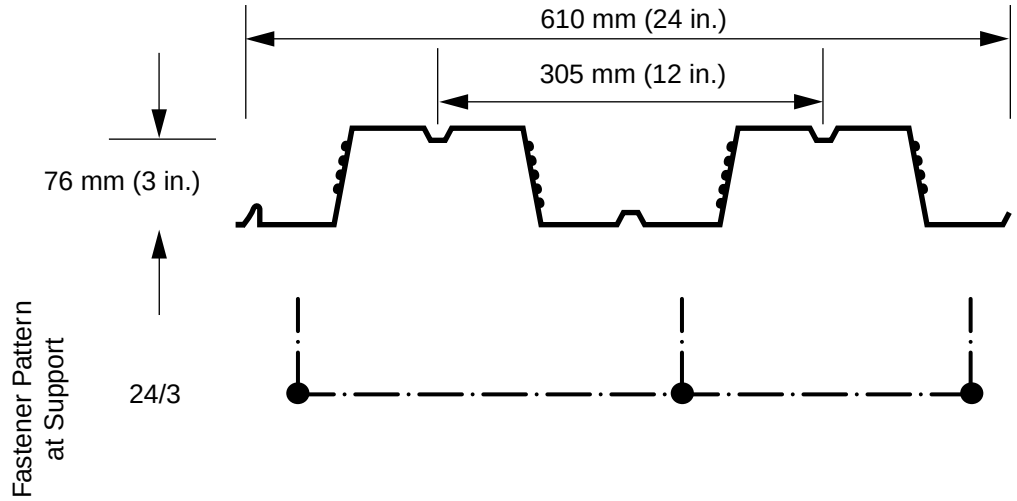
Type	Nominal Thickness	Overall Depth	Weight	Gross Moment of Inertia
	mm (in.)	mm (in.)	kg/m² (lb./ft.²)	mm⁴/m (in.⁴/ft.)
22	0.76 (0.030)	50.8 (2.00)	8.50 (1.74)	449 797 (0.3294)
20	0.91 (0.036)	51.0 (2.01)	10.07 (2.06)	536 771 (0.3931)
18	1.21 (0.048)	51.3 (2.02)	13.26 (2.72)	718 243 (0.5260)

Possible Connectors

At Support	At Side-Lap
Weld, Power-Driven Fastener, Screw	Weld, Button Punch, Screw

• Welding of side-laps is not recommended for material of 0.71 mm (0.028 in.) or thinner.

P-2432 Composite



Physical Properties

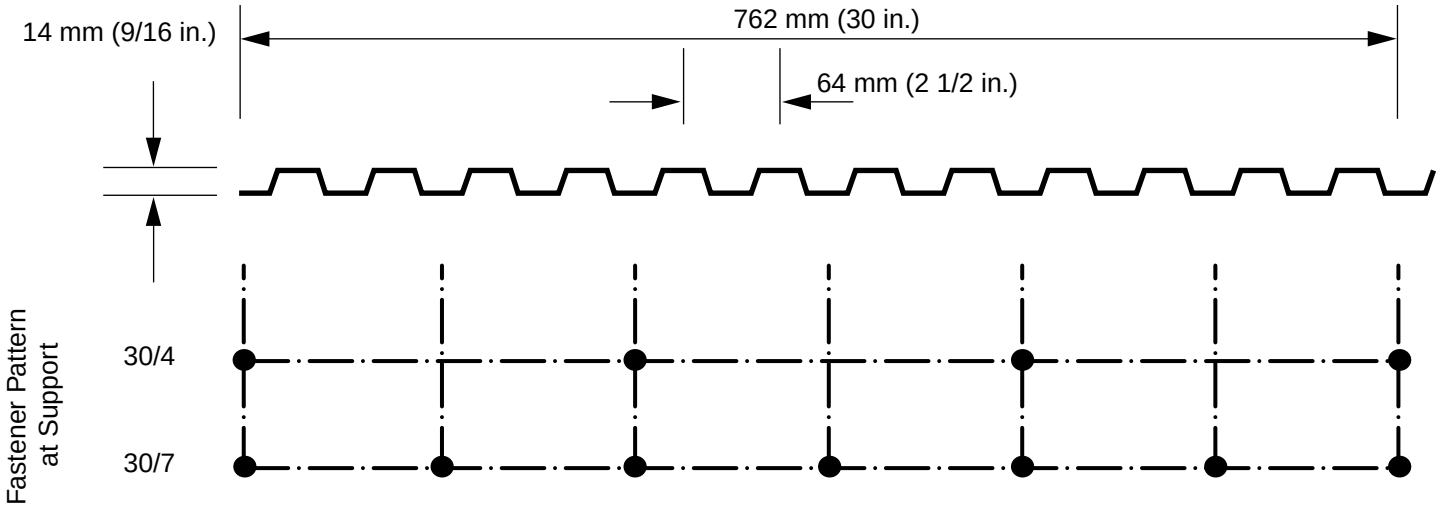
Type	Nominal Thickness	Overall Depth	Weight	Gross Moment of Inertia
	mm (in.)	mm (in.)	kg/m^2 (lb./ft.^{2})	mm^4/m (in.^{4}/ft.)
22	0.76 (0.030)	76.2 (3.00)	9.46 (1.94)	1 140 295 (0.8350)
20	0.91 (0.036)	76.4 (3.01)	11.21 (2.30)	1 360 767 (0.9965)
18	1.21 (0.048)	76.7 (3.02)	14.71 (3.01)	1 820 742 (1.3333)

Possible Connectors

At Support	At Side-Lap
Weld, Power-Driven Fastener, Screw	Weld, Button Punch, Screw

• Welding of side-laps is not recommended for material of 0.71 mm (0.028 in.) or thinner.

P-3012 Form Deck



Physical Properties

Type	Nominal Thickness	Overall Depth	Weight	Gross Moment of Inertia
	mm (in.)	mm (in.)	kg/m² (lb./ft.²)	mm⁴/m (in.⁴/ft.)
28	0.38 (0.015)	14.2 (0.56)	4.37 (0.90)	17 404 (0.0127)
26	0.46 (0.018)	14.3 (0.56)	5.15 (1.06)	20 951 (0.0153)
24	0.61 (0.024)	14.4 (0.57)	6.71 (1.37)	27 956 (0.0205)

Possible Connectors

At Support	At Side-Lap
Weld with Washer, Power-Driven Fastener, Screw	Screw

• Based on material according to ASTM A 653M, minimum yield strength of 410 MPa (60 ksi).

Factored Shear Resistance of Fastener at Support in kN (lb)

Type of Support Fastener	Resistance Factor	Nominal Deck Thickness			
		0.76 mm (0.030 in.)	0.91 mm (0.036 in.)	1.21 mm (0.048 in.)	1.52 mm (0.060 in.)
Puddle Weld 19 mm (3/4 in.)	ϕ = 0.50	4.75 (1 068)	5.64 (1 268)	7.38 (1 660)	9.08 (2 041)
Screw no. 12 or 14	ϕ = 0.50	2.32 (521)	2.77 (624)	3.69 (830)	4.62 (1 039)
Hilti X-EDN19 / X-EDNK22	ϕ = 0.50	3.37 (757)	4.00 (900)	5.26 (1 183)	6.50 (1 462)
Hilti X-ENP-19	ϕ = 0.50	3.57 (802)	4.30 (967)	5.63 (1 265)	7.02 (1 575)

- The minimum thickness of the underlying supporting member at the weld location shall be 3 mm (0.118 in.) and at least 2.5 times the aggregate steel sheet thickness (ref. CAN/CSA-S136-01 clause E2.2a).
- The minimum thickness of the underlying supporting member at the screw location shall be 0.9 mm (0.0358 in.) and at least the thickness of the steel deck.
- The thickness of the underlying supporting member at the pin location shall be between 3 mm (1/8 in.) and 6 mm (1/4 in.) for Hilti X-EDNK22, between 5 mm (3/16 in.) and 10 mm (3/8 in.) for Hilti X-EDN19, and 6 mm (1/4 in.) and more for Hilti X-ENP-19.

Factored Shear Resistance of Fastener at Side-Lap in kN (lb)

Type of Side-Lap Fastener	Resistance Factor	Nominal Deck Thickness			
		0.76 mm (0.030 in.)	0.91 mm (0.036 in.)	1.21 mm (0.048 in.)	1.52 mm (0.060 in.)
Button Punch	ϕ = 0.50	0.48 (108)	0.69 (156)	1.23 (277)	1.93 (433)
Screw no. 10	ϕ = 0.50	1.45 (327)	1.74 (392)	2.32 (522)	2.91 (653)
Screw no. 12	ϕ = 0.50	1.61 (361)	1.93 (433)	2.57 (577)	3.21 (722)

- Based on material according to ASTM A 653M SS Grade 230.

Determine Forces that Pass Through the Diaphragm

Forces
Load Path
Connections
Specification

In Canada, many buildings are designed using the static approach for the requirements of the National Building Code of Canada (NBCC). Usually, lateral forces on a building come from live loads such as winds and earthquakes. The NBCC procedures define the dead and live load combinations that must be considered. The NBCC design considerations are beyond the scope of this manual so that proper structural analysis is required before using Canam diaphragm load tables.

Diaphragm Design Method

There are two trends for diaphragm calculation of steel deck; either the Tri-Services approach or the Steel Deck Institute method may be used. Canam adopted the SDI method since its analytical model is more flexible, it allows the use of several different types of connectors and it continues to be used in contemporary tests. Also, the method calculates the diaphragm resistance of the steel deck under its yield stress based on the seismic requirements of the NBCC (2005).

Limit States Design

The NBCC (2005) utilizes limit states design exclusively without consideration for allowable stress design. Therefore, factored loads must be compared to factored resistance for diaphragm design. The *North American Specification for the Design of Cold-Formed Steel Structural Members* (CAN/CSA-S136-01) defines the resistance factor (ϕ_d) that is used to calculate the factored resistance of the diaphragm.

Other Reference

The 1991 Edition of the *Design of Steel Deck Diaphragms* published by the Canadian Sheet Steel Building Institute (CSSBI) was based on an allowable stress design method. In 2006, the CSSBI published the third edition of its manual based on limit states design with factored resistances for both the Tri-Services and the SDI methods. The building designer must clearly specify the design method and apply the correct factors to the loads and resistances as shown hereafter.

Diaphragm Design Method Comparison

	NBCC (1995)	NBCC (2005)
Design Method Published	Limit States Design Allowable Stress Design	Limit States Design

	CSSBI B13-1991	CSSBI B13-06	Canam (2006)
Diaphragm Design Method Published	Tri-Services	Tri-Services SDI	SDI
Comparison Load vs Resistance	$\alpha_L L \leq \frac{V_n}{\Omega_d} \cdot N$	$\alpha_L L \leq \phi_d \cdot V_n$	
Values Shown in Diaphragm Tables	$V_a = \frac{V_n}{\Omega_d}$	$V_r = \phi_d \cdot V_n$	
Factor of Safety (Ω_d) and Resistance Factor (ϕ_d)	$\Omega_d = 2.50$	$\phi_d = 0.50$ $\phi_d = 0.75$ for panel buckling	

α_L	Load factor (1.0 for earthquake and 1.5 for wind and other)
L	Specified load (wind, earthquake or other)
N	Multiplication factor (N = 1.5)
V_n	Nominal shear resistance
V_a	Allowable shear strength
V_r	Factored shear resistance
ϕ_d	Resistance factor for diaphragm (ref. CAN/CSA-S136S1-04 Table D5)
Ω_d	Safety factor for diaphragm
NBCC	National Building Code of Canada
CSSBI	Canadian Sheet Steel Building Institute
SDI	Steel Deck Institute

Define Load Path of Shear Forces

Shear forces pass throughout the diaphragm from an entry point and are transferred to the vertical lateral load resisting system (VLLR) through the lateral load resisting line before ending in the foundation of the building. The load path is controlled by the load type, building geometry and the location of the VLLR.

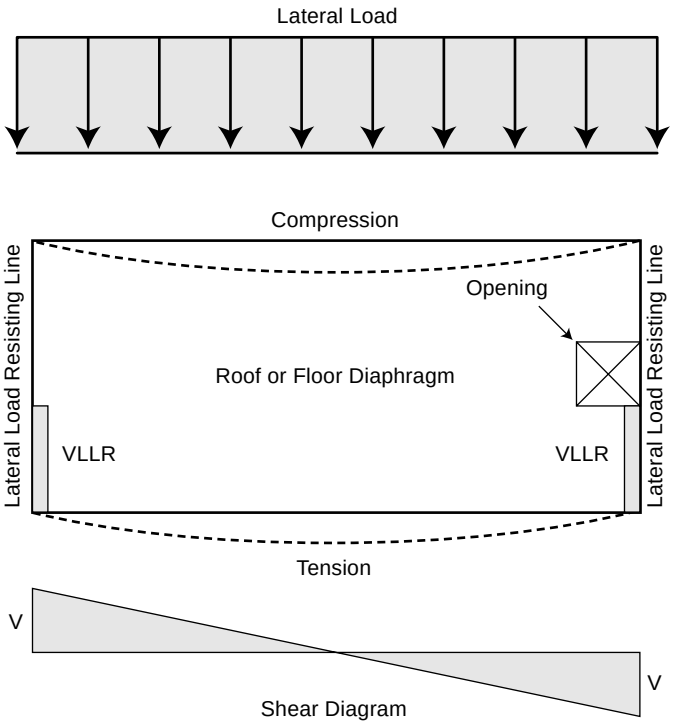
Forces
Load Path
Connections
Specification

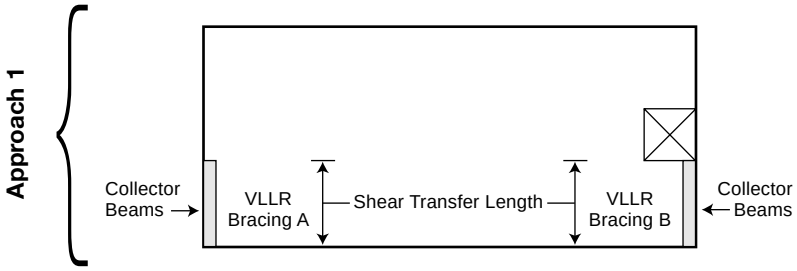
Load Entry Point

Lateral wind loads generally enter the diaphragm from the structural members connected to the building columns. Earthquake loads, however, are derived from the inertia of the loads supported by the steel deck.

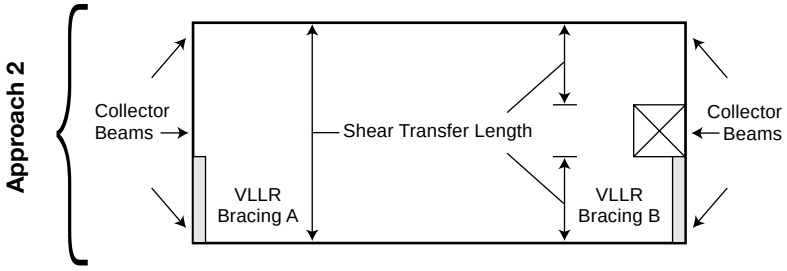
Opening Consideration

Large openings can modify the load path through the diaphragm depending on the assumptions made by the building designer. This is demonstrated by the simple rectangular building shown at the right and the resulting Approaches 1 and 2 indicated below.





- Shorter transfer length
- Needs a stiffer diaphragm
- More connectors for steel deck
- Less connector beams with axial forces to consider



- Longer transfer length
- Diaphragm analog to coped beam transfers shear between compression and tension chords
- Less connectors for steel deck
- Could require reinforcement around opening
- All connector beams along the lateral load resistance line must transfer axial forces

Load Exit Point

The diaphragm load has to be released to the VLLR. There are a number of methods involving various structural elements such as:

- Steel deck puddle weld connections;
- Nelson studs in the composite slab;
- Shear connectors;
- Joist seats.*

* *The diaphragm shear load to be transferred by the joist seat must be clearly specified on the structural drawings by the building designer.*

Other Considerations

The location of the vertical lateral load resisting elements has an impact on the center of rigidity of the building. The torsion induced due to the eccentricity between the center of mass and the center of rigidity of the building will amplify the lateral load in the diaphragm.

Steel Deck Connections Using Load Tables

There are two types of attachments:

- Steel deck to the structural elements;
- Side-lap along deck sheets.

The steel deck is usually connected to the supports by puddle welds, power-driven fasteners or screws. This type of connection must be spaced by no more than 300 mm (12 in.) center-to-center but the actual dimension and spacing can vary depending on capacity requirements.

Side-lap connections along deck sheets are obtained by mechanical attachments (such as button punching), screws or welds. The maximum spacing allowed is 900 mm (36 in.) for roof deck and 600 mm (24 in.) for composite floor deck with smaller spacing required for steel deck used as a diaphragm.

It may be necessary to specify additional connections along the lateral load resisting line to transfer the lateral force to the VLLR. In this case, the information must be clearly indicated on the structural drawings.

Diaphragm Tables

The following diaphragm load table illustrates the values of the factored shear resistance on line Q and the rigidity factor on line G'.

Steel Thickness

Support Fastener Type

Side-Lap Fastener Type

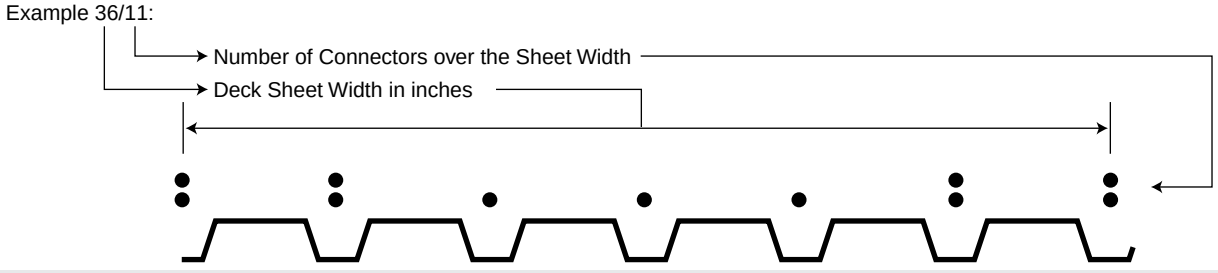
Factored Shear Resistance Q (plf) and Stiffness Coefficient G' (10^3 lb/in.)

THICKNESS = 0.036 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"
36/11	36 in. o/c	Q	1 210	1 090	980	890	810	750	700	650	610
		G'	84.8	86.1	86.5	86.3	85.6	84.6	83.3	81.9	80.4
	24 in. o/c	Q	1 230	1 110	1 000	910	840	780	720	670	630
		G'	84.9	86.2	86.6	86.4	85.8	84.8	83.6	82.2	80.7
	12 in. o/c	Q	1 300	1 180	1 080	990	920	850	800	750	710
		G'	85.2	86.5	87.0	86.9	86.3	85.4	84.3	83.0	81.6
	9 in. o/c	Q	1 340	1 230	1 130	1 040	970	910	850	810	760
		G'	85.3	86.7	87.3	87.2	86.7	85.9	84.8	83.5	82.1
	6 in. o/c	Q	1 430	1 320	1 230	1 150	1 070	1 010	960	910	860
		G'	85.6	87.1	87.8	87.8	87.4	86.7	85.7	84.5	83.3

Example 36/11:

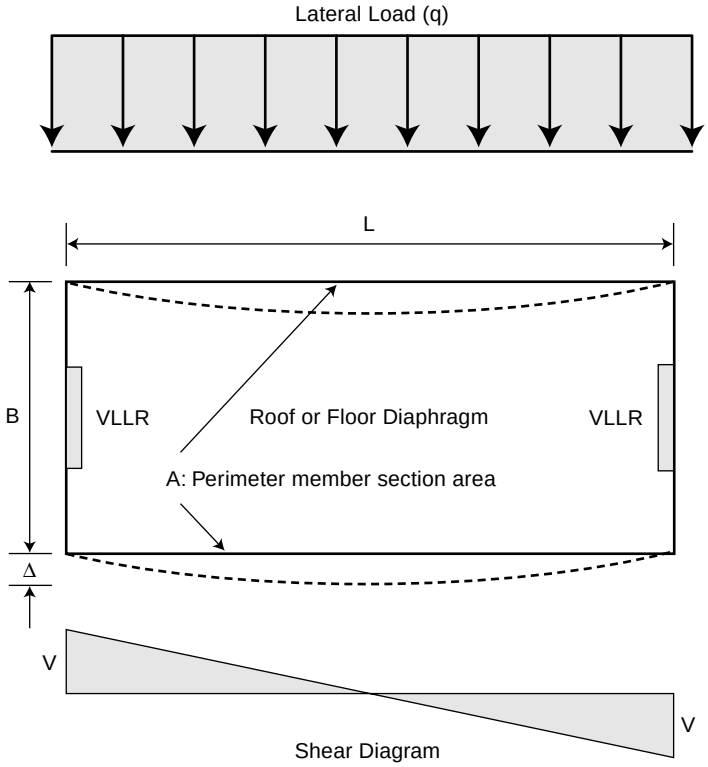


Rigidity and Deflection

The total deflection is comprised of the bending deflection and the shear deformation of the diaphragm including the warping and the connection relaxations. The deflection is defined as follows:

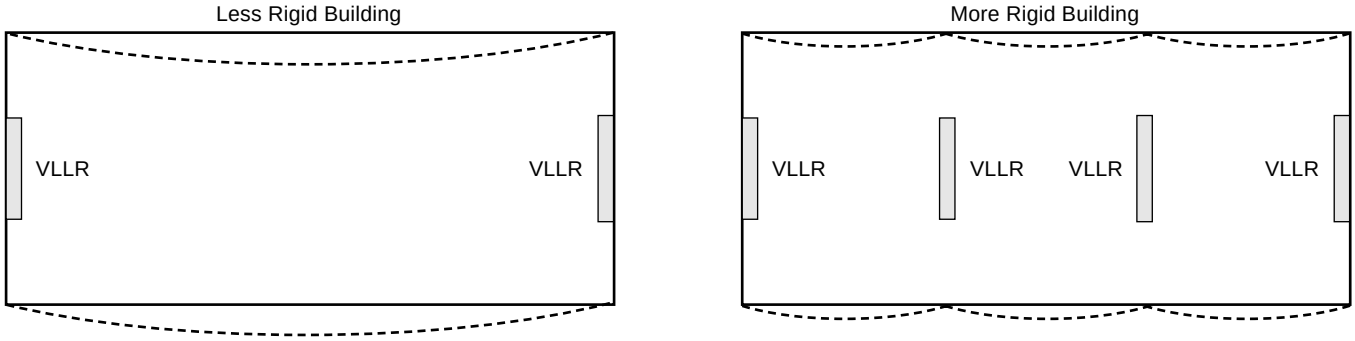
$\Delta_B + \Delta_S$ where Δ_B is the bending deflection, $\Delta_B = \frac{5\ q\ L^4}{384\ E\ I}$ with $I = 2\ A \left(\frac{B}{2}\right)^2$

and Δ_S is the shear deformation, $\Delta_S = \frac{q\ L^2}{8\ B\ G'}$ for uniform load



Diaphragm and Building Rigidities

The rigidities of the diaphragm and the building are independent and cannot be compared. This is illustrated in the following buildings having the same diaphragm rigidity but different building rigidities.



Same Diaphragm Rigidity

Specify Deck Connections on Structural Drawings

A building is often divided into zones and each zone is designed to carry shear loads to the VLLR. The deck connections must be specified on the structural drawings. This information is required for the erection drawings utilized by the deck installers. A fastener schedule will be provided to meet the requirements as specified on the structural drawings as follows:

Forces
Load Path
Connections
Specification

Deck Fastener Schedule

ZONE	FACTORED SHEAR	DECK		CONNECTIONS		REMARKS
		PROFILE	THICKNESS	AT SUPPORT	AT SIDE-LAP	

Zone The zone can be represented by providing a hatched sketch of the entire project or by referencing the axes.

Factored Shear The factored shear for the zone must be specified on the structural drawings.

Deck Profile The deck profile must be compatible with the side-lap connectors.
For example, the Canam profile P-3606 cannot be used with button punching.

Deck Thickness The deck thickness is referred to in mm (in.) and not by gauge.
For example: use 1.21 mm (0.048 in.) instead of 18 gauge.

Support Connections The support connections must specify the type of fastener and the pattern used.

For example:
- 19 mm (3/4 in.) puddle welds with 36/7 pattern (36 in. wide sheet with 7 connectors)
- 12-24 x 1 1/4 HWH #5 screws with 36/7 pattern.

Note that washers are recommended and should be used when the thickness of the sheet is less than 0.71 mm (0.028 in.) as per CAN/CSA-S136-01 clause E2.2.

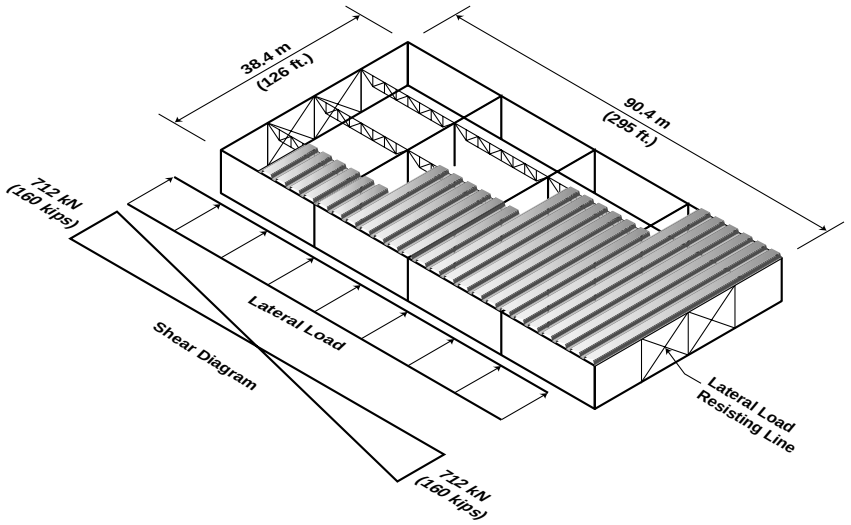
Screw description as follows:
- Diameter: 12 which is 5.3 mm (0.210 in.)
- Threads: 24 threads per inch
- Length: 30 mm (1 1/4 in.)
- Head style: HWH, Hex Washer Head
- Drill point: #5

Side-Lap Connections The type of fastener and spacing must be specified.

For example:
- Button punch @ 300 mm (12 in.) o/c

Remarks Special connections can be described as remarks, for example: connections along the lateral load resisting lines, design hypothesis or any other considerations.

Compute the preliminary design of the roof deck required for a structure, 90 m (295 ft.) long by 38.4 m (126 ft.) wide, which relies on the roof diaphragm for stability with multiple spans of 1.8 m (6 ft.) and 38 mm (1.5 in.) deck profile. The National Building Code of Canada is the basis for determining the lateral loads on the structure. Calculation of the lateral loads is not shown here, but the total factored load due to earthquake loads is given as 712 kN (160 kips) for each lateral load resisting line.



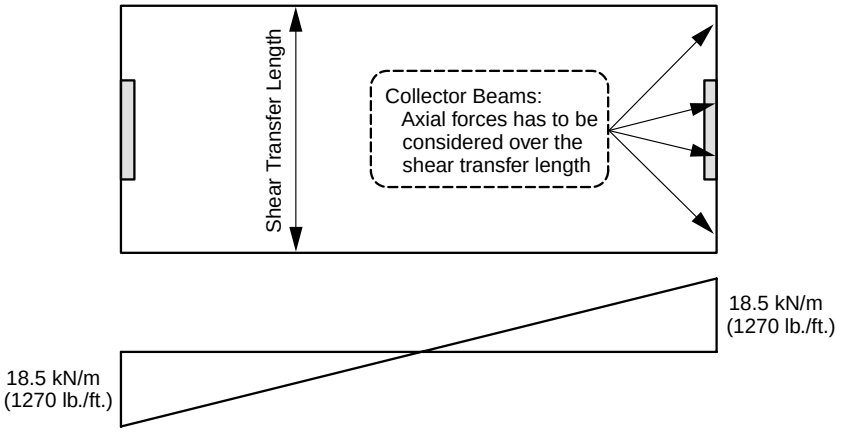
Step 1. Forces

The load of 712 kN (160 kips) has been calculated according to the NBCC (2005) and is resisted at the perimeter along the lateral load resisting lines (lines of perimeter bracings). The shear length is assumed to be 38.4 m (126 ft.) since there is no opening in the building at the roof and no special requirements are noted to reduce the shear length.

Horizontal axial load =	712 kN	160 kips
Shear length =	38.4 m	126 ft.
Linear shear force =	712/38.4 = 18.5 kN/m	160/126 x 1000 = 1270 lb./ft.

Step 2. Load Path

Earthquake loads result from the inertia of the building. Therefore, the lateral load at the roof comes from the structure's weight and the superimposed dead and live loads. The load entry point for the roof diaphragm is the structural components. The mass of the building components offers a reaction to the movement of the base of the building due to the earthquake. The load is assumed to be uniformly applied at roof and transferred to the deck at intermediate framing members. The steel deck transfers the lateral loads to the perimeter beams on the lateral load resisting lines. The collector beams should be designed axial forces and their connections will transfer the forces to the vertical bracing.



STEP 3. CONNECTIONS

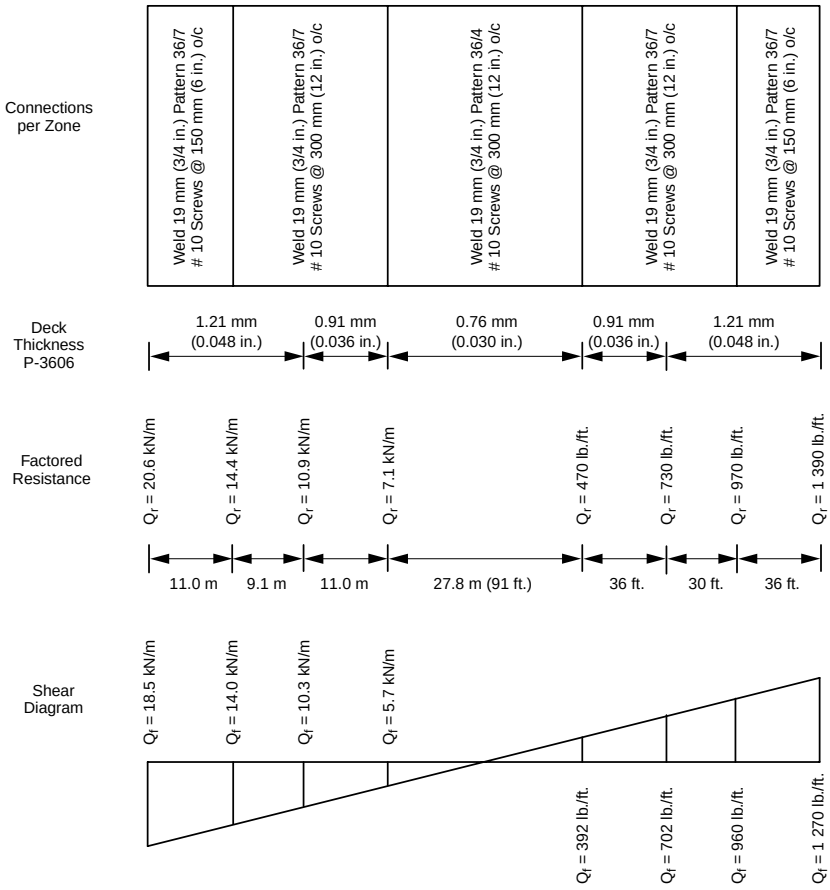
Since the shear load is high, welds and screws are utilized to reach the factored resistance. The deck thickness must be increased to resist the shear load. The P-3606 profile is specified (instead of the P-3615) to ensure the erector uses screws at side-laps.

Joist spacing:	1800 mm (6 ft.)
Deck profile:	P-3606
Support fasteners:	19 mm (3/4 in.) puddle weld
Side-lap fasteners:	#10 screws

The following resistances and rigidity factors are found in the load tables:

Thickness		Support Fastener Pattern	Side-lap Fastener Spacing		Factored Resistance (Q_r)		Rigidity Factors (G')	
1.21 mm	0.048 in.	36/7	150 mm	6 in.	20.6 kN/m	1 390 lb./ft.	22.0 x 10^3 N/mm	125.3 x 10^3 lb./in.
1.21 mm	0.048 in.	36/7	300 mm	12 in.	14.4 kN/m	970 lb./ft.	18.6 x 10^3 N/mm	105.6 x 10^3 lb./in.
0.91 mm	0.036 in.	36/7	300 mm	12 in.	10.9 kN/m	730 lb./ft.	13.6 x 10^3 N/mm	77.5 x 10^3 lb./in.
0.76 mm	0.030 in.	36/7	300 mm	12 in.	9.1 kN/m	610 lb./ft.	10.9 x 10^3 N/mm	61.9 x 10^3 lb./in.
0.76 mm	0.030 in.	36/4	300 mm	12 in.	7.1 kN/m	470 lb./ft.	2.9 x 10^3 N/mm	16.9 x 10^3 lb./in.
0.76 mm	0.030 in.	36/4	600 mm	24 in.	5.2 kN/m	340 lb./ft.	2.8 x 10^3 N/mm	16.1 x 10^3 lb./in.

The following schedule will meet the load requirements:



Long Side of the Building

The deck connectors have been chosen with the factored loads acting in the direction of the shortest side of the building. The resistance of the diaphragm must be verified in both directions of the building. Based on the fastener schedule, the factored resistance in the longest side of the building is:

Resistance of Each Zone		Length of the Zone		Total Resistance	
20.6 kN/m	1 390 lb./ft.	2 x 11.0 m	2 x 36 ft.	453 kN	100 kips
14.4 kN/m	970 lb./ft.	2 x 9.1 m	2 x 30 ft.	262 kN	58 kips
10.9 kN/m	730 lb./ft.	2 x 11.0 m	2 x 36 ft.	240 kN	53 kips
7.1 kN/m	470 lb./ft.	27.8 m	91 ft.	197 kN	43 kips
			Summation	**1 152 kN**	**254 kips**

The summation of the resistance is 1 152 kN (254 kips) which is more than the required axial load of 712 kN (160 kips).

Connectors at Perimeter

Horizontal axial load:	712 kN	160 kips
Shear length:	38.4 m	126 ft.
Linear shear force:	18.5 kN/m	1 270 lb./ft.
Factored puddle weld resistance for 1.21 mm (0.048 in.) :	7.38 kN/weld	1 660 lb./weld
Spacing required		
Based on the shear force	7.38 / 18.5 x 1000 = 399 mm	1 660 / 1 270 x 12 = 15.7 in.
or		
Based on 36/7 pattern	150 mm	6 in.

The spacing of the 19 mm (3/4 in.) puddle welds on the perimeter structural members is chosen by selecting the lesser of the two spacings. Therefore, 150 mm (6 in.) is used to have an effective diaphragm.

Deflection

Assuming the roof as a diaphragm uniformly loaded on a single span, the deflection at midspan is calculated as follows:

$$\Delta = \Delta_B + \Delta_S \quad \text{where } \Delta_B \text{ is the bending deflection, } \Delta_B = \frac{5\,q\,L^4}{384\,E\,I} \text{ with } I = 2\,A\left(\frac{B}{2}\right)^2$$

$$\text{and} \quad \Delta_S \text{ is the shear deformation, } \Delta_S = \frac{q\,L^2}{8\,B\,G'} \text{ for uniform load}$$

The system stiffness can be found as follows:

Calculation of the Average Rigidity of the System

Rigidity of Each Zone (G')		Length of the Zone (L)		Product (G' - L)	
22.0 x 10^3 N/mm	125.3 x lb./in.	2 x 11.0 m	2 x 36 ft.	484	9 022
18.6 x 10^3 N/mm	105.6 x lb./in.	2 x 9.1 m	2 x 30 ft.	339	6 336
13.6 x 10^3 N/mm	61.9 x lb./in.	2 x 11.0 m	2 x 36 ft.	299	4 457
2.9 x 10^3 N/mm	16.9 x lb./in.	27.8 m	91 ft.	81	1 538
	Summation	**90.0 m**	**295 ft.**	**1 203**	**21 353**

System stiffness G': $G' = \frac{1\ 203}{90.0} = 13.37 \times 10^3$ N/mm $\quad G' = \frac{21\ 353}{295} = 72.38 \times 10^3$ lb./in.

Uniform loading: $q = \frac{2 \cdot 712}{90.0} = 15.82$ kN/m $\quad q = \frac{2 \cdot 160}{295} = 1.085$ kips/ft.

Shear deformation: $\Delta_S = \frac{15.82 \cdot 90.0^2}{8 \cdot 38.4 \cdot 13.36 \times 10^3} \times 1000 = 31.2$ mm

$\Delta_S = \frac{1.085 \cdot 295^2}{8 \cdot 126 \cdot 72.38 \times 10^3} \times 1000 = 1.29$ in.

The bending deflection depends on the perimeter beams. For this example, we consider the perimeter beam to be W310x21 (W12x14).

Steel area of the section: $A = 2690$ mm^2 $\quad A = 4.170$ in.^{2}

Inertia of the system: $I = \frac{2 \cdot 2\ 690 \cdot (38.4/2)^2}{1\ 000\ 000} = 1.983$ m^4

$I = \frac{2 \cdot 4.170 \cdot (126/2)^2}{144} = 229.9$ ft.^{4}

Bending deflection: $\Delta_B = \frac{5 \cdot 15.82 \cdot 90.0^4}{384 \cdot 200000 \cdot 1.983} = 34.1$ mm

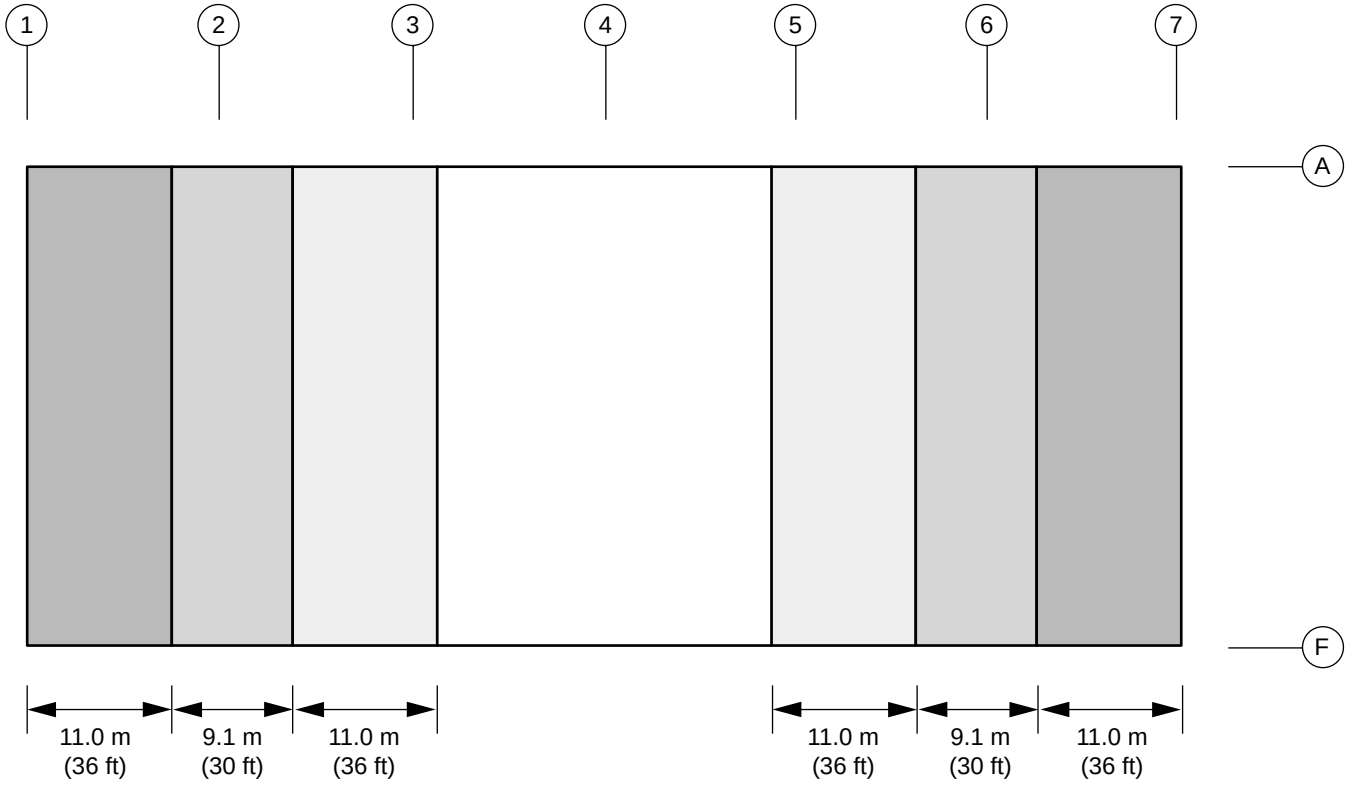
$\Delta_B = \frac{5 \cdot 1.085 \cdot 295^4}{384 \cdot 29000 \cdot 229.9 \cdot 12} = 1.34$ in.

The total deflection: $\Delta = 31.2 + 34.1 = 65.3$ mm $\quad \Delta = 1.29 + 1.34 = 2.63$ in.

Step 4. Specification

To complete the design of the diaphragm, the designer must clearly indicate the connectors required for each zone. It can be shown on a scaled diagram and/or in a table. The following diagram illustrates a proper fastener schedule permitting the erector to evaluate the complexity of the work and the supplier to reproduce the information on the erection drawings.

DECK FASTENER SCHEDULE



Zone	Factored Shear	Deck		Connections		Remarks
		Profile	Thickness	At Support	At Side-Lap	
Roof	18.5 kN/m	P-3606	1.21 mm	Puddle Weld 19 mm Pattern 36/7	#10 Screws @ 150 mm o/c	Weld deck at perimeter of the building every 150 mm o/c
Roof	14.0 kN/m	P-3606	1.21 mm	Puddle Weld 19 mm Pattern 36/7	#10 Screws @ 300 mm o/c	Weld deck at perimeter of the building every 150 mm o/c
Roof	10.3 kN/m	P-3606	0.91 mm	Puddle Weld 19 mm Pattern 36/7	#10 Screws @ 300 mm o/c	Weld deck at perimeter of the building every 150 mm o/c
Roof	5.7 kN/m	P-3606	0.76 mm	Puddle Weld 19 mm Pattern 36/4	#10 Screws @ 300 mm o/c	Weld deck at perimeter of the building every 150 mm o/c

Selected References For Steel Deck Diaphragms

Diaphragm Design Manual, 3rd edition, Steel Deck Institute, September 2004.

CSSBI B13-06, Design of Steel Deck Diaphragms, Canadian Sheet Steel Building Institute, 2006.

A Primer on Diaphragm Design, Metal Construction Association, Glenview, Illinois, 2000.

CSA Standard CAN/CSA-S136-01, North American Specification for the Design of Cold-Formed Steel Structural Members, Mississauga, Ontario, September 2002.

CSA Standard CAN/CSA-S136S1-04, Supplement 2004 to the North American Specification for the Design of Cold-Formed Steel Structural Members, Mississauga, Ontario, December 2004.

National Building Code of Canada 1995, National Research Council of Canada, Ottawa, 1995.

The supplement of the National Building Code of Canada 1995, National Research Council of Canada, Ottawa, 1995.

NOTES ABOUT LOAD TABLES

Steel

The diaphragm load tables were derived using F_y = 230 MPa (33 ksi) for Canam's various types of steel roof decks and composite floor decks and F_y = 410 MPa (60 ksi) for form deck. For each steel deck design thickness given, factored design shear is listed under the specific span length and for fastener type and pattern.

Concrete

Normal weight concrete is based on a density of 2 400 kg/m^3 (150 lb./ft.^{3}) with a minimum compressive resistance f_c' = 20 MPa (3000 psi) at 28 days. Lightweight concrete is based on a density of 1 840 kg/m^3 (115 lb./ft.^{3}) with a minimum compressive resistance f_c' = 25 MPa (4000 psi) at 28 days.

Both normal weight and lightweight structural concretes on composite and form decks are presented with a minimum depth of 65 mm (2.5 in.) over the top of the flutes. The diaphragm shear resistance values are limited by the plate-like shear buckling resistance which governs deck having relatively long spans and closely spaced fasteners.

Assumptions

• The SDI Method of calculation is used to develop the load tables and it is a design method endorsed by the CSSBI.

The diaphragm tables were derived based on the following assumptions:

1. The number of fasteners is the same at the exterior and interior supports.

2. The spacing of the intermediate side-lap connectors is the same as it is at the outside edge of the building.

3. Resistance factors are based on the *Supplement 2004 to the North American Specification for the Design of Cold-Formed Steel Structural Members* (CAN/CSA-S136S1-04):

   ϕ_d = 0.50 for welded diaphragm under all load cases;

   ϕ_d = 0.50 for concrete filled diaphragm;

   ϕ_d = 0.75 for panel buckling.

4. All values are based on a three span condition. Greater values are obtained for a single or double span condition since there are more attached support lines per sheet length available for resistance calculation.

5. Only screws (for overlapping side-laps) and button punches (for interlocking side-laps) are used to generate the tables. Welding of side-laps is not recommended for material of 0.71 mm (0.028 in.) or thinner.

6. Where welds are utilized as fasteners at the supports, the CAN/CSA-S136-01 standard specifies the use of weld washers for deck thicknesses less than 0.71 mm (0.028 in.). These washers should have a thickness of 1.5 mm (0.060 in.) and a hole diameter of 9.5 mm (3/8 in.) as utilized for the Steel Deck Institute (SDI) testing.

Reference

Refer to the most recent SDI *Diaphragm Design Manual* for the "Limiting Conditions" on end laps, side-lap, welds, screws, power driven fasteners, split panels, longitudinal edges and mixed panel lengths.

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

Thickness = 0.76 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			900	1 050	1 200	1 350	1 500	1 650	1 800	1 950	2 100
36/11	900 mm o/c	Q	19.2	16.9	15.1	13.5	12.1	11.0	10.1	9.3	8.6
		G'	9.9	10.6	11.1	11.4	11.6	11.8	11.8	11.8	11.8
	600 mm o/c	Q	19.5	17.2	15.3	13.8	12.4	11.3	10.3	9.6	8.9
		G'	9.9	10.6	11.1	11.4	11.6	11.8	11.8	11.8	11.8
	300 mm o/c	Q	20.1	17.8	16.0	14.6	13.2	12.1	11.2	10.4	9.7
		G'	9.9	10.6	11.1	11.4	11.7	11.8	11.9	11.9	11.9
	230 mm o/c	Q	20.4	18.2	16.4	15.0	13.7	12.6	11.6	10.9	10.2
		G'	9.9	10.6	11.1	11.5	11.7	11.9	11.9	12.0	11.9
	150 mm o/c	Q	21.2	19.1	17.3	15.9	14.8	13.7	12.8	12.0	11.3
		G'	9.9	10.6	11.1	11.5	11.8	11.9	12.0	12.1	12.0
36/9	900 mm o/c	Q	16.1	14.3	12.8	11.4	10.3	9.3	8.5	7.8	7.3
		G'	9.5	10.1	10.5	10.8	10.9	11.0	10.9	10.9	10.8
	600 mm o/c	Q	16.3	14.5	13.0	11.7	10.5	9.6	8.8	8.1	7.5
		G'	9.6	10.1	10.5	10.8	10.9	11.0	11.0	10.9	10.8
	300 mm o/c	Q	16.9	15.1	13.6	12.5	11.3	10.4	9.6	8.9	8.3
		G'	9.6	10.2	10.6	10.8	11.0	11.1	11.1	11.0	10.9
	230 mm o/c	Q	17.2	15.5	14.0	12.9	11.8	10.9	10.1	9.4	8.8
		G'	9.6	10.2	10.6	10.9	11.0	11.1	11.1	11.1	11.0
	150 mm o/c	Q	18.0	16.3	14.9	13.8	12.8	12.0	11.2	10.5	10.0
		G'	9.6	10.2	10.6	10.9	11.1	11.2	11.2	11.2	11.1
36/7	900 mm o/c	Q	10.3	9.1	8.0	7.1	6.4	5.8	5.4	5.0	4.6
		G'	8.8	9.1	9.3	9.4	9.3	9.3	9.1	8.9	8.8
	600 mm o/c	Q	10.6	9.3	8.2	7.4	6.7	6.1	5.6	5.2	4.9
		G'	8.8	9.1	9.3	9.4	9.4	9.3	9.2	9.0	8.8
	300 mm o/c	Q	11.2	10.0	9.0	8.2	7.5	6.9	6.4	6.0	5.7
		G'	8.8	9.2	9.4	9.5	9.5	9.4	9.3	9.1	9.0
	230 mm o/c	Q	11.6	10.4	9.5	8.7	8.0	7.4	6.9	6.5	6.2
		G'	8.8	9.2	9.4	9.5	9.5	9.5	9.4	9.2	9.1
	150 mm o/c	Q	12.5	11.3	10.4	9.7	9.1	8.5	8.1	7.7	7.3
		G'	8.9	9.3	9.5	9.6	9.7	9.6	9.5	9.4	9.3
36/4	900 mm o/c	Q	7.0	6.2	5.6	5.0	4.5	4.1	3.8	3.5	3.3
		G'	1.7	1.9	2.1	2.3	2.4	2.5	2.7	2.8	2.9
	600 mm o/c	Q	7.2	6.4	5.8	5.3	4.8	4.4	4.1	3.8	3.6
		G'	1.7	1.9	2.1	2.3	2.4	2.6	2.7	2.8	2.9
	300 mm o/c	Q	7.7	7.0	6.4	6.0	5.6	5.2	4.9	4.6	4.4
		G'	1.7	1.9	2.1	2.3	2.4	2.6	2.7	2.8	2.9
	230 mm o/c	Q	8.0	7.4	6.8	6.4	6.0	5.7	5.4	5.1	4.9
		G'	1.7	1.9	2.1	2.3	2.4	2.6	2.7	2.8	2.9
	150 mm o/c	Q	8.7	8.1	7.6	7.2	6.8	6.5	6.3	6.1	5.9
		G'	1.7	1.9	2.1	2.3	2.5	2.6	2.7	2.9	3.0

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.91 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			1 200	1 350	1 500	1 650	1 800	1 950	2 100	2 250	2 400
36/11	900 mm o/c	Q	18.0	16.2	14.6	13.2	12.1	11.2	10.4	9.7	9.1
		G'	14.8	15.1	15.1	15.1	15.0	14.9	14.6	14.4	14.2
	600 mm o/c	Q	18.3	16.6	15.0	13.6	12.5	11.6	10.8	10.1	9.5
		G'	14.8	15.1	15.2	15.1	15.1	14.9	14.7	14.5	14.2
	300 mm o/c	Q	19.3	17.6	16.1	14.8	13.7	12.8	12.0	11.3	10.6
		G'	14.9	15.1	15.2	15.2	15.1	15.0	14.8	14.6	14.4
	230 mm o/c	Q	19.9	18.2	16.8	15.5	14.4	13.5	12.7	12.0	11.4
		G'	14.9	15.2	15.3	15.3	15.2	15.1	14.9	14.7	14.4
	150 mm o/c	Q	21.2	19.6	18.2	17.1	16.0	15.1	14.3	13.6	13.0
		G'	15.0	15.2	15.4	15.4	15.3	15.2	15.1	14.9	14.6
36/9	900 mm o/c	Q	15.2	13.7	12.3	11.2	10.3	9.5	8.8	8.2	7.7
		G'	14.0	14.1	14.1	13.9	13.8	13.5	13.3	13.0	12.7
	600 mm o/c	Q	15.5	14.1	12.7	11.6	10.7	9.9	9.2	8.6	8.1
		G'	14.0	14.1	14.1	14.0	13.8	13.6	13.3	13.0	12.8
	300 mm o/c	Q	16.5	15.1	13.9	12.8	11.8	11.0	10.4	9.8	9.3
		G'	14.0	14.2	14.2	14.1	13.9	13.7	13.5	13.2	12.9
	230 mm o/c	Q	17.0	15.7	14.5	13.5	12.5	11.7	11.1	10.5	10.0
		G'	14.1	14.2	14.2	14.1	14.0	13.8	13.6	13.3	13.0
	150 mm o/c	Q	18.3	16.9	15.9	14.9	14.1	13.4	12.7	12.1	11.6
		G'	14.1	14.3	14.3	14.3	14.1	14.0	13.8	13.5	13.3
36/7	900 mm o/c	Q	9.6	8.5	7.7	7.1	6.5	6.0	5.6	5.3	5.0
		G'	12.1	11.9	11.7	11.5	11.2	10.9	10.5	10.2	9.9
	600 mm o/c	Q	9.9	8.9	8.1	7.4	6.9	6.4	6.0	5.7	5.4
		G'	12.1	12.0	11.8	11.5	11.2	10.9	10.6	10.3	10.0
	300 mm o/c	Q	11.0	10.1	9.3	8.6	8.0	7.6	7.2	6.8	6.5
		G'	12.2	12.1	11.9	11.7	11.4	11.1	10.8	10.5	10.2
	230 mm o/c	Q	11.6	10.7	10.0	9.3	8.8	8.3	7.9	7.5	7.2
		G'	12.2	12.2	12.0	11.8	11.5	11.2	11.0	10.7	10.4
	150 mm o/c	Q	13.0	12.1	11.4	10.8	10.4	9.9	9.5	9.1	8.8
		G'	12.4	12.3	12.2	12.0	11.8	11.5	11.2	11.0	10.7
36/4	900 mm o/c	Q	6.7	6.1	5.5	5.0	4.6	4.3	4.0	3.8	3.6
		G'	3.1	3.3	3.5	3.6	3.8	3.9	4.0	4.0	4.1
	600 mm o/c	Q	7.0	6.4	5.9	5.4	5.0	4.7	4.4	4.2	4.0
		G'	3.1	3.3	3.5	3.7	3.8	3.9	4.0	4.0	4.1
	300 mm o/c	Q	7.9	7.4	6.9	6.5	6.2	5.9	5.6	5.3	5.1
		G'	3.1	3.3	3.5	3.7	3.8	3.9	4.0	4.1	4.2
	230 mm o/c	Q	8.4	7.9	7.5	7.1	6.8	6.5	6.3	6.0	5.8
		G'	3.1	3.3	3.5	3.7	3.9	4.0	4.1	4.2	4.2
	150 mm o/c	Q	9.5	9.0	8.6	8.3	8.0	7.8	7.6	7.4	7.2
		G'	3.1	3.4	3.6	3.8	3.9	4.0	4.2	4.3	4.3

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

Thickness = 1.21 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			1 500	1 650	1 800	1 950	2 100	2 250	2 400	2 550	2 700
36/11	900 mm o/c	Q	19.4	17.7	16.2	15.0	14.0	13.1	12.3	11.6	11.0
		G'	21.8	21.4	20.9	20.4	19.8	19.3	18.8	18.2	17.7
	600 mm o/c	Q	20.1	18.4	16.9	15.7	14.7	13.8	13.0	12.3	11.7
		G'	21.9	21.4	21.0	20.4	19.9	19.4	18.8	18.3	17.8
	300 mm o/c	Q	22.0	20.4	19.0	17.8	16.7	15.8	15.1	14.4	13.7
		G'	22.0	21.6	21.1	20.6	20.1	19.6	19.1	18.6	18.1
	230 mm o/c	Q	23.1	21.6	20.3	19.0	18.0	17.1	16.3	15.6	15.0
		G'	22.0	21.7	21.2	20.7	20.2	19.7	19.2	18.7	18.2
	150 mm o/c	Q	25.5	24.1	22.8	21.8	20.9	20.0	19.2	17.8	15.9
		G'	22.2	21.9	21.4	21.0	20.5	20.0	19.5	19.0	18.6
36/9	900 mm o/c	Q	16.5	15.0	13.8	12.8	11.9	11.1	10.5	9.9	9.4
		G'	19.9	19.4	18.8	18.2	17.7	17.1	16.6	16.1	15.6
	600 mm o/c	Q	17.2	15.7	14.5	13.5	12.6	11.8	11.2	10.6	10.0
		G'	19.9	19.4	18.9	18.3	17.8	17.2	16.7	16.2	15.7
	300 mm o/c	Q	19.0	17.8	16.6	15.5	14.7	13.9	13.2	12.6	12.1
		G'	20.1	19.6	19.1	18.5	18.0	17.5	16.9	16.4	16.0
	230 mm o/c	Q	20.0	18.8	17.8	16.8	15.9	15.1	14.5	13.9	13.4
		G'	20.2	19.7	19.2	18.7	18.1	17.6	17.1	16.6	16.1
	150 mm o/c	Q	22.3	21.2	20.2	19.4	18.6	18.0	17.4	16.8	15.9
		G'	20.4	19.9	19.5	19.0	18.4	17.9	17.5	17.0	16.5
36/7	900 mm o/c	Q	10.3	9.5	8.8	8.2	7.6	7.2	6.8	6.5	6.2
		G'	16.0	15.4	14.8	14.2	13.6	13.1	12.6	12.1	11.7
	600 mm o/c	Q	11.0	10.2	9.5	8.9	8.3	7.9	7.5	7.1	6.8
		G'	16.1	15.5	14.9	14.3	13.7	13.2	12.7	12.2	11.8
	300 mm o/c	Q	13.1	12.2	11.5	10.9	10.4	10.0	9.6	9.2	8.9
		G'	16.3	15.7	15.1	14.6	14.0	13.5	13.0	12.6	12.2
	230 mm o/c	Q	14.2	13.4	12.8	12.2	11.7	11.2	10.8	10.5	10.2
		G'	16.4	15.9	15.3	14.7	14.2	13.7	13.2	12.8	12.4
	150 mm o/c	Q	16.6	15.9	15.3	14.8	14.3	13.9	13.6	13.3	13.0
		G'	16.7	16.2	15.7	15.1	14.6	14.2	13.7	13.3	12.9
36/4	900 mm o/c	Q	7.4	6.8	6.3	5.9	5.6	5.2	5.0	4.7	4.5
		G'	5.9	6.1	6.2	6.2	6.2	6.2	6.1	6.1	6.0
	600 mm o/c	Q	8.1	7.5	7.0	6.6	6.2	5.9	5.7	5.4	5.2
		G'	6.0	6.1	6.2	6.2	6.2	6.2	6.2	6.2	6.1
	300 mm o/c	Q	9.7	9.3	8.9	8.5	8.3	8.0	7.7	7.5	7.3
		G'	6.0	6.2	6.3	6.4	6.4	6.4	6.4	6.3	6.3
	230 mm o/c	Q	10.7	10.2	9.9	9.6	9.3	9.0	8.8	8.6	8.4
		G'	6.1	6.2	6.3	6.4	6.5	6.5	6.5	6.5	6.4
	150 mm o/c	Q	12.6	12.2	11.9	11.6	11.4	11.2	11.0	10.8	10.7
		G'	6.1	6.3	6.5	6.6	6.6	6.7	6.7	6.7	6.7

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

THICKNESS = 1.52 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			1 800	1 950	2 100	2 250	2 400	2 550	2 700	2 850	3 000
36/11	900 mm o/c	Q	20.3	18.8	17.6	16.5	15.5	14.7	13.9	13.2	12.6
		G'	26.1	25.3	24.4	23.6	22.8	22.0	21.3	20.6	20.0
	600 mm o/c	Q	21.4	19.9	18.6	17.5	16.6	15.7	15.0	14.3	13.7
		G'	26.2	25.3	24.5	23.7	22.9	22.1	21.4	20.7	20.1
	300 mm o/c	Q	24.6	23.1	21.9	20.8	19.8	19.0	18.2	17.6	16.9
		G'	26.4	25.6	24.8	24.0	23.2	22.4	21.7	21.1	20.5
	230 mm o/c	Q	26.4	25.1	23.8	22.7	21.8	20.9	20.2	19.5	18.0
		G'	26.6	25.7	24.9	24.1	23.4	22.6	21.9	21.3	20.7
	150 mm o/c	Q	30.2	29.0	27.9	27.0	26.1	24.9	22.2	19.9	18.0
		G'	26.9	26.1	25.3	24.5	23.8	23.1	22.4	21.8	21.2
36/9	900 mm o/c	Q	17.3	16.1	15.0	14.1	13.3	12.5	11.9	11.3	10.8
		G'	23.3	22.4	21.5	20.7	19.9	19.2	18.5	17.9	17.3
	600 mm o/c	Q	18.4	17.1	16.1	15.1	14.3	13.6	13.0	12.4	11.9
		G'	23.3	22.5	21.6	20.8	20.0	19.3	18.7	18.0	17.4
	300 mm o/c	Q	21.5	20.4	19.3	18.4	17.6	16.9	16.2	15.7	15.1
		G'	23.6	22.7	21.9	21.1	20.4	19.7	19.0	18.4	17.8
	230 mm o/c	Q	23.2	22.1	21.2	20.3	19.5	18.8	18.2	17.6	17.1
		G'	23.8	22.9	22.1	21.3	20.6	19.9	19.3	18.6	18.1
	150 mm o/c	Q	26.8	25.9	25.0	24.2	23.6	23.0	22.2	19.9	18.0
		G'	24.1	23.3	22.5	21.8	21.1	20.4	19.8	19.2	18.6
36/7	900 mm o/c	Q	11.1	10.3	9.7	9.2	8.7	8.3	7.9	7.6	7.3
		G'	17.9	17.0	16.2	15.5	14.9	14.2	13.7	13.1	12.7
	600 mm o/c	Q	12.1	11.4	10.8	10.3	9.8	9.4	9.0	8.7	8.4
		G'	18.0	17.1	16.4	15.7	15.0	14.4	13.8	13.3	12.8
	300 mm o/c	Q	15.3	14.6	14.0	13.5	13.0	12.6	12.2	11.9	11.6
		G'	18.3	17.5	16.8	16.1	15.4	14.8	14.3	13.8	13.3
	230 mm o/c	Q	17.1	16.5	15.9	15.4	15.0	14.6	14.2	13.9	13.6
		G'	18.5	17.7	17.0	16.3	15.7	15.1	14.6	14.0	13.6
	150 mm o/c	Q	20.9	20.3	19.8	19.4	19.0	18.6	18.3	18.0	17.7
		G'	19.0	18.2	17.5	16.9	16.3	15.7	15.2	14.7	14.2
36/4	900 mm o/c	Q	8.1	7.6	7.1	6.8	6.5	6.2	5.9	5.7	5.5
		G'	8.5	8.5	8.3	8.2	8.1	7.9	7.7	7.6	7.4
	600 mm o/c	Q	9.1	8.6	8.2	7.9	7.5	7.3	7.0	6.8	6.6
		G'	8.6	8.5	8.4	8.3	8.1	8.0	7.8	7.7	7.5
	300 mm o/c	Q	11.8	11.4	11.1	10.8	10.6	10.3	10.1	9.9	9.8
		G'	8.8	8.7	8.6	8.5	8.4	8.3	8.1	8.0	7.9
	230 mm o/c	Q	13.3	12.9	12.6	12.4	12.1	11.9	11.7	11.5	11.4
		G'	8.9	8.8	8.8	8.7	8.6	8.5	8.3	8.2	8.1
	150 mm o/c	Q	16.2	15.9	15.7	15.5	15.3	15.1	14.9	14.8	14.6
		G'	9.1	9.1	9.1	9.0	8.9	8.8	8.7	8.6	8.5

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

THICKNESS = 0.76 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			900	1 050	1 200	1 350	1 500	1 650	1 800	1 950	2 100
36/11	900 mm o/c	Q	19.2	17.1	15.3	13.9	12.6	11.5	10.6	9.9	9.2
		G'	9.9	10.6	11.1	11.5	11.7	11.9	12.0	12.1	12.0
	600 mm o/c	Q	19.9	17.7	16.0	14.7	13.4	12.3	11.4	10.7	10.0
		G'	9.9	10.6	11.2	11.6	11.9	12.1	12.2	12.3	12.3
	300 mm o/c	Q	21.6	19.6	18.0	16.7	15.6	14.7	13.9	13.1	12.5
		G'	10.0	10.8	11.4	11.9	12.2	12.5	12.7	12.9	13.0
	230 mm o/c	Q	22.6	20.7	19.1	17.9	16.8	16.0	15.2	14.6	13.0
		G'	10.1	10.9	11.5	12.0	12.4	12.8	13.0	13.2	13.4
	150 mm o/c	Q	24.8	23.0	21.6	20.4	19.5	18.7	17.7	15.1	13.0
		G'	10.2	11.0	11.8	12.3	12.8	13.2	13.6	13.9	14.1
36/9	900 mm o/c	Q	16.1	14.4	13.0	11.8	10.7	9.8	9.1	8.4	7.9
		G'	9.5	10.1	10.6	10.9	11.1	11.2	11.2	11.2	11.1
	600 mm o/c	Q	16.7	15.0	13.6	12.5	11.5	10.6	9.9	9.2	8.7
		G'	9.6	10.2	10.7	11.0	11.2	11.4	11.5	11.5	11.5
	300 mm o/c	Q	18.3	16.8	15.5	14.5	13.6	12.9	12.3	11.7	11.1
		G'	9.7	10.4	11.0	11.4	11.7	11.9	12.1	12.2	12.3
	230 mm o/c	Q	19.3	17.8	16.6	15.6	14.8	14.1	13.5	13.0	12.5
		G'	9.8	10.6	11.1	11.6	12.0	12.2	12.5	12.6	12.8
	150 mm o/c	Q	21.2	19.9	18.8	17.9	17.2	16.6	16.1	15.1	13.0
		G'	10.0	10.8	11.4	12.0	12.4	12.8	13.1	13.4	13.6
36/7	900 mm o/c	Q	10.3	9.2	8.2	7.5	6.8	6.3	5.9	5.6	5.2
		G'	8.8	9.2	9.4	9.5	9.6	9.6	9.5	9.4	9.3
	600 mm o/c	Q	11.0	9.9	9.0	8.3	7.7	7.1	6.7	6.4	6.1
		G'	8.9	9.3	9.6	9.8	9.9	9.9	9.9	9.8	9.8
	300 mm o/c	Q	12.9	11.9	11.1	10.4	9.9	9.5	9.1	8.8	8.5
		G'	9.1	9.7	10.1	10.4	10.6	10.8	10.9	10.9	11.0
	230 mm o/c	Q	14.0	13.0	12.3	11.6	11.1	10.7	10.4	10.1	9.8
		G'	9.3	9.9	10.3	10.7	11.0	11.2	11.4	11.5	11.6
	150 mm o/c	Q	16.3	15.4	14.7	14.2	13.7	13.4	13.1	12.8	12.6
		G'	9.5	10.2	10.8	11.3	11.7	12.0	12.3	12.5	12.7
36/4	900 mm o/c	Q	7.0	6.3	5.8	5.4	5.0	4.6	4.3	4.1	3.9
		G'	1.7	1.9	2.1	2.3	2.4	2.6	2.7	2.9	3.0
	600 mm o/c	Q	7.6	6.9	6.4	6.1	5.7	5.4	5.2	4.9	4.7
		G'	1.7	1.9	2.1	2.3	2.5	2.6	2.8	2.9	3.1
	300 mm o/c	Q	9.0	8.5	8.1	7.8	7.5	7.3	7.1	6.9	6.8
		G'	1.7	1.9	2.1	2.4	2.6	2.8	2.9	3.1	3.3
	230 mm o/c	Q	9.8	9.3	9.0	8.7	8.5	8.2	8.1	7.9	7.8
		G'	1.7	1.9	2.2	2.4	2.6	2.8	3.0	3.2	3.4
	150 mm o/c	Q	11.1	10.8	10.6	10.4	10.2	10.0	9.9	9.8	9.7
		G'	1.7	2.0	2.2	2.4	2.7	2.9	3.1	3.3	3.5

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

THICKNESS = 0.91 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			1 200	1 350	1 500	1 650	1 800	1 950	2 100	2 250	2 400
36/11	900 mm o/c	Q	18.3	16.6	15.0	13.8	12.7	11.8	11.1	10.4	9.8
		G'	14.9	15.2	15.3	15.3	15.3	15.2	15.1	14.9	14.7
	600 mm o/c	Q	19.1	17.4	16.0	14.8	13.7	12.8	12.0	11.4	10.8
		G'	15.0	15.3	15.5	15.6	15.6	15.5	15.4	15.3	15.2
	300 mm o/c	Q	21.4	19.9	18.6	17.5	16.6	15.7	15.0	14.3	13.0
		G'	15.4	15.8	16.1	16.3	16.4	16.5	16.5	16.4	16.4
	230 mm o/c	Q	22.8	21.3	20.1	19.0	18.2	17.4	16.7	14.8	13.0
		G'	15.6	16.1	16.4	16.7	16.8	16.9	17.0	17.0	17.0
	150 mm o/c	Q	25.8	24.4	23.2	22.3	21.5	19.8	17.0	14.8	13.0
		G'	16.0	16.6	17.0	17.4	17.7	17.9	18.1	18.2	18.3
36/9	900 mm o/c	Q	15.5	14.1	12.8	11.7	10.9	10.1	9.5	8.9	8.4
		G'	14.0	14.2	14.3	14.2	14.1	14.0	13.8	13.6	13.4
	600 mm o/c	Q	16.2	14.9	13.8	12.7	11.8	11.1	10.4	9.9	9.4
		G'	14.2	14.4	14.5	14.5	14.5	14.4	14.2	14.1	13.9
	300 mm o/c	Q	18.5	17.3	16.2	15.4	14.6	14.0	13.4	12.8	12.3
		G'	14.7	15.0	15.3	15.4	15.5	15.5	15.5	15.4	15.3
	230 mm o/c	Q	19.8	18.6	17.6	16.8	16.1	15.5	15.0	14.5	13.0
		G'	15.0	15.4	15.7	15.9	16.0	16.1	16.1	16.1	16.1
	150 mm o/c	Q	22.5	21.4	20.5	19.8	19.2	18.6	17.0	14.8	13.0
		G'	15.5	16.0	16.4	16.7	17.0	17.2	17.3	17.5	17.5
36/7	900 mm o/c	Q	9.9	8.9	8.2	7.6	7.1	6.7	6.3	6.0	5.7
		G'	12.2	12.2	12.1	11.9	11.7	11.5	11.3	11.0	10.8
	600 mm o/c	Q	10.8	9.9	9.2	8.6	8.1	7.6	7.3	6.9	6.7
		G'	12.5	12.5	12.5	12.4	12.2	12.1	11.9	11.7	11.5
	300 mm o/c	Q	13.2	12.5	11.8	11.3	10.9	10.5	10.2	9.9	9.6
		G'	13.3	13.5	13.6	13.6	13.6	13.6	13.5	13.5	13.4
	230 mm o/c	Q	14.6	13.9	13.3	12.8	12.4	12.0	11.7	11.5	11.2
		G'	13.7	13.9	14.1	14.3	14.3	14.4	14.4	14.4	14.4
	150 mm o/c	Q	17.6	17.0	16.4	16.0	15.6	15.3	15.0	14.8	13.0
		G'	14.4	14.9	15.2	15.5	15.7	15.9	16.0	16.1	16.2
36/4	900 mm o/c	Q	6.9	6.4	6.0	5.6	5.2	4.9	4.7	4.5	4.3
		G'	3.1	3.3	3.5	3.7	3.9	4.0	4.2	4.3	4.4
	600 mm o/c	Q	7.7	7.2	6.8	6.5	6.2	5.9	5.7	5.5	5.3
		G'	3.1	3.4	3.6	3.8	4.0	4.2	4.3	4.5	4.6
	300 mm o/c	Q	9.7	9.3	9.0	8.7	8.5	8.3	8.1	7.9	7.8
		G'	3.2	3.5	3.8	4.0	4.3	4.5	4.7	4.9	5.1
	230 mm o/c	Q	10.7	10.4	10.1	9.9	9.6	9.5	9.3	9.2	9.1
		G'	3.3	3.6	3.9	4.1	4.4	4.6	4.8	5.1	5.3
	150 mm o/c	Q	12.6	12.4	12.2	12.0	11.8	11.7	11.6	11.5	11.4
		G'	3.3	3.7	4.0	4.3	4.6	4.8	5.1	5.3	5.6

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

THICKNESS = 1.21 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			1 500	1 650	1 800	1 950	2 100	2 250	2 400	2 550	2 700
36/11	900 mm o/c	Q	19.9	18.2	16.8	15.7	14.7	13.8	13.1	12.4	11.8
		G'	22.1	21.8	21.4	21.0	20.5	20.1	19.6	19.2	18.7
	600 mm o/c	Q	21.2	19.5	18.1	17.0	16.0	15.1	14.3	13.7	13.1
		G'	22.5	22.2	21.9	21.5	21.1	20.7	20.3	19.9	19.5
	300 mm o/c	Q	24.5	23.1	21.9	20.9	19.9	19.0	18.2	17.6	15.9
		G'	23.6	23.4	23.3	23.0	22.8	22.5	22.3	22.0	21.7
	230 mm o/c	Q	26.4	25.1	23.9	22.9	22.1	21.3	20.1	17.8	15.9
		G'	24.1	24.1	24.0	23.9	23.7	23.5	23.3	23.1	22.9
	150 mm o/c	Q	30.6	29.4	28.3	27.4	26.3	22.9	20.1	17.8	15.9
		G'	25.3	25.5	25.5	25.5	25.5	25.4	25.4	25.3	25.2
36/9	900 mm o/c	Q	17.0	15.6	14.4	13.4	12.6	11.9	11.2	10.7	10.2
		G'	20.2	19.8	19.4	18.9	18.5	18.0	17.6	17.1	16.7
	600 mm o/c	Q	18.2	16.9	15.7	14.7	13.9	13.2	12.5	12.0	11.5
		G'	20.7	20.4	20.0	19.6	19.2	18.8	18.4	18.0	17.6
	300 mm o/c	Q	21.4	20.2	19.3	18.5	17.8	17.0	16.4	15.8	15.3
		G'	22.0	21.9	21.6	21.4	21.1	20.9	20.6	20.3	20.1
	230 mm o/c	Q	23.2	22.1	21.2	20.4	19.7	19.1	18.6	17.8	15.9
		G'	22.7	22.7	22.5	22.4	22.2	22.0	21.8	21.6	21.4
	150 mm o/c	Q	27.1	26.1	25.3	24.6	24.0	22.9	20.1	17.8	15.9
		G'	24.1	24.3	24.3	24.3	24.3	24.2	24.1	24.0	23.9
36/7	900 mm o/c	Q	10.8	10.0	9.4	8.8	8.3	7.9	7.6	7.2	7.0
		G'	16.5	16.1	15.6	15.1	14.7	14.2	13.8	13.5	13.1
	600 mm o/c	Q	12.1	11.3	10.7	10.1	9.6	9.2	8.9	8.5	8.3
		G'	17.2	16.8	16.4	16.0	15.6	15.2	14.9	14.5	14.2
	300 mm o/c	Q	15.6	14.9	14.4	13.9	13.4	13.1	12.7	12.4	12.1
		G'	19.1	18.8	18.6	18.4	18.1	17.9	17.6	17.4	17.2
	230 mm o/c	Q	17.6	16.9	16.4	15.9	15.5	15.1	14.8	14.6	14.3
		G'	20.0	19.9	19.8	19.6	19.4	19.3	19.1	18.9	18.8
	150 mm o/c	Q	21.7	21.1	20.6	20.2	19.9	19.5	19.3	17.8	15.9
		G'	21.9	22.0	22.0	22.0	22.0	22.0	21.9	21.9	21.8
36/4	900 mm o/c	Q	7.9	7.4	6.9	6.6	6.2	6.0	5.7	5.5	5.3
		G'	6.1	6.3	6.4	6.6	6.7	6.7	6.8	6.8	6.8
	600 mm o/c	Q	9.0	8.5	8.2	7.9	7.5	7.3	7.0	6.8	6.6
		G'	6.3	6.5	6.7	6.9	7.0	7.1	7.2	7.3	7.4
	300 mm o/c	Q	11.8	11.5	11.2	10.9	10.7	10.5	10.3	10.1	10.0
		G'	6.7	7.1	7.4	7.6	7.9	8.1	8.3	8.5	8.6
	230 mm o/c	Q	13.3	13.0	12.7	12.5	12.3	12.1	12.0	11.8	11.7
		G'	6.9	7.3	7.7	8.0	8.3	8.5	8.8	9.0	9.2
	150 mm o/c	Q	16.0	15.8	15.6	15.4	15.3	15.2	15.0	14.9	14.9
		G'	7.3	7.7	8.1	8.5	8.9	9.3	9.6	9.9	10.2

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 1.52 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			1 800	1 950	2 100	2 250	2 400	2 550	2 700	2 850	3 000
36/11	900 mm o/c	Q	20.8	19.4	18.2	17.1	16.2	15.4	14.6	14.0	13.4
		G'	26.8	26.1	25.3	24.6	23.9	23.2	22.6	22.0	21.5
	600 mm o/c	Q	22.5	21.0	19.8	18.7	17.8	17.0	16.3	15.6	15.0
		G'	27.5	26.8	26.1	25.5	24.8	24.2	23.7	23.1	22.6
	300 mm o/c	Q	27.0	25.8	24.7	23.6	22.7	21.8	21.1	19.9	18.0
		G'	29.5	29.0	28.5	27.9	27.4	27.0	26.5	26.1	25.6
	230 mm o/c	Q	29.5	28.3	27.3	26.4	25.5	24.8	22.2	19.9	18.0
		G'	30.6	30.2	29.7	29.3	28.9	28.5	28.1	27.7	27.3
	150 mm o/c	Q	35.0	33.9	32.9	31.9	28.1	24.9	22.2	19.9	18.0
		G'	32.8	32.6	32.3	32.0	31.7	31.5	31.2	30.9	30.7
36/9	900 mm o/c	Q	17.8	16.6	15.6	14.7	13.9	13.3	12.6	12.1	11.6
		G'	24.1	23.3	22.6	21.9	21.2	20.6	20.0	19.5	18.9
	600 mm o/c	Q	19.5	18.3	17.2	16.3	15.6	14.9	14.3	13.7	13.2
		G'	24.9	24.2	23.5	22.9	22.3	21.7	21.2	20.7	20.2
	300 mm o/c	Q	23.8	22.8	21.9	21.2	20.4	19.7	19.1	18.6	18.0
		G'	27.2	26.7	26.2	25.7	25.2	24.8	24.3	23.9	23.6
	230 mm o/c	Q	26.2	25.3	24.4	23.7	23.0	22.4	21.9	19.9	18.0
		G'	28.5	28.0	27.6	27.2	26.8	26.4	26.1	25.7	25.4
	150 mm o/c	Q	31.3	30.5	29.7	29.0	28.1	24.9	22.2	19.9	18.0
		G'	31.0	30.7	30.5	30.2	30.0	29.8	29.5	29.3	29.1
36/7	900 mm o/c	Q	11.6	10.9	10.3	9.8	9.4	9.0	8.6	8.3	8.1
		G'	18.9	18.2	17.6	17.0	16.4	15.9	15.5	15.0	14.6
	600 mm o/c	Q	13.2	12.5	12.0	11.5	11.0	10.6	10.3	10.0	9.7
		G'	20.0	19.4	18.8	18.2	17.7	17.3	16.8	16.4	16.1
	300 mm o/c	Q	17.8	17.2	16.6	16.2	15.8	15.4	15.1	14.8	14.5
		G'	23.0	22.5	22.1	21.7	21.3	20.9	20.6	20.3	20.0
	230 mm o/c	Q	20.3	19.7	19.2	18.8	18.4	18.1	17.8	17.5	17.2
		G'	24.6	24.2	23.9	23.5	23.2	22.9	22.6	22.4	22.2
	150 mm o/c	Q	25.6	25.1	24.6	24.3	23.9	23.6	22.2	19.9	18.0
		G'	27.7	27.6	27.4	27.2	27.0	26.8	26.7	26.5	26.4
36/4	900 mm o/c	Q	8.6	8.2	7.8	7.4	7.1	6.9	6.6	6.4	6.3
		G'	9.0	9.1	9.1	9.1	9.0	9.0	8.9	8.9	8.8
	600 mm o/c	Q	10.1	9.7	9.4	9.1	8.8	8.5	8.3	8.1	7.9
		G'	9.5	9.6	9.7	9.8	9.8	9.8	9.8	9.8	9.8
	300 mm o/c	Q	13.8	13.5	13.2	13.0	12.8	12.6	12.4	12.3	12.1
		G'	10.7	11.0	11.2	11.4	11.6	11.7	11.9	12.0	12.1
	230 mm o/c	Q	15.8	15.5	15.2	15.0	14.8	14.7	14.5	14.4	14.2
		G'	11.3	11.6	11.9	12.2	12.4	12.6	12.8	13.0	13.2
	150 mm o/c	Q	19.3	19.1	18.9	18.8	18.6	18.5	18.4	18.3	18.0
		G'	12.2	12.7	13.1	13.5	13.9	14.2	14.5	14.8	15.1

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

THICKNESS = 0.76 mm
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			900	1 050	1 200	1 350	1 500	1 650	1 800	1 950	2 100
36/11	900 mm o/c	Q	13.6	12.1	11.0	10.0	9.1	8.4	7.8	7.2	6.8
		G'	9.7	10.4	10.9	11.2	11.5	11.6	11.7	11.7	11.7
	600 mm o/c	Q	14.2	12.8	11.6	10.7	9.9	9.2	8.6	8.1	7.6
		G'	9.8	10.5	11.0	11.4	11.6	11.8	11.9	12.0	12.0
	300 mm o/c	Q	15.9	14.6	13.6	12.7	12.0	11.4	10.9	10.5	10.0
		G'	9.9	10.6	11.2	11.7	12.0	12.3	12.5	12.6	12.7
	230 mm o/c	Q	16.9	15.7	14.7	13.8	13.2	12.6	12.1	11.7	11.3
		G'	10.0	10.7	11.4	11.9	12.2	12.6	12.8	13.0	13.1
	150 mm o/c	Q	18.9	17.8	16.9	16.2	15.6	15.1	14.7	14.3	13.0
		G'	10.1	10.9	11.6	12.2	12.7	13.1	13.4	13.7	13.9
36/9	900 mm o/c	Q	11.4	10.2	9.3	8.5	7.8	7.2	6.7	6.2	5.9
		G'	9.4	10.0	10.4	10.6	10.8	10.8	10.8	10.8	10.8
	600 mm o/c	Q	12.0	10.9	9.9	9.2	8.6	8.0	7.5	7.0	6.7
		G'	9.5	10.1	10.5	10.8	11.0	11.1	11.1	11.1	11.1
	300 mm o/c	Q	13.6	12.6	11.7	11.1	10.5	10.1	9.7	9.3	9.0
		G'	9.6	10.3	10.8	11.2	11.5	11.7	11.9	12.0	12.0
	230 mm o/c	Q	14.5	13.5	12.8	12.1	11.6	11.2	10.8	10.5	10.2
		G'	9.7	10.4	11.0	11.4	11.8	12.0	12.2	12.4	12.5
	150 mm o/c	Q	16.2	15.4	14.8	14.3	13.8	13.5	13.1	12.9	12.6
		G'	9.9	10.7	11.3	11.8	12.3	12.6	12.9	13.2	13.4
36/7	900 mm o/c	Q	7.3	6.6	6.0	5.4	5.0	4.7	4.4	4.2	4.0
		G'	8.6	8.9	9.1	9.2	9.3	9.2	9.1	9.0	8.9
	600 mm o/c	Q	8.0	7.3	6.7	6.3	5.8	5.5	5.2	5.0	4.8
		G'	8.7	9.1	9.4	9.5	9.6	9.6	9.6	9.5	9.4
	300 mm o/c	Q	9.8	9.2	8.7	8.3	8.0	7.7	7.5	7.3	7.1
		G'	9.0	9.5	9.9	10.2	10.4	10.5	10.6	10.7	10.7
	230 mm o/c	Q	10.9	10.3	9.8	9.4	9.1	8.9	8.7	8.5	8.3
		G'	9.1	9.7	10.2	10.5	10.8	11.0	11.1	11.3	11.3
	150 mm o/c	Q	12.9	12.4	12.0	11.7	11.5	11.2	11.1	10.9	10.8
		G'	9.4	10.1	10.7	11.1	11.5	11.8	12.1	12.3	12.5
36/4	900 mm o/c	Q	5.0	4.5	4.2	4.0	3.7	3.5	3.3	3.2	3.0
		G'	1.6	1.9	2.1	2.2	2.4	2.6	2.7	2.8	2.9
	600 mm o/c	Q	5.5	5.1	4.8	4.6	4.4	4.2	4.1	4.0	3.8
		G'	1.7	1.9	2.1	2.3	2.5	2.6	2.8	2.9	3.0
	300 mm o/c	Q	6.9	6.6	6.4	6.2	6.0	5.9	5.8	5.7	5.6
		G'	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.2
	230 mm o/c	Q	7.5	7.3	7.1	7.0	6.8	6.7	6.6	6.6	6.5
		G'	1.7	1.9	2.2	2.4	2.6	2.8	3.0	3.2	3.3
	150 mm o/c	Q	8.6	8.4	8.3	8.2	8.1	8.1	8.0	8.0	7.9
		G'	1.7	2.0	2.2	2.4	2.7	2.9	3.1	3.3	3.5

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

THICKNESS = 0.91 mm
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			1 200	1 350	1 500	1 650	1 800	1 950	2 100	2 250	2 400
36/11	900 mm o/c	Q	13.1	12.0	10.9	10.0	9.3	8.7	8.2	7.7	7.3
		G'	14.5	14.8	14.9	14.9	14.8	14.7	14.5	14.3	14.1
	600 mm o/c	Q	13.9	12.8	11.9	11.0	10.3	9.7	9.1	8.7	8.3
		G'	14.7	15.0	15.1	15.2	15.1	15.1	14.9	14.8	14.6
	300 mm o/c	Q	16.2	15.2	14.3	13.6	13.0	12.5	12.0	11.6	11.2
		G'	15.1	15.5	15.8	15.9	16.0	16.0	16.0	16.0	15.9
	230 mm o/c	Q	17.5	16.5	15.7	15.0	14.5	14.0	13.5	13.2	12.8
		G'	15.3	15.8	16.1	16.3	16.5	16.6	16.6	16.6	16.6
	150 mm o/c	Q	20.2	19.4	18.7	18.1	17.6	17.1	16.7	14.8	13.0
		G'	15.8	16.3	16.8	17.1	17.4	17.6	17.8	17.9	18.0
36/9	900 mm o/c	Q	11.1	10.2	9.3	8.6	8.0	7.5	7.0	6.7	6.3
		G'	13.7	13.8	13.8	13.7	13.6	13.4	13.2	13.0	12.8
	600 mm o/c	Q	11.9	11.0	10.2	9.6	9.0	8.5	8.0	7.6	7.3
		G'	13.9	14.1	14.1	14.1	14.0	13.9	13.7	13.6	13.4
	300 mm o/c	Q	14.0	13.2	12.6	12.0	11.5	11.1	10.8	10.5	10.2
		G'	14.4	14.7	14.9	15.0	15.1	15.1	15.0	15.0	14.9
	230 mm o/c	Q	15.2	14.5	13.9	13.4	12.9	12.5	12.2	11.9	11.6
		G'	14.7	15.1	15.3	15.5	15.6	15.7	15.7	15.7	15.7
	150 mm o/c	Q	17.7	17.1	16.5	16.1	15.7	15.4	15.1	14.8	13.0
		G'	15.3	15.8	16.2	16.5	16.7	16.9	17.0	17.2	17.2
36/7	900 mm o/c	Q	7.1	6.5	6.0	5.6	5.3	5.0	4.8	4.6	4.4
		G'	11.8	11.7	11.6	11.4	11.2	11.0	10.8	10.5	10.3
	600 mm o/c	Q	8.0	7.5	7.0	6.6	6.3	6.0	5.8	5.5	5.4
		G'	12.1	12.1	12.1	11.9	11.8	11.6	11.4	11.3	11.1
	300 mm o/c	Q	10.4	9.9	9.5	9.2	8.9	8.7	8.5	8.3	8.2
		G'	13.0	13.1	13.2	13.3	13.3	13.2	13.2	13.1	13.0
	230 mm o/c	Q	11.7	11.3	10.9	10.6	10.4	10.1	9.9	9.8	9.6
		G'	13.4	13.7	13.8	14.0	14.0	14.1	14.1	14.1	14.1
	150 mm o/c	Q	14.4	14.0	13.7	13.5	13.2	13.1	12.9	12.8	12.6
		G'	14.2	14.6	15.0	15.2	15.4	15.6	15.7	15.9	15.9
36/4	900 mm o/c	Q	5.0	4.7	4.5	4.2	4.0	3.8	3.7	3.5	3.4
		G'	3.1	3.3	3.5	3.7	3.8	4.0	4.1	4.2	4.3
	600 mm o/c	Q	5.8	5.5	5.2	5.0	4.9	4.7	4.6	4.5	4.4
		G'	3.1	3.3	3.6	3.8	4.0	4.1	4.3	4.4	4.5
	300 mm o/c	Q	7.6	7.4	7.2	7.1	6.9	6.8	6.7	6.6	6.6
		G'	3.2	3.5	3.8	4.0	4.2	4.4	4.6	4.8	5.0
	230 mm o/c	Q	8.5	8.3	8.2	8.0	7.9	7.8	7.8	7.7	7.6
		G'	3.2	3.5	3.8	4.1	4.4	4.6	4.8	5.0	5.2
	150 mm o/c	Q	9.9	9.8	9.7	9.7	9.6	9.5	9.5	9.4	9.4
		G'	3.3	3.6	4.0	4.3	4.5	4.8	5.1	5.3	5.6

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

THICKNESS = 1.21 mm
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			1 500	1 650	1 800	1 950	2 100	2 250	2 400	2 550	2 700
36/11	900 mm o/c	Q	14.5	13.3	12.4	11.6	10.9	10.3	9.8	9.3	8.9
		G'	21.3	21.0	20.5	20.1	19.7	19.2	18.7	18.3	17.9
	600 mm o/c	Q	15.7	14.6	13.7	12.9	12.2	11.6	11.1	10.6	10.2
		G'	21.8	21.5	21.1	20.7	20.3	19.9	19.5	19.1	18.7
	300 mm o/c	Q	18.9	18.0	17.2	16.5	15.9	15.4	15.0	14.5	14.1
		G'	22.9	22.8	22.6	22.4	22.1	21.8	21.5	21.3	21.0
	230 mm o/c	Q	20.8	19.9	19.1	18.5	17.9	17.4	17.0	16.6	15.9
		G'	23.6	23.5	23.4	23.2	23.1	22.9	22.6	22.4	22.2
	150 mm o/c	Q	24.7	23.9	23.3	22.7	22.2	21.7	20.1	17.8	15.9
		G'	24.8	25.0	25.0	25.0	25.0	24.9	24.8	24.7	24.6
36/9	900 mm o/c	Q	12.4	11.4	10.6	10.0	9.4	8.9	8.5	8.1	7.7
		G'	19.5	19.0	18.6	18.1	17.6	17.2	16.8	16.3	15.9
	600 mm o/c	Q	13.5	12.7	11.9	11.3	10.7	10.2	9.8	9.4	9.0
		G'	20.0	19.6	19.2	18.8	18.4	18.0	17.6	17.2	16.9
	300 mm o/c	Q	16.6	15.9	15.3	14.7	14.3	13.9	13.5	13.2	12.9
		G'	21.4	21.2	21.0	20.7	20.5	20.2	19.9	19.7	19.4
	230 mm o/c	Q	18.4	17.7	17.1	16.6	16.1	15.8	15.4	15.1	14.8
		G'	22.2	22.1	21.9	21.8	21.6	21.4	21.2	21.0	20.8
	150 mm o/c	Q	21.9	21.3	20.8	20.4	20.0	19.7	19.4	17.8	15.9
		G'	23.7	23.8	23.8	23.8	23.8	23.7	23.6	23.5	23.5
36/7	900 mm o/c	Q	8.0	7.5	7.1	6.7	6.4	6.1	5.9	5.6	5.5
		G'	15.8	15.3	14.8	14.4	13.9	13.5	13.2	12.8	12.5
	600 mm o/c	Q	9.3	8.8	8.4	8.0	7.7	7.4	7.2	6.9	6.8
		G'	16.5	16.1	15.7	15.3	14.9	14.6	14.2	13.9	13.6
	300 mm o/c	Q	12.6	12.2	11.8	11.5	11.2	11.0	10.8	10.6	10.5
		G'	18.5	18.3	18.0	17.8	17.6	17.3	17.1	16.9	16.7
	230 mm o/c	Q	14.4	14.1	13.7	13.4	13.2	13.0	12.8	12.6	12.4
		G'	19.5	19.4	19.2	19.1	18.9	18.8	18.6	18.5	18.3
	150 mm o/c	Q	18.2	17.8	17.5	17.3	17.1	16.9	16.8	16.6	15.9
		G'	21.5	21.6	21.6	21.6	21.6	21.6	21.5	21.5	21.5
36/4	900 mm o/c	Q	5.9	5.6	5.3	5.1	4.9	4.7	4.6	4.4	4.3
		G'	5.9	6.1	6.3	6.4	6.5	6.5	6.5	6.6	6.6
	600 mm o/c	Q	6.9	6.7	6.4	6.3	6.1	5.9	5.8	5.7	5.6
		G'	6.2	6.4	6.6	6.7	6.9	7.0	7.0	7.1	7.2
	300 mm o/c	Q	9.5	9.4	9.2	9.0	8.9	8.8	8.7	8.6	8.5
		G'	6.6	7.0	7.3	7.5	7.8	8.0	8.2	8.4	8.5
	230 mm o/c	Q	10.8	10.6	10.5	10.4	10.3	10.2	10.1	10.0	10.0
		G'	6.8	7.2	7.6	7.9	8.2	8.4	8.7	8.9	9.1
	150 mm o/c	Q	12.9	12.8	12.7	12.6	12.5	12.5	12.4	12.4	12.3
		G'	7.2	7.7	8.1	8.5	8.8	9.2	9.5	9.8	10.1

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

THICKNESS = 1.52 mm
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			1 800	1 950	2 100	2 250	2 400	2 550	2 700	2 850	3 000
36/11	900 mm o/c	Q	15.4	14.4	13.5	12.8	12.2	11.6	11.1	10.6	10.2
		G'	25.7	24.9	24.1	23.4	22.8	22.1	21.5	20.9	20.4
	600 mm o/c	Q	17.0	16.0	15.2	14.4	13.8	13.2	12.7	12.3	11.9
		G'	26.4	25.7	25.0	24.4	23.8	23.2	22.6	22.1	21.6
	300 mm o/c	Q	21.3	20.5	19.7	19.1	18.5	18.0	17.6	17.1	16.7
		G'	28.5	28.0	27.5	27.0	26.5	26.0	25.6	25.2	24.8
	230 mm o/c	Q	23.7	22.9	22.2	21.6	21.1	20.6	20.2	19.8	18.0
		G'	29.7	29.3	28.8	28.4	28.0	27.6	27.2	26.8	26.5
	150 mm o/c	Q	28.9	28.2	27.5	27.0	26.5	24.9	22.2	19.9	18.0
		G'	32.0	31.8	31.5	31.3	31.0	30.7	30.5	30.2	30.0
36/9	900 mm o/c	Q	13.2	12.4	11.7	11.1	10.6	10.1	9.7	9.3	8.9
		G'	22.9	22.2	21.5	20.8	20.1	19.5	19.0	18.5	18.0
	600 mm o/c	Q	14.9	14.0	13.3	12.7	12.2	11.7	11.3	10.9	10.6
		G'	23.8	23.1	22.5	21.9	21.3	20.7	20.2	19.7	19.3
	300 mm o/c	Q	18.9	18.3	17.7	17.2	16.7	16.3	16.0	15.7	15.4
		G'	26.3	25.8	25.3	24.8	24.3	23.9	23.5	23.1	22.8
	230 mm o/c	Q	21.2	20.6	20.0	19.6	19.1	18.8	18.4	18.1	17.9
		G'	27.6	27.2	26.8	26.4	26.0	25.6	25.3	25.0	24.7
	150 mm o/c	Q	25.8	25.3	24.8	24.4	24.1	23.8	22.2	19.9	18.0
		G'	30.3	30.0	29.8	29.6	29.3	29.1	28.9	28.7	28.5
36/7	900 mm o/c	Q	8.8	8.3	7.9	7.6	7.3	7.0	6.8	6.6	6.4
		G'	17.9	17.3	16.7	16.1	15.6	15.1	14.6	14.2	13.8
	600 mm o/c	Q	10.4	9.9	9.5	9.2	8.9	8.7	8.4	8.2	8.0
		G'	19.1	18.5	17.9	17.4	16.9	16.5	16.1	15.7	15.4
	300 mm o/c	Q	14.7	14.3	14.0	13.7	13.4	13.2	13.0	12.8	12.7
		G'	22.2	21.8	21.3	21.0	20.6	20.3	20.0	19.7	19.4
	230 mm o/c	Q	17.0	16.7	16.4	16.1	15.9	15.7	15.5	15.3	15.2
		G'	23.9	23.5	23.2	22.9	22.6	22.3	22.0	21.8	21.6
	150 mm o/c	Q	21.8	21.5	21.3	21.0	20.8	20.7	20.5	19.9	18.0
		G'	27.2	27.0	26.8	26.6	26.5	26.3	26.2	26.0	25.9
36/4	900 mm o/c	Q	6.6	6.3	6.1	5.9	5.7	5.5	5.4	5.2	5.1
		G'	8.7	8.8	8.8	8.7	8.7	8.6	8.6	8.5	8.4
	600 mm o/c	Q	8.0	7.8	7.6	7.4	7.2	7.1	7.0	6.8	6.7
		G'	9.3	9.4	9.4	9.5	9.5	9.5	9.5	9.5	9.4
	300 mm o/c	Q	11.4	11.2	11.1	10.9	10.8	10.7	10.6	10.5	10.4
		G'	10.5	10.8	11.0	11.2	11.4	11.5	11.6	11.8	11.8
	230 mm o/c	Q	13.0	12.9	12.8	12.6	12.5	12.5	12.4	12.3	12.2
		G'	11.1	11.5	11.8	12.0	12.3	12.5	12.7	12.8	13.0
	150 mm o/c	Q	15.7	15.6	15.6	15.5	15.4	15.4	15.3	15.3	15.2
		G'	12.1	12.6	13.0	13.4	13.8	14.1	14.4	14.7	15.0

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

THICKNESS = 0.76 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			2 400	2 550	2 700	2 850	3 000	3 150	3 300	3 450	3 600
24/7	900 mm o/c	Q	5.5	5.2	4.9	4.7	4.5	4.3	4.1	4.0	3.8
		G'	5.3	5.2	5.2	5.1	5.1	5.0	4.9	4.8	4.8
	600 mm o/c	Q	5.8	5.5	5.2	5.0	4.8	4.6	4.4	4.2	4.1
		G'	5.3	5.2	5.2	5.2	5.1	5.0	5.0	4.9	4.8
	300 mm o/c	Q	6.6	6.3	6.0	5.8	5.6	5.4	5.2	5.1	4.9
		G'	5.4	5.3	5.3	5.2	5.2	5.1	5.1	5.0	4.9
	230 mm o/c	Q	7.1	6.8	6.5	6.3	6.1	5.9	5.7	5.5	5.4
		G'	5.4	5.4	5.3	5.3	5.3	5.2	5.1	5.1	5.0
	150 mm o/c	Q	8.2	7.9	7.6	7.4	7.2	7.0	6.8	6.7	6.5
		G'	5.5	5.5	5.5	5.4	5.4	5.3	5.3	5.2	5.2
24/5	900 mm o/c	Q	3.2	3.1	2.9	2.8	2.7	2.6	2.5	2.4	2.3
		G'	4.0	4.0	3.9	3.8	3.7	3.6	3.6	3.5	3.4
	600 mm o/c	Q	3.5	3.4	3.2	3.1	3.0	2.9	2.8	2.7	2.6
		G'	4.1	4.0	3.9	3.8	3.8	3.7	3.6	3.5	3.5
	300 mm o/c	Q	4.3	4.2	4.0	3.9	3.8	3.7	3.6	3.5	3.4
		G'	4.2	4.1	4.1	4.0	3.9	3.8	3.8	3.7	3.6
	230 mm o/c	Q	4.8	4.7	4.5	4.4	4.3	4.2	4.1	4.0	3.9
		G'	4.3	4.2	4.1	4.1	4.0	3.9	3.9	3.8	3.7
	150 mm o/c	Q	5.9	5.8	5.6	5.5	5.4	5.3	5.2	5.1	5.0
		G'	4.4	4.4	4.3	4.3	4.2	4.1	4.1	4.0	4.0
24/3	900 mm o/c	Q	2.6	2.5	2.4	2.3	2.2	2.1	2.0	2.0	1.9
		G'	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.4
	600 mm o/c	Q	2.9	2.7	2.6	2.5	2.4	2.4	2.3	2.2	2.2
		G'	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4	1.4
	300 mm o/c	Q	3.7	3.5	3.4	3.3	3.2	3.2	3.1	3.0	3.0
		G'	1.2	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4
	230 mm o/c	Q	4.1	4.0	3.9	3.8	3.7	3.7	3.6	3.5	3.5
		G'	1.2	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.5
	150 mm o/c	Q	5.3	5.2	5.0	5.0	4.9	4.8	4.7	4.7	4.6
		G'	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.5

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.91 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			2 700	2 850	3 000	3 150	3 300	3 450	3 600	3 750	3 900
24/7	900 mm o/c	Q	6.0	5.7	5.4	5.2	5.0	4.8	4.7	4.5	4.4
		G'	6.4	6.3	6.2	6.0	5.9	5.8	5.7	5.6	5.5
	600 mm o/c	Q	6.4	6.1	5.8	5.6	5.4	5.2	5.1	4.9	4.8
		G'	6.4	6.3	6.2	6.1	6.0	5.9	5.7	5.6	5.5
	300 mm o/c	Q	7.5	7.2	7.0	6.8	6.6	6.4	6.2	6.1	5.9
		G'	6.6	6.5	6.4	6.2	6.1	6.0	5.9	5.8	5.7
	230 mm o/c	Q	8.2	7.9	7.7	7.5	7.3	7.1	6.9	6.8	6.6
		G'	6.6	6.5	6.4	6.3	6.2	6.1	6.0	5.9	5.8
	150 mm o/c	Q	9.8	9.6	9.3	9.1	8.9	8.7	8.5	8.4	8.2
		G'	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.2	6.1
24/5	900 mm o/c	Q	3.6	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7
		G'	4.6	4.5	4.4	4.3	4.2	4.1	4.0	3.9	3.8
	600 mm o/c	Q	4.0	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.1
		G'	4.7	4.6	4.5	4.4	4.2	4.1	4.0	3.9	3.8
	300 mm o/c	Q	5.1	5.0	4.9	4.7	4.6	4.5	4.4	4.4	4.3
		G'	4.9	4.8	4.7	4.6	4.4	4.4	4.3	4.2	4.1
	230 mm o/c	Q	5.8	5.7	5.6	5.4	5.3	5.2	5.1	5.1	5.0
		G'	5.0	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2
	150 mm o/c	Q	7.5	7.3	7.2	7.1	7.0	6.9	6.8	6.7	6.6
		G'	5.2	5.1	5.0	4.9	4.8	4.8	4.7	4.6	4.5
24/3	900 mm o/c	Q	2.9	2.8	2.7	2.6	2.5	2.4	2.4	2.3	2.2
		G'	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	600 mm o/c	Q	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.7	2.6
		G'	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	300 mm o/c	Q	4.4	4.3	4.2	4.1	4.1	4.0	3.9	3.9	3.8
		G'	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	230 mm o/c	Q	5.2	5.0	4.9	4.8	4.8	4.7	4.6	4.6	4.5
		G'	1.8	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0
	150 mm o/c	Q	6.7	6.6	6.5	6.4	6.3	6.2	6.2	6.1	6.1
		G'	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.1

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 1.21 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			3 000	3 150	3 300	3 450	3 600	3 750	3 900	4 050	4 200
24/7	900 mm o/c	Q	7.4	7.1	6.8	6.6	6.4	6.2	6.0	5.8	5.7
		G'	8.1	7.9	7.7	7.5	7.3	7.1	6.9	6.7	6.6
	600 mm o/c	Q	8.1	7.8	7.5	7.3	7.1	6.9	6.7	6.5	6.4
		G'	8.2	7.9	7.7	7.5	7.3	7.2	7.0	6.8	6.7
	300 mm o/c	Q	10.1	9.9	9.6	9.4	9.1	8.9	8.8	8.6	8.4
		G'	8.4	8.2	8.0	7.8	7.6	7.4	7.2	7.1	6.9
	230 mm o/c	Q	11.4	11.1	10.9	10.6	10.4	10.2	10.0	9.8	9.7
		G'	8.5	8.3	8.1	7.9	7.7	7.6	7.4	7.2	7.1
	150 mm o/c	Q	14.3	14.0	13.7	13.5	13.3	13.1	12.9	12.7	12.6
		G'	8.8	8.6	8.4	8.2	8.1	7.9	7.7	7.6	7.4
24/5	900 mm o/c	Q	4.6	4.4	4.3	4.2	4.1	3.9	3.8	3.8	3.7
		G'	5.6	5.4	5.2	5.0	4.9	4.7	4.6	4.5	4.4
	600 mm o/c	Q	5.3	5.1	5.0	4.9	4.7	4.6	4.5	4.4	4.4
		G'	5.6	5.5	5.3	5.1	5.0	4.9	4.7	4.6	4.5
	300 mm o/c	Q	7.3	7.2	7.1	6.9	6.8	6.7	6.6	6.5	6.4
		G'	5.9	5.7	5.6	5.4	5.3	5.2	5.0	4.9	4.8
	230 mm o/c	Q	8.6	8.5	8.3	8.2	8.1	8.0	7.9	7.8	7.7
		G'	6.1	5.9	5.8	5.6	5.5	5.3	5.2	5.1	5.0
	150 mm o/c	Q	11.5	11.3	11.2	11.1	10.9	10.8	10.7	10.7	10.6
		G'	6.4	6.3	6.1	6.0	5.9	5.7	5.6	5.5	5.4
24/3	900 mm o/c	Q	3.8	3.7	3.5	3.5	3.4	3.3	3.2	3.1	3.1
		G'	2.7	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.4
	600 mm o/c	Q	4.5	4.3	4.2	4.1	4.1	4.0	3.9	3.8	3.8
		G'	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.5	2.5
	300 mm o/c	Q	6.5	6.4	6.3	6.2	6.1	6.0	6.0	5.9	5.8
		G'	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.7	2.7
	230 mm o/c	Q	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.2	7.1
		G'	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.8
	150 mm o/c	Q	10.1	10.0	9.9	9.9	9.8	9.7	9.6	9.6	9.5
		G'	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

THICKNESS = 1.52 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			3 300	3 450	3 600	3 750	3 900	4 050	4 200	4 350	4 500
24/7	900 mm o/c	Q	8.7	8.5	8.2	8.0	7.7	7.5	7.3	7.2	7.0
		G'	9.1	8.8	8.6	8.3	8.1	7.9	7.7	7.5	7.3
	600 mm o/c	Q	9.8	9.5	9.3	9.0	8.8	8.6	8.4	8.2	8.1
		G'	9.2	8.9	8.7	8.4	8.2	8.0	7.8	7.6	7.4
	300 mm o/c	Q	13.1	12.8	12.5	12.3	12.0	11.8	11.6	11.5	11.3
		G'	9.5	9.2	9.0	8.7	8.5	8.3	8.1	7.9	7.7
	230 mm o/c	Q	15.0	14.7	14.5	14.2	14.0	13.8	13.6	13.4	13.3
		G'	9.7	9.4	9.2	8.9	8.7	8.5	8.3	8.1	7.9
	150 mm o/c	Q	19.5	19.2	19.0	18.7	18.5	18.3	18.1	17.9	17.8
		G'	10.0	9.8	9.6	9.3	9.1	8.9	8.7	8.6	8.4
24/5	900 mm o/c	Q	5.6	5.5	5.3	5.2	5.1	5.0	4.9	4.8	4.7
		G'	6.1	5.9	5.7	5.5	5.3	5.2	5.0	4.9	4.8
	600 mm o/c	Q	6.7	6.5	6.4	6.3	6.2	6.1	6.0	5.9	5.8
		G'	6.2	6.0	5.8	5.6	5.5	5.3	5.1	5.0	4.9
	300 mm o/c	Q	9.9	9.8	9.6	9.5	9.4	9.3	9.2	9.1	9.0
		G'	6.5	6.3	6.1	6.0	5.8	5.7	5.5	5.4	5.3
	230 mm o/c	Q	11.9	11.7	11.6	11.5	11.4	11.3	11.2	11.1	11.0
		G'	6.7	6.5	6.4	6.2	6.0	5.9	5.7	5.6	5.5
	150 mm o/c	Q	16.3	16.1	16.0	15.9	15.7	15.6	15.5	15.4	15.3
		G'	7.2	7.0	6.8	6.7	6.5	6.4	6.3	6.1	6.0
24/3	900 mm o/c	Q	4.7	4.6	4.5	4.4	4.3	4.2	4.2	4.1	4.0
		G'	3.4	3.3	3.2	3.2	3.1	3.1	3.0	2.9	2.9
	600 mm o/c	Q	5.8	5.7	5.6	5.5	5.4	5.3	5.2	5.2	5.1
		G'	3.4	3.4	3.3	3.3	3.2	3.2	3.1	3.0	3.0
	300 mm o/c	Q	9.0	8.9	8.8	8.7	8.6	8.5	8.5	8.4	8.3
		G'	3.7	3.6	3.6	3.5	3.5	3.4	3.4	3.3	3.3
	230 mm o/c	Q	10.8	10.6	10.5	10.4	10.4	10.3	10.2	10.1	10.1
		G'	3.8	3.8	3.7	3.7	3.6	3.6	3.5	3.5	3.5
	150 mm o/c	Q	14.1	14.0	13.9	13.9	13.8	13.7	13.7	13.6	13.5
		G'	4.1	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.8

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.76 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			2 400	2 550	2 700	2 850	3 000	3 150	3 300	3 450	3 600
24/7	900 mm o/c	Q	6.2	5.9	5.7	5.4	5.3	5.1	4.9	4.8	4.6
		G'	5.5	5.5	5.5	5.5	5.5	5.4	5.4	5.4	5.3
	600 mm o/c	Q	7.0	6.7	6.5	6.3	6.1	5.9	5.7	5.6	5.5
		G'	5.7	5.8	5.8	5.8	5.8	5.8	5.7	5.7	5.7
	300 mm o/c	Q	9.4	9.1	8.9	8.7	8.5	8.3	8.2	8.0	7.9
		G'	6.2	6.3	6.4	6.4	6.5	6.5	6.6	6.6	6.6
	230 mm o/c	Q	10.9	10.6	10.4	10.2	10.0	9.8	9.6	9.5	9.4
		G'	6.5	6.6	6.7	6.8	6.9	6.9	7.0	7.0	7.1
	150 mm o/c	Q	14.0	13.8	13.6	13.4	13.2	13.0	12.8	12.7	12.6
		G'	7.0	7.1	7.3	7.4	7.5	7.6	7.7	7.8	7.9
24/5	900 mm o/c	Q	3.9	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.2
		G'	4.4	4.4	4.4	4.4	4.3	4.3	4.2	4.2	4.2
	600 mm o/c	Q	4.7	4.6	4.5	4.4	4.3	4.2	4.1	4.0	4.0
		G'	4.8	4.8	4.8	4.7	4.7	4.7	4.7	4.7	4.7
	300 mm o/c	Q	7.2	7.0	6.9	6.8	6.7	6.6	6.5	6.5	6.4
		G'	5.5	5.6	5.6	5.7	5.7	5.8	5.8	5.8	5.8
	230 mm o/c	Q	8.6	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.9
		G'	5.9	6.0	6.1	6.1	6.2	6.3	6.3	6.4	6.4
	150 mm o/c	Q	11.5	11.4	11.3	11.2	11.1	11.0	10.9	10.9	10.8
		G'	6.5	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4
24/3	900 mm o/c	Q	3.3	3.2	3.1	3.0	2.9	2.9	2.8	2.8	2.7
		G'	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.6
	600 mm o/c	Q	4.1	4.0	3.9	3.8	3.7	3.7	3.6	3.6	3.5
		G'	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7
	300 mm o/c	Q	6.3	6.2	6.1	6.1	6.0	5.9	5.9	5.8	5.8
		G'	1.4	1.5	1.5	1.6	1.7	1.7	1.8	1.8	1.9
	230 mm o/c	Q	7.4	7.3	7.2	7.2	7.1	7.0	7.0	6.9	6.9
		G'	1.4	1.5	1.6	1.7	1.7	1.8	1.8	1.9	2.0
	150 mm o/c	Q	9.4	9.3	9.3	9.2	9.2	9.1	9.1	9.1	9.0
		G'	1.5	1.6	1.6	1.7	1.8	1.9	1.9	2.0	2.1

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.91 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			2 700	2 850	3 000	3 150	3 300	3 450	3 600	3 750	3 900
24/7	900 mm o/c	Q	6.7	6.5	6.3	6.1	5.9	5.7	5.5	5.4	5.3
		G'	6.9	6.8	6.7	6.7	6.6	6.5	6.4	6.4	6.3
	600 mm o/c	Q	7.7	7.5	7.2	7.0	6.8	6.7	6.5	6.4	6.2
		G'	7.2	7.2	7.1	7.1	7.0	7.0	6.9	6.9	6.8
	300 mm o/c	Q	10.6	10.4	10.1	9.9	9.8	9.6	9.4	9.3	9.2
		G'	8.1	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.1
	230 mm o/c	Q	12.4	12.2	11.9	11.7	11.5	11.4	11.2	11.1	10.9
		G'	8.6	8.7	8.7	8.7	8.8	8.8	8.8	8.8	8.8
	150 mm o/c	Q	16.2	16.0	15.7	15.5	15.4	15.2	15.0	14.9	14.8
		G'	9.5	9.6	9.7	9.8	9.8	9.9	10.0	10.0	10.1
24/5	900 mm o/c	Q	4.4	4.2	4.1	4.0	3.9	3.8	3.8	3.7	3.6
		G'	5.3	5.3	5.2	5.1	5.0	5.0	4.9	4.8	4.8
	600 mm o/c	Q	5.3	5.2	5.1	5.0	4.9	4.8	4.7	4.7	4.6
		G'	5.8	5.8	5.7	5.7	5.6	5.6	5.5	5.5	5.4
	300 mm o/c	Q	8.3	8.1	8.0	7.9	7.8	7.7	7.6	7.6	7.5
		G'	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
	230 mm o/c	Q	10.0	9.9	9.8	9.7	9.6	9.5	9.4	9.3	9.3
		G'	7.7	7.7	7.8	7.8	7.8	7.8	7.9	7.9	7.9
	150 mm o/c	Q	13.5	13.4	13.3	13.2	13.1	13.0	12.9	12.9	12.8
		G'	8.8	8.9	9.0	9.1	9.1	9.2	9.3	9.3	9.4
24/3	900 mm o/c	Q	3.7	3.6	3.5	3.4	3.4	3.3	3.2	3.2	3.1
		G'	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.2
	600 mm o/c	Q	4.6	4.6	4.5	4.4	4.3	4.3	4.2	4.2	4.1
		G'	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4
	300 mm o/c	Q	7.3	7.2	7.2	7.1	7.0	7.0	6.9	6.9	6.8
		G'	2.2	2.3	2.4	2.5	2.6	2.6	2.7	2.8	2.8
	230 mm o/c	Q	8.6	8.6	8.5	8.4	8.4	8.3	8.3	8.2	8.2
		G'	2.3	2.4	2.5	2.6	2.7	2.8	2.8	2.9	3.0
	150 mm o/c	Q	11.1	11.0	11.0	10.9	10.9	10.8	10.8	10.8	10.7
		G'	2.5	2.6	2.7	2.8	2.9	3.0	3.0	3.1	3.2

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 1.21 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			3 000	3 150	3 300	3 450	3 600	3 750	3 900	4 050	4 200
24/7	900 mm o/c	Q	8.2	8.0	7.7	7.5	7.3	7.1	6.9	6.8	6.6
		G'	8.9	8.8	8.6	8.5	8.3	8.2	8.0	7.9	7.8
	600 mm o/c	Q	9.5	9.3	9.0	8.8	8.6	8.4	8.2	8.1	7.9
		G'	9.6	9.4	9.3	9.2	9.0	8.9	8.8	8.7	8.6
	300 mm o/c	Q	13.4	13.2	12.9	12.7	12.5	12.3	12.1	12.0	11.8
		G'	11.2	11.1	11.1	11.0	10.9	10.9	10.8	10.7	10.7
	230 mm o/c	Q	15.8	15.5	15.3	15.1	14.8	14.7	14.5	14.3	14.2
		G'	12.1	12.0	12.0	12.0	11.9	11.9	11.8	11.8	11.7
	150 mm o/c	Q	20.8	20.6	20.3	20.1	19.9	19.7	19.6	19.4	19.2
		G'	13.7	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.9
24/5	900 mm o/c	Q	5.4	5.3	5.2	5.1	5.0	4.9	4.8	4.7	4.6
		G'	6.6	6.5	6.4	6.3	6.2	6.1	6.0	5.9	5.8
	600 mm o/c	Q	6.7	6.6	6.5	6.4	6.3	6.2	6.1	6.0	5.9
		G'	7.4	7.3	7.2	7.1	7.0	7.0	6.9	6.8	6.7
	300 mm o/c	Q	10.6	10.5	10.4	10.3	10.1	10.1	10.0	9.9	9.8
		G'	9.5	9.4	9.4	9.3	9.3	9.3	9.2	9.2	9.1
	230 mm o/c	Q	13.0	12.9	12.7	12.6	12.5	12.4	12.3	12.2	12.1
		G'	10.5	10.5	10.5	10.5	10.5	10.4	10.4	10.4	10.4
	150 mm o/c	Q	17.6	17.5	17.4	17.3	17.2	17.1	17.0	16.9	16.8
		G'	12.5	12.6	12.6	12.7	12.7	12.7	12.7	12.8	12.8
24/3	900 mm o/c	Q	4.6	4.5	4.4	4.4	4.3	4.2	4.1	4.1	4.0
		G'	3.2	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.3
	600 mm o/c	Q	5.9	5.8	5.7	5.6	5.6	5.5	5.4	5.4	5.3
		G'	3.5	3.5	3.6	3.6	3.6	3.7	3.7	3.7	3.8
	300 mm o/c	Q	9.5	9.4	9.3	9.2	9.1	9.1	9.0	9.0	8.9
		G'	4.1	4.2	4.3	4.4	4.5	4.5	4.6	4.7	4.7
	230 mm o/c	Q	11.2	11.1	11.1	11.0	10.9	10.9	10.8	10.8	10.7
		G'	4.3	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2
	150 mm o/c	Q	14.5	14.4	14.4	14.3	14.3	14.2	14.2	14.2	14.1
		G'	4.7	4.9	5.0	5.2	5.3	5.4	5.6	5.7	5.8

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 1.52 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			3 300	3 450	3 600	3 750	3 900	4 050	4 200	4 350	4 500
24/7	900 mm o/c	Q	9.5	9.3	9.0	8.8	8.6	8.4	8.2	8.0	7.9
		G'	10.3	10.1	9.9	9.7	9.5	9.3	9.2	9.0	8.8
	600 mm o/c	Q	11.2	10.9	10.6	10.4	10.2	10.0	9.8	9.6	9.5
		G'	11.2	11.0	10.8	10.6	10.5	10.3	10.1	10.0	9.9
	300 mm o/c	Q	16.0	15.7	15.5	15.3	15.0	14.8	14.7	14.5	14.3
		G'	13.5	13.4	13.3	13.1	13.0	12.9	12.8	12.7	12.6
	230 mm o/c	Q	19.0	18.7	18.4	18.2	18.0	17.8	17.6	17.5	17.3
		G'	14.8	14.7	14.6	14.5	14.4	14.3	14.2	14.1	14.1
	150 mm o/c	Q	25.3	25.0	24.7	24.5	24.3	24.1	23.9	23.8	23.6
		G'	17.3	17.2	17.2	17.1	17.1	17.1	17.0	17.0	17.0
24/5	900 mm o/c	Q	6.4	6.3	6.1	6.0	5.9	5.8	5.7	5.6	5.6
		G'	7.5	7.4	7.2	7.1	7.0	6.9	6.7	6.6	6.5
	600 mm o/c	Q	8.0	7.9	7.8	7.6	7.5	7.4	7.3	7.3	7.2
		G'	8.6	8.4	8.3	8.2	8.1	8.0	7.9	7.8	7.7
	300 mm o/c	Q	12.9	12.7	12.6	12.5	12.4	12.3	12.2	12.1	12.0
		G'	11.3	11.2	11.2	11.1	11.0	10.9	10.9	10.8	10.7
	230 mm o/c	Q	15.8	15.7	15.5	15.4	15.3	15.2	15.1	15.0	14.9
		G'	12.8	12.7	12.7	12.6	12.6	12.5	12.5	12.4	12.4
	150 mm o/c	Q	21.6	21.5	21.3	21.2	21.1	21.0	20.9	20.9	20.8
		G'	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6
24/3	900 mm o/c	Q	5.5	5.4	5.3	5.2	5.1	5.1	5.0	4.9	4.9
		G'	4.3	4.3	4.3	4.3	4.2	4.2	4.2	4.2	4.2
	600 mm o/c	Q	7.1	7.0	6.9	6.8	6.8	6.7	6.6	6.6	6.5
		G'	4.8	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
	300 mm o/c	Q	11.5	11.4	11.4	11.3	11.2	11.1	11.1	11.0	11.0
		G'	6.1	6.2	6.2	6.3	6.4	6.4	6.5	6.6	6.6
	230 mm o/c	Q	13.7	13.7	13.6	13.5	13.4	13.4	13.3	13.3	13.2
		G'	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4
	150 mm o/c	Q	17.8	17.8	17.7	17.7	17.6	17.6	17.5	17.5	17.4
		G'	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.5	8.6

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.76 mm
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			2 400	2 550	2 700	2 850	3 000	3 150	3 300	3 450	3 600
24/7	900 mm o/c	Q	4.7	4.5	4.3	4.2	4.1	3.9	3.8	3.7	3.6
		G'	5.3	5.3	5.3	5.3	5.3	5.2	5.2	5.2	5.1
	600 mm o/c	Q	5.5	5.3	5.1	5.0	4.9	4.7	4.6	4.5	4.5
		G'	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.5
	300 mm o/c	Q	7.9	7.7	7.6	7.4	7.3	7.2	7.1	7.0	6.9
		G'	6.1	6.2	6.3	6.3	6.4	6.4	6.4	6.5	6.5
	230 mm o/c	Q	9.4	9.2	9.0	8.9	8.7	8.6	8.5	8.4	8.3
		G'	6.4	6.5	6.6	6.7	6.7	6.8	6.9	6.9	6.9
	150 mm o/c	Q	12.0	11.8	11.7	11.6	11.5	11.4	11.3	11.2	11.1
		G'	6.9	7.0	7.2	7.3	7.4	7.5	7.6	7.7	7.8
24/5	900 mm o/c	Q	3.1	3.0	2.9	2.8	2.8	2.7	2.7	2.6	2.6
		G'	4.3	4.3	4.2	4.2	4.2	4.1	4.1	4.0	4.0
	600 mm o/c	Q	3.9	3.8	3.7	3.7	3.6	3.5	3.5	3.4	3.4
		G'	4.6	4.6	4.6	4.6	4.6	4.6	4.5	4.5	4.5
	300 mm o/c	Q	6.3	6.2	6.1	6.1	6.0	5.9	5.9	5.8	5.8
		G'	5.4	5.5	5.5	5.6	5.6	5.7	5.7	5.7	5.7
	230 mm o/c	Q	7.6	7.5	7.4	7.4	7.3	7.2	7.2	7.1	7.1
		G'	5.8	5.9	6.0	6.0	6.1	6.2	6.2	6.3	6.3
	150 mm o/c	Q	10.2	10.1	10.0	10.0	9.9	9.9	9.8	9.8	9.8
		G'	6.5	6.6	6.7	6.9	7.0	7.1	7.2	7.3	7.3
24/3	900 mm o/c	Q	2.6	2.5	2.5	2.4	2.4	2.4	2.3	2.3	2.3
		G'	1.3	1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.6
	600 mm o/c	Q	3.4	3.4	3.3	3.3	3.2	3.2	3.1	3.1	3.1
		G'	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.6	1.7
	300 mm o/c	Q	5.4	5.3	5.3	5.2	5.2	5.1	5.1	5.1	5.1
		G'	1.4	1.5	1.5	1.6	1.7	1.7	1.8	1.8	1.9
	230 mm o/c	Q	6.3	6.2	6.2	6.1	6.1	6.1	6.1	6.0	6.0
		G'	1.4	1.5	1.6	1.6	1.7	1.8	1.8	1.9	2.0
	150 mm o/c	Q	7.8	7.8	7.7	7.7	7.7	7.7	7.7	7.6	7.6
		G'	1.5	1.6	1.6	1.7	1.8	1.9	1.9	2.0	2.1

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.91 mm
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			2 700	2 850	3 000	3 150	3 300	3 450	3 600	3 750	3 900
24/7	900 mm o/c	Q	5.2	5.0	4.8	4.7	4.6	4.5	4.4	4.3	4.2
		G'	6.6	6.5	6.5	6.4	6.3	6.2	6.2	6.1	6.0
	600 mm o/c	Q	6.1	6.0	5.8	5.7	5.5	5.4	5.3	5.2	5.1
		G'	7.0	6.9	6.9	6.8	6.8	6.7	6.7	6.6	6.6
	300 mm o/c	Q	9.0	8.9	8.7	8.6	8.5	8.3	8.2	8.1	8.1
		G'	7.9	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.9
	230 mm o/c	Q	10.8	10.6	10.5	10.3	10.2	10.1	10.0	9.9	9.8
		G'	8.4	8.5	8.5	8.6	8.6	8.6	8.6	8.6	8.7
	150 mm o/c	Q	14.0	13.9	13.7	13.6	13.5	13.4	13.3	13.2	13.1
		G'	9.3	9.4	9.5	9.6	9.7	9.8	9.8	9.9	10.0
24/5	900 mm o/c	Q	3.5	3.4	3.3	3.3	3.2	3.1	3.1	3.0	3.0
		G'	5.1	5.0	5.0	4.9	4.8	4.8	4.7	4.6	4.6
	600 mm o/c	Q	4.4	4.4	4.3	4.2	4.2	4.1	4.1	4.0	4.0
		G'	5.6	5.6	5.5	5.5	5.4	5.4	5.3	5.3	5.3
	300 mm o/c	Q	7.4	7.3	7.2	7.1	7.1	7.0	6.9	6.9	6.9
		G'	6.9	6.9	6.9	6.9	7.0	7.0	7.0	7.0	7.0
	230 mm o/c	Q	8.9	8.8	8.7	8.7	8.6	8.5	8.5	8.5	8.4
		G'	7.5	7.6	7.6	7.7	7.7	7.7	7.7	7.8	7.8
	150 mm o/c	Q	12.0	11.9	11.9	11.8	11.8	11.7	11.7	11.6	11.6
		G'	8.7	8.8	8.9	9.0	9.0	9.1	9.2	9.3	9.3
24/3	900 mm o/c	Q	3.0	2.9	2.9	2.8	2.8	2.8	2.7	2.7	2.7
		G'	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.1
	600 mm o/c	Q	4.0	3.9	3.8	3.8	3.8	3.7	3.7	3.7	3.6
		G'	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.4
	300 mm o/c	Q	6.3	6.2	6.2	6.2	6.1	6.1	6.1	6.0	6.0
		G'	2.2	2.3	2.4	2.5	2.5	2.6	2.7	2.7	2.8
	230 mm o/c	Q	7.4	7.4	7.3	7.3	7.3	7.2	7.2	7.2	7.2
		G'	2.3	2.4	2.5	2.6	2.7	2.7	2.8	2.9	3.0
	150 mm o/c	Q	9.3	9.2	9.2	9.2	9.2	9.1	9.1	9.1	9.1
		G'	2.4	2.5	2.7	2.8	2.8	2.9	3.0	3.1	3.2

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 1.21mm
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			3 000	3 150	3 300	3 450	3 600	3 750	3 900	4 050	4 200
24/7	900 mm o/c	Q	6.4	6.2	6.0	5.9	5.8	5.6	5.5	5.4	5.3
		G'	8.5	8.4	8.2	8.1	7.9	7.8	7.7	7.5	7.4
	600 mm o/c	Q	7.7	7.5	7.3	7.2	7.1	6.9	6.8	6.7	6.6
		G'	9.2	9.0	8.9	8.8	8.7	8.5	8.4	8.3	8.2
	300 mm o/c	Q	11.6	11.4	11.2	11.1	10.9	10.8	10.7	10.6	10.5
		G'	10.9	10.8	10.8	10.7	10.6	10.6	10.5	10.4	10.4
	230 mm o/c	Q	13.9	13.7	13.5	13.4	13.2	13.1	13.0	12.9	12.8
		G'	11.8	11.8	11.7	11.7	11.6	11.6	11.6	11.5	11.5
	150 mm o/c	Q	18.2	18.0	17.9	17.8	17.6	17.5	17.4	17.3	17.2
		G'	13.5	13.5	13.6	13.6	13.6	13.6	13.6	13.6	13.6
24/5	900 mm o/c	Q	4.4	4.3	4.2	4.2	4.1	4.0	4.0	3.9	3.9
		G'	6.3	6.2	6.1	6.0	5.9	5.8	5.7	5.6	5.5
	600 mm o/c	Q	5.7	5.6	5.5	5.5	5.4	5.3	5.3	5.2	5.2
		G'	7.1	7.1	7.0	6.9	6.8	6.7	6.6	6.6	6.5
	300 mm o/c	Q	9.5	9.5	9.4	9.3	9.2	9.2	9.1	9.0	9.0
		G'	9.3	9.2	9.2	9.1	9.1	9.1	9.0	9.0	8.9
	230 mm o/c	Q	11.6	11.5	11.4	11.4	11.3	11.2	11.2	11.1	11.1
		G'	10.3	10.3	10.3	10.3	10.3	10.3	10.2	10.2	10.2
	150 mm o/c	Q	15.8	15.7	15.6	15.6	15.5	15.5	15.4	15.4	15.3
		G'	12.4	12.4	12.5	12.5	12.5	12.6	12.6	12.6	12.6
24/3	900 mm o/c	Q	3.8	3.8	3.7	3.7	3.6	3.6	3.5	3.5	3.5
		G'	3.1	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.2
	600 mm o/c	Q	5.1	5.0	5.0	4.9	4.9	4.9	4.8	4.8	4.8
		G'	3.4	3.4	3.5	3.5	3.6	3.6	3.6	3.7	3.7
	300 mm o/c	Q	8.2	8.2	8.1	8.1	8.0	8.0	8.0	7.9	7.9
		G'	4.1	4.1	4.2	4.3	4.4	4.5	4.6	4.6	4.7
	230 mm o/c	Q	9.7	9.7	9.6	9.6	9.6	9.5	9.5	9.5	9.4
		G'	4.3	4.4	4.5	4.7	4.8	4.9	4.9	5.0	5.1
	150 mm o/c	Q	12.2	12.2	12.1	12.1	12.1	12.1	12.1	12.0	12.0
		G'	4.7	4.9	5.0	5.2	5.3	5.4	5.5	5.7	5.8

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 1.52 mm
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			3 300	3 450	3 600	3 750	3 900	4 050	4 200	4 350	4 500
24/7	900 mm o/c	Q	7.5	7.3	7.1	7.0	6.8	6.7	6.6	6.5	6.4
		G'	9.8	9.6	9.4	9.2	9.0	8.9	8.7	8.6	8.4
	600 mm o/c	Q	9.1	8.9	8.8	8.6	8.5	8.3	8.2	8.1	8.0
		G'	10.7	10.5	10.3	10.2	10.0	9.9	9.7	9.6	9.4
	300 mm o/c	Q	14.0	13.8	13.6	13.5	13.3	13.2	13.1	12.9	12.8
		G'	13.1	13.0	12.9	12.8	12.6	12.5	12.4	12.3	12.2
	230 mm o/c	Q	16.8	16.6	16.5	16.3	16.2	16.0	15.9	15.8	15.7
		G'	14.4	14.3	14.2	14.1	14.0	14.0	13.9	13.8	13.7
	150 mm o/c	Q	22.3	22.1	21.9	21.8	21.7	21.6	21.4	21.3	21.2
		G'	17.0	16.9	16.9	16.9	16.8	16.8	16.8	16.7	16.7
24/5	900 mm o/c	Q	5.3	5.2	5.1	5.0	4.9	4.9	4.8	4.8	4.7
		G'	7.2	7.0	6.9	6.8	6.6	6.5	6.4	6.3	6.2
	600 mm o/c	Q	6.9	6.8	6.7	6.6	6.6	6.5	6.4	6.4	6.3
		G'	8.2	8.1	8.0	7.9	7.8	7.7	7.6	7.5	7.4
	300 mm o/c	Q	11.7	11.6	11.5	11.4	11.3	11.3	11.2	11.1	11.1
		G'	11.0	11.0	10.9	10.8	10.7	10.7	10.6	10.6	10.5
	230 mm o/c	Q	14.2	14.1	14.1	14.0	13.9	13.9	13.8	13.7	13.7
		G'	12.5	12.5	12.4	12.4	12.3	12.3	12.2	12.2	12.2
	150 mm o/c	Q	19.5	19.4	19.3	19.3	19.2	19.1	19.1	19.0	19.0
		G'	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
24/3	900 mm o/c	Q	4.6	4.5	4.5	4.4	4.4	4.3	4.3	4.3	4.2
		G'	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
	600 mm o/c	Q	6.2	6.2	6.1	6.1	6.0	6.0	5.9	5.9	5.9
		G'	4.7	4.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	300 mm o/c	Q	10.1	10.1	10.0	10.0	9.9	9.9	9.9	9.8	9.8
		G'	6.0	6.1	6.2	6.2	6.3	6.4	6.4	6.5	6.5
	230 mm o/c	Q	12.0	11.9	11.9	11.8	11.8	11.8	11.7	11.7	11.7
		G'	6.5	6.7	6.8	6.9	7.0	7.1	7.2	7.2	7.3
	150 mm o/c	Q	15.1	15.0	15.0	15.0	15.0	14.9	14.9	14.9	14.9
		G'	7.4	7.6	7.8	7.9	8.1	8.2	8.4	8.5	8.6

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

THICKNESS = 0.38 mm
ϕ = 0.50

SUPPORT FASTENING: Weld with washer
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			600	650	700	750	800	850	900	950	1 000
30/7	900 mm o/c	Q	8.1	7.6	7.2	6.8	6.5	6.2	5.9	5.5	5.0
		G'	0.9	1.0	1.1	1.1	1.2	1.2	1.3	1.4	1.4
	600 mm o/c	Q	8.4	7.9	7.5	7.1	6.8	6.5	6.1	5.5	5.0
		G'	0.9	1.0	1.1	1.1	1.2	1.3	1.3	1.4	1.4
	300 mm o/c	Q	9.3	8.9	8.5	8.1	7.8	6.9	6.1	5.5	5.0
		G'	0.9	1.0	1.1	1.1	1.2	1.3	1.3	1.4	1.4
	230 mm o/c	Q	9.8	9.4	9.0	8.7	7.8	6.9	6.1	5.5	5.0
		G'	0.9	1.0	1.1	1.1	1.2	1.3	1.3	1.4	1.5
	150 mm o/c	Q	10.9	10.5	10.1	8.8	7.8	6.9	6.1	5.5	5.0
		G'	0.9	1.0	1.1	1.1	1.2	1.3	1.3	1.4	1.5
30/4	900 mm o/c	Q	5.3	5.0	4.8	4.6	4.4	4.2	4.0	3.9	3.8
		G'	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5
	600 mm o/c	Q	5.6	5.3	5.1	4.9	4.7	4.5	4.3	4.2	4.1
		G'	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5
	300 mm o/c	Q	6.2	6.0	5.8	5.6	5.5	5.3	5.2	5.1	5.0
		G'	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5
	230 mm o/c	Q	6.6	6.4	6.2	6.1	5.9	5.8	5.7	5.5	5.0
		G'	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5
	150 mm o/c	Q	7.3	7.1	7.0	6.9	6.8	6.6	6.1	5.5	5.0
		G'	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5

THICKNESS = 0.46 mm
ϕ = 0.50

SUPPORT FASTENING: Weld with washer
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			600	650	700	750	800	850	900	950	1 000
30/7	900 mm o/c	Q	10.5	9.9	9.3	8.8	8.4	8.0	7.6	7.3	6.5
		G'	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.1
	600 mm o/c	Q	10.9	10.3	9.7	9.2	8.8	8.4	8.0	7.3	6.5
		G'	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2
	300 mm o/c	Q	12.0	11.4	10.9	10.4	10.0	9.1	8.1	7.3	6.5
		G'	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2
	230 mm o/c	Q	12.6	12.0	11.5	11.1	10.2	9.1	8.1	7.3	6.5
		G'	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2
	150 mm o/c	Q	13.9	13.4	13.0	11.6	10.2	9.1	8.1	7.3	6.5
		G'	1.4	1.5	1.6	1.8	1.9	1.9	2.0	2.1	2.2
30/4	900 mm o/c	Q	6.9	6.5	6.2	5.9	5.7	5.4	5.2	5.0	4.9
		G'	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7
	600 mm o/c	Q	7.2	6.9	6.6	6.3	6.0	5.8	5.6	5.4	5.2
		G'	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7
	300 mm o/c	Q	8.0	7.7	7.5	7.2	7.0	6.8	6.6	6.5	6.3
		G'	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7
	230 mm o/c	Q	8.5	8.2	8.0	7.7	7.5	7.4	7.2	7.0	6.5
		G'	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7
	150 mm o/c	Q	9.3	9.1	8.9	8.7	8.6	8.4	8.1	7.3	6.5
		G'	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.61 mm
ϕ = 0.50

SUPPORT FASTENING: Weld with washer
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
			600	650	700	750	800	850	900	950	1 000
30/7	900 mm o/c	Q	16.1	15.1	14.3	13.5	12.8	12.2	11.6	11.1	10.1
		G'	2.8	2.9	3.1	3.3	3.4	3.6	3.7	3.8	3.9
	600 mm o/c	Q	16.6	15.6	14.8	14.0	13.3	12.7	12.2	11.2	10.1
		G'	2.8	2.9	3.1	3.3	3.4	3.6	3.7	3.8	4.0
	300 mm o/c	Q	18.1	17.1	16.3	15.6	14.9	14.0	12.5	11.2	10.1
		G'	2.8	3.0	3.1	3.3	3.5	3.6	3.8	3.9	4.0
	230 mm o/c	Q	18.9	18.0	17.2	16.5	15.8	14.0	12.5	11.2	10.1
		G'	2.8	3.0	3.2	3.3	3.5	3.7	3.8	4.0	4.1
	150 mm o/c	Q	20.7	19.9	19.2	17.9	15.8	14.0	12.5	11.2	10.1
		G'	2.8	3.0	3.2	3.4	3.5	3.7	3.9	4.0	4.2
30/4	900 mm o/c	Q	10.6	10.0	9.5	9.1	8.7	8.3	8.0	7.7	7.4
		G'	0.9	1.0	1.0	1.1	1.2	1.2	1.3	1.3	1.4
	600 mm o/c	Q	11.0	10.5	10.0	9.5	9.2	8.8	8.5	8.2	7.9
		G'	0.9	1.0	1.0	1.1	1.2	1.2	1.3	1.3	1.4
	300 mm o/c	Q	12.1	11.6	11.2	10.8	10.5	10.2	9.9	9.6	9.4
		G'	0.9	1.0	1.0	1.1	1.2	1.2	1.3	1.4	1.4
	230 mm o/c	Q	12.7	12.3	11.9	11.5	11.2	10.9	10.6	10.4	10.1
		G'	0.9	1.0	1.0	1.1	1.2	1.2	1.3	1.4	1.4
	150 mm o/c	Q	13.9	13.5	13.2	12.9	12.7	12.4	12.2	11.2	10.1
		G'	0.9	1.0	1.0	1.1	1.2	1.3	1.3	1.4	1.4

- Based on material according to ASTM A 653M, minimum yield strength of 410 MPa (60 ksi).

CONCRETE FILLED DECKS DIAPHRAGM

IGA GARDEN MARKET
Blenheim, ON
Customer: Ed Lau Ironworks Limited

MEADOWLANDS OFFICE BUILDING
York, PA
Customer: Kinsley Construction

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.76 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: Button punch

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				900	1 050	1 200	1 350	1 500	1 650	1 800	1 950	2 100
P-3615 P-3623 65 mm Normal Weight Concrete	36/4	600 mm o/c	Q	45.9	44.9	44.1	43.5	43.0	42.6	42.3	42.0	41.7
			G'	432	430	429	428	427	426	426	425	425
		300 mm o/c	Q	46.7	45.7	44.9	44.3	43.8	43.4	43.1	42.8	42.5
			G'	432	430	429	428	427	427	426	425	425
		230 mm o/c	Q	47.2	46.2	45.4	44.8	44.3	43.9	43.6	43.3	43.0
			G'	432	430	429	428	427	427	426	426	425
		150 mm o/c	Q	48.3	47.3	46.5	45.9	45.4	45.0	44.7	44.4	44.2
			G'	432	431	430	429	428	427	427	426	425
P-3615 P-3623 65 mm Lightweight Concrete	36/4	600 mm o/c	Q	36.5	35.4	34.6	34.0	33.6	33.2	32.8	32.5	32.3
			G'	502	500	499	498	497	497	496	495	495
		300 mm o/c	Q	37.3	36.2	35.5	34.8	34.4	34.0	33.6	33.4	33.1
			G'	502	501	499	498	498	497	496	496	495
		230 mm o/c	Q	37.8	36.7	35.9	35.3	34.9	34.5	34.1	33.8	33.6
			G'	502	501	500	499	498	497	496	496	495
		150 mm o/c	Q	38.9	37.9	37.1	36.5	36.0	35.6	35.2	35.0	34.7
			G'	503	501	500	499	498	497	497	496	496

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				2 100	2 250	2 400	2 550	2 700	2 850	3 000	3 150	3 300
P-2432 65 mm Normal Weight Concrete	24/3	600 mm o/c	Q	41.4	41.2	41.1	40.9	40.8	40.7	40.6	40.5	40.4
			G'	421	420	420	420	420	420	419	419	419
		300 mm o/c	Q	42.2	42.0	41.9	41.7	41.6	41.5	41.4	41.3	41.2
			G'	421	421	420	420	420	420	420	420	419
		230 mm o/c	Q	42.7	42.5	42.4	42.2	42.1	42.0	41.9	41.8	41.7
			G'	421	421	421	420	420	420	420	420	420
		150 mm o/c	Q	43.8	43.6	43.5	43.3	43.2	43.1	43.0	42.9	42.8
			G'	421	421	421	421	421	420	420	420	420
P-2432 65 mm Lightweight Concrete	24/3	600 mm o/c	Q	32.0	31.8	31.6	31.5	31.4	31.2	31.1	31.0	31.0
			G'	491	491	491	490	490	490	490	490	490
		300 mm o/c	Q	32.8	32.6	32.4	32.3	32.2	32.0	31.9	31.8	31.8
			G'	491	491	491	491	490	490	490	490	490
		230 mm o/c	Q	33.3	33.1	32.9	32.8	32.7	32.5	32.4	32.3	32.3
			G'	491	491	491	491	491	490	490	490	490
		150 mm o/c	Q	34.4	34.2	34.0	33.9	33.8	33.7	33.6	33.5	33.4
			G'	492	492	491	491	491	491	491	491	490

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.91 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: Button punch

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				1 200	1 350	1 500	1 650	1 800	1 950	2 100	2 250	2 400
P-3615 P-3623 65 mm Normal Weight Concrete	36/4	600 mm o/c	Q	45.4	44.7	44.1	43.6	43.2	42.9	42.6	42.4	42.2
			G'	430	429	428	427	427	426	425	425	425
		300 mm o/c	Q	46.5	45.8	45.3	44.8	44.4	44.1	43.8	43.5	43.3
			G'	431	430	429	428	427	426	426	425	425
		230 mm o/c	Q	47.2	46.5	46.0	45.5	45.1	44.8	44.5	44.3	44.0
			G'	431	430	429	428	427	427	426	426	425
		150 mm o/c	Q	48.9	48.2	47.6	47.1	46.7	46.4	46.1	45.9	45.7
			G'	431	430	429	428	428	427	427	426	426
P-3615 P-3623 65 mm Lightweight Concrete	36/4	600 mm o/c	Q	35.9	35.2	34.7	34.2	33.8	33.5	33.2	33.0	32.7
			G'	501	500	499	498	497	496	496	495	495
		300 mm o/c	Q	37.1	36.4	35.8	35.4	35.0	34.6	34.4	34.1	33.9
			G'	501	500	499	498	497	497	496	496	495
		230 mm o/c	Q	37.8	37.1	36.5	36.1	35.7	35.3	35.1	34.8	34.6
			G'	501	500	499	498	498	497	496	496	495
		150 mm o/c	Q	39.4	38.7	38.1	37.7	37.3	37.0	36.7	36.4	36.2
			G'	502	501	500	499	498	497	497	496	496

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				2 400	2 550	2 700	2 850	3 000	3 150	3 300	3 450	3 600
P-2432 65 mm Normal Weight Concrete	24/3	600 mm o/c	Q	41.8	41.7	41.5	41.4	41.3	41.1	41.0	41.0	40.9
			G'	421	420	420	420	420	420	420	419	419
		300 mm o/c	Q	43.0	42.8	42.7	42.5	42.4	42.3	42.2	42.1	42.0
			G'	421	421	421	420	420	420	420	420	420
		230 mm o/c	Q	43.7	43.5	43.4	43.2	43.1	43.0	42.9	42.8	42.7
			G'	421	421	421	421	420	420	420	420	420
		150 mm o/c	Q	45.3	45.1	45.0	44.9	44.7	44.6	44.5	44.4	44.4
			G'	422	421	421	421	421	421	420	420	420
P-2432 65 mm Lightweight Concrete	24/3	600 mm o/c	Q	32.4	32.2	32.1	31.9	31.8	31.7	31.6	31.5	31.4
			G'	491	491	491	490	490	490	490	490	490
		300 mm o/c	Q	33.6	33.4	33.2	33.1	33.0	32.9	32.8	32.7	32.6
			G'	491	491	491	491	490	490	490	490	490
		230 mm o/c	Q	34.3	34.1	33.9	33.8	33.7	33.6	33.5	33.4	33.3
			G'	491	491	491	491	491	491	490	490	490
		150 mm o/c	Q	35.9	35.7	35.6	35.4	35.3	35.2	35.1	35.0	34.9
			G'	492	492	491	491	491	491	491	491	491

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 1.21 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: Button punch

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				1 500	1 650	1 800	1 950	2 100	2 250	2 400	2 550	2 700
P-3615 P-3623 65 mm Normal Weight Concrete	36/4	600 mm o/c	Q	46.4	45.8	45.3	44.9	44.5	44.2	43.9	43.7	43.5
			G'	431	430	429	428	427	427	426	426	425
		300 mm o/c	Q	48.4	47.8	47.4	46.9	46.6	46.3	46.0	45.8	45.6
			G'	431	430	429	428	428	427	427	426	426
		230 mm o/c	Q	49.7	49.1	48.6	48.2	47.8	47.5	47.3	47.0	46.8
			G'	431	430	429	429	428	427	427	426	426
		150 mm o/c	Q	52.6	52.0	51.5	51.1	50.7	50.4	50.1	49.9	49.7
			G'	432	431	430	429	429	428	427	427	427
P-3615 P-3623 65 mm Lightweight Concrete	36/4	600 mm o/c	Q	36.9	36.3	35.9	35.4	35.1	34.8	34.5	34.3	34.1
			G'	501	500	499	498	498	497	496	496	495
		300 mm o/c	Q	39.0	38.4	37.9	37.5	37.2	36.8	36.6	36.3	36.1
			G'	501	500	499	499	498	497	497	496	496
		230 mm o/c	Q	40.3	39.7	39.2	38.8	38.4	38.1	37.8	37.6	37.4
			G'	502	501	500	499	498	498	497	497	496
		150 mm o/c	Q	43.1	42.6	42.1	41.6	41.3	41.0	40.7	40.5	40.3
			G'	502	501	500	500	499	498	498	497	497

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				2 700	2 850	3 000	3 150	3 300	3 450	3 600	3 750	3 900
P-2432 65 mm Normal Weight Concrete	24/3	600 mm o/c	Q	43.1	42.9	42.8	42.6	42.5	42.4	42.3	42.2	42.1
			G'	421	421	420	420	420	420	420	420	420
		300 mm o/c	Q	45.1	45.0	44.8	44.7	44.6	44.4	44.3	44.2	44.2
			G'	421	421	421	421	421	420	420	420	420
		230 mm o/c	Q	46.4	46.2	46.1	45.9	45.8	45.7	45.6	45.5	45.4
			G'	421	421	421	421	421	421	420	420	420
		150 mm o/c	Q	49.3	49.1	49.0	48.8	48.7	48.6	48.5	48.4	48.3
			G'	422	422	422	421	421	421	421	421	421
P-2432 65 mm Lightweight Concrete	24/3	600 mm o/c	Q	33.6	33.5	33.3	33.2	33.1	32.9	32.8	32.7	32.7
			G'	491	491	491	491	490	490	490	490	490
		300 mm o/c	Q	35.7	35.5	35.4	35.3	35.1	35.0	34.9	34.8	34.7
			G'	492	491	491	491	491	491	491	490	490
		230 mm o/c	Q	37.0	36.8	36.7	36.5	36.4	36.3	36.2	36.1	36.0
			G'	492	492	491	491	491	491	491	491	491
		150 mm o/c	Q	39.9	39.7	39.5	39.4	39.3	39.2	39.1	39.0	38.9
			G'	492	492	492	492	492	491	491	491	491

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.76 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				900	1 050	1 200	1 350	1 500	1 650	1 800	1 950	2 100
P-3606 P-3623 65 mm Normal Weight Concrete	36/4	600 mm o/c	Q	46.4	45.6	44.9	44.4	44.0	43.6	43.3	43.1	42.9
			G'	432	431	430	429	428	428	427	427	427
		300 mm o/c	Q	48.9	48.0	47.3	46.8	46.4	46.1	45.8	45.5	45.3
			G'	434	433	432	432	431	430	430	430	429
		230 mm o/c	Q	50.3	49.5	48.8	48.3	47.9	47.5	47.2	47.0	46.8
			G'	435	434	433	433	432	432	431	431	431
		150 mm o/c	Q	53.7	52.8	52.2	51.7	51.2	50.9	50.6	50.4	50.2
			G'	437	436	436	435	435	434	434	434	434
P-3606 P-3623 65 mm Lightweight Concrete	36/4	600 mm o/c	Q	37.0	36.1	35.5	34.9	34.5	34.2	33.9	33.7	33.5
			G'	503	501	500	499	499	498	498	497	497
		300 mm o/c	Q	39.4	38.6	37.9	37.4	37.0	36.6	36.3	36.1	35.9
			G'	504	503	503	502	501	501	500	500	500
		230 mm o/c	Q	40.9	40.0	39.4	38.8	38.4	38.1	37.8	37.6	37.4
			G'	506	505	504	503	503	502	502	501	501
		150 mm o/c	Q	44.3	43.4	42.7	42.2	41.8	41.5	41.2	41.0	40.8
			G'	508	507	506	506	505	505	504	504	504

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				2 100	2 250	2 400	2 550	2 700	2 850	3 000	3 150	3 300
P-2432 65 mm Normal Weight Concrete	24/3	600 mm o/c	Q	42.6	42.4	42.3	42.2	42.0	41.9	41.9	41.8	41.7
			G'	422	422	422	422	422	422	421	421	421
		300 mm o/c	Q	45.0	44.8	44.7	44.6	44.5	44.4	44.3	44.2	44.1
			G'	425	424	424	424	424	424	424	424	424
		230 mm o/c	Q	46.5	46.3	46.2	46.1	46.0	45.9	45.8	45.7	45.6
			G'	426	426	426	425	425	425	425	425	425
		150 mm o/c	Q	49.8	49.7	49.6	49.4	49.3	49.2	49.2	49.1	49.0
			G'	428	428	428	428	428	428	428	428	428
P-2432 65 mm Lightweight Concrete	24/3	600 mm o/c	Q	33.1	33.0	32.8	32.7	32.6	32.5	32.4	32.4	32.3
			G'	493	492	492	492	492	492	492	492	492
		300 mm o/c	Q	35.6	35.4	35.3	35.1	35.0	34.9	34.9	34.8	34.7
			G'	495	495	495	494	494	494	494	494	494
		230 mm o/c	Q	37.0	36.9	36.7	36.6	36.5	36.4	36.3	36.3	36.2
			G'	496	496	496	496	496	496	495	495	495
		150 mm o/c	Q	40.4	40.3	40.1	40.0	39.9	39.8	39.7	39.6	39.6
			G'	499	498	498	498	498	498	498	498	498

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.91 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				1 200	1 350	1 500	1 650	1 800	1 950	2 100	2 250	2 400
P-3606 P-3623 65 mm Normal Weight Concrete	36/4	600 mm o/c	Q	46.2	45.6	45.1	44.7	44.4	44.1	43.9	43.7	43.5
			G'	432	431	430	429	429	428	428	427	427
		300 mm o/c	Q	49.2	48.5	48.1	47.7	47.3	47.0	46.8	46.6	46.4
			G'	434	434	433	432	432	431	431	431	430
		230 mm o/c	Q	50.9	50.3	49.8	49.4	49.1	48.8	48.6	48.4	48.2
			G'	436	435	434	434	433	433	433	432	432
		150 mm o/c	Q	55.0	54.4	53.9	53.5	53.2	52.9	52.6	52.4	52.2
			G'	439	438	437	437	437	436	436	436	436
P-3606 P-3623 65 mm Lightweight Concrete	36/4	600 mm o/c	Q	36.8	36.2	35.7	35.3	35.0	34.7	34.4	34.2	34.1
			G'	502	501	500	500	499	499	498	498	497
		300 mm o/c	Q	39.7	39.1	38.6	38.2	37.9	37.6	37.4	37.2	37.0
			G'	505	504	503	503	502	502	501	501	501
		230 mm o/c	Q	41.5	40.9	40.4	40.0	39.7	39.4	39.1	38.9	38.7
			G'	506	505	505	504	504	503	503	503	502
		150 mm o/c	Q	45.6	44.9	44.5	44.1	43.7	43.4	43.2	43.0	42.8
			G'	509	508	508	507	507	507	506	506	506

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				2 400	2 550	2 700	2 850	3 000	3 150	3 300	3 450	3 600
P-2432 65 mm Normal Weight Concrete	24/3	600 mm o/c	Q	43.1	43.0	42.9	42.8	42.7	42.6	42.5	42.4	42.3
			G'	423	422	422	422	422	422	422	422	422
		300 mm o/c	Q	46.1	45.9	45.8	45.7	45.6	45.5	45.4	45.3	45.2
			G'	425	425	425	425	425	425	425	424	424
		230 mm o/c	Q	47.8	47.7	47.6	47.4	47.3	47.3	47.2	47.1	47.0
			G'	427	427	426	426	426	426	426	426	426
		150 mm o/c	Q	51.9	51.7	51.6	51.5	51.4	51.3	51.2	51.1	51.1
			G'	430	429	429	429	429	429	429	429	429
P-2432 65 mm Lightweight Concrete	24/3	600 mm o/c	Q	33.7	33.6	33.4	33.3	33.2	33.1	33.0	33.0	32.9
			G'	493	493	493	492	492	492	492	492	492
		300 mm o/c	Q	36.6	36.5	36.4	36.2	36.1	36.0	36.0	35.9	35.8
			G'	496	495	495	495	495	495	495	495	495
		230 mm o/c	Q	38.4	38.3	38.1	38.0	37.9	37.8	37.7	37.7	37.6
			G'	497	497	497	497	496	496	496	496	496
		150 mm o/c	Q	42.5	42.3	42.2	42.1	42.0	41.9	41.8	41.7	41.6
			G'	500	500	500	500	499	499	499	499	499

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 1.21 mm
ϕ = 0.50

SUPPORT FASTENING: 19 mm puddle weld
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				1 500	1 650	1 800	1 950	2 100	2 250	2 400	2 550	2 700
P-3606 P-3623 65 mm Normal Weight Concrete	36/4	600 mm o/c	Q	47.5	46.9	46.5	46.1	45.8	45.5	45.3	45.1	44.9
			G'	433	432	431	431	430	430	429	429	428
		300 mm o/c	Q	51.3	50.8	50.4	50.0	49.7	49.4	49.2	49.0	48.8
			G'	436	436	435	434	434	434	433	433	433
		230 mm o/c	Q	53.7	53.2	52.8	52.4	52.1	51.8	51.6	51.3	51.2
			G'	438	438	437	437	436	436	435	435	435
		150 mm o/c	Q	59.1	58.6	58.2	57.8	57.5	57.2	57.0	56.8	56.6
			G'	442	442	441	441	440	440	440	439	439
P-3606 P-3623 65 mm Lightweight Concrete	36/4	600 mm o/c	Q	38.0	37.5	37.1	36.7	36.4	36.1	35.9	35.7	35.5
			G'	503	502	502	501	500	500	499	499	499
		300 mm o/c	Q	41.9	41.4	41.0	40.6	40.3	40.0	39.8	39.5	39.4
			G'	507	506	505	505	504	504	503	503	503
		230 mm o/c	Q	44.3	43.8	43.3	43.0	42.6	42.4	42.1	41.9	41.7
			G'	509	508	507	507	506	506	506	505	505
		150 mm o/c	Q	49.7	49.2	48.7	48.4	48.0	47.8	47.5	47.3	47.1
			G'	513	512	511	511	511	510	510	510	510

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				2 700	2 850	3 000	3 150	3 300	3 450	3 600	3 750	3 900
P-2432 65 mm Normal Weight Concrete	24/3	600 mm o/c	Q	44.5	44.3	44.2	44.1	44.0	43.9	43.8	43.7	43.6
			G'	423	423	423	423	423	423	423	422	422
		300 mm o/c	Q	48.4	48.2	48.1	48.0	47.9	47.8	47.7	47.6	47.5
			G'	427	426	426	426	426	426	426	426	426
		230 mm o/c	Q	50.7	50.6	50.5	50.3	50.2	50.1	50.0	50.0	49.9
			G'	428	428	428	428	428	428	428	428	428
		150 mm o/c	Q	56.2	56.0	55.9	55.8	55.6	55.5	55.5	55.4	55.3
			G'	432	432	432	432	432	432	431	431	431
P-2432 65 mm Lightweight Concrete	24/3	600 mm o/c	Q	35.1	34.9	34.8	34.7	34.6	34.5	34.4	34.3	34.2
			G'	494	494	493	493	493	493	493	493	493
		300 mm o/c	Q	38.9	38.8	38.7	38.5	38.4	38.3	38.2	38.2	38.1
			G'	497	497	497	497	496	496	496	496	496
		230 mm o/c	Q	41.3	41.2	41.0	40.9	40.8	40.7	40.6	40.5	40.5
			G'	499	499	498	498	498	498	498	498	498
		150 mm o/c	Q	46.7	46.6	46.4	46.3	46.2	46.1	46.0	45.9	45.9
			G'	502	502	502	502	502	502	502	502	502

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.76 mm
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				900	1 050	1 200	1350	1 500	1 650	1 800	1 950	2 100
P-3606 P-3623 65 mm Normal Weight Concrete	36/4	600 mm o/c	Q	44.2	43.6	43.2	42.9	42.6	42.4	42.2	42.0	41.9
			G'	431	430	429	429	428	427	427	426	426
		300 mm o/c	Q	46.6	46.0	45.6	45.3	45.0	44.8	44.6	44.5	44.3
			G'	433	432	432	431	430	430	430	429	429
		230 mm o/c	Q	48.1	47.5	47.1	46.8	46.5	46.3	46.1	46.0	45.8
			G'	435	434	433	432	432	431	431	431	430
		150 mm o/c	Q	51.4	50.9	50.5	50.1	49.9	49.7	49.5	49.3	49.2
			G'	437	436	435	435	434	434	434	434	433
P-3606 P-3623 65 mm Lightweight Concrete	36/4	600 mm o/c	Q	34.7	34.2	33.7	33.4	33.2	32.9	32.8	32.6	32.5
			G'	502	501	500	499	498	498	497	497	496
		300 mm o/c	Q	37.2	36.6	36.2	35.8	35.6	35.4	35.2	35.0	34.9
			G'	504	503	502	501	501	500	500	500	499
		230 mm o/c	Q	38.6	38.1	37.7	37.3	37.1	36.9	36.7	36.5	36.4
			G'	505	504	503	503	502	502	501	501	501
		150 mm o/c	Q	42.0	41.5	41.0	40.7	40.4	40.2	40.1	39.9	39.8
			G'	507	506	506	505	505	504	504	504	504

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				2 100	2 250	2 400	2 550	2 700	2 850	3 000	3 150	3 300
P-2432 65 mm Normal Weight Concrete	24/3	600 mm o/c	Q	41.7	41.6	41.5	41.4	41.4	41.3	41.2	41.2	41.2
			G'	422	422	422	422	421	421	421	421	421
		300 mm o/c	Q	44.1	44.0	43.9	43.9	43.8	43.7	43.7	43.6	43.6
			G'	424	424	424	424	424	424	424	424	423
		230 mm o/c	Q	45.6	45.5	45.4	45.3	45.3	45.2	45.2	45.1	45.1
			G'	426	425	425	425	425	425	425	425	425
		150 mm o/c	Q	49.0	48.9	48.8	48.7	48.6	48.6	48.5	48.5	48.4
			G'	428	428	428	428	428	428	428	427	427
P-2432 65 mm Lightweight Concrete	24/3	600 mm o/c	Q	32.2	32.2	32.1	32.0	31.9	31.9	31.8	31.8	31.7
			G'	492	492	492	492	492	492	492	491	491
		300 mm o/c	Q	34.7	34.6	34.5	34.4	34.4	34.3	34.2	34.2	34.2
			G'	495	494	494	494	494	494	494	494	494
		230 mm o/c	Q	36.2	36.1	36.0	35.9	35.8	35.8	35.7	35.7	35.6
			G'	496	496	496	496	495	495	495	495	495
		150 mm o/c	Q	39.5	39.4	39.4	39.3	39.2	39.2	39.1	39.1	39.0
			G'	498	498	498	498	498	498	498	498	498

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.91 mm
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				1 200	1350	1 500	1 650	1 800	1 950	2 100	2 250	2 400
P-3606 P-3623 65 mm Normal Weight Concrete	36/4	600 mm o/c	Q	44.2	43.8	43.5	43.3	43.1	42.9	42.7	42.6	42.5
			G'	431	430	429	429	428	428	427	427	427
		300 mm o/c	Q	47.1	46.7	46.4	46.2	46.0	45.8	45.6	45.5	45.4
			G'	434	433	432	432	431	431	430	430	430
		230 mm o/c	Q	48.9	48.5	48.2	48.0	47.7	47.6	47.4	47.3	47.2
			G'	435	434	434	433	433	433	432	432	432
		150 mm o/c	Q	53.0	52.6	52.3	52.0	51.8	51.6	51.5	51.3	51.2
			G'	438	437	437	437	436	436	436	435	435
P-3606 P-3623 65 mm Lightweight Concrete	36/4	600 mm o/c	Q	34.8	34.4	34.1	33.8	33.6	33.4	33.3	33.2	33.0
			G'	501	500	500	499	498	498	498	497	497
		300 mm o/c	Q	37.7	37.3	37.0	36.8	36.5	36.4	36.2	36.1	36.0
			G'	504	503	503	502	502	501	501	501	500
		230 mm o/c	Q	39.5	39.1	38.8	38.5	38.3	38.1	38.0	37.8	37.7
			G'	505	505	504	504	503	503	503	502	502
		150 mm o/c	Q	43.5	43.1	42.8	42.6	42.4	42.2	42.0	41.9	41.8
			G'	508	508	507	507	507	506	506	506	506

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				2 400	2 550	2 700	2 850	3 000	3 150	3 300	3 450	3 600
P-2432 65 mm Normal Weight Concrete	24/3	600 mm o/c	Q	42.2	42.1	42.1	42.0	41.9	41.9	41.8	41.8	41.7
			G'	422	422	422	422	422	422	422	421	421
		300 mm o/c	Q	45.1	45.1	45.0	44.9	44.8	44.8	44.7	44.7	44.6
			G'	425	425	425	425	424	424	424	424	424
		230 mm o/c	Q	46.9	46.8	46.7	46.7	46.6	46.6	46.5	46.5	46.4
			G'	426	426	426	426	426	426	426	426	426
		150 mm o/c	Q	51.0	50.9	50.8	50.7	50.7	50.6	50.6	50.5	50.5
			G'	429	429	429	429	429	429	429	429	429
P-2432 65 mm Lightweight Concrete	24/3	600 mm o/c	Q	32.8	32.7	32.6	32.6	32.5	32.4	32.4	32.3	32.3
			G'	493	492	492	492	492	492	492	492	492
		300 mm o/c	Q	35.7	35.6	35.5	35.5	35.4	35.4	35.3	35.3	35.2
			G'	495	495	495	495	495	495	495	495	494
		230 mm o/c	Q	37.5	37.4	37.3	37.2	37.2	37.1	37.1	37.0	37.0
			G'	497	497	496	496	496	496	496	496	496
		150 mm o/c	Q	41.5	41.5	41.4	41.3	41.2	41.2	41.1	41.1	41.0
			G'	500	500	499	499	499	499	499	499	499

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 1.21 mm
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				1 500	1 650	1 800	1 950	2 100	2 250	2 400	2 550	2 700
P-3606 P-3623 65 mm Normal Weight Concrete	36/4	600 mm o/c	Q	45.4	45.0	44.7	44.5	44.3	44.1	44.0	43.9	43.7
			G'	432	431	430	430	429	429	429	428	428
		300 mm o/c	Q	49.2	48.9	48.6	48.4	48.2	48.0	47.9	47.7	47.6
			G'	436	435	434	434	433	433	433	432	432
		230 mm o/c	Q	51.6	51.3	51.0	50.8	50.6	50.4	50.2	50.1	50.0
			G'	438	437	436	436	436	435	435	435	434
		150 mm o/c	Q	57.0	56.7	56.4	56.2	56.0	55.8	55.6	55.5	55.4
			G'	442	441	441	440	440	440	439	439	439
P-3606 P-3623 65 mm Lightweight Concrete	36/4	600 mm o/c	Q	35.9	35.6	35.3	35.1	34.9	34.7	34.6	34.4	34.3
			G'	502	501	501	500	500	499	499	499	498
		300 mm o/c	Q	39.8	39.5	39.2	39.0	38.8	38.6	38.4	38.3	38.2
			G'	506	505	505	504	504	503	503	503	502
		230 mm o/c	Q	42.2	41.8	41.6	41.3	41.1	41.0	40.8	40.7	40.6
			G'	508	507	507	506	506	506	505	505	505
		150 mm o/c	Q	47.6	47.3	47.0	46.7	46.5	46.4	46.2	46.1	46.0
			G'	512	511	511	511	510	510	510	509	509

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				2 700	2 850	3 000	3 150	3 300	3 450	3 600	3 750	3 900
P-2432 65 mm Normal Weight Concrete	24/3	600 mm o/c	Q	43.4	43.3	43.3	43.2	43.1	43.1	43.0	43.0	42.9
			G'	423	423	423	423	423	422	422	422	422
		300 mm o/c	Q	47.3	47.2	47.2	47.1	47.0	46.9	46.9	46.8	46.8
			G'	426	426	426	426	426	426	426	426	426
		230 mm o/c	Q	49.7	49.6	49.5	49.4	49.4	49.3	49.3	49.2	49.2
			G'	428	428	428	428	428	428	427	427	427
		150 mm o/c	Q	55.1	55.0	54.9	54.9	54.8	54.7	54.7	54.6	54.6
			G'	432	432	432	431	431	431	431	431	431
P-2432 65 mm Lightweight Concrete	24/3	600 mm o/c	Q	34.0	33.9	33.8	33.8	33.7	33.6	33.6	33.5	33.5
			G'	493	493	493	493	493	493	493	493	492
		300 mm o/c	Q	37.9	37.8	37.7	37.6	37.6	37.5	37.5	37.4	37.4
			G'	497	496	496	496	496	496	496	496	496
		230 mm o/c	Q	40.3	40.2	40.1	40.0	39.9	39.9	39.8	39.8	39.7
			G'	498	498	498	498	498	498	498	498	498
		150 mm o/c	Q	45.7	45.6	45.5	45.4	45.4	45.3	45.2	45.2	45.1
			G'	502	502	502	502	502	502	502	502	501

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

Factored Shear Resistance Q (N/mm) and Stiffness Coefficient G' (10^3 N/mm)

Metric

THICKNESS = 0.38 mm
ϕ = 0.50

SUPPORT FASTENING: Weld with Washer
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				600	650	700	750	800	850	900	950	1 000
P-3012 65 mm Normal Weight Concrete	30/7	600 mm o/c	Q	47.0	46.4	45.9	45.4	45.0	44.6	44.3	44.1	43.8
			G'	429	429	428	428	428	427	427	427	427
		300 mm o/c	Q	48.2	47.6	47.1	46.6	46.2	45.9	45.5	45.3	45.0
			G'	430	429	429	429	428	428	428	428	427
		150 mm o/c	Q	50.6	50.0	49.5	49.0	48.6	48.3	48.0	47.7	47.4
			G'	431	430	430	430	429	429	429	429	429
P-3012 65 mm Normal Weight Concrete	30/4	600 mm o/c	Q	44.4	44.0	43.6	43.3	43.0	42.8	42.6	42.4	42.2
			G'	427	426	426	426	426	425	425	425	425
		300 mm o/c	Q	45.6	45.2	44.8	44.5	44.2	44.0	43.8	43.6	43.4
			G'	428	427	427	427	426	426	426	426	426
		150 mm o/c	Q	48.0	47.6	47.2	46.9	46.7	46.4	46.2	46.0	45.8
			G'	429	429	428	428	428	428	428	427	427
P-3012 65 mm Lightweight Concrete	30/7	600 mm o/c	Q	37.6	36.9	36.4	36.0	35.6	35.2	34.9	34.6	34.4
			G'	499	499	499	498	498	498	497	497	497
		300 mm o/c	Q	38.8	38.2	37.6	37.2	36.8	36.4	36.1	35.8	35.6
			G'	500	500	499	499	499	498	498	498	498
		150 mm o/c	Q	41.2	40.6	40.0	39.6	39.2	38.8	38.5	38.2	38.0
			G'	501	501	500	500	500	500	499	499	499
P-3012 65 mm Lightweight Concrete	30/4	600 mm o/c	Q	34.9	34.5	34.2	33.9	33.6	33.4	33.2	33.0	32.8
			G'	497	497	496	496	496	496	495	495	495
		300 mm o/c	Q	36.1	35.7	35.4	35.1	34.8	34.6	34.4	34.2	34.0
			G'	498	498	497	497	497	497	496	496	496
		150 mm o/c	Q	38.6	38.1	37.8	37.5	37.2	37.0	36.8	36.6	36.4
			G'	499	499	499	499	498	498	498	498	498

THICKNESS = 0.46 mm
ϕ = 0.50

SUPPORT FASTENING: Weld with Washer
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				600	650	700	750	800	850	900	950	1 000
P-3012 65 mm Normal Weight Concrete	30/7	600 mm o/c	Q	49.7	48.9	48.2	47.6	47.1	46.6	46.2	45.9	45.5
			G'	431	431	430	430	429	429	429	428	428
		300 mm o/c	Q	51.2	50.4	49.7	49.1	48.5	48.1	47.7	47.3	47.0
			G'	432	431	431	431	430	430	430	429	429
		150 mm o/c	Q	54.1	53.3	52.6	52.0	51.4	51.0	50.6	50.2	49.9
			G'	433	433	432	432	432	431	431	431	431
P-3012 65 mm Normal Weight Concrete	30/4	600 mm o/c	Q	46.3	45.8	45.3	44.9	44.5	44.2	44.0	43.7	43.5
			G'	428	428	428	427	427	427	426	426	426
		300 mm o/c	Q	47.8	47.2	46.8	46.3	46.0	45.7	45.4	45.2	44.9
			G'	429	429	429	428	428	428	427	427	427
		150 mm o/c	Q	50.7	50.1	49.7	49.3	48.9	48.6	48.3	48.1	47.8
			G'	431	431	430	430	430	430	429	429	429
P-3012 65 mm Lightweight Concrete	30/7	600 mm o/c	Q	40.3	39.5	38.8	38.2	37.7	37.2	36.8	36.4	36.1
			G'	502	501	501	500	500	499	499	499	498
		300 mm o/c	Q	41.7	40.9	40.2	39.6	39.1	38.7	38.2	37.9	37.5
			G'	502	502	501	501	501	500	500	500	499
		150 mm o/c	Q	44.6	43.8	43.1	42.5	42.0	41.6	41.1	40.8	40.4
			G'	503	503	503	502	502	502	501	501	501
P-3012 65 mm Lightweight Concrete	30/4	600 mm o/c	Q	36.9	36.3	35.9	35.5	35.1	34.8	34.5	34.3	34.1
			G'	499	498	498	498	497	497	497	496	496
		300 mm o/c	Q	38.3	37.8	37.3	36.9	36.6	36.3	36.0	35.7	35.5
			G'	500	499	499	499	498	498	498	498	497
		150 mm o/c	Q	41.2	40.7	40.2	39.8	39.5	39.2	38.9	38.6	38.4
			G'	501	501	501	500	500	500	500	500	499

• The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (N/mm) AND STIFFNESS COEFFICIENT G' (10^3 N/mm)

METRIC

THICKNESS = 0.61 mm
ϕ = 0.50

SUPPORT FASTENING: Weld with Washer
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (mm)								
				600	650	700	750	800	850	900	950	1 000
P-3012 65 mm Normal Weight Concrete	30/7	600 mm o/c	Q	56.0	54.7	53.6	52.7	51.9	51.2	50.6	50.0	49.5
			G'	435	434	434	433	433	432	432	431	431
		300 mm o/c	Q	57.9	56.6	55.6	54.7	53.8	53.1	52.5	51.9	51.4
			G'	436	435	435	434	434	433	433	433	432
		150 mm o/c	Q	61.8	60.5	59.5	58.5	57.7	57.0	56.4	55.8	55.3
			G'	437	437	436	436	436	435	435	435	434
P-3012 65 mm Normal Weight Concrete	30/4	600 mm o/c	Q	50.8	49.9	49.2	48.6	48.0	47.5	47.1	46.7	46.4
			G'	431	431	430	430	429	429	428	428	428
		300 mm o/c	Q	52.7	51.9	51.1	50.5	50.0	49.5	49.0	48.6	48.3
			G'	433	432	432	431	431	430	430	430	429
		150 mm o/c	Q	56.6	55.7	55.0	54.4	53.8	53.3	52.9	52.5	52.2
			G'	435	434	434	433	433	433	433	432	432
P-3012 65 mm Lightweight Concrete	30/7	600 mm o/c	Q	46.5	45.3	44.2	43.3	42.5	41.8	41.1	40.6	40.0
			G'	505	505	504	504	503	503	502	502	501
		300 mm o/c	Q	48.5	47.2	46.1	45.2	44.4	43.7	43.1	42.5	42.0
			G'	506	506	505	505	504	504	503	503	503
		150 mm o/c	Q	52.3	51.1	50.0	49.1	48.3	47.6	46.9	46.4	45.8
			G'	508	507	507	506	506	506	505	505	505
P-3012 65 mm Lightweight Concrete	30/4	600 mm o/c	Q	41.3	40.5	39.8	39.1	38.6	38.1	37.7	37.3	36.9
			G'	502	501	501	500	500	499	499	498	498
		300 mm o/c	Q	43.3	42.4	41.7	41.1	40.5	40.0	39.6	39.2	38.9
			G'	503	502	502	501	501	501	500	500	500
		150 mm o/c	Q	47.1	46.3	45.6	44.9	44.4	43.9	43.5	43.1	42.7
			G'	505	504	504	504	503	503	503	503	502

- Based on material according to ASTM A 653M, minimum yield strength of 410 MPa.
- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

Factored Shear Resistance Q (plf) and Stiffness Coefficient G' (10^3 lb./in.)

Imperial

THICKNESS = 0.030 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
36/11	36 in. o/c	Q	1 300	1 140	1 020	910	810	740	670	620	570
		G'	56.8	60.6	63.4	65.3	66.6	67.3	67.5	67.4	67.0
	24 in. o/c	Q	1 310	1 150	1 030	920	830	760	690	640	590
		G'	56.8	60.6	63.5	65.4	66.7	67.4	67.6	67.5	67.2
	12 in. o/c	Q	1 350	1 200	1 080	980	890	810	750	690	650
		G'	56.9	60.8	63.6	65.6	66.9	67.7	68.0	68.0	67.7
	9 in. o/c	Q	1 380	1 230	1 110	1 010	920	850	780	730	680
		G'	56.9	60.8	63.7	65.7	67.1	67.9	68.2	68.3	68.0
	6 in. o/c	Q	1 430	1 280	1 170	1 070	990	920	860	800	760
		G'	57.0	61.0	63.9	66.0	67.4	68.3	68.7	68.8	68.7
36/9	36 in. o/c	Q	1 090	960	860	760	690	620	570	520	480
		G'	54.9	58.1	60.3	61.7	62.4	62.6	62.5	62.0	61.3
	24 in. o/c	Q	1 100	970	870	780	700	640	590	540	500
		G'	54.9	58.2	60.4	61.8	62.5	62.8	62.6	62.2	61.5
	12 in. o/c	Q	1 140	1 020	920	840	760	690	640	600	560
		G'	55.0	58.3	60.6	62.1	62.9	63.2	63.1	62.7	62.2
	9 in. o/c	Q	1 160	1 040	950	870	800	730	680	630	590
		G'	55.1	58.4	60.7	62.2	63.1	63.4	63.4	63.1	62.6
	6 in. o/c	Q	1 210	1 100	1 000	930	860	800	750	700	670
		G'	55.2	58.6	61.0	62.6	63.5	64.0	64.0	63.8	63.4
36/7	36 in. o/c	Q	690	610	530	470	430	390	360	330	310
		G'	50.3	52.3	53.3	53.5	53.3	52.7	51.9	50.9	49.7
	24 in. o/c	Q	710	620	550	490	450	410	370	350	320
		G'	50.4	52.4	53.4	53.7	53.5	52.9	52.1	51.1	50.1
	12 in. o/c	Q	750	670	600	550	500	460	430	400	380
		G'	50.5	52.6	53.7	54.1	54.0	53.6	52.9	52.0	51.0
	9 in. o/c	Q	780	700	640	580	540	500	470	440	420
		G'	50.7	52.8	54.0	54.4	54.4	54.0	53.3	52.5	51.6
	6 in. o/c	Q	840	760	700	650	610	570	540	510	490
		G'	50.9	53.1	54.4	55.0	55.1	54.8	54.3	53.6	52.7
36/4	36 in. o/c	Q	470	420	370	330	300	270	250	230	220
		G'	9.6	10.8	12.0	13.0	13.9	14.7	15.4	16.0	16.4
	24 in. o/c	Q	480	430	390	350	320	290	270	250	230
		G'	9.6	10.9	12.0	13.0	13.9	14.7	15.4	16.0	16.5
	12 in. o/c	Q	520	470	430	400	370	350	320	310	290
		G'	9.6	10.9	12.0	13.1	14.0	14.8	15.6	16.2	16.7
	9 in. o/c	Q	540	500	460	430	400	380	360	340	330
		G'	9.6	10.9	12.1	13.1	14.1	14.9	15.6	16.3	16.9
	6 in. o/c	Q	590	540	510	480	460	440	420	410	390
		G'	9.6	10.9	12.1	13.2	14.2	15.0	15.8	16.5	17.1

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.036 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"
36/11	36 in. o/c	Q	1 210	1 090	980	890	810	750	700	650	610
		G'	84.8	86.1	86.5	86.3	85.6	84.6	83.3	81.9	80.4
	24 in. o/c	Q	1 230	1 110	1 000	910	840	780	720	670	630
		G'	84.9	86.2	86.6	86.4	85.8	84.8	83.6	82.2	80.7
	12 in. o/c	Q	1 300	1 180	1 080	990	920	850	800	750	710
		G'	85.2	86.5	87.0	86.9	86.3	85.4	84.3	83.0	81.6
	9 in. o/c	Q	1 340	1 230	1 130	1 040	970	910	850	810	760
		G'	85.3	86.7	87.3	87.2	86.7	85.9	84.8	83.5	82.1
	6 in. o/c	Q	1 430	1 320	1 230	1 150	1 070	1 010	960	910	860
		G'	85.6	87.1	87.8	87.8	87.4	86.7	85.7	84.5	83.3
36/9	36 in. o/c	Q	1 020	920	830	750	690	630	590	550	510
		G'	79.9	80.4	80.2	79.4	78.3	76.9	75.4	73.8	72.1
	24 in. o/c	Q	1 040	950	850	780	710	660	610	570	540
		G'	80.0	80.5	80.3	79.6	78.5	77.2	75.7	74.1	72.4
	12 in. o/c	Q	1 110	1 010	930	860	790	740	690	650	620
		G'	80.3	80.9	80.8	80.2	79.2	78.0	76.6	75.0	73.4
	9 in. o/c	Q	1 150	1 060	980	910	840	790	740	710	670
		G'	80.5	81.2	81.2	80.6	79.7	78.5	77.1	75.7	74.1
	6 in. o/c	Q	1 230	1 140	1 070	1 000	950	900	850	810	770
		G'	80.9	81.7	81.8	81.4	80.6	79.5	78.2	76.9	75.4
36/7	36 in. o/c	Q	640	570	520	470	430	400	370	350	330
		G'	68.8	68.0	66.8	65.2	63.5	61.6	59.8	57.9	56.1
	24 in. o/c	Q	670	600	540	500	460	430	400	380	360
		G'	69.0	68.3	67.1	65.5	63.8	62.0	60.2	58.4	56.6
	12 in. o/c	Q	740	680	620	570	540	510	480	450	430
		G'	69.5	68.9	67.8	66.4	64.8	63.1	61.4	59.7	58.0
	9 in. o/c	Q	780	720	670	630	590	560	530	510	490
		G'	69.9	69.4	68.3	67.0	65.5	63.9	62.2	60.5	58.9
	6 in. o/c	Q	870	810	770	730	690	660	640	610	590
		G'	70.6	70.2	69.3	68.2	66.8	65.3	63.8	62.2	60.7
36/4	36 in. o/c	Q	450	400	360	330	310	290	270	250	240
		G'	17.7	19.0	20.1	21.0	21.7	22.2	22.7	23.0	23.2
	24 in. o/c	Q	470	430	390	360	330	310	290	280	260
		G'	17.7	19.0	20.1	21.0	21.8	22.4	22.8	23.1	23.4
	12 in. o/c	Q	530	490	460	440	410	390	370	350	340
		G'	17.8	19.1	20.3	21.2	22.0	22.7	23.2	23.6	23.9
	9 in. o/c	Q	570	530	500	480	460	440	420	410	390
		G'	17.9	19.2	20.4	21.4	22.2	22.9	23.4	23.9	24.2
	6 in. o/c	Q	640	610	580	560	540	520	510	500	480
		G'	18.0	19.4	20.6	21.6	22.5	23.2	23.9	24.4	24.8

Factored Shear Resistance Q (plf) and Stiffness Coefficient G' (10^3 lb./in.)

Imperial

THICKNESS = 0.048 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"
36/11	36 in. o/c	Q	1 300	1 190	1 090	1 010	940	880	820	780	730
		G'	124.2	121.6	118.8	115.7	112.6	109.5	106.4	103.4	100.4
	24 in. o/c	Q	1 350	1 230	1 140	1 050	980	920	870	820	780
		G'	124.4	121.9	119.1	116.1	113.0	109.9	106.8	103.8	100.9
	12 in. o/c	Q	1 480	1 370	1 280	1 190	1 120	1 060	1 010	960	920
		G'	125.1	122.7	120.0	117.1	114.1	111.1	108.1	105.2	102.4
	9 in. o/c	Q	1 560	1 460	1 370	1 290	1 220	1 160	1 100	1 060	1 010
		G'	125.6	123.3	120.6	117.8	114.9	111.9	109.0	106.1	103.4
	6 in. o/c	Q	1 720	1 620	1 540	1 470	1 400	1 340	1 290	1 180	1 050
		G'	126.5	124.3	121.8	119.1	116.3	113.5	110.7	107.9	105.3
36/9	36 in. o/c	Q	1 100	1 010	920	860	800	740	700	660	620
		G'	113.1	110.0	106.8	103.5	100.2	97.0	93.9	90.9	88.1
	24 in. o/c	Q	1 150	1 050	970	900	840	790	750	710	670
		G'	113.4	110.4	107.2	103.9	100.7	97.5	94.4	91.5	88.6
	12 in. o/c	Q	1 280	1 190	1 110	1 040	980	930	890	850	810
		G'	114.3	111.4	108.3	105.1	102.0	98.9	95.9	93.1	90.3
	9 in. o/c	Q	1 360	1 270	1 200	1 130	1 080	1 020	980	940	900
		G'	114.8	112.0	109.0	106.0	102.9	99.9	96.9	94.1	91.4
	6 in. o/c	Q	1 500	1 430	1 360	1 300	1 250	1 210	1 160	1 120	1 050
		G'	116.0	113.3	110.5	107.5	104.6	101.7	98.9	96.2	93.6
36/7	36 in. o/c	Q	690	630	590	550	510	480	450	430	410
		G'	90.9	87.2	83.7	80.3	77.1	74.0	71.1	68.4	65.9
	24 in. o/c	Q	740	680	630	590	560	530	500	480	460
		G'	91.3	87.7	84.2	80.9	77.7	74.6	71.8	69.1	66.6
	12 in. o/c	Q	880	820	770	730	700	670	640	620	600
		G'	92.5	89.1	85.8	82.5	79.4	76.5	73.7	71.1	68.7
	9 in. o/c	Q	960	910	860	820	790	760	730	710	690
		G'	93.4	90.0	86.8	83.6	80.6	77.7	75.0	72.5	70.1
	6 in. o/c	Q	1 120	1 070	1 030	990	960	940	910	890	870
		G'	95.0	91.8	88.7	85.7	82.8	80.1	77.5	75.1	72.8
36/4	36 in. o/c	Q	490	450	420	390	370	350	330	310	300
		G'	34.0	34.7	35.2	35.4	35.4	35.2	35.0	34.6	34.2
	24 in. o/c	Q	540	500	470	440	420	390	380	360	350
		G'	34.1	34.9	35.4	35.6	35.7	35.6	35.3	35.0	34.6
	12 in. o/c	Q	650	620	600	570	550	530	520	500	490
		G'	34.5	35.4	36.0	36.3	36.5	36.5	36.4	36.1	35.8
	9 in. o/c	Q	720	690	670	650	630	610	600	580	570
		G'	34.8	35.7	36.3	36.8	37.0	37.1	37.0	36.8	36.6
	6 in. o/c	Q	850	820	800	780	770	750	740	730	720
		G'	35.3	36.3	37.1	37.6	38.0	38.2	38.2	38.2	38.1

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.060 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"
36/11	36 in. o/c	Q	1 360	1 260	1 180	1 100	1 040	980	930	890	850
		G'	148.3	143.2	138.2	133.5	128.9	124.6	120.5	116.6	112.9
	24 in. o/c	Q	1 440	1 340	1 250	1 180	1 110	1 060	1 000	960	920
		G'	148.7	143.7	138.7	134.0	129.5	125.2	121.1	117.2	113.6
	12 in. o/c	Q	1 650	1 550	1 470	1 400	1 330	1 270	1 220	1 180	1 140
		G'	150.0	145.1	140.3	135.6	131.2	127.0	123.0	119.2	115.6
	9 in. o/c	Q	1 790	1 700	1 610	1 540	1 480	1 420	1 370	1 320	1 190
		G'	150.9	146.0	141.3	136.7	132.4	128.2	124.3	120.5	117.0
	6 in. o/c	Q	2 040	1 950	1 880	1 820	1 760	1 650	1 470	1 320	1 190
		G'	152.6	147.9	143.3	138.8	134.6	130.6	126.7	123.1	119.6
36/9	36 in. o/c	Q	1 160	1 080	1 010	940	890	840	800	760	720
		G'	131.8	126.6	121.7	117.1	112.7	108.6	104.7	101.0	97.6
	24 in. o/c	Q	1 230	1 150	1 080	1 020	960	910	870	830	800
		G'	132.3	127.2	122.3	117.7	113.4	109.3	105.4	101.8	98.4
	12 in. o/c	Q	1 450	1 370	1 300	1 230	1 180	1 130	1 090	1 050	1 020
		G'	133.8	128.8	124.1	119.6	115.3	111.3	107.5	104.0	100.7
	9 in. o/c	Q	1 570	1 500	1 440	1 380	1 320	1 280	1 230	1 200	1 160
		G'	134.8	129.9	125.2	120.8	116.6	112.7	108.9	105.5	102.2
	6 in. o/c	Q	1 810	1 740	1 680	1 630	1 590	1 550	1 470	1 320	1 190
		G'	136.8	132.1	127.5	123.2	119.2	115.3	111.7	108.3	105.1
36/7	36 in. o/c	Q	740	690	650	610	580	550	530	510	490
		G'	101.0	96.2	91.8	87.7	83.9	80.4	77.1	74.1	71.4
	24 in. o/c	Q	810	760	720	690	650	630	600	580	560
		G'	101.7	96.9	92.5	88.5	84.7	81.2	78.0	75.0	72.3
	12 in. o/c	Q	1 030	980	940	900	870	840	820	800	780
		G'	103.7	99.1	94.8	90.8	87.1	83.7	80.6	77.7	75.0
	9 in. o/c	Q	1 160	1 120	1 080	1 050	1 020	990	960	940	920
		G'	105.0	100.5	96.2	92.3	88.7	85.4	82.3	79.4	76.7
	6 in. o/c	Q	1 410	1 370	1 330	1 300	1 280	1 250	1 230	1 210	1 190
		G'	107.6	103.2	99.1	95.3	91.8	88.6	85.6	82.8	80.2
36/4	36 in. o/c	Q	540	510	480	450	430	410	390	380	370
		G'	48.6	48.1	47.4	46.6	45.7	44.8	43.8	42.8	41.8
	24 in. o/c	Q	610	580	550	520	500	480	470	450	440
		G'	49.0	48.5	47.9	47.1	46.3	45.4	44.4	43.5	42.5
	12 in. o/c	Q	790	770	750	730	710	690	680	670	650
		G'	50.0	49.7	49.2	48.6	47.8	47.1	46.2	45.4	44.5
	9 in. o/c	Q	900	880	860	840	820	810	800	780	770
		G'	50.6	50.4	50.0	49.5	48.8	48.1	47.4	46.6	45.8
	6 in. o/c	Q	1 100	1 080	1 060	1 040	1 030	1 020	1 000	990	990
		G'	51.9	51.9	51.6	51.3	50.8	50.2	49.6	49.0	48.3

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.030 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
36/11	36 in. o/c	Q	1 300	1 150	1 030	930	840	770	710	660	620
		G'	56.8	60.7	63.6	65.7	67.2	68.1	68.6	68.8	68.7
	24 in. o/c	Q	1 340	1 190	1 080	980	900	820	770	710	670
		G'	57.0	61.0	64.1	66.4	68.0	69.1	69.8	70.1	70.3
	12 in. o/c	Q	1 460	1 320	1 210	1 120	1 050	990	930	880	840
		G'	57.6	62.0	65.4	68.1	70.2	71.7	72.9	73.7	74.3
	9 in. o/c	Q	1 530	1 400	1 300	1 210	1 140	1 080	1 030	990	860
		G'	58.0	62.5	66.2	69.1	71.4	73.2	74.7	75.8	76.7
	6 in. o/c	Q	1 670	1 550	1 460	1 380	1 310	1 260	1 170	1 000	860
		G'	58.6	63.5	67.5	70.9	73.6	75.9	77.8	79.3	80.6
36/9	36 in. o/c	Q	1 090	970	870	790	720	660	600	560	530
		G'	54.9	58.3	60.6	62.2	63.2	63.7	63.9	63.8	63.4
	24 in. o/c	Q	1 130	1 010	920	840	770	710	660	620	580
		G'	55.2	58.7	61.3	63.1	64.3	65.0	65.4	65.4	65.3
	12 in. o/c	Q	1 240	1 130	1 040	970	920	870	820	780	740
		G'	56.0	60.0	63.0	65.3	67.0	68.3	69.2	69.9	70.3
	9 in. o/c	Q	1 310	1 200	1 120	1 060	1 000	950	910	880	850
		G'	56.5	60.7	64.0	66.6	68.6	70.2	71.4	72.4	73.1
	6 in. o/c	Q	1 430	1 340	1 270	1 210	1 160	1 120	1 080	1 000	860
		G'	57.4	62.0	65.7	68.8	71.3	73.4	75.1	76.6	77.8
36/7	36 in. o/c	Q	690	620	550	500	460	420	390	370	350
		G'	50.3	52.5	53.8	54.4	54.6	54.5	54.1	53.5	52.8
	24 in. o/c	Q	740	660	600	550	510	480	450	420	400
		G'	50.9	53.3	54.9	55.8	56.3	56.4	56.3	56.0	55.6
	12 in. o/c	Q	870	800	740	700	660	640	610	590	570
		G'	52.4	55.5	57.8	59.4	60.6	61.4	61.9	62.3	62.5
	9 in. o/c	Q	950	880	830	790	760	730	700	680	670
		G'	53.3	56.7	59.4	61.4	62.9	64.1	65.0	65.7	66.3
	6 in. o/c	Q	1 100	1 040	990	960	930	900	880	860	840
		G'	54.7	58.8	62.0	64.6	66.8	68.6	70.1	71.4	72.5
36/4	36 in. o/c	Q	470	420	390	360	330	310	290	270	260
		G'	9.6	10.9	12.0	13.1	14.1	15.0	15.8	16.5	17.1
	24 in. o/c	Q	510	460	430	400	380	360	340	330	310
		G'	9.6	10.9	12.2	13.3	14.3	15.3	16.1	17.0	17.7
	12 in. o/c	Q	610	570	540	520	500	490	470	460	450
		G'	9.8	11.1	12.4	13.7	14.8	15.9	16.9	17.9	18.8
	9 in. o/c	Q	660	630	610	590	570	560	550	540	530
		G'	9.8	11.2	12.6	13.8	15.0	16.2	17.3	18.4	19.4
	6 in. o/c	Q	750	730	710	700	690	680	670	660	650
		G'	9.9	11.3	12.7	14.1	15.4	16.6	17.8	19.0	20.1

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.036 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"
36/11	36 in. o/c	Q	1 230	1 110	1 010	920	850	790	740	700	660
		G'	85.2	86.7	87.4	87.6	87.2	86.6	85.8	84.7	83.6
	24 in. o/c	Q	1 280	1 170	1 070	990	920	860	810	760	720
		G'	86.0	87.7	88.7	89.0	89.0	88.6	88.0	87.2	86.2
	12 in. o/c	Q	1 440	1 340	1 250	1 180	1 110	1 050	1 000	960	860
		G'	88.1	90.5	92.1	93.1	93.6	93.9	93.8	93.6	93.3
	9 in. o/c	Q	1 550	1 440	1 360	1 290	1 230	1 180	1 130	980	860
		G'	89.4	92.1	94.0	95.4	96.3	96.9	97.3	97.4	97.4
	6 in. o/c	Q	1 740	1 640	1 570	1 500	1 450	1 310	1 130	980	860
		G'	91.7	95.0	97.5	99.5	101.0	102.2	103.1	103.8	104.3
36/9	36 in. o/c	Q	1 040	950	860	790	730	680	630	600	560
		G'	80.4	81.2	81.4	81.0	80.3	79.4	78.3	77.1	75.9
	24 in. o/c	Q	1 090	1 000	920	850	790	740	700	660	630
		G'	81.4	82.5	83.0	82.9	82.5	81.8	81.0	80.0	79.0
	12 in. o/c	Q	1 240	1 160	1 090	1 030	980	940	900	860	820
		G'	84.2	86.0	87.2	87.9	88.2	88.2	88.0	87.7	87.2
	9 in. o/c	Q	1 340	1 260	1 190	1 140	1 090	1 050	1 020	980	860
		G'	85.8	88.1	89.7	90.7	91.4	91.8	92.0	92.0	91.9
	6 in. o/c	Q	1 520	1 440	1 390	1 340	1 290	1 260	1 130	980	860
		G'	88.6	91.6	93.9	95.6	97.0	98.1	98.9	99.5	99.9
36/7	36 in. o/c	Q	660	600	550	510	470	440	420	400	380
		G'	69.6	69.4	68.7	67.6	66.5	65.2	63.9	62.5	61.2
	24 in. o/c	Q	720	660	610	570	540	510	480	460	440
		G'	71.3	71.4	71.1	70.4	69.5	68.6	67.5	66.5	65.4
	12 in. o/c	Q	890	840	790	760	730	700	680	660	640
		G'	75.8	76.8	77.4	77.6	77.5	77.3	77.0	76.6	76.1
	9 in. o/c	Q	990	940	900	870	840	820	800	780	760
		G'	78.3	79.9	80.9	81.6	82.0	82.2	82.3	82.3	82.2
	6 in. o/c	Q	1 190	1 140	1 110	1 080	1 050	1 030	1 010	980	860
		G'	82.5	85.0	86.9	88.3	89.5	90.4	91.1	91.7	92.1
36/4	36 in. o/c	Q	460	430	400	370	350	330	310	300	280
		G'	17.8	19.2	20.4	21.5	22.4	23.2	23.9	24.5	25.0
	24 in. o/c	Q	510	480	460	430	410	390	380	360	350
		G'	18.1	19.5	20.9	22.0	23.1	24.0	24.9	25.6	26.3
	12 in. o/c	Q	650	620	600	580	570	550	540	530	520
		G'	18.6	20.3	21.8	23.3	24.6	25.9	27.0	28.1	29.1
	9 in. o/c	Q	730	700	690	670	660	640	630	620	620
		G'	18.9	20.6	22.3	23.9	25.3	26.7	28.0	29.2	30.4
	6 in. o/c	Q	850	830	820	810	800	790	780	770	770
		G'	19.3	21.2	23.0	24.7	26.3	27.9	29.4	30.8	32.2

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.048 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"
36/11	36 in. o/c	Q	1 330	1 220	1 130	1 050	980	930	870	830	790
		G'	125.9	123.9	121.5	119.0	116.4	113.8	111.2	108.7	106.2
	24 in. o/c	Q	1 420	1 310	1 220	1 140	1 070	1 010	960	920	880
		G'	128.1	126.4	124.4	122.2	119.9	117.6	115.3	113.0	110.8
	12 in. o/c	Q	1 650	1 550	1 470	1 400	1 330	1 270	1 220	1 180	1 050
		G'	134.3	133.5	132.4	131.0	129.5	127.9	126.3	124.7	123.1
	9 in. o/c	Q	1 790	1 700	1 620	1 560	1 500	1 450	1 330	1 180	1 050
		G'	138.0	137.8	137.1	136.3	135.2	134.1	132.8	131.6	130.3
	6 in. o/c	Q	2 070	1 980	1 910	1 850	1 740	1 520	1 330	1 180	1 050
		G'	144.5	145.2	145.5	145.4	145.2	144.7	144.2	143.6	143.0
36/9	36 in. o/c	Q	1 140	1 040	970	900	840	790	750	710	680
		G'	115.2	112.7	110.1	107.4	104.7	102.1	99.5	97.0	94.7
	24 in. o/c	Q	1 220	1 130	1 050	990	930	880	840	800	770
		G'	117.9	115.9	113.6	111.2	108.9	106.5	104.2	102.0	99.8
	12 in. o/c	Q	1 440	1 360	1 300	1 240	1 190	1 140	1 100	1 060	1 030
		G'	125.5	124.4	123.1	121.6	120.0	118.4	116.8	115.3	113.7
	9 in. o/c	Q	1 580	1 500	1 440	1 390	1 340	1 300	1 260	1 180	1 050
		G'	129.9	129.4	128.6	127.6	126.6	125.4	124.2	123.0	121.9
	6 in. o/c	Q	1 830	1 760	1 710	1 660	1 620	1 520	1 330	1 180	1 050
		G'	137.7	138.2	138.3	138.2	137.9	137.5	137.0	136.5	135.9
36/7	36 in. o/c	Q	720	670	630	590	560	530	500	480	460
		G'	93.9	91.0	88.2	85.5	83.0	80.6	78.3	76.1	74.1
	24 in. o/c	Q	810	760	710	680	640	620	590	570	550
		G'	97.8	95.4	93.0	90.6	88.4	86.2	84.2	82.3	80.5
	12 in. o/c	Q	1 050	1 000	960	930	900	880	850	830	810
		G'	108.3	107.0	105.6	104.1	102.7	101.3	99.9	98.6	97.4
	9 in. o/c	Q	1 190	1 150	1 110	1 080	1 060	1 030	1 010	990	970
		G'	114.4	113.7	112.9	111.9	111.0	110.0	109.0	108.1	107.2
	6 in. o/c	Q	1 460	1 420	1 390	1 360	1 340	1 320	1 300	1 180	1 050
		G'	124.9	125.2	125.3	125.2	125.1	124.8	124.5	124.2	123.8
36/4	36 in. o/c	Q	530	490	460	440	420	400	380	370	350
		G'	34.9	36.0	36.9	37.5	38.0	38.4	38.6	38.7	38.8
	24 in. o/c	Q	600	570	550	520	500	480	470	450	440
		G'	36.0	37.4	38.5	39.4	40.2	40.8	41.3	41.7	42.0
	12 in. o/c	Q	800	770	750	730	720	700	690	680	670
		G'	38.6	40.5	42.3	43.8	45.2	46.4	47.5	48.5	49.4
	9 in. o/c	Q	910	890	870	850	840	830	820	810	800
		G'	39.9	42.1	44.1	45.9	47.6	49.1	50.5	51.8	53.0
	6 in. o/c	Q	1 080	1 070	1 050	1 040	1 030	1 020	1 020	1 010	1 000
		G'	41.8	44.4	46.8	49.1	51.2	53.1	55.0	56.7	58.3

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.060 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"
36/11	36 in. o/c	Q	1 400	1 300	1 220	1 150	1 090	1 030	980	940	900
		G'	152.1	147.7	143.4	139.3	135.3	131.5	128.0	124.6	121.4
	24 in. o/c	Q	1 510	1 410	1 330	1 260	1 190	1 140	1 090	1 050	1 010
		G'	156.3	152.2	148.2	144.4	140.7	137.2	133.9	130.7	127.7
	12 in. o/c	Q	1 820	1 740	1 660	1 590	1 520	1 470	1 420	1 320	1 190
		G'	167.6	164.5	161.4	158.4	155.5	152.8	150.1	147.6	145.2
	9 in. o/c	Q	2 010	1 930	1 850	1 790	1 740	1 650	1 470	1 320	1 190
		G'	174.4	171.9	169.3	166.8	164.4	162.1	159.8	157.7	155.6
	6 in. o/c	Q	2 360	2 290	2 220	2 110	1 860	1 650	1 470	1 320	1 190
		G'	186.5	185.0	183.4	181.8	180.2	178.6	177.0	175.5	174.0
36/9	36 in. o/c	Q	1 200	1 120	1 050	990	930	890	850	810	780
		G'	136.3	131.9	127.7	123.7	119.9	116.4	113.1	110.0	107.0
	24 in. o/c	Q	1 310	1 230	1 160	1 100	1 040	1 000	960	920	890
		G'	141.1	137.1	133.2	129.5	126.1	122.8	119.7	116.8	114.1
	12 in. o/c	Q	1 600	1 540	1 480	1 420	1 370	1 320	1 280	1 250	1 190
		G'	154.3	151.3	148.3	145.5	142.8	140.2	137.8	135.5	133.3
	9 in. o/c	Q	1 780	1 720	1 660	1 610	1 570	1 530	1 470	1 320	1 190
		G'	162.2	159.7	157.3	154.9	152.7	150.5	148.5	146.5	144.7
	6 in. o/c	Q	2 110	2 060	2 000	1 960	1 860	1 650	1 470	1 320	1 190
		G'	176.1	174.6	173.1	171.6	170.2	168.8	167.4	166.0	164.8
36/7	36 in. o/c	Q	780	730	690	660	630	600	580	560	540
		G'	107.0	103.0	99.3	95.9	92.8	89.9	87.2	84.8	82.5
	24 in. o/c	Q	890	840	800	770	740	710	690	670	650
		G'	113.2	109.6	106.3	103.1	100.3	97.6	95.2	92.9	90.8
	12 in. o/c	Q	1 190	1 150	1 120	1 090	1 060	1 040	1 010	990	970
		G'	130.2	127.5	125.0	122.7	120.5	118.5	116.6	114.8	113.2
	9 in. o/c	Q	1 380	1 340	1 310	1 280	1 250	1 230	1 210	1 190	1 180
		G'	140.1	138.0	136.0	134.1	132.4	130.7	129.2	127.7	126.4
	6 in. o/c	Q	1 730	1 690	1 660	1 640	1 610	1 590	1 470	1 320	1 190
		G'	157.5	156.3	155.2	154.1	153.1	152.1	151.1	150.2	149.4
36/4	36 in. o/c	Q	580	540	520	500	480	460	440	430	420
		G'	51.6	51.7	51.7	51.6	51.4	51.1	50.7	50.3	49.9
	24 in. o/c	Q	680	650	630	610	590	570	550	540	530
		G'	54.5	55.0	55.4	55.6	55.7	55.7	55.7	55.6	55.4
	12 in. o/c	Q	930	910	890	870	860	850	830	820	810
		G'	61.3	62.8	64.1	65.2	66.1	66.9	67.6	68.2	68.7
	9 in. o/c	Q	1 070	1 060	1 040	1 020	1 010	1 000	990	980	970
		G'	64.8	66.8	68.5	70.1	71.4	72.7	73.7	74.7	75.6
	6 in. o/c	Q	1 310	1 290	1 280	1 270	1 260	1 250	1 240	1 240	1 190
		G'	70.2	72.9	75.3	77.5	79.6	81.4	83.2	84.8	86.3

Factored Shear Resistance Q (plf) and Stiffness Coefficient G' (10^3 lb./in.)

Imperial

THICKNESS = 0.030 in.
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
36/11	36 in. o/c	Q	920	820	740	670	610	560	520	480	450
		G'	56.0	59.7	62.4	64.3	65.6	66.3	66.7	66.7	66.5
	24 in. o/c	Q	960	860	780	720	660	610	570	540	510
		G'	56.3	60.1	63.0	65.0	66.5	67.4	68.0	68.2	68.2
	12 in. o/c	Q	1 070	980	910	850	810	760	730	700	670
		G'	57.0	61.2	64.4	67.0	68.9	70.3	71.4	72.1	72.6
	9 in. o/c	Q	1 150	1 060	990	940	890	850	820	790	770
		G'	57.4	61.8	65.3	68.1	70.3	72.0	73.3	74.4	75.2
	6 in. o/c	Q	1 280	1 200	1 140	1 090	1 050	1 020	990	960	860
		G'	58.1	62.9	66.8	70.0	72.6	74.8	76.7	78.2	79.4
36/9	36 in. o/c	Q	770	690	620	570	520	480	440	410	390
		G'	54.0	57.2	59.3	60.7	61.5	61.9	61.9	61.6	61.2
	24 in. o/c	Q	810	730	670	620	570	530	500	470	440
		G'	54.4	57.7	60.0	61.6	62.7	63.3	63.5	63.5	63.3
	12 in. o/c	Q	910	850	790	740	710	680	650	620	600
		G'	55.3	59.1	62.0	64.1	65.7	66.9	67.7	68.3	68.6
	9 in. o/c	Q	980	920	860	820	790	760	730	710	690
		G'	55.9	59.9	63.1	65.5	67.5	68.9	70.1	71.0	71.6
	6 in. o/c	Q	1 090	1 040	1 000	960	930	910	890	870	850
		G'	56.9	61.3	65.0	67.9	70.4	72.4	74.1	75.4	76.6
36/7	36 in. o/c	Q	490	440	400	360	330	310	290	280	260
		G'	49.2	51.2	52.3	52.7	52.8	52.5	52.0	51.4	50.7
	24 in. o/c	Q	530	490	450	420	390	370	350	330	320
		G'	49.9	52.1	53.5	54.3	54.6	54.6	54.4	54.1	53.6
	12 in. o/c	Q	660	620	580	560	530	510	500	490	470
		G'	51.6	54.5	56.6	58.2	59.3	60.0	60.5	60.8	61.0
	9 in. o/c	Q	740	700	670	640	620	600	590	580	560
		G'	52.6	55.9	58.4	60.3	61.8	62.9	63.8	64.5	65.0
	6 in. o/c	Q	870	840	810	790	770	760	740	730	720
		G'	54.2	58.1	61.2	63.8	65.9	67.7	69.2	70.4	71.5
36/4	36 in. o/c	Q	330	300	280	260	240	230	220	210	200
		G'	9.5	10.8	11.9	13.0	13.9	14.8	15.5	16.2	16.8
	24 in. o/c	Q	370	340	320	310	290	280	270	260	250
		G'	9.6	10.9	12.1	13.2	14.2	15.1	15.9	16.7	17.4
	12 in. o/c	Q	460	440	430	410	400	400	390	380	380
		G'	9.7	11.1	12.4	13.6	14.7	15.8	16.8	17.8	18.7
	9 in. o/c	Q	510	490	480	470	460	460	450	440	440
		G'	9.8	11.2	12.5	13.8	15.0	16.1	17.2	18.3	19.3
	6 in. o/c	Q	580	570	560	550	550	540	540	540	530
		G'	9.9	11.3	12.7	14.0	15.3	16.6	17.8	18.9	20.0

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.036 in.
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"
36/11	36 in. o/c	Q	880	800	730	670	620	580	550	520	490
		G'	83.2	84.5	84.9	84.9	84.4	83.6	82.7	81.6	80.4
	24 in. o/c	Q	930	860	800	740	690	650	610	580	550
		G'	84.1	85.6	86.3	86.5	86.3	85.8	85.0	84.2	83.2
	12 in. o/c	Q	1 090	1 020	960	910	870	840	810	780	750
		G'	86.5	88.6	90.0	90.9	91.3	91.5	91.4	91.1	90.7
	9 in. o/c	Q	1 190	1 120	1 070	1 020	980	950	920	890	860
		G'	87.9	90.4	92.2	93.5	94.3	94.8	95.1	95.1	95.1
	6 in. o/c	Q	1 370	1 310	1 260	1 220	1 180	1 150	1 130	980	860
		G'	90.4	93.6	96.0	97.9	99.3	100.5	101.3	102.0	102.5
36/9	36 in. o/c	Q	740	680	620	570	530	500	470	440	420
		G'	78.2	78.8	78.8	78.3	77.5	76.4	75.3	74.0	72.7
	24 in. o/c	Q	800	740	690	640	600	560	540	510	490
		G'	79.4	80.3	80.5	80.3	79.8	79.0	78.1	77.1	76.0
	12 in. o/c	Q	940	890	850	810	780	750	720	700	680
		G'	82.5	84.1	85.2	85.7	85.9	85.9	85.6	85.3	84.8
	9 in. o/c	Q	1 030	980	940	910	880	850	830	810	790
		G'	84.3	86.4	87.8	88.8	89.4	89.8	89.9	89.9	89.8
	6 in. o/c	Q	1 190	1 150	1 120	1 090	1 060	1 040	1 020	980	860
		G'	87.4	90.2	92.4	94.1	95.4	96.4	97.2	97.8	98.2
36/7	36 in. o/c	Q	480	430	400	380	350	330	320	300	290
		G'	67.3	66.9	66.0	64.9	63.7	62.4	61.1	59.7	58.5
	24 in. o/c	Q	540	500	470	440	420	400	380	370	360
		G'	69.2	69.1	68.6	67.9	67.0	66.0	64.9	63.9	62.8
	12 in. o/c	Q	700	670	640	620	600	580	570	560	550
		G'	74.0	75.0	75.4	75.6	75.5	75.3	74.9	74.5	74.1
	9 in. o/c	Q	800	770	740	720	700	690	680	660	660
		G'	76.8	78.2	79.2	79.8	80.2	80.4	80.5	80.5	80.4
	6 in. o/c	Q	970	940	920	910	890	880	870	860	850
		G'	81.3	83.7	85.5	86.9	88.1	89.0	89.7	90.3	90.7
36/4	36 in. o/c	Q	330	310	290	280	260	250	240	230	220
		G'	17.6	18.9	20.1	21.1	22.0	22.7	23.4	23.9	24.4
	24 in. o/c	Q	390	370	350	340	320	310	310	300	290
		G'	17.9	19.3	20.6	21.7	22.7	23.6	24.4	25.1	25.8
	12 in. o/c	Q	510	500	480	470	460	460	450	440	440
		G'	18.5	20.1	21.7	23.1	24.4	25.6	26.7	27.8	28.8
	9 in. o/c	Q	580	560	550	550	540	530	530	520	520
		G'	18.8	20.5	22.2	23.7	25.1	26.5	27.8	29.0	30.1
	6 in. o/c	Q	670	660	660	650	650	640	640	640	630
		G'	19.2	21.1	22.9	24.6	26.2	27.8	29.2	30.7	32.0

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.048 in.
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"
36/11	36 in. o/c	Q	970	890	830	780	730	690	650	620	590
		G'	121.4	119.2	116.8	114.2	111.5	108.9	106.3	103.8	101.3
	24 in. o/c	Q	1 050	980	920	860	820	780	740	710	680
		G'	123.9	122.0	119.9	117.6	115.3	112.9	110.6	108.3	106.1
	12 in. o/c	Q	1 270	1 210	1 160	1 110	1 070	1 040	1 000	970	940
		G'	130.6	129.7	128.5	127.1	125.5	123.9	122.3	120.7	119.1
	9 in. o/c	Q	1 410	1 350	1 300	1 260	1 220	1 190	1 160	1 130	1 050
		G'	134.6	134.3	133.6	132.6	131.6	130.4	129.2	127.9	126.7
	6 in. o/c	Q	1 670	1 610	1 570	1 530	1 490	1 460	1 330	1 180	1 050
		G'	141.6	142.2	142.4	142.4	142.1	141.7	141.2	140.6	140.0
36/9	36 in. o/c	Q	830	770	710	670	630	590	570	540	520
		G'	110.7	108.2	105.5	102.7	100.0	97.4	94.9	92.4	90.1
	24 in. o/c	Q	910	850	800	750	720	680	650	630	600
		G'	113.7	111.5	109.2	106.8	104.4	102.1	99.8	97.6	95.5
	12 in. o/c	Q	1 120	1 070	1 030	990	960	930	910	880	860
		G'	121.8	120.7	119.3	117.8	116.2	114.6	113.1	111.6	110.1
	9 in. o/c	Q	1 250	1 200	1 160	1 130	1 100	1 070	1 050	1 030	1 010
		G'	126.6	126.0	125.2	124.2	123.1	122.0	120.8	119.7	118.6
	6 in. o/c	Q	1 480	1 440	1 400	1 370	1 350	1 330	1 310	1 180	1 050
		G'	134.9	135.4	135.5	135.3	135.1	134.7	134.2	133.7	133.2
36/7	36 in. o/c	Q	540	500	470	450	420	410	390	380	360
		G'	89.6	86.8	84.0	81.4	78.9	76.6	74.4	72.3	70.4
	24 in. o/c	Q	620	590	560	530	510	490	480	460	450
		G'	93.9	91.4	89.0	86.7	84.6	82.5	80.5	78.7	77.0
	12 in. o/c	Q	850	820	790	770	750	740	720	710	700
		G'	105.0	103.7	102.3	100.9	99.5	98.2	96.9	95.6	94.5
	9 in. o/c	Q	980	960	930	910	900	880	870	860	850
		G'	111.5	110.8	109.9	109.0	108.1	107.2	106.3	105.4	104.5
	6 in. o/c	Q	1 220	1 200	1 180	1 170	1 150	1 140	1 130	1 120	1 050
		G'	122.4	122.8	122.9	122.9	122.7	122.5	122.3	122.0	121.7
36/4	36 in. o/c	Q	390	370	350	340	320	310	300	290	280
		G'	34.1	35.1	35.9	36.4	36.9	37.1	37.3	37.4	37.5
	24 in. o/c	Q	460	450	430	420	410	400	390	380	370
		G'	35.3	36.6	37.6	38.5	39.2	39.8	40.2	40.6	40.9
	12 in. o/c	Q	640	630	620	610	600	590	580	580	570
		G'	38.1	40.0	41.7	43.2	44.5	45.7	46.8	47.7	48.6
	9 in. o/c	Q	740	720	720	710	700	690	690	680	680
		G'	39.5	41.7	43.6	45.4	47.1	48.6	49.9	51.2	52.4
	6 in. o/c	Q	870	860	860	850	850	840	840	840	830
		G'	41.5	44.1	46.5	48.7	50.8	52.8	54.6	56.3	57.9

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.060 in.
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"
36/11	36 in. o/c	Q	1 030	970	910	860	810	780	740	710	680
		G'	145.5	141.1	136.8	132.7	128.8	125.1	121.6	118.3	115.2
	24 in. o/c	Q	1 140	1 070	1 020	970	920	890	850	820	790
		G'	149.9	145.8	141.9	138.1	134.5	131.1	127.8	124.8	121.9
	12 in. o/c	Q	1 430	1 380	1 330	1 290	1 250	1 210	1 180	1 150	1 120
		G'	162.0	158.9	155.9	152.9	150.1	147.4	144.8	142.4	140.1
	9 in. o/c	Q	1 610	1 560	1 510	1 470	1 440	1 400	1 370	1 320	1 190
		G'	169.2	166.7	164.2	161.8	159.4	157.1	155.0	152.9	150.9
	6 in. o/c	Q	1 950	1 900	1 860	1 820	1 790	1 650	1 470	1 320	1 190
		G'	182.1	180.6	179.0	177.5	175.9	174.4	172.9	171.4	170.1
36/9	36 in. o/c	Q	890	830	780	740	710	670	650	620	600
		G'	130.0	125.6	121.5	117.6	113.9	110.5	107.3	104.3	101.5
	24 in. o/c	Q	1 000	940	890	850	820	780	760	730	710
		G'	135.1	131.1	127.3	123.7	120.3	117.2	114.2	111.4	108.8
	12 in. o/c	Q	1 270	1 230	1 190	1 160	1 130	1 100	1 070	1 050	1 030
		G'	149.0	146.0	143.1	140.4	137.8	135.3	133.0	130.8	128.7
	9 in. o/c	Q	1 440	1 400	1 360	1 330	1 300	1 280	1 260	1 240	1 190
		G'	157.3	154.9	152.6	150.3	148.1	146.1	144.1	142.3	140.5
	6 in. o/c	Q	1 740	1 710	1 680	1 650	1 620	1 600	1 470	1 320	1 190
		G'	172.0	170.6	169.1	167.7	166.3	165.0	163.7	162.4	161.3
36/7	36 in. o/c	Q	590	560	530	510	490	470	450	440	430
		G'	101.5	97.6	94.1	90.9	87.9	85.2	82.6	80.3	78.1
	24 in. o/c	Q	700	660	640	620	600	580	560	550	540
		G'	108.0	104.5	101.3	98.4	95.6	93.1	90.8	88.7	86.7
	12 in. o/c	Q	990	960	940	920	900	890	870	860	850
		G'	125.7	123.2	120.8	118.6	116.5	114.6	112.8	111.2	109.7
	9 in. o/c	Q	1 160	1 140	1 120	1 100	1 080	1 070	1 060	1 050	1 040
		G'	136.1	134.1	132.2	130.4	128.8	127.2	125.8	124.4	123.2
	6 in. o/c	Q	1 470	1 450	1 430	1 420	1 410	1 390	1 380	1 320	1 190
		G'	154.1	153.1	152.0	151.0	150.1	149.2	148.3	147.5	146.7
36/4	36 in. o/c	Q	440	420	410	390	380	370	360	350	340
		G'	49.8	49.9	49.8	49.6	49.4	49.0	48.7	48.3	47.9
	24 in. o/c	Q	530	520	510	490	480	470	470	460	450
		G'	52.9	53.4	53.7	53.9	54.0	54.0	53.9	53.8	53.6
	12 in. o/c	Q	770	760	740	740	730	720	710	710	700
		G'	60.2	61.7	62.9	64.0	64.9	65.6	66.3	66.9	67.4
	9 in. o/c	Q	890	880	870	860	860	850	840	840	840
		G'	63.9	65.9	67.6	69.1	70.4	71.6	72.7	73.7	74.6
	6 in. o/c	Q	1 060	1 060	1 050	1 050	1 040	1 040	1 040	1 030	1 030
		G'	69.5	72.2	74.6	76.8	78.8	80.7	82.4	84.0	85.5

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.030 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
24/7	36 in. o/c	Q	360	350	330	310	300	290	270	260	250
		G'	30.0	29.7	29.5	29.1	28.8	28.4	27.9	27.5	27.1
	24 in. o/c	Q	380	360	350	330	320	300	290	280	270
		G'	30.1	29.9	29.6	29.3	29.0	28.6	28.2	27.7	27.3
	12 in. o/c	Q	440	420	400	380	370	360	350	340	330
		G'	30.5	30.4	30.1	29.9	29.5	29.2	28.8	28.5	28.1
	9 in. o/c	Q	470	450	440	420	410	390	380	370	360
		G'	30.8	30.7	30.5	30.2	29.9	29.6	29.3	28.9	28.6
	6 in. o/c	Q	550	530	510	490	480	470	460	450	440
		G'	31.3	31.2	31.1	30.9	30.7	30.4	30.1	29.8	29.5
24/5	36 in. o/c	Q	210	200	190	180	180	170	160	160	150
		G'	22.9	22.5	22.0	21.5	21.1	20.6	20.1	19.7	19.2
	24 in. o/c	Q	230	220	210	200	200	190	180	180	170
		G'	23.1	22.7	22.3	21.8	21.4	20.9	20.5	20.0	19.6
	12 in. o/c	Q	290	280	270	260	250	240	240	230	230
		G'	23.8	23.4	23.0	22.6	22.2	21.8	21.4	21.0	20.6
	9 in. o/c	Q	320	310	300	290	290	280	270	270	260
		G'	24.2	23.9	23.5	23.2	22.8	22.4	22.0	21.6	21.3
	6 in. o/c	Q	400	380	370	370	360	350	350	340	330
		G'	25.0	24.8	24.5	24.2	23.9	23.5	23.2	22.9	22.5
24/3	36 in. o/c	Q	170	160	150	150	140	140	130	130	120
		G'	6.9	7.1	7.3	7.4	7.5	7.6	7.7	7.7	7.8
	24 in. o/c	Q	190	180	170	170	160	150	150	150	140
		G'	7.0	7.2	7.3	7.5	7.6	7.7	7.8	7.8	7.9
	12 in. o/c	Q	240	230	230	220	210	210	200	200	200
		G'	7.1	7.3	7.5	7.7	7.8	7.9	8.0	8.1	8.2
	9 in. o/c	Q	280	270	260	260	250	250	240	240	230
		G'	7.2	7.4	7.6	7.8	7.9	8.1	8.2	8.3	8.4
	6 in. o/c	Q	350	340	340	330	320	320	310	310	300
		G'	7.3	7.6	7.8	8.0	8.2	8.4	8.5	8.7	8.8

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.036 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
24/7	36 in. o/c	Q	400	380	360	350	330	320	310	300	290
		G'	36.3	35.7	35.0	34.3	33.6	32.9	32.2	31.6	30.9
	24 in. o/c	Q	420	400	390	370	360	350	340	330	320
		G'	36.6	35.9	35.2	34.6	33.9	33.2	32.6	31.9	31.3
	12 in. o/c	Q	500	480	470	450	440	430	410	400	390
		G'	37.3	36.7	36.0	35.4	34.8	34.2	33.5	32.9	32.3
	9 in. o/c	Q	550	540	520	500	490	480	470	460	450
		G'	37.7	37.2	36.6	36.0	35.4	34.8	34.2	33.6	33.0
	6 in. o/c	Q	660	640	620	610	600	580	570	560	550
		G'	38.6	38.1	37.6	37.0	36.5	35.9	35.4	34.8	34.3
24/5	36 in. o/c	Q	240	230	220	210	200	200	190	180	180
		G'	26.3	25.6	24.9	24.2	23.6	23.0	22.4	21.8	21.2
	24 in. o/c	Q	260	250	240	240	230	220	220	210	200
		G'	26.6	26.0	25.3	24.6	24.0	23.4	22.8	22.2	21.7
	12 in. o/c	Q	340	330	320	310	310	300	290	290	280
		G'	27.7	27.0	26.4	25.8	25.2	24.6	24.0	23.5	23.0
	9 in. o/c	Q	390	380	380	370	360	350	350	340	340
		G'	28.3	27.7	27.1	26.5	25.9	25.4	24.9	24.4	23.9
	6 in. o/c	Q	500	490	480	470	460	460	450	450	440
		G'	29.6	29.0	28.5	27.9	27.4	26.9	26.4	26.0	25.5
24/3	36 in. o/c	Q	190	180	180	170	160	160	150	150	150
		G'	10.0	10.0	10.1	10.1	10.2	10.2	10.1	10.1	10.1
	24 in. o/c	Q	220	210	200	200	190	190	180	180	170
		G'	10.1	10.2	10.2	10.3	10.3	10.3	10.3	10.3	10.3
	12 in. o/c	Q	290	290	280	270	270	260	260	250	250
		G'	10.4	10.5	10.6	10.7	10.8	10.8	10.9	10.9	10.9
	9 in. o/c	Q	350	340	330	330	320	320	310	310	300
		G'	10.5	10.7	10.8	11.0	11.1	11.1	11.2	11.2	11.3
	6 in. o/c	Q	450	440	430	430	420	420	410	410	400
		G'	10.9	11.1	11.3	11.4	11.6	11.7	11.8	11.9	12.0

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.048 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"
24/7	36 in. o/c	Q	490	470	460	440	430	410	400	390	380
		G'	45.7	44.5	43.3	42.1	41.0	40.0	39.0	38.0	37.1
	24 in. o/c	Q	540	520	500	490	470	460	450	430	420
		G'	46.1	44.9	43.7	42.6	41.5	40.5	39.5	38.5	37.6
	12 in. o/c	Q	680	660	640	630	610	600	590	570	560
		G'	47.3	46.2	45.0	43.9	42.9	41.9	40.9	40.0	39.1
	9 in. o/c	Q	770	750	740	720	700	690	680	670	660
		G'	48.1	47.0	45.9	44.8	43.8	42.8	41.8	40.9	40.1
	6 in. o/c	Q	960	940	920	910	890	880	860	850	840
		G'	49.6	48.6	47.5	46.5	45.5	44.6	43.7	42.8	42.0
24/5	36 in. o/c	Q	300	290	280	280	270	260	250	250	240
		G'	31.4	30.3	29.4	28.5	27.6	26.8	26.0	25.3	24.6
	24 in. o/c	Q	350	340	330	320	310	310	300	290	290
		G'	31.9	30.9	29.9	29.0	28.2	27.4	26.6	25.9	25.2
	12 in. o/c	Q	490	480	470	460	450	450	440	430	430
		G'	33.4	32.4	31.5	30.7	29.8	29.1	28.3	27.6	27.0
	9 in. o/c	Q	580	570	560	560	550	540	530	530	520
		G'	34.4	33.5	32.6	31.7	30.9	30.2	29.5	28.8	28.2
	6 in. o/c	Q	770	760	750	740	730	730	720	710	710
		G'	36.3	35.5	34.6	33.8	33.1	32.4	31.7	31.0	30.4
24/3	36 in. o/c	Q	250	240	230	230	220	220	210	210	200
		G'	15.2	15.1	14.9	14.7	14.6	14.4	14.2	14.0	13.8
	24 in. o/c	Q	300	290	280	270	270	260	260	250	250
		G'	15.4	15.3	15.2	15.1	14.9	14.7	14.5	14.4	14.2
	12 in. o/c	Q	440	430	420	410	410	400	400	390	390
		G'	16.2	16.1	16.1	16.0	15.9	15.7	15.6	15.5	15.3
	9 in. o/c	Q	530	520	510	510	500	500	490	490	480
		G'	16.7	16.6	16.6	16.5	16.5	16.4	16.3	16.2	16.1
	6 in. o/c	Q	680	670	670	660	660	650	650	640	640
		G'	17.5	17.6	17.6	17.6	17.6	17.6	17.5	17.5	17.4

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.060 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: Button punch

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
24/7	36 in. o/c	Q	580	570	550	530	520	500	490	480	470
		G'	51.4	49.8	48.4	47.0	45.7	44.4	43.2	42.1	41.1
	24 in. o/c	Q	660	640	620	600	590	580	560	550	540
		G'	51.9	50.4	49.0	47.6	46.3	45.0	43.9	42.8	41.7
	12 in. o/c	Q	880	860	840	820	810	790	780	770	760
		G'	53.6	52.1	50.7	49.3	48.1	46.9	45.7	44.6	43.6
	9 in. o/c	Q	1 020	1 000	980	970	950	940	930	910	900
		G'	54.6	53.2	51.8	50.5	49.2	48.1	46.9	45.9	44.8
	6 in. o/c	Q	1 310	1 290	1 270	1 260	1 240	1 230	1 220	1 200	1 190
		G'	56.7	55.3	54.0	52.7	51.5	50.4	49.3	48.3	47.3
24/5	36 in. o/c	Q	370	360	350	350	340	330	320	320	310
		G'	34.2	33.0	32.0	31.0	30.0	29.1	28.3	27.5	26.8
	24 in. o/c	Q	450	440	430	420	410	400	400	390	380
		G'	34.8	33.7	32.7	31.7	30.7	29.8	29.0	28.2	27.5
	12 in. o/c	Q	660	650	640	640	630	620	610	610	600
		G'	36.8	35.7	34.7	33.7	32.8	31.9	31.1	30.4	29.6
	9 in. o/c	Q	810	800	790	780	770	770	760	750	750
		G'	38.1	37.0	36.0	35.0	34.1	33.3	32.5	31.8	31.1
	6 in. o/c	Q	1 100	1 090	1 080	1 070	1 060	1 050	1 040	1 040	1 030
		G'	40.6	39.6	38.6	37.7	36.8	36.0	35.2	34.5	33.8
24/3	36 in. o/c	Q	310	300	300	290	290	280	270	270	270
		G'	19.1	18.7	18.4	18.0	17.7	17.3	17.0	16.7	16.3
	24 in. o/c	Q	380	380	370	360	360	350	350	340	340
		G'	19.5	19.2	18.8	18.5	18.2	17.8	17.5	17.2	16.9
	12 in. o/c	Q	600	590	590	580	580	570	570	560	560
		G'	20.8	20.5	20.2	20.0	19.7	19.4	19.1	18.8	18.6
	9 in. o/c	Q	730	720	720	710	710	700	700	690	690
		G'	21.6	21.4	21.1	20.9	20.6	20.4	20.1	19.9	19.7
	6 in. o/c	Q	950	940	940	930	930	920	920	920	910
		G'	23.1	23.0	22.8	22.6	22.4	22.2	22.1	21.9	21.7

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.030 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
24/7	36 in. o/c	Q	410	390	380	360	350	340	330	320	310
		G'	31.5	31.5	31.4	31.3	31.1	31.0	30.8	30.5	30.3
	24 in. o/c	Q	470	450	430	420	400	390	380	370	360
		G'	32.7	32.8	32.9	32.9	32.8	32.8	32.7	32.5	32.4
	12 in. o/c	Q	630	610	590	580	570	560	550	540	530
		G'	35.7	36.1	36.5	36.8	37.0	37.2	37.4	37.6	37.7
	9 in. o/c	Q	740	720	700	690	680	670	650	650	640
		G'	37.3	37.9	38.4	38.9	39.3	39.6	40.0	40.2	40.5
	6 in. o/c	Q	940	930	910	900	880	870	860	850	840
		G'	39.9	40.8	41.5	42.2	42.9	43.5	44.0	44.5	45.0
24/5	36 in. o/c	Q	260	250	240	230	230	220	220	210	210
		G'	25.3	25.1	24.9	24.7	24.5	24.3	24.1	23.8	23.6
	24 in. o/c	Q	310	300	300	290	280	280	270	270	260
		G'	27.1	27.1	27.1	27.0	26.9	26.8	26.7	26.5	26.4
	12 in. o/c	Q	480	470	460	450	450	440	440	430	430
		G'	31.6	31.9	32.2	32.4	32.6	32.8	32.9	33.1	33.2
	9 in. o/c	Q	590	580	570	560	560	550	540	540	530
		G'	33.9	34.4	34.8	35.2	35.6	35.9	36.2	36.5	36.7
	6 in. o/c	Q	770	770	760	750	740	740	730	730	720
		G'	37.4	38.2	38.9	39.6	40.2	40.7	41.3	41.7	42.2
24/3	36 in. o/c	Q	210	210	200	200	190	190	180	180	180
		G'	7.4	7.6	7.9	8.1	8.3	8.5	8.7	8.9	9.1
	24 in. o/c	Q	270	260	260	250	250	240	240	240	230
		G'	7.6	7.9	8.2	8.5	8.8	9.0	9.3	9.5	9.7
	12 in. o/c	Q	420	410	410	400	400	400	390	390	390
		G'	8.1	8.5	8.9	9.3	9.6	10.0	10.3	10.6	10.9
	9 in. o/c	Q	500	500	490	490	480	480	470	470	470
		G'	8.4	8.8	9.2	9.6	9.9	10.3	10.7	11.0	11.4
	6 in. o/c	Q	630	630	620	620	620	610	610	610	610
		G'	8.6	9.1	9.5	9.9	10.4	10.8	11.2	11.6	12.0

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.036 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
24/7	36 in. o/c	Q	450	430	420	400	390	380	370	360	350
		G'	39.0	38.7	38.2	37.8	37.3	36.9	36.4	36.0	35.5
	24 in. o/c	Q	520	500	480	470	460	440	430	420	420
		G'	41.1	40.9	40.6	40.3	39.9	39.6	39.2	38.9	38.6
	12 in. o/c	Q	710	690	680	670	650	640	630	620	610
		G'	46.4	46.5	46.5	46.5	46.5	46.5	46.4	46.3	46.3
	9 in. o/c	Q	840	830	810	800	780	770	760	750	740
		G'	49.3	49.6	49.8	50.0	50.2	50.3	50.4	50.4	50.5
	6 in. o/c	Q	1 090	1 070	1 060	1 040	1 030	1 020	1 010	1 000	990
		G'	54.0	54.6	55.1	55.6	56.1	56.5	56.8	57.1	57.4
24/5	36 in. o/c	Q	290	280	270	270	260	250	250	240	240
		G'	30.2	29.8	29.3	28.9	28.5	28.2	27.8	27.4	27.1
	24 in. o/c	Q	360	350	340	330	330	320	310	310	300
		G'	33.0	32.8	32.5	32.2	31.9	31.6	31.4	31.1	30.8
	12 in. o/c	Q	550	540	540	530	520	520	510	510	500
		G'	40.1	40.2	40.3	40.3	40.3	40.3	40.3	40.3	40.2
	9 in. o/c	Q	680	670	670	660	650	650	640	640	630
		G'	43.9	44.2	44.4	44.6	44.8	45.0	45.1	45.2	45.3
	6 in. o/c	Q	910	900	890	890	880	870	870	860	860
		G'	50.0	50.5	51.1	51.6	52.0	52.4	52.8	53.2	53.5
24/3	36 in. o/c	Q	240	240	230	230	220	220	210	210	210
		G'	11.0	11.3	11.5	11.7	11.9	12.1	12.3	12.4	12.5
	24 in. o/c	Q	310	300	300	290	290	280	280	280	270
		G'	11.7	12.0	12.3	12.6	12.9	13.1	13.4	13.6	13.8
	12 in. o/c	Q	490	480	480	470	470	470	460	460	450
		G'	12.9	13.4	13.9	14.3	14.7	15.1	15.5	15.9	16.2
	9 in. o/c	Q	590	580	580	570	570	560	560	560	560
		G'	13.5	14.0	14.5	15.0	15.5	15.9	16.4	16.8	17.2
	6 in. o/c	Q	750	740	740	740	730	730	730	720	720
		G'	14.1	14.7	15.3	15.9	16.5	17.0	17.5	18.1	18.6

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.048 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"
24/7	36 in. o/c	Q	550	530	520	500	490	470	460	450	440
		G'	50.6	49.7	48.8	47.9	47.0	46.2	45.4	44.7	44.0
	24 in. o/c	Q	640	620	600	590	570	560	550	540	530
		G'	54.2	53.4	52.6	51.9	51.1	50.4	49.7	49.1	48.5
	12 in. o/c	Q	900	880	870	850	840	820	810	800	790
		G'	63.6	63.2	62.8	62.3	61.9	61.5	61.1	60.7	60.3
	9 in. o/c	Q	1 080	1 060	1 040	1 030	1 010	1 000	990	980	970
		G'	69.0	68.8	68.6	68.3	68.1	67.8	67.6	67.3	67.1
	6 in. o/c	Q	1 400	1 390	1 370	1 350	1 340	1 330	1 320	1 310	1 300
		G'	78.1	78.2	78.4	78.4	78.5	78.6	78.6	78.6	78.6
24/5	36 in. o/c	Q	360	350	340	340	330	320	320	310	310
		G'	37.6	36.8	36.2	35.5	34.9	34.3	33.7	33.2	32.7
	24 in. o/c	Q	450	440	430	420	420	410	400	400	390
		G'	42.1	41.5	40.9	40.3	39.8	39.3	38.8	38.4	38.0
	12 in. o/c	Q	710	700	690	690	680	670	670	660	660
		G'	53.7	53.5	53.2	52.9	52.7	52.4	52.2	51.9	51.7
	9 in. o/c	Q	890	880	870	860	850	850	840	830	830
		G'	60.3	60.2	60.1	60.0	59.9	59.8	59.7	59.6	59.5
	6 in. o/c	Q	1 190	1 180	1 170	1 160	1 150	1 150	1 140	1 140	1 130
		G'	71.1	71.4	71.6	71.8	72.0	72.1	72.3	72.4	72.5
24/3	36 in. o/c	Q	310	300	290	290	280	280	270	270	270
		G'	18.1	18.2	18.3	18.4	18.5	18.6	18.6	18.7	18.7
	24 in. o/c	Q	390	390	380	380	370	370	360	360	350
		G'	19.8	20.1	20.3	20.6	20.8	20.9	21.1	21.3	21.4
	12 in. o/c	Q	640	630	620	620	610	610	600	600	600
		G'	23.5	24.0	24.5	25.0	25.5	25.9	26.3	26.7	27.1
	9 in. o/c	Q	770	760	750	750	750	740	740	730	730
		G'	25.1	25.8	26.4	27.0	27.6	28.2	28.7	29.2	29.7
	6 in. o/c	Q	980	970	970	970	960	960	960	960	950
		G'	27.3	28.1	29.0	29.7	30.5	31.2	32.0	32.7	33.3

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.060 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
24/7	36 in. o/c	Q	640	620	600	590	570	560	550	540	520
		G'	58.3	57.1	55.9	54.8	53.7	52.7	51.7	50.8	49.9
	24 in. o/c	Q	750	730	710	700	680	670	660	640	630
		G'	63.3	62.2	61.1	60.1	59.1	58.2	57.3	56.5	55.7
	12 in. o/c	Q	1 070	1 060	1 040	1 020	1 010	1 000	980	970	960
		G'	76.6	75.9	75.1	74.4	73.7	73.0	72.4	71.8	71.2
	9 in. o/c	Q	1 290	1 270	1 260	1 240	1 230	1 210	1 200	1 190	1 180
		G'	84.4	83.8	83.3	82.7	82.2	81.7	81.2	80.7	80.3
	6 in. o/c	Q	1 700	1 680	1 670	1 650	1 640	1 620	1 610	1 600	1 590
		G'	97.9	97.7	97.4	97.2	96.9	96.7	96.5	96.2	96.0
24/5	36 in. o/c	Q	430	420	410	400	390	390	380	380	370
		G'	42.5	41.6	40.8	40.0	39.3	38.6	38.0	37.4	36.8
	24 in. o/c	Q	540	530	520	510	500	500	490	480	480
		G'	48.4	47.6	46.9	46.2	45.5	44.9	44.4	43.8	43.3
	12 in. o/c	Q	860	850	850	840	830	820	820	810	810
		G'	64.0	63.5	63.1	62.6	62.2	61.8	61.4	61.0	60.7
	9 in. o/c	Q	1 080	1 070	1 060	1 050	1 040	1 040	1 030	1 020	1 020
		G'	73.1	72.8	72.4	72.1	71.8	71.5	71.3	71.0	70.8
	6 in. o/c	Q	1 450	1 450	1 440	1 430	1 420	1 420	1 410	1 400	1 400
		G'	88.6	88.5	88.5	88.4	88.4	88.3	88.3	88.2	88.2
24/3	36 in. o/c	Q	360	360	350	350	340	340	330	330	320
		G'	24.2	24.2	24.2	24.1	24.1	24.0	23.9	23.9	23.8
	24 in. o/c	Q	470	470	460	460	450	450	440	440	430
		G'	27.5	27.6	27.7	27.8	27.8	27.9	28.0	28.0	28.0
	12 in. o/c	Q	780	770	760	760	750	750	740	740	740
		G'	34.6	35.1	35.6	36.0	36.4	36.7	37.1	37.4	37.7
	9 in. o/c	Q	940	930	930	920	920	910	910	910	900
		G'	38.0	38.7	39.3	39.9	40.5	41.0	41.5	42.0	42.5
	6 in. o/c	Q	1 200	1 200	1 200	1 190	1 190	1 190	1 180	1 180	1 180
		G'	42.9	43.8	44.8	45.6	46.5	47.3	48.0	48.7	49.5

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.030 in.
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
24/7	36 in. o/c	Q	310	300	290	280	270	260	250	250	240
		G'	30.4	30.4	30.3	30.2	30.0	29.8	29.6	29.3	29.1
	24 in. o/c	Q	360	350	340	330	320	320	310	300	300
		G'	31.7	31.8	31.9	31.9	31.8	31.7	31.6	31.5	31.3
	12 in. o/c	Q	530	520	500	500	490	480	470	470	460
		G'	35.0	35.4	35.7	36.0	36.3	36.5	36.6	36.7	36.8
	9 in. o/c	Q	630	620	610	600	590	590	580	570	570
		G'	36.7	37.3	37.8	38.2	38.6	39.0	39.3	39.5	39.8
	6 in. o/c	Q	810	800	790	780	770	760	760	750	750
		G'	39.5	40.3	41.1	41.8	42.4	43.0	43.5	44.0	44.5
24/5	36 in. o/c	Q	200	200	190	190	180	180	180	170	170
		G'	24.3	24.2	24.0	23.8	23.6	23.3	23.1	22.9	22.6
	24 in. o/c	Q	260	250	250	240	240	230	230	230	220
		G'	26.3	26.3	26.2	26.1	26.0	25.9	25.8	25.7	25.5
	12 in. o/c	Q	420	410	410	410	400	400	390	390	390
		G'	31.0	31.3	31.6	31.8	32.0	32.2	32.3	32.4	32.6
	9 in. o/c	Q	510	510	500	500	500	490	490	490	480
		G'	33.4	33.9	34.3	34.7	35.1	35.4	35.7	36.0	36.2
	6 in. o/c	Q	680	680	670	670	670	660	660	660	650
		G'	37.0	37.8	38.5	39.2	39.8	40.4	40.9	41.4	41.8
24/3	36 in. o/c	Q	170	170	160	160	160	150	150	150	150
		G'	7.3	7.5	7.8	8.0	8.2	8.4	8.6	8.7	8.9
	24 in. o/c	Q	230	220	220	210	210	210	210	200	200
		G'	7.6	7.9	8.1	8.4	8.7	8.9	9.2	9.4	9.6
	12 in. o/c	Q	360	350	350	350	350	340	340	340	340
		G'	8.1	8.5	8.9	9.2	9.6	9.9	10.2	10.6	10.9
	9 in. o/c	Q	420	420	420	420	420	410	410	410	410
		G'	8.3	8.7	9.1	9.5	9.9	10.3	10.7	11.0	11.4
	6 in. o/c	Q	520	520	520	520	520	520	520	510	510
		G'	8.6	9.1	9.5	9.9	10.4	10.8	11.2	11.6	12.0

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.036 in.
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
24/7	36 in. o/c	Q	340	330	320	310	300	300	290	280	280
		G'	37.5	37.1	36.7	36.2	35.8	35.3	34.9	34.4	34.0
	24 in. o/c	Q	410	400	390	380	370	360	350	350	340
		G'	39.7	39.4	39.1	38.8	38.5	38.2	37.8	37.5	37.1
	12 in. o/c	Q	610	590	580	570	570	560	550	540	540
		G'	45.3	45.4	45.4	45.4	45.4	45.4	45.3	45.2	45.1
	9 in. o/c	Q	730	720	710	700	690	690	680	670	670
		G'	48.3	48.6	48.8	49.0	49.2	49.3	49.4	49.5	49.5
	6 in. o/c	Q	940	930	920	910	910	900	890	890	880
		G'	53.2	53.9	54.4	54.9	55.3	55.7	56.1	56.4	56.7
24/5	36 in. o/c	Q	230	220	220	210	210	210	200	200	200
		G'	28.9	28.5	28.1	27.7	27.3	26.9	26.6	26.2	25.9
	24 in. o/c	Q	290	290	280	280	280	270	270	270	260
		G'	31.9	31.6	31.3	31.1	30.8	30.5	30.3	30.0	29.8
	12 in. o/c	Q	490	490	480	480	470	470	460	460	460
		G'	39.3	39.4	39.4	39.4	39.5	39.5	39.5	39.4	39.4
	9 in. o/c	Q	600	600	590	590	590	580	580	580	570
		G'	43.2	43.5	43.7	43.9	44.1	44.3	44.4	44.5	44.6
	6 in. o/c	Q	810	800	800	790	790	790	790	780	780
		G'	49.4	50.0	50.5	51.0	51.5	51.9	52.3	52.6	53.0
24/3	36 in. o/c	Q	200	190	190	190	180	180	180	180	170
		G'	10.8	11.1	11.3	11.5	11.7	11.8	12.0	12.1	12.3
	24 in. o/c	Q	260	260	250	250	250	250	240	240	240
		G'	11.5	11.8	12.1	12.4	12.7	12.9	13.2	13.4	13.6
	12 in. o/c	Q	420	420	410	410	410	410	410	400	400
		G'	12.9	13.3	13.8	14.2	14.6	15.0	15.4	15.8	16.1
	9 in. o/c	Q	500	500	500	500	490	490	490	490	490
		G'	13.4	13.9	14.4	14.9	15.4	15.9	16.3	16.7	17.2
	6 in. o/c	Q	620	620	620	620	620	620	620	610	610
		G'	14.1	14.7	15.3	15.9	16.4	17.0	17.5	18.0	18.5

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.048 in.
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"
24/7	36 in. o/c	Q	430	410	400	390	380	370	370	360	350
		G'	48.2	47.3	46.4	45.6	44.8	44.0	43.3	42.5	41.9
	24 in. o/c	Q	510	500	490	480	470	460	450	450	440
		G'	52.0	51.2	50.5	49.7	49.0	48.4	47.7	47.1	46.5
	12 in. o/c	Q	780	760	750	740	730	720	720	710	700
		G'	61.8	61.4	61.0	60.6	60.2	59.8	59.4	59.0	58.7
	9 in. o/c	Q	950	930	920	910	900	890	890	880	870
		G'	67.4	67.2	67.0	66.8	66.5	66.3	66.1	65.9	65.6
	6 in. o/c	Q	1 230	1 220	1 210	1 200	1 190	1 180	1 170	1 170	1 160
		G'	76.8	77.0	77.1	77.2	77.3	77.3	77.4	77.4	77.4
24/5	36 in. o/c	Q	290	290	280	280	270	270	260	260	260
		G'	35.8	35.1	34.5	33.8	33.3	32.7	32.2	31.7	31.2
	24 in. o/c	Q	380	370	370	360	360	350	350	350	340
		G'	40.4	39.9	39.3	38.8	38.3	37.9	37.4	37.0	36.6
	12 in. o/c	Q	640	630	630	620	620	610	610	610	600
		G'	52.4	52.2	51.9	51.7	51.4	51.2	51.0	50.8	50.6
	9 in. o/c	Q	790	790	780	780	770	770	760	760	760
		G'	59.1	59.1	59.0	58.9	58.8	58.7	58.6	58.6	58.5
	6 in. o/c	Q	1 060	1 060	1 050	1 050	1 040	1 040	1 040	1 030	1 030
		G'	70.2	70.5	70.7	70.9	71.1	71.3	71.4	71.6	71.7
24/3	36 in. o/c	Q	250	250	240	240	240	240	230	230	230
		G'	17.6	17.7	17.8	17.9	18.0	18.0	18.1	18.1	18.2
	24 in. o/c	Q	340	340	330	330	330	320	320	320	320
		G'	19.4	19.7	19.9	20.1	20.3	20.5	20.7	20.8	21.0
	12 in. o/c	Q	550	550	550	540	540	540	530	530	530
		G'	23.2	23.8	24.3	24.8	25.2	25.7	26.1	26.5	26.9
	9 in. o/c	Q	660	660	660	650	650	650	650	650	640
		G'	24.9	25.6	26.2	26.8	27.4	28.0	28.5	29.0	29.5
	6 in. o/c	Q	820	820	820	820	820	820	810	810	810
		G'	27.2	28.0	28.8	29.6	30.4	31.1	31.8	32.5	33.2

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.060 in.
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
24/7	36 in. o/c	Q	500	490	480	470	460	450	440	430	420
		G'	55.4	54.2	53.1	52.0	51.0	50.0	49.1	48.3	47.4
	24 in. o/c	Q	610	600	590	580	570	560	550	540	530
		G'	60.5	59.4	58.4	57.5	56.5	55.7	54.8	54.1	53.3
	12 in. o/c	Q	940	930	910	900	890	880	880	870	860
		G'	74.3	73.5	72.8	72.1	71.5	70.9	70.3	69.7	69.2
	9 in. o/c	Q	1 150	1 140	1 120	1 110	1 100	1 090	1 080	1 080	1 070
		G'	82.3	81.7	81.2	80.7	80.2	79.7	79.3	78.8	78.4
	6 in. o/c	Q	1 500	1 490	1 480	1 470	1 460	1 450	1 440	1 440	1 430
		G'	96.1	95.9	95.7	95.5	95.3	95.1	94.9	94.7	94.5
24/5	36 in. o/c	Q	350	340	340	330	330	320	320	320	310
		G'	40.4	39.6	38.8	38.1	37.4	36.8	36.2	35.7	35.1
	24 in. o/c	Q	460	450	450	440	440	430	430	430	420
		G'	46.4	45.7	45.0	44.4	43.8	43.2	42.7	42.2	41.7
	12 in. o/c	Q	780	780	770	770	760	760	750	750	740
		G'	62.4	61.9	61.5	61.1	60.7	60.3	60.0	59.6	59.3
	9 in. o/c	Q	970	970	960	960	950	950	940	940	940
		G'	71.6	71.3	71.0	70.8	70.5	70.2	70.0	69.8	69.5
	6 in. o/c	Q	1 310	1 310	1 300	1 300	1 290	1 290	1 290	1 280	1 280
		G'	87.4	87.4	87.4	87.3	87.3	87.3	87.2	87.2	87.2
24/3	36 in. o/c	Q	300	300	300	290	290	290	290	280	280
		G'	23.4	23.4	23.4	23.3	23.3	23.2	23.1	23.1	23.0
	24 in. o/c	Q	410	410	410	400	400	400	390	390	390
		G'	26.8	26.9	27.0	27.1	27.2	27.2	27.3	27.3	27.4
	12 in. o/c	Q	680	680	670	670	670	660	660	660	660
		G'	34.2	34.7	35.1	35.5	35.9	36.3	36.6	37.0	37.3
	9 in. o/c	Q	820	810	810	810	810	800	800	800	800
		G'	37.7	38.3	39.0	39.6	40.1	40.7	41.2	41.6	42.1
	6 in. o/c	Q	1 020	1 020	1 010	1 010	1 010	1 010	1 010	1 010	1 010
		G'	42.7	43.6	44.5	45.4	46.2	47.0	47.8	48.5	49.2

Factored Shear Resistance Q (plf) and Stiffness Coefficient G' (10^3 lb./in.)

Imperial

THICKNESS = 0.015 in.
ϕ = 0.50

SUPPORT FASTENING: Weld with Washer
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			2'-0"	2'-2"	2'-4"	2'-6"	2'-8"	2'-10"	3'-0"	3'-2"	3'-4"
30/7	36 in. o/c	Q	540	510	480	450	430	410	390	360	320
		G'	5.3	5.7	6.1	6.5	6.9	7.2	7.6	7.9	8.3
	24 in. o/c	Q	560	530	500	480	450	430	400	360	320
		G'	5.3	5.7	6.1	6.5	6.9	7.3	7.6	7.9	8.3
	12 in. o/c	Q	620	590	570	540	510	450	400	360	320
		G'	5.4	5.8	6.2	6.5	6.9	7.3	7.7	8.0	8.4
	9 in. o/c	Q	660	630	610	580	510	450	400	360	320
		G'	5.4	5.8	6.2	6.6	6.9	7.3	7.7	8.1	8.4
	6 in. o/c	Q	730	710	670	580	510	450	400	360	320
		G'	5.4	5.8	6.2	6.6	7.0	7.4	7.7	8.1	8.5
30/4	36 in. o/c	Q	350	340	320	300	290	280	270	260	250
		G'	1.7	1.8	1.9	2.0	2.2	2.3	2.4	2.5	2.7
	24 in. o/c	Q	370	350	340	320	310	300	290	280	270
		G'	1.7	1.8	1.9	2.0	2.2	2.3	2.4	2.6	2.7
	12 in. o/c	Q	420	400	390	380	370	360	350	340	320
		G'	1.7	1.8	1.9	2.1	2.2	2.3	2.4	2.6	2.7
	9 in. o/c	Q	450	430	420	410	400	390	380	360	320
		G'	1.7	1.8	1.9	2.1	2.2	2.3	2.4	2.6	2.7
	6 in. o/c	Q	490	480	470	460	450	450	400	360	320
		G'	1.7	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.7

THICKNESS = 0.018 in.
ϕ = 0.50

SUPPORT FASTENING: Weld with Washer
SIDE-LAP FASTENING: #10 screw

SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			2'-0"	2'-2"	2'-4"	2'-6"	2'-8"	2'-10"	3'-0"	3'-2"	3'-4"
30/7	36 in. o/c	Q	710	660	620	590	560	530	510	480	430
		G'	8.2	8.8	9.4	9.9	10.5	11.0	11.5	11.9	12.4
	24 in. o/c	Q	730	690	650	620	590	560	530	480	430
		G'	8.3	8.8	9.4	10.0	10.5	11.0	11.5	12.0	12.5
	12 in. o/c	Q	810	770	730	700	670	600	530	480	430
		G'	8.3	8.9	9.5	10.0	10.6	11.1	11.6	12.1	12.6
	9 in. o/c	Q	850	810	780	750	670	600	530	480	430
		G'	8.3	8.9	9.5	10.1	10.6	11.2	11.7	12.2	12.7
	6 in. o/c	Q	940	900	870	770	670	600	530	480	430
		G'	8.3	8.9	9.5	10.1	10.7	11.3	11.8	12.3	12.9
30/4	36 in. o/c	Q	460	440	420	400	380	360	350	340	320
		G'	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.1
	24 in. o/c	Q	480	460	440	420	400	390	370	360	350
		G'	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.1
	12 in. o/c	Q	540	520	500	480	470	460	440	430	420
		G'	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2
	9 in. o/c	Q	570	550	540	520	510	500	490	480	430
		G'	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2
	6 in. o/c	Q	630	610	600	590	580	570	530	480	430
		G'	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2

FACTORED SHEAR RESISTANCE Q (plf) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

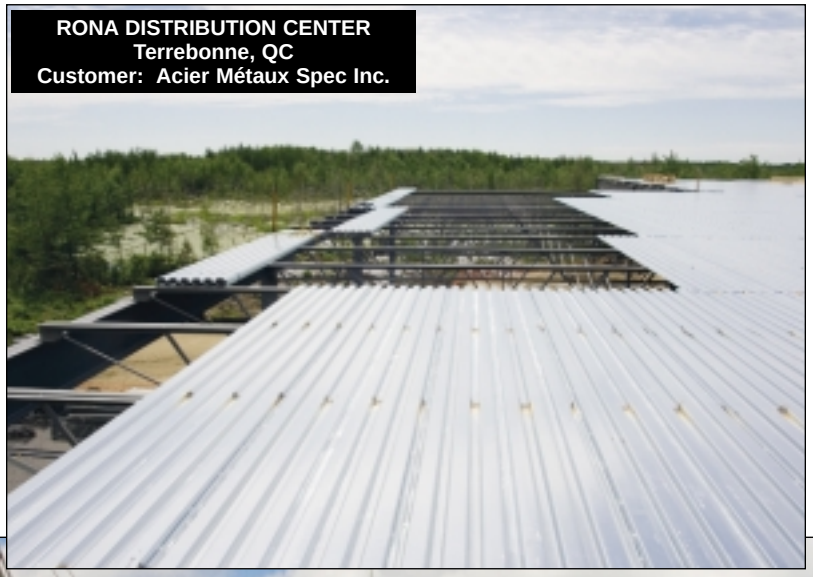
THICKNESS = 0.024 in.
ϕ = 0.50

SUPPORT FASTENING: Weld with Washer
SIDE-LAP FASTENING: #10 screw

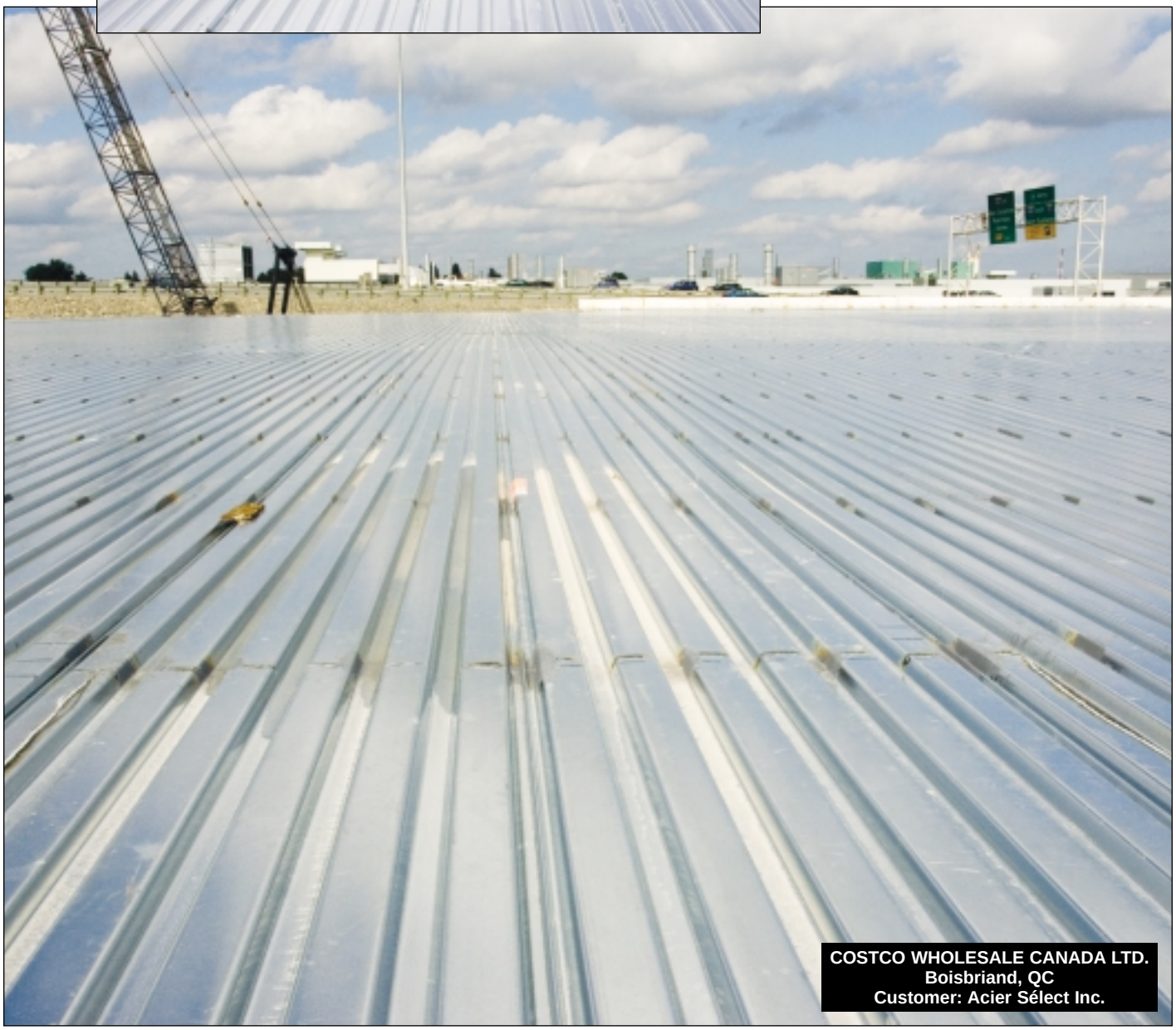
SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
			2'-0"	2'-2"	2'-4"	2'-6"	2'-8"	2'-10"	3'-0"	3'-2"	3'-4"
30/7	36 in. o/c	Q	1 080	1 020	960	910	860	820	780	740	660
		G'	16.0	17.0	17.9	18.8	19.7	20.5	21.3	22.0	22.7
	24 in. o/c	Q	1 120	1 050	990	940	900	860	820	740	660
		G'	16.0	17.0	18.0	18.9	19.8	20.6	21.4	22.2	22.9
	12 in. o/c	Q	1 220	1 150	1 100	1 050	1 010	920	820	740	660
		G'	16.1	17.1	18.2	19.1	20.0	20.9	21.8	22.6	23.3
	9 in. o/c	Q	1 280	1 220	1 170	1 120	1 040	920	820	740	660
		G'	16.2	17.2	18.3	19.2	20.2	21.1	22.0	22.8	23.6
	6 in. o/c	Q	1 400	1 340	1 290	1 190	1 040	920	820	740	660
		G'	16.3	17.4	18.4	19.4	20.4	21.4	22.3	23.2	24.0
30/4	36 in. o/c	Q	710	670	640	610	580	560	530	510	490
		G'	5.2	5.6	6.0	6.3	6.7	7.0	7.4	7.7	8.1
	24 in. o/c	Q	740	700	670	640	610	590	570	550	530
		G'	5.2	5.6	6.0	6.4	6.7	7.1	7.4	7.8	8.1
	12 in. o/c	Q	810	780	750	730	700	680	660	640	630
		G'	5.2	5.6	6.0	6.4	6.8	7.2	7.5	7.9	8.2
	9 in. o/c	Q	860	830	800	780	760	740	720	700	660
		G'	5.2	5.6	6.0	6.4	6.8	7.2	7.6	7.9	8.3
	6 in. o/c	Q	940	910	890	870	850	840	820	740	660
		G'	5.3	5.7	6.1	6.5	6.9	7.2	7.6	8.0	8.4

- Based on material according to ASTM A 653, minimum yield strength of 60 ksi.

CONCRETE FILLED DECKS DIAPHRAGM



RONA DISTRIBUTION CENTER
Terrebonne, QC
Customer: Acier Métaux Spec Inc.



COSTCO WHOLESALE CANADA LTD.
Boisbriand, QC
Customer: Acier Sélect Inc.

FACTORED SHEAR RESISTANCE Q (lb./in.) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.030 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: Button punch

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
P-3615 P-3623 2-1/2 in. Normal Weight Concrete	36/4	24 in. o/c	Q	3 110	3 040	2 990	2 950	2 920	2 890	2 870	2 850	2 830
			G'	2 464	2 455	2 448	2 443	2 438	2 434	2 430	2 427	2 424
		12 in. o/c	Q	3 170	3 100	3 050	3 010	2 970	2 950	2 920	2 900	2 890
			G'	2 465	2 457	2 450	2 444	2 439	2 435	2 432	2 429	2 426
		9 in. o/c	Q	3 210	3 140	3 080	3 040	3 010	2 980	2 960	2 940	2 920
			G'	2 466	2 458	2 451	2 445	2 440	2 436	2 433	2 430	2 427
		6 in. o/c	Q	3 280	3 210	3 160	3 110	3 080	3 050	3 030	3 010	3 000
			G'	2 467	2 459	2 453	2 447	2 443	2 439	2 435	2 432	2 429
P-3615 P-3623 2-1/2 in. Lightweight Concrete	36/4	24 in. o/c	Q	2 540	2 470	2 410	2 370	2 340	2 310	2 290	2 270	2 260
			G'	2 994	2 985	2 978	2 973	2 968	2 964	2 960	2 957	2 954
		12 in. o/c	Q	2 590	2 520	2 470	2 430	2 390	2 370	2 340	2 330	2 310
			G'	2 995	2 987	2 980	2 974	2 969	2 965	2 962	2 959	2 956
		9 in. o/c	Q	2 630	2 560	2 500	2 460	2 430	2 400	2 380	2 360	2 350
			G'	2 996	2 988	2 981	2 975	2 970	2 966	2 963	2 960	2 957
		6 in. o/c	Q	2 700	2 630	2 580	2 540	2 500	2 480	2 450	2 430	2 420
			G'	2 997	2 989	2 983	2 977	2 973	2 969	2 965	2 962	2 959

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"
P-2432 2-1/2 in. Normal Weight Concrete	24/3	24 in. o/c	Q	2 810	2 800	2 790	2 780	2 770	2 760	2 750	2 750	2 740
			G'	2 402	2 401	2 399	2 398	2 397	2 396	2 395	2 395	2 394
		12 in. o/c	Q	2 870	2 850	2 840	2 830	2 820	2 820	2 810	2 800	2 800
			G'	2 404	2 402	2 401	2 400	2 399	2 398	2 397	2 396	2 396
		9 in. o/c	Q	2 900	2 890	2 880	2 870	2 860	2 850	2 850	2 840	2 830
			G'	2 405	2 403	2 402	2 401	2 400	2 399	2 398	2 397	2 397
		6 in. o/c	Q	2 970	2 960	2 950	2 940	2 930	2 930	2 920	2 910	2 910
			G'	2 407	2 405	2 404	2 403	2 402	2 401	2 400	2 399	2 399
P-2432 2-1/2 in. Lightweight Concrete	24/3	24 in. o/c	Q	2 230	2 220	2 210	2 200	2 190	2 180	2 180	2 170	2 160
			G'	2 932	2 931	2 929	2 928	2 927	2 926	2 925	2 925	2 924
		12 in. o/c	Q	2 290	2 270	2 260	2 250	2 250	2 240	2 230	2 220	2 220
			G'	2 934	2 932	2 931	2 930	2 929	2 928	2 927	2 926	2 926
		9 in. o/c	Q	2 320	2 310	2 300	2 290	2 280	2 270	2 270	2 260	2 250
			G'	2 935	2 933	2 932	2 931	2 930	2 929	2 928	2 927	2 927
		6 in. o/c	Q	2 400	2 380	2 370	2 360	2 350	2 350	2 340	2 330	2 330
			G'	2 937	2 935	2 934	2 933	2 932	2 931	2 930	2 929	2 929

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (lb./in.) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.036 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: Button punch

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"
P-3615 P-3623 2-1/2 in. Normal Weight Concrete	36/4	24 in. o/c	Q	3 080	3 030	2 990	2 960	2 930	2 910	2 890	2 880	2 860
			G'	2 457	2 451	2 445	2 440	2 436	2 433	2 429	2 427	2 424
		12 in. o/c	Q	3 160	3 110	3 070	3 040	3 010	2 990	2 970	2 960	2 940
			G'	2 459	2 453	2 447	2 442	2 438	2 435	2 432	2 429	2 426
		9 in. o/c	Q	3 210	3 160	3 120	3 090	3 070	3 040	3 020	3 010	2 990
			G'	2 460	2 454	2 448	2 444	2 440	2 436	2 433	2 430	2 428
		6 in. o/c	Q	3 310	3 270	3 230	3 200	3 170	3 150	3 130	3 110	3 100
			G'	2 462	2 456	2 451	2 446	2 442	2 439	2 436	2 433	2 431
P-3615 P-3623 2-1/2 in. Lightweight Concrete	36/4	24 in. o/c	Q	2 500	2 450	2 410	2 380	2 360	2 330	2 320	2 300	2 280
			G'	2 987	2 981	2 975	2 970	2 966	2 963	2 959	2 957	2 954
		12 in. o/c	Q	2 580	2 530	2 490	2 460	2 430	2 410	2 390	2 380	2 360
			G'	2 989	2 983	2 977	2 972	2 968	2 965	2 961	2 959	2 956
		9 in. o/c	Q	2 630	2 580	2 540	2 510	2 490	2 460	2 450	2 430	2 420
			G'	2 990	2 984	2 978	2 974	2 970	2 966	2 963	2 960	2 958
		6 in. o/c	Q	2 740	2 690	2 650	2 620	2 590	2 570	2 550	2 530	2 520
			G'	2 992	2 986	2 981	2 976	2 972	2 969	2 966	2 963	2 961

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
P-2432 2-1/2 in. Normal Weight Concrete	24/3	24 in. o/c	Q	2 840	2 830	2 820	2 810	2 800	2 790	2 790	2 780	2 780
			G'	2 402	2 401	2 400	2 398	2 398	2 397	2 396	2 395	2 394
		12 in. o/c	Q	2 920	2 910	2 900	2 890	2 880	2 870	2 870	2 860	2 850
			G'	2 404	2 402	2 401	2 400	2 399	2 398	2 398	2 397	2 396
		9 in. o/c	Q	2 970	2 960	2 950	2 940	2 930	2 920	2 920	2 910	2 910
			G'	2 405	2 404	2 402	2 401	2 400	2 400	2 399	2 398	2 397
		6 in. o/c	Q	3 070	3 060	3 050	3 040	3 040	3 030	3 020	3 020	3 010
			G'	2 407	2 406	2 405	2 404	2 403	2 402	2 401	2 400	2 400
P-2432 2-1/2 in. Lightweight Concrete	24/3	24 in. o/c	Q	2 260	2 250	2 240	2 230	2 220	2 210	2 210	2 200	2 200
			G'	2 932	2 931	2 930	2 928	2 927	2 927	2 926	2 925	2 924
		12 in. o/c	Q	2 340	2 330	2 320	2 310	2 300	2 290	2 290	2 280	2 280
			G'	2 934	2 932	2 931	2 930	2 929	2 928	2 928	2 927	2 926
		9 in. o/c	Q	2 390	2 380	2 370	2 360	2 350	2 350	2 340	2 330	2 330
			G'	2 935	2 934	2 932	2 931	2 930	2 930	2 929	2 928	2 927
		6 in. o/c	Q	2 500	2 480	2 470	2 470	2 460	2 450	2 440	2 440	2 430
			G'	2 937	2 936	2 935	2 934	2 933	2 932	2 931	2 930	2 930

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (lb./in.) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.048 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: Button punch

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"
P-3615 P-3623 2-1/2 in. Normal Weight Concrete	36/4	24 in. o/c	Q	3 150	3 110	3 070	3 050	3 020	3 000	2 980	2 970	2 950
			G'	2 458	2 453	2 447	2 443	2 439	2 436	2 433	2 430	2 427
		12 in. o/c	Q	3 290	3 250	3 210	3 180	3 160	3 140	3 120	3 110	3 090
			G'	2 461	2 455	2 450	2 446	2 442	2 438	2 435	2 433	2 430
		9 in. o/c	Q	3 380	3 340	3 310	3 280	3 250	3 230	3 210	3 200	3 180
			G'	2 462	2 457	2 452	2 447	2 443	2 440	2 437	2 434	2 432
		6 in. o/c	Q	3 560	3 530	3 490	3 460	3 440	3 420	3 400	3 380	3 370
			G'	2 465	2 460	2 455	2 451	2 447	2 444	2 441	2 438	2 436
P-3615 P-3623 2-1/2 in. Lightweight Concrete	36/4	24 in. o/c	Q	2 570	2 530	2 490	2 470	2 440	2 420	2 400	2 390	2 370
			G'	2 988	2 983	2 977	2 973	2 969	2 966	2 963	2 960	2 957
		12 in. o/c	Q	2 710	2 670	2 630	2 610	2 580	2 560	2 540	2 530	2 510
			G'	2 991	2 985	2 980	2 976	2 972	2 968	2 965	2 963	2 960
		9 in. o/c	Q	2 800	2 760	2 730	2 700	2 670	2 650	2 640	2 620	2 610
			G'	2 992	2 986	2 982	2 977	2 973	2 970	2 967	2 964	2 962
		6 in. o/c	Q	2 990	2 950	2 910	2 890	2 860	2 840	2 820	2 810	2 790
			G'	2 995	2 990	2 985	2 981	2 977	2 974	2 971	2 968	2 966

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
P-2432 2-1/2 in. Normal Weight Concrete	24/3	24 in. o/c	Q	2 920	2 910	2 900	2 890	2 880	2 880	2 870	2 860	2 860
			G'	2 404	2 402	2 401	2 400	2 399	2 398	2 398	2 397	2 396
		12 in. o/c	Q	3 060	3 050	3 040	3 030	3 020	3 020	3 010	3 000	3 000
			G'	2 406	2 404	2 403	2 402	2 401	2 400	2 400	2 399	2 398
		9 in. o/c	Q	3 160	3 150	3 140	3 130	3 120	3 110	3 100	3 100	3 090
			G'	2 407	2 406	2 405	2 404	2 403	2 402	2 401	2 400	2 400
		6 in. o/c	Q	3 340	3 330	3 320	3 310	3 300	3 300	3 290	3 280	3 280
			G'	2 410	2 408	2 407	2 406	2 405	2 405	2 404	2 403	2 402
P-2432 2-1/2 in. Lightweight Concrete	24/3	24 in. o/c	Q	2 350	2 330	2 320	2 310	2 310	2 300	2 290	2 280	2 280
			G'	2 934	2 932	2 931	2 930	2 929	2 928	2 928	2 927	2 926
		12 in. o/c	Q	2 480	2 470	2 460	2 450	2 450	2 440	2 430	2 420	2 420
			G'	2 936	2 934	2 933	2 932	2 931	2 930	2 930	2 929	2 928
		9 in. o/c	Q	2 580	2 570	2 560	2 550	2 540	2 530	2 520	2 520	2 510
			G'	2 937	2 936	2 935	2 934	2 933	2 932	2 931	2 930	2 930
		6 in. o/c	Q	2 760	2 750	2 740	2 730	2 720	2 720	2 710	2 700	2 700
			G'	2 940	2 938	2 937	2 936	2 935	2 935	2 934	2 933	2 932

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (lb./in.) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.030 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
P-3606 P-3623 2-1/2 in. Normal Weight Concrete	36/4	24 in. o/c	Q	3 150	3 090	3 050	3 010	2 980	2 960	2 940	2 930	2 910
			G'	2 467	2 461	2 455	2 450	2 446	2 443	2 440	2 438	2 435
		12 in. o/c	Q	3 310	3 260	3 210	3 180	3 150	3 120	3 110	3 090	3 080
			G'	2 479	2 472	2 468	2 464	2 460	2 457	2 455	2 453	2 451
		9 in. o/c	Q	3 420	3 360	3 320	3 280	3 260	3 230	3 210	3 200	3 190
			G'	2 485	2 480	2 475	2 471	2 468	2 466	2 464	2 462	2 460
		6 in. o/c	Q	3 640	3 580	3 540	3 500	3 480	3 450	3 430	3 420	3 400
			G'	2 497	2 492	2 488	2 485	2 483	2 480	2 479	2 477	2 476
P-3606 P-3623 2-1/2 in. Lightweight Concrete	36/4	24 in. o/c	Q	2 570	2 510	2 470	2 430	2 400	2 380	2 360	2 350	2 330
			G'	2 997	2 990	2 985	2 980	2 976	2 973	2 970	2 968	2 965
		12 in. o/c	Q	2 740	2 680	2 630	2 600	2 570	2 550	2 530	2 510	2 500
			G'	3 009	3 002	2 998	2 994	2 990	2 987	2 985	2 983	2 981
		9 in. o/c	Q	2 850	2 790	2 740	2 710	2 680	2 660	2 640	2 620	2 610
			G'	3 015	3 010	3 005	3 001	2 998	2 996	2 994	2 992	2 990
		6 in. o/c	Q	3 060	3 000	2 960	2 920	2 900	2 870	2 850	2 840	2 820
			G'	3 027	3 022	3 018	3 015	3 013	3 010	3 009	3 007	3 006

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				7'-0"	7-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"
P-2432 2-1/2 in. Normal Weight Concrete	24/3	24 in. o/c	Q	2 890	2 880	2 870	2 860	2 850	2 850	2 840	2 840	2 830
			G'	2 411	2 410	2 409	2 409	2 408	2 407	2 406	2 406	2 405
		12 in. o/c	Q	3 050	3 040	3 030	3 030	3 020	3 010	3 010	3 000	3 000
			G'	2 424	2 423	2 422	2 422	2 421	2 420	2 420	2 419	2 419
		9 in. o/c	Q	3 160	3 150	3 140	3 130	3 130	3 120	3 120	3 110	3 110
			G'	2 432	2 431	2 430	2 430	2 429	2 428	2 428	2 427	2 427
		6 in. o/c	Q	3 380	3 370	3 360	3 350	3 350	3 340	3 330	3 330	3 320
			G'	2 445	2 445	2 444	2 443	2 443	2 442	2 442	2 442	2 441
P-2432 2-1/2 in. Lightweight Concrete	24/3	24 in. o/c	Q	2 310	2 300	2 290	2 280	2 280	2 270	2 260	2 260	2 250
			G'	2 941	2 940	2 939	2 939	2 938	2 937	2 936	2 936	2 935
		12 in. o/c	Q	2 470	2 460	2 450	2 450	2 440	2 430	2 430	2 420	2 420
			G'	2 954	2 953	2 952	2 952	2 951	2 950	2 950	2 949	2 949
		9 in. o/c	Q	2 580	2 570	2 560	2 560	2 550	2 540	2 540	2 530	2 530
			G'	2 962	2 961	2 960	2 960	2 959	2 958	2 958	2 957	2 957
		6 in. o/c	Q	2 800	2 790	2 780	2 770	2 770	2 760	2 760	2 750	2 750
			G'	2 975	2 975	2 974	2 973	2 973	2 972	2 972	2 972	2 971

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (lb./in.) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.036 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"
P-3606 P-3623 2-1/2 in. Normal Weight Concrete	36/4	24 in. o/c	Q	3 140	3 100	3 060	3 040	3 010	2 990	2 980	2 960	2 950
			G'	2 465	2 459	2 455	2 451	2 448	2 445	2 442	2 440	2 438
		12 in. o/c	Q	3 330	3 290	3 260	3 230	3 210	3 190	3 170	3 160	3 150
			G'	2 480	2 475	2 471	2 468	2 465	2 462	2 460	2 458	2 457
		9 in. o/c	Q	3 470	3 420	3 390	3 360	3 340	3 320	3 310	3 290	3 280
			G'	2 488	2 484	2 481	2 478	2 475	2 473	2 471	2 469	2 468
		6 in. o/c	Q	3 730	3 690	3 650	3 630	3 600	3 580	3 570	3 550	3 540
			G'	2 504	2 500	2 497	2 495	2 493	2 491	2 489	2 488	2 486
P-3606 P-3623 2-1/2 in. Lightweight Concrete	36/4	24 in. o/c	Q	2 560	2 520	2 480	2 460	2 440	2 420	2 400	2 390	2 370
			G'	2 995	2 989	2 985	2 981	2 978	2 975	2 972	2 970	2 968
		12 in. o/c	Q	2 760	2 710	2 680	2 650	2 630	2 610	2 600	2 580	2 570
			G'	3 010	3 005	3 001	2 998	2 995	2 992	2 990	2 988	2 987
		9 in. o/c	Q	2 890	2 850	2 810	2 790	2 760	2 740	2 730	2 710	2 700
			G'	3 018	3 014	3 011	3 008	3 005	3 003	3 001	2 999	2 998
		6 in. o/c	Q	3 150	3 110	3 070	3 050	3 020	3 010	2 990	2 980	2 960
			G'	3 034	3 030	3 027	3 025	3 023	3 021	3 019	3 018	3 016

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
P-2432 2-1/2 in. Normal Weight Concrete	24/3	24 in. o/c	Q	2 930	2 920	2 910	2 900	2 900	2 890	2 880	2 880	2 870
			G'	2 413	2 412	2 411	2 410	2 410	2 409	2 408	2 408	2 407
		12 in. o/c	Q	3 120	3 120	3 110	3 100	3 090	3 090	3 080	3 080	3 070
			G'	2 428	2 427	2 426	2 426	2 425	2 424	2 424	2 423	2 423
		9 in. o/c	Q	3 260	3 250	3 240	3 230	3 220	3 220	3 210	3 210	3 200
			G'	2 437	2 436	2 435	2 435	2 434	2 433	2 433	2 433	2 432
		6 in. o/c	Q	3 520	3 510	3 500	3 490	3 490	3 480	3 470	3 470	3 460
			G'	2 452	2 452	2 451	2 451	2 450	2 450	2 449	2 449	2 449
P-2432 2-1/2 in. Lightweight Concrete	24/3	24 in. o/c	Q	2 350	2 340	2 330	2 320	2 320	2 310	2 310	2 300	2 300
			G'	2 943	2 942	2 941	2 940	2 940	2 939	2 938	2 938	2 937
		12 in. o/c	Q	2 550	2 540	2 530	2 520	2 510	2 510	2 500	2 500	2 490
			G'	2 958	2 957	2 956	2 956	2 955	2 954	2 954	2 953	2 953
		9 in. o/c	Q	2 680	2 670	2 660	2 650	2 640	2 640	2 630	2 630	2 620
			G'	2 967	2 966	2 965	2 965	2 964	2 963	2 963	2 963	2 962
		6 in. o/c	Q	2 940	2 930	2 920	2 910	2 910	2 900	2 890	2 890	2 890
			G'	2 982	2 982	2 981	2 981	2 980	2 980	2 979	2 979	2 979

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (lb./in.) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.048 in.
ϕ = 0.50

SUPPORT FASTENING: 3/4 in. puddle weld
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"
P-3606 P-3623 2-1/2 in. Normal Weight Concrete	36/4	24 in. o/c	Q	3 220	3 180	3 160	3 130	3 110	3 090	3 070	3 060	3 050
			G'	2 470	2 466	2 462	2 458	2 455	2 452	2 450	2 448	2 446
		12 in. o/c	Q	3 480	3 450	3 420	3 390	3 370	3 350	3 340	3 320	3 310
			G'	2 491	2 486	2 483	2 480	2 477	2 475	2 473	2 471	2 469
		9 in. o/c	Q	3 660	3 620	3 590	3 570	3 550	3 530	3 510	3 500	3 480
			G'	2 503	2 499	2 496	2 493	2 490	2 488	2 486	2 485	2 483
		6 in. o/c	Q	4 010	3 970	3 940	3 920	3 900	3 880	3 860	3 850	3 830
			G'	2 524	2 521	2 518	2 516	2 514	2 512	2 510	2 509	2 507
P-3606 P-3623 2-1/2 in. Lightweight Concrete	36/4	24 in. o/c	Q	2 640	2 610	2 580	2 550	2 530	2 510	2 500	2 480	2 470
			G'	3 000	2 996	2 992	2 988	2 985	2 982	2 980	2 978	2 976
		12 in. o/c	Q	2 900	2 870	2 840	2 810	2 790	2 770	2 760	2 740	2 730
			G'	3 021	3 016	3 013	3 010	3 007	3 005	3 003	3 001	2 999
		9 in. o/c	Q	3 080	3 040	3 010	2 990	2 970	2 950	2 930	2 920	2 910
			G'	3 033	3 029	3 026	3 023	3 020	3 018	3 016	3 015	3 013
		6 in. o/c	Q	3 430	3 390	3 360	3 340	3 320	3 300	3 280	3 270	3 250
			G'	3 054	3 051	3 048	3 046	3 044	3 042	3 040	3 039	3 037

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
P-2432 2-1/2 in. Normal Weight Concrete	24/3	24 in. o/c	Q	3 020	3 010	3 000	2 990	2 990	2 980	2 970	2 970	2 960
			G'	2 417	2 417	2 416	2 415	2 414	2 414	2 413	2 412	2 412
		12 in. o/c	Q	3 280	3 270	3 260	3 250	3 250	3 240	3 230	3 230	3 220
			G'	2 436	2 435	2 434	2 433	2 433	2 432	2 432	2 431	2 431
		9 in. o/c	Q	3 460	3 450	3 440	3 430	3 420	3 420	3 410	3 400	3 400
			G'	2 447	2 446	2 445	2 444	2 444	2 443	2 443	2 442	2 442
		6 in. o/c	Q	3 810	3 800	3 790	3 780	3 770	3 770	3 760	3 750	3 750
			G'	2 466	2 466	2 465	2 464	2 464	2 463	2 463	2 463	2 462
P-2432 2-1/2 in. Lightweight Concrete	24/3	24 in. o/c	Q	2 440	2 430	2 420	2 410	2 410	2 400	2 390	2 390	2 380
			G'	2 947	2 947	2 946	2 945	2 944	2 944	2 943	2 942	2 942
		12 in. o/c	Q	2 700	2 690	2 680	2 680	2 670	2 660	2 660	2 650	2 650
			G'	2 966	2 965	2 964	2 963	2 963	2 962	2 961	2 961	2 961
		9 in. o/c	Q	2 880	2 870	2 860	2 850	2 840	2 840	2 830	2 830	2 820
			G'	2 977	2 976	2 975	2 974	2 974	2 973	2 973	2 972	2 972
		6 in. o/c	Q	3 230	3 220	3 210	3 200	3 190	3 190	3 180	3 170	3 170
			G'	2 996	2 996	2 995	2 994	2 994	2 993	2 993	2 993	2 992

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (lb./in.) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.030 in.
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5-6"	6'-0"	6'-6"	7'-0"
P-3606 P-3623 2-1/2 in. Normal Weight Concrete	36/4	24 in. o/c	Q	3 000	2 960	2 930	2 910	2 890	2 880	2 860	2 850	2 850
			G'	2 463	2 456	2 451	2 447	2 443	2 440	2 437	2 435	2 433
		12 in. o/c	Q	3 160	3 120	3 090	3 070	3 060	3 040	3 030	3 020	3 010
			G'	2 475	2 469	2 464	2 460	2 457	2 455	2 452	2 450	2 449
		9 in. o/c	Q	3 270	3 230	3 200	3 180	3 160	3 150	3 140	3 130	3 120
			G'	2 481	2 476	2 472	2 469	2 466	2 463	2 461	2 460	2 458
		6 in. o/c	Q	3 490	3 450	3 420	3 400	3 380	3 370	3 360	3 350	3 340
			G'	2 494	2 489	2 486	2 483	2 480	2 478	2 477	2 475	2 474
P-3606 P-3623 2-1/2 in. Lightweight Concrete	36/4	24 in. o/c	Q	2 420	2 380	2 350	2 330	2 310	2 300	2 290	2 280	2 270
			G'	2 993	2 986	2 981	2 977	2 973	2 970	2 967	2 965	2 963
		12 in. o/c	Q	2 580	2 540	2 520	2 490	2 480	2 460	2 450	2 440	2 430
			G'	3 005	2 999	2 994	2 990	2 987	2 985	2 982	2 980	2 979
		9 in. o/c	Q	2 690	2 650	2 630	2 600	2 590	2 570	2 560	2 550	2 540
			G'	3 011	3 006	3 002	2 999	2 996	2 993	2 991	2 990	2 988
		6 in. o/c	Q	2 910	2 870	2 840	2 820	2 800	2 790	2 780	2 770	2 760
			G'	3 024	3 019	3 016	3 013	3 010	3 008	3 007	3 005	3 004

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				7'-0"	7-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"
P-2432 2-1/2 in. Normal Weight Concrete	24/3	24 in. o/c	Q	2 830	2 820	2 820	2 810	2 810	2 800	2 800	2 800	2 790
			G'	2 410	2 409	2 408	2 407	2 406	2 406	2 405	2 405	2 404
		12 in. o/c	Q	2 990	2 990	2 980	2 980	2 970	2 970	2 960	2 960	2 960
			G'	2 423	2 422	2 421	2 420	2 420	2 419	2 419	2 418	2 418
		9 in. o/c	Q	3 100	3 100	3 090	3 090	3 080	3 080	3 070	3 070	3 070
			G'	2 431	2 430	2 429	2 428	2 428	2 427	2 427	2 426	2 426
		6 in. o/c	Q	3 320	3 320	3 310	3 300	3 300	3 300	3 290	3 290	3 290
			G'	2 444	2 444	2 443	2 442	2 442	2 442	2 441	2 441	2 440
P-2432 2-1/2 in. Lightweight Concrete	24/3	24 in. o/c	Q	2 250	2 240	2 240	2 230	2 230	2 230	2 220	2 220	2 220
			G'	2 940	2 939	2 938	2 937	2 936	2 936	2 935	2 935	2 934
		12 in. o/c	Q	2 420	2 410	2 400	2 400	2 390	2 390	2 390	2 380	2 380
			G'	2 953	2 952	2 951	2 950	2 950	2 949	2 949	2 948	2 948
		9 in. o/c	Q	2 520	2 520	2 510	2 510	2 500	2 500	2 500	2 490	2 490
			G'	2 961	2 960	2 959	2 958	2 958	2 957	2 957	2 956	2 956
		6 in. o/c	Q	2 740	2 740	2 730	2 730	2 720	2 720	2 710	2 710	2 710
			G'	2 974	2 974	2 973	2 972	2 972	2 971	2 971	2 971	2 970

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (lb./in.) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.036 in.
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				4'-0"	4'-6"	5'-0"	5-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"
P-3606 P-3623 2-1/2 in. Normal Weight Concrete	36/4	24 in. o/c	Q	3 000	2 980	2 950	2 940	2 920	2 910	2 900	2 890	2 880
			G'	2 460	2 455	2 451	2 447	2 444	2 442	2 439	2 437	2 435
		12 in. o/c	Q	3 200	3 170	3 150	3 130	3 120	3 110	3 100	3 090	3 080
			G'	2 476	2 471	2 468	2 465	2 462	2 460	2 458	2 456	2 454
		9 in. o/c	Q	3 330	3 300	3 280	3 260	3 250	3 240	3 230	3 220	3 210
			G'	2 485	2 481	2 478	2 475	2 472	2 470	2 468	2 467	2 465
		6 in. o/c	Q	3 590	3 570	3 540	3 530	3 510	3 500	3 490	3 480	3 470
			G'	2 501	2 497	2 495	2 492	2 490	2 489	2 487	2 486	2 485
P-3606 P-3623 2-1/2 in. Lightweight Concrete	36/4	24 in. o/c	Q	2 420	2 400	2 380	2 360	2 340	2 330	2 320	2 310	2 300
			G'	2 990	2 985	2 981	2 977	2 974	2 972	2 969	2 967	2 965
		12 in. o/c	Q	2 620	2 590	2 570	2 550	2 540	2 530	2 520	2 510	2 500
			G'	3 006	3 001	2 998	2 995	2 992	2 990	2 988	2 986	2 984
		9 in. o/c	Q	2 750	2 720	2 700	2 690	2 670	2 660	2 650	2 640	2 630
			G'	3 015	3 011	3 007	3 005	3 002	3 000	2 998	2 997	2 995
		6 in. o/c	Q	3 010	2 990	2 970	2 950	2 930	2 920	2 910	2 900	2 890
			G'	3 031	3 027	3 025	3 022	3 020	3 019	3 017	3 016	3 015

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
P-2432 2-1/2 in. Normal Weight Concrete	24/3	24 in. o/c	Q	2 870	2 860	2 860	2 850	2 850	2 840	2 840	2 840	2 830
			G'	2 411	2 411	2 410	2 409	2 408	2 408	2 407	2 407	2 406
		12 in. o/c	Q	3 060	3 060	3 050	3 050	3 040	3 040	3 040	3 030	3 030
			G'	2 426	2 426	2 425	2 424	2 424	2 423	2 423	2 422	2 422
		9 in. o/c	Q	3 190	3 190	3 180	3 180	3 170	3 170	3 170	3 160	3 160
			G'	2 435	2 435	2 434	2 433	2 433	2 432	2 432	2 432	2 431
		6 in. o/c	Q	3 460	3 450	3 450	3 440	3 440	3 430	3 430	3 430	3 420
			G'	2 451	2 451	2 450	2 450	2 449	2 449	2 448	2 448	2 448
P-2432 2-1/2 in. Lightweight Concrete	24/3	24 in. o/c	Q	2 290	2 280	2 280	2 270	2 270	2 260	2 260	2 260	2 250
			G'	2 941	2 941	2 940	2 939	2 938	2 938	2 937	2 937	2 936
		12 in. o/c	Q	2 480	2 480	2 470	2 470	2 460	2 460	2 460	2 450	2 450
			G'	2 956	2 956	2 955	2 954	2 954	2 953	2 953	2 952	2 952
		9 in. o/c	Q	2 620	2 610	2 600	2 600	2 600	2 590	2 590	2 580	2 580
			G'	2 965	2 965	2 964	2 963	2 963	2 962	2 962	2 962	2 961
		6 in. o/c	Q	2 880	2 870	2 870	2 860	2 860	2 850	2 850	2 850	2 840
			G'	2 981	2 981	2 980	2 980	2 979	2 979	2 978	2 978	2 978

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (lb./in.) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.048 in.
ϕ = 0.50

SUPPORT FASTENING: Hilti X-EDN19, X-EDNK22
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				5'-0"	5-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"
P-3606 P-3623 2-1/2 in. Normal Weight Concrete	36/4	24 in. o/c	Q	3 080	3 060	3 040	3 020	3 010	3 000	2 990	2 980	2 970
			G'	2 466	2 461	2 457	2 454	2 451	2 449	2 447	2 445	2 443
		12 in. o/c	Q	3 340	3 320	3 300	3 280	3 270	3 260	3 250	3 240	3 230
			G'	2 486	2 483	2 479	2 476	2 474	2 472	2 470	2 468	2 467
		9 in. o/c	Q	3 520	3 490	3 470	3 460	3 440	3 430	3 420	3 410	3 410
			G'	2 499	2 495	2 492	2 490	2 487	2 485	2 484	2 482	2 481
		6 in. o/c	Q	3 860	3 840	3 820	3 810	3 790	3 780	3 770	3 760	3 750
			G'	2 521	2 518	2 515	2 513	2 511	2 509	2 508	2 506	2 505
P-3606 P-3623 2-1/2 in. Lightweight Concrete	36/4	24 in. o/c	Q	2 500	2 480	2 460	2 440	2 430	2 420	2 410	2 400	2 390
			G'	2 996	2 991	2 987	2 984	2 981	2 979	2 977	2 975	2 973
		12 in. o/c	Q	2 760	2 740	2 720	2 700	2 690	2 680	2 670	2 660	2 650
			G'	3 016	3 012	3 009	3 006	3 004	3 002	3 000	2 998	2 997
		9 in. o/c	Q	2 940	2 910	2 900	2 880	2 870	2 850	2 840	2 830	2 830
			G'	3 029	3 025	3 022	3 020	3 017	3 015	3 014	3 012	3 011
		6 in. o/c	Q	3 290	3 260	3 240	3 230	3 220	3 200	3 190	3 180	3 180
			G'	3 051	3 048	3 045	3 043	3 041	3 039	3 038	3 036	3 035

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
P-2432 2-1/2 in. Normal Weight Concrete	24/3	24 in. o/c	Q	2 950	2 940	2 940	2 930	2 930	2 920	2 920	2 920	2 910
			G'	2 416	2 415	2 414	2 413	2 413	2 412	2 412	2 411	2 411
		12 in. o/c	Q	3 210	3 200	3 200	3 190	3 190	3 190	3 180	3 180	3 170
			G'	2 434	2 433	2 433	2 432	2 431	2 431	2 430	2 430	2 429
		9 in. o/c	Q	3 390	3 380	3 370	3 370	3 360	3 360	3 360	3 350	3 350
			G'	2 445	2 444	2 444	2 443	2 443	2 442	2 442	2 441	2 441
		6 in. o/c	Q	3 740	3 730	3 720	3 720	3 710	3 710	3 710	3 700	3 700
			G'	2 465	2 464	2 464	2 463	2 463	2 462	2 462	2 462	2 461
P-2432 2-1/2 in. Lightweight Concrete	24/3	24 in. o/c	Q	2 370	2 360	2 360	2 350	2 350	2 340	2 340	2 340	2 330
			G'	2 946	2 945	2 944	2 943	2 943	2 942	2 942	2 941	2 941
		12 in. o/c	Q	2 630	2 630	2 620	2 620	2 610	2 610	2 600	2 600	2 600
			G'	2 964	2 963	2 962	2 962	2 961	2 961	2 960	2 960	2 959
		9 in. o/c	Q	2 810	2 800	2 800	2 790	2 790	2 780	2 780	2 770	2 770
			G'	2 975	2 974	2 974	2 973	2 973	2 972	2 972	2 971	2 971
		6 in. o/c	Q	3 160	3 150	3 140	3 140	3 140	3 130	3 130	3 120	3 120
			G'	2 995	2 994	2 994	2 993	2 993	2 992	2 992	2 992	2 991

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (lb./in.) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.015 in.
ϕ = 0.50

SUPPORT FASTENING: Weld with washer
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				2'-0"	2'-2"	2'-4"	2'-6"	2'-8"	2'-10"	3'-0"	3'-2"	3'-4"
P-3012 2-1/2 in. Normal Weight Concrete	30/7	24 in. o/c	Q	3 190	3 150	3 110	3 080	3 050	3 030	3 010	2 990	2 970
			G'	2 451	2 448	2 446	2 444	2 442	2 441	2 439	2 438	2 436
		12 in. o/c	Q	3 270	3 230	3 190	3 160	3 140	3 110	3 090	3 070	3 050
			G'	2 453	2 451	2 449	2 448	2 446	2 445	2 443	2 442	2 441
		6 in. o/c	Q	3 430	3 390	3 360	3 320	3 300	3 270	3 250	3 230	3 220
			G'	2 458	2 457	2 455	2 454	2 452	2 451	2 450	2 449	2 448
P-3012 2-1/2 in. Normal Weight Concrete	30/4	24 in. o/c	Q	3 010	2 980	2 960	2 940	2 920	2 910	2 890	2 880	2 870
			G'	2 437	2 435	2 433	2 431	2 430	2 428	2 427	2 425	2 424
		12 in. o/c	Q	3 090	3 060	3 040	3 020	3 000	2 990	2 970	2 960	2 950
			G'	2 442	2 440	2 438	2 437	2 435	2 434	2 433	2 431	2 430
		6 in. o/c	Q	3 260	3 230	3 200	3 180	3 170	3 150	3 140	3 120	3 110
			G'	2 449	2 448	2 446	2 445	2 444	2 443	2 442	2 441	2 440
P-3012 2-1/2 in. Lightweight Concrete	30/7	24 in. o/c	Q	2 610	2 570	2 530	2 500	2 480	2 450	2 430	2 410	2 390
			G'	2 981	2 978	2 976	2 974	2 972	2 971	2 969	2 967	2 966
		12 in. o/c	Q	2 690	2 650	2 610	2 580	2 560	2 530	2 510	2 490	2 480
			G'	2 983	2 981	2 979	2 978	2 976	2 975	2 973	2 972	2 971
		6 in. o/c	Q	2 850	2 810	2 780	2 750	2 720	2 700	2 670	2 660	2 640
			G'	2 988	2 987	2 985	2 984	2 982	2 981	2 980	2 979	2 978
P-3012 2-1/2 in. Lightweight Concrete	30/4	24 in. o/c	Q	2 430	2 400	2 380	2 360	2 340	2 330	2 310	2 300	2 290
			G'	2 967	2 965	2 963	2 961	2 960	2 958	2 957	2 955	2 954
		12 in. o/c	Q	2 510	2 490	2 460	2 440	2 420	2 410	2 390	2 380	2 370
			G'	2 972	2 970	2 968	2 967	2 965	2 964	2 963	2 961	2 960
		6 in. o/c	Q	2 680	2 650	2 630	2 600	2 590	2 570	2 560	2 540	2 530
			G'	2 979	2 978	2 976	2 975	2 974	2 973	2 972	2 971	2 970

THICKNESS = 0.018 in.
ϕ = 0.50

SUPPORT FASTENING: Weld with washer
SIDE-LAP FASTENING: #10 screw

DECK TYPE TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				2'-0"	2'-2"	2'-4"	2'-6"	2'-8"	2'-10"	3'-0"	3'-2"	3'-4"
P-3012 2-1/2 in. Normal Weight Concrete	30/7	24 in. o/c	Q	3 370	3 320	3 270	3 230	3 200	3 160	3 140	3 110	3 090
			G'	2 462	2 459	2 457	2 454	2 452	2 450	2 448	2 446	2 445
		12 in. o/c	Q	3 470	3 420	3 370	3 330	3 290	3 260	3 230	3 210	3 190
			G'	2 466	2 463	2 461	2 459	2 457	2 455	2 453	2 452	2 450
		6 in. o/c	Q	3 660	3 610	3 560	3 520	3 490	3 460	3 430	3 410	3 380
			G'	2 472	2 470	2 468	2 466	2 464	2 463	2 462	2 460	2 459
P-3012 2-1/2 in. Normal Weight Concrete	30/4	24 in. o/c	Q	3 140	3 110	3 070	3 050	3 020	3 000	2 980	2 970	2 950
			G'	2 446	2 444	2 441	2 439	2 437	2 435	2 434	2 432	2 431
		12 in. o/c	Q	3 240	3 200	3 170	3 140	3 120	3 100	3 080	3 060	3 050
			G'	2 452	2 449	2 447	2 445	2 444	2 442	2 441	2 439	2 438
		6 in. o/c	Q	3 440	3 400	3 370	3 340	3 320	3 300	3 280	3 260	3 250
			G'	2 460	2 459	2 457	2 455	2 454	2 453	2 452	2 451	2 450
P-3012 2-1/2 in. Lightweight Concrete	30/7	24 in. o/c	Q	2 790	2 740	2 690	2 650	2 620	2 590	2 560	2 530	2 510
			G'	2 992	2 989	2 987	2 984	2 982	2 980	2 978	2 976	2 975
		12 in. o/c	Q	2 890	2 840	2 790	2 750	2 710	2 680	2 660	2 630	2 610
			G'	2 996	2 993	2 991	2 989	2 987	2 985	2 983	2 982	2 980
		6 in. o/c	Q	3 090	3 030	2 990	2 950	2 910	2 880	2 850	2 830	2 800
			G'	3 002	3 000	2 998	2 996	2 994	2 993	2 992	2 990	2 989
P-3012 2-1/2 in. Lightweight Concrete	30/4	24 in. o/c	Q	2 560	2 530	2 500	2 470	2 440	2 420	2 400	2 390	2 370
			G'	2 976	2 974	2 971	2 969	2 967	2 965	2 964	2 962	2 961
		12 in. o/c	Q	2 660	2 620	2 590	2 570	2 540	2 520	2 500	2 490	2 470
			G'	2 982	2 979	2 977	2 975	2 974	2 972	2 971	2 969	2 968
		6 in. o/c	Q	2 860	2 820	2 790	2 760	2 740	2 720	2 700	2 680	2 670
			G'	2 990	2 989	2 987	2 985	2 984	2 983	2 982	2 981	2 980

- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

FACTORED SHEAR RESISTANCE Q (lb./in.) AND STIFFNESS COEFFICIENT G' (10^3 lb./in.)

IMPERIAL

THICKNESS = 0.024 in.
ϕ = 0.50

SUPPORT FASTENING: Weld with washer
SIDE-LAP FASTENING: #10 screw

DECK TYPE / TYPE OF FILL	SUPPORT PATTERN	SIDE-LAP SPACING		SPAN (ft.-in.)								
				2'-0"	2'-2"	2'-4"	2'-6"	2'-8"	2'-10"	3'-0"	3'-2"	3'-4"
P-3012 2-1/2 in. Normal Weight Concrete	30/7	24 in. o/c	Q	3 790	3 710	3 640	3 570	3 520	3 470	3 430	3 390	3 360
			G'	2 484	2 480	2 476	2 473	2 470	2 468	2 465	2 463	2 460
		12 in. o/c	Q	3 920	3 840	3 770	3 700	3 650	3 600	3 560	3 520	3 490
			G'	2 488	2 485	2 482	2 479	2 476	2 474	2 472	2 470	2 468
		6 in. o/c	Q	4 180	4 100	4 030	3 970	3 910	3 860	3 820	3 780	3 750
			G'	2 497	2 494	2 491	2 489	2 487	2 485	2 483	2 481	2 480
P-3012 2-1/2 in. Normal Weight Concrete	30/4	24 in. o/c	Q	3 440	3 390	3 340	3 290	3 260	3 220	3 200	3 170	3 150
			G'	2 463	2 459	2 456	2 453	2 451	2 448	2 446	2 444	2 442
		12 in. o/c	Q	3 570	3 520	3 470	3 430	3 390	3 360	3 330	3 300	3 280
			G'	2 470	2 466	2 464	2 461	2 459	2 457	2 455	2 453	2 452
		6 in. o/c	Q	3 830	3 780	3 730	3 690	3 650	3 620	3 590	3 560	3 540
			G'	2 481	2 479	2 477	2 475	2 473	2 471	2 470	2 468	2 467
P-3012 2-1/2 in. Lightweight Concrete	30/7	24 in. o/c	Q	3 210	3 130	3 060	3 000	2 940	2 890	2 850	2 810	2 780
			G'	3 014	3 010	3 006	3 003	3 000	2 998	2 995	2 993	2 990
		12 in. o/c	Q	3 340	3 260	3 190	3 130	3 070	3 020	2 980	2 940	2 910
			G'	3 018	3 015	3 012	3 009	3 006	3 004	3 002	3 000	2 998
		6 in. o/c	Q	3 610	3 520	3 450	3 390	3 330	3 280	3 240	3 200	3 170
			G'	3 027	3 024	3 021	3 019	3 017	3 015	3 013	3 011	3 010
P-3012 2-1/2 in. Lightweight Concrete	30/4	24 in. o/c	Q	2 860	2 810	2 760	2 720	2 680	2 650	2 620	2 590	2 570
			G'	2 993	2 989	2 986	2 983	2 981	2 978	2 976	2 974	2 972
		12 in. o/c	Q	3 000	2 940	2 890	2 850	2 810	2 780	2 750	2 720	2 700
			G'	3 000	2 996	2 994	2 991	2 989	2 987	2 985	2 983	2 982
		6 in. o/c	Q	3 260	3 200	3 150	3 110	3 070	3 040	3 010	2 980	2 960
			G'	3 011	3 009	3 007	3 005	3 003	3 001	3 000	2 998	2 997

- Based on material according to ASTM A 653, minimum yield strength of 60 ksi.
- The maximum unshored span of the steel deck may not be respected in concrete filled tables.

BUSINESS UNITS AND THEIR WEB ADDRESSES

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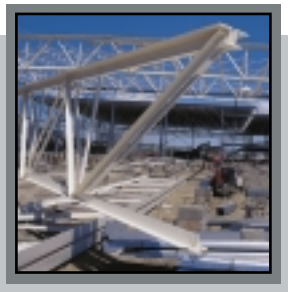

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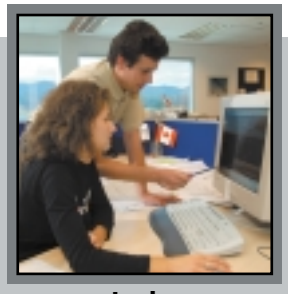

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- JOISTS
- SPECIFICATION GUIDE - JOIST GIRDERS
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TECHNICAL QUESTIONS

COLD-FORMED SECTIONS:	coldformed@canam.ws
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GIRDERS:	joistgirder@canam.ws
GIRTS:	coldformed@canam.ws
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Canada
Management, Sales Offices and Plants

Quebec, Head Office

11505, 1re Avenue, bureau 500
Ville de Saint-Georges, Beauce
(Québec) G5Y 7X3
Telephone: 418-228-8031
Toll-free: 1-877-499-6049
Fax: 418-227-5424

Head Office, Plant and Sales Office
ISO 9001:2000, SJI, AISC, CWB[1]
115, boulevard Canam Nord
Saint-Gédéon, Beauce (Québec) G0M 1T0
Telephone: 418-582-3331
Toll-free: 1-888-849-5910
Fax: 418-582-3381

Plant - ISO 9001:2000, CWB[1]
200, boulevard Industriel
Boucherville (Québec) J4B 2X4
Telephone: 450-641-2820
Toll-free: 1-800-463-1582
Fax: 450-641-3132

Alberta
Plant and Sales Office - SJI, CWB[1]
323 - 53rd Avenue S.E.
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Telephone: 403-252-7591
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Sales Offices

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Telephone: 506-857-3164
Toll-free: 1-800-210-7833
Fax: 506-857-3253

Quebec
200, boulevard Industriel
Boucherville (Québec) J4B 2X4
Telephone: 450-641-8770
Toll-free: 1-800-463-1582
Fax: 450-641-8769

Engineering and Credit Office, Corporate
270, chemin Du Tremblay
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United States
Plants

Maryland
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Point of Rocks, Maryland 21777-0285
Telephone: 301-874-5141
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Washington
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Sales Offices

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Bolingbrook, Illinois 60440
Telephone: 630-961-5944
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Indiana
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Telephone: 765-883-1135
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Fax: 765-471-7303

Kansas
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Lenexa, Kansas 66215
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Maryland
P.O. Box 296
Phoenix, Maryland 21131-0296
Telephone: 410-472-4327
Fax: 410-472-4827

Massachusetts
50 Eastman Street
Easton, Massachusetts 02334-1245
Telephone: 508-238-4500
Fax: 508-238-8253

Ohio
8517 Refugee Road
Pickerington, Ohio 43147
Telephone: 614-920-0949
Fax: 614-920-0937

Pennsylvania
3280 St. Andrews Drive
Chambersburg, Pennsylvania 17201
Telephone: 717-263-7432
Fax: 717-263-7542

1012 Hampstead Road
Wynnewood, Pennsylvania 19096
Telephone: 610-896-4790
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Virginia
11008 Blake Lane
Bealeton, Virginia 22712
Telephone: 540-439-1475
Fax: 540-439-1476

Washington
240 N.W. Gilman Blvd., Suite G
Issaquah, Washington 98027
Telephone: 425-392-2935
Fax: 425-392-3149

Engineering Office

Missouri
14500 S. Outer Forty Dr., Suite 210
Chesterfield, MO 63017
Telephone: 314-275-7580
Fax: 314-275-7577

STRUCTAL
Heavy Steel Construction

www.structalstructure.ws

Sales Office, Canada

Boucherville
270, chemin Du Tremblay
Boucherville (Québec) J4B 5X9
Telephone: 450-641-4000
Toll-free: 1-866-506-4000
Fax: 450-641-4001

Sales Office, United States

Maryland
4010 Clay Street, P.O. Box 285
Point of Rocks, Maryland 21777-0285
Telephone: 301-874-5141
Toll-free: 1-800-638-4293
Fax: 301-874-5075

TECHNYX
Technical Resources

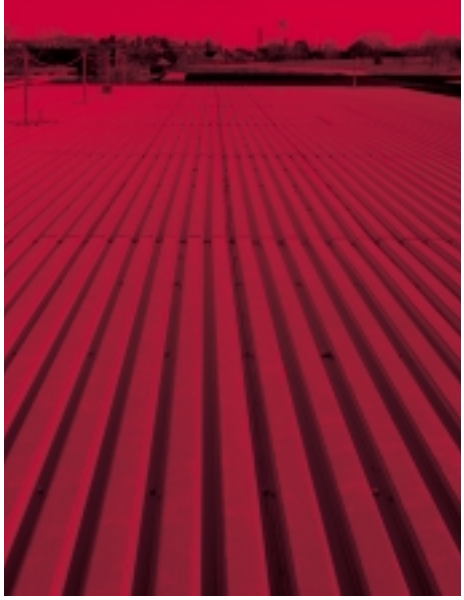
www.technyx.ws

Business Locations

Quebec, Canada
270, chemin Du Tremblay
Boucherville (Québec) J4B 5X9
Telephone: 450-641-4000
Toll-free: 1-866-506-4000
Fax: 450-641-4001

Brasov, Romania
Ionescu Crum Street No. 9
Brasov 500446, Romania
Telephone: (40 268) 31 43 73
Fax: (40 268) 31 50 28

Kolkata, India
GN 37/B, Sector V
Salt Lake, Kolkata
700 091 India
Telephone: (91 33) 23 57 58 65
Fax: (91 33) 23 57 59 14



Better Building Solutions

CANAM
Solutions + Service

Boucherville
200, boulevard Industriel
Boucherville (Québec)
Canada J4B 2X4
Telephone: 450-641-8770
Toll-free: 1-800-463-1582
Fax: 450-641-8769

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