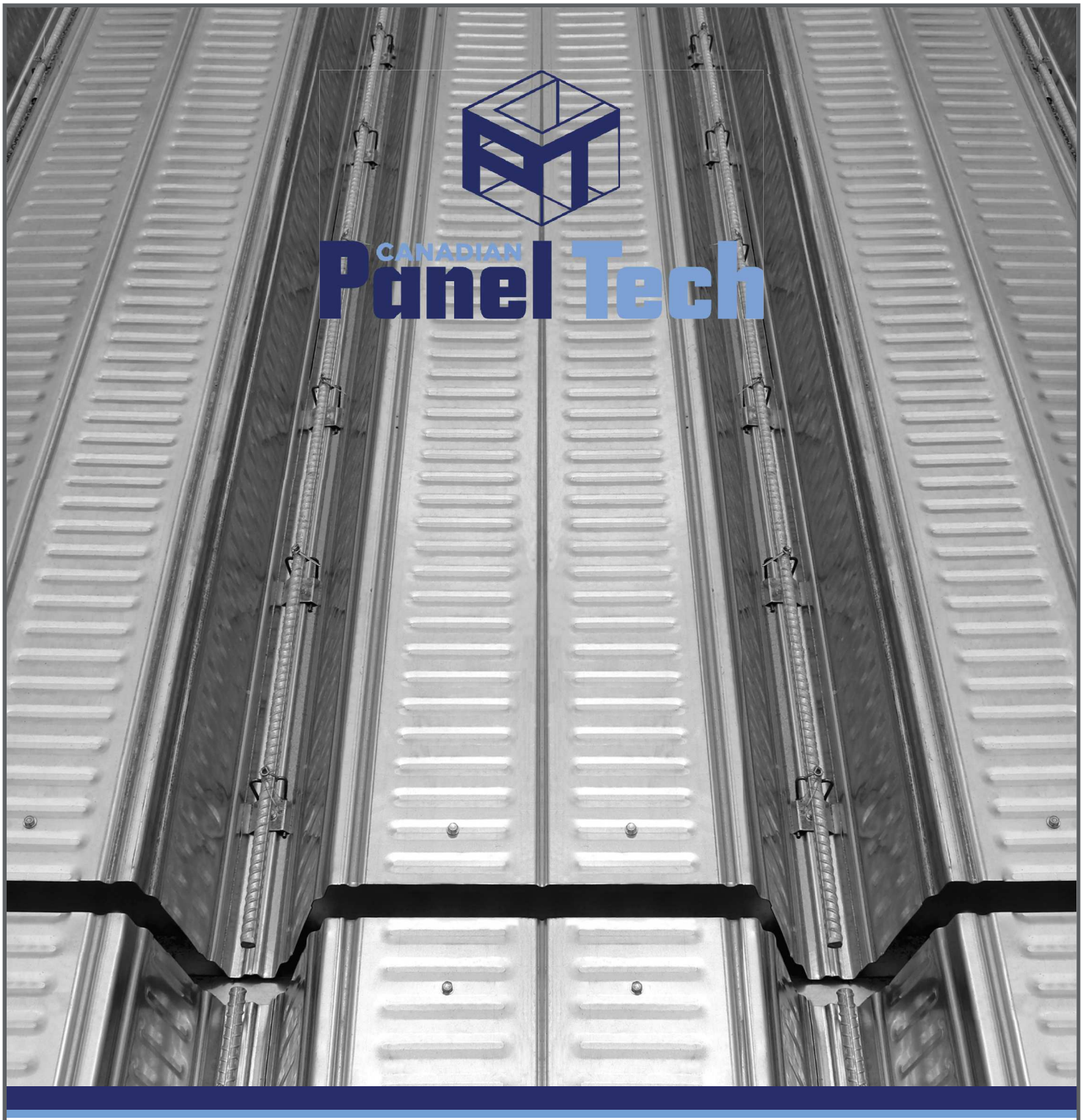


CANADIAN Panel Tech

MegaSPAN

COMPOSITE METAL DECK SYSTEM

MegaSPAN®

MegaSPAN® is a composite metal deck system with excellent spanning capabilities, high composite performance and reduced concrete usage. Engineered to improve the cost efficiency and performance for all building construction, specifically designed for multi-storey residential, industrial, commercial, and retro-fit projects.

MegaSPAN® accommodates all framing systems, including lightweight steel framing, structural steel, masonry or poured concrete structures. It integrates concrete and metal deck profile with custom side lap treatments to create a unique composite bond. It is versatile and efficient, providing many options for installation, serviceability, and finish.

Advantages

PROFILE FEATURES

- Excellent composite performance due to optimized metal deck profile design which provides **clear long spans up to 35 ft.**
- Small thickness to span ratio reduces overall floor height. **Slim floor** depth range from 10 in. to 14 in.
- **Architectural flexibility** for angled and arched slab edges. Concrete beams, mezzanines, and balconies are easily integrated.

COST EFFECTIVE

- Up to **60% less rebar, 65% less shoring, and 40% less concrete** as compared to poured in place concrete slabs.
- Unique composite design reduces concrete volume and rebar reinforcement to provide additional **savings on concrete foundation and shoring**.

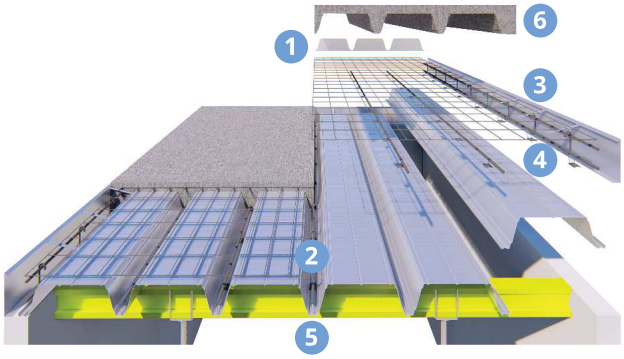
PERFORMANCE

- Provides **1HR and 2HR Fire-resistance Rating** without any protecting membrane or coating.
- Acoustical performance that exceeds Building Code Requirements with Sound Transimission Class (STC) of **60+**

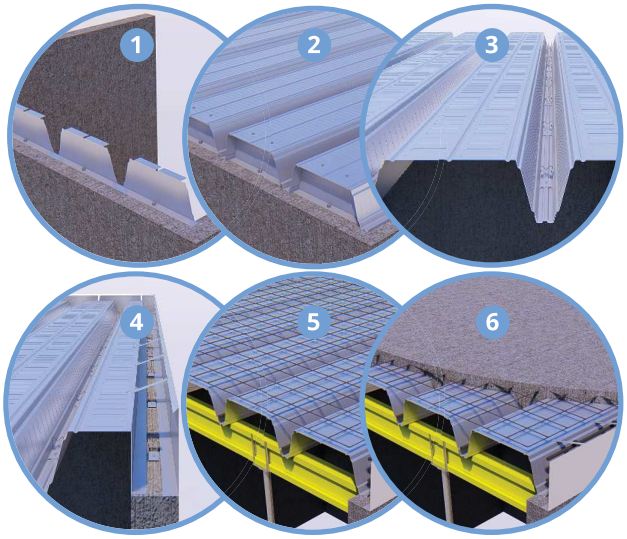
FAST-TRACK CONSTRUCTION

- Provides a **safe working platform** and 100% of concrete forming requirements.
- Easy site handling and **flexibility in storage**. Easy to stack deck profile in bundles to **optimize shipping**.
- Deck panels are cut to length based on shop drawings and can be installed one by one without the use of any crane. Alternatively pre-cut deck pcs can be placed into panels on site then placed into position by crane ready for rebar and concrete.

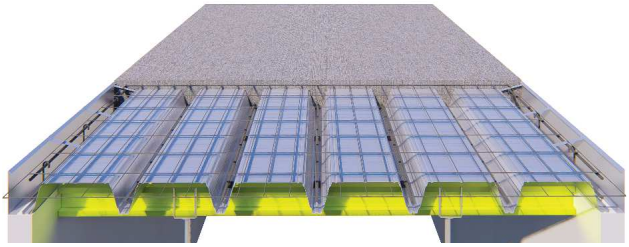
Installation



1. Align and fasten the End Closure to the supporting structure as per shop drawing using self-drilling fasteners, tapcons, or powder-actuated fasteners (PAF) depending on structure type.
2. Following the shop drawings and as per the bundles matching tags; Place the predrilled side of the deck panel on top of the other next piece to overlap. Fasten the deck panels to the End Closures at each side using two self-drill fasteners to each panel.
3. Place Side Lap Washers at the predrilled pilot holes using #14 screws. Slide a Rebar Chair at the fourth washer for rebar support “approximately 48 in. o.c.”

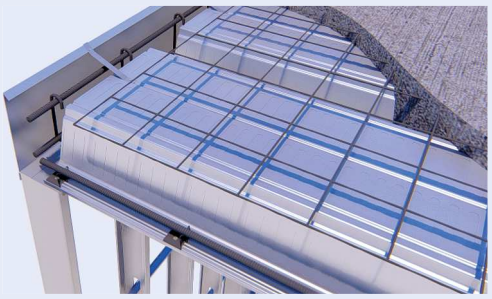
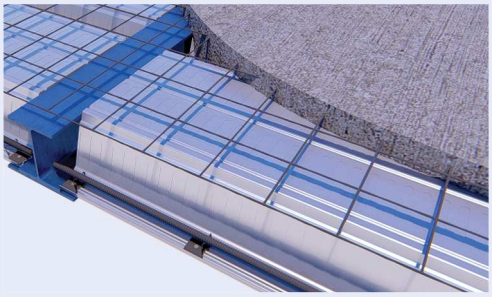


4. Place Inside Trims, Perimeter Trims and Restraint Straps as per shop drawings requirements.
5. Place Rebar and Wire Mesh as per shop drawings; and secure the temporary shoring as per the projects shoring drawings.
6. Pour concrete in accordance with manufacturer’s specification, as per engineer of record requirements and following good construction practices.



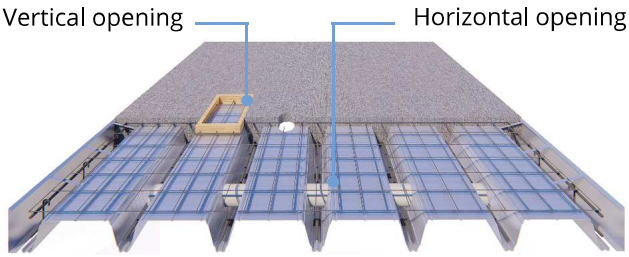
Framing Systems

MegaSPAN® is versatile and can be incorporated with various framing systems. Light steel framing, wood framing, structural steel, poured concrete walls and concrete masonry units are few ideal framing options. Take advantage of this innovative profile in your design.

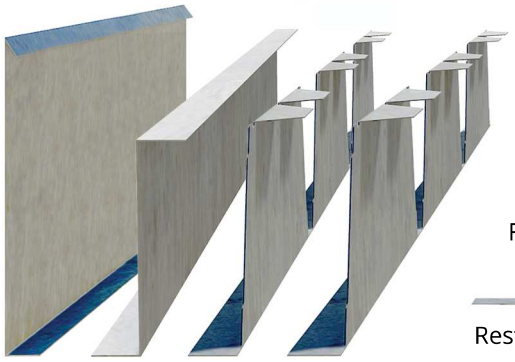
	EXTERIOR BUILDING ENVELOPE	INTERIOR BUILDING ENVELOPE
LIGHTWEIGHT STEEL FRAMING		
STRUCTURAL STEEL FRAMING		
MASONRY WALL SYSTEM		

Openings

Openings in MegaSPAN® composite metal deck can be achieved by boxing out & placing sleeves prior to concrete pouring and then cutting the steel only after pouring when concrete is cured. Alternatively, the slab can be cored after concreting. All openings should avoid interference with the MegaSpan® ribs and rebar.



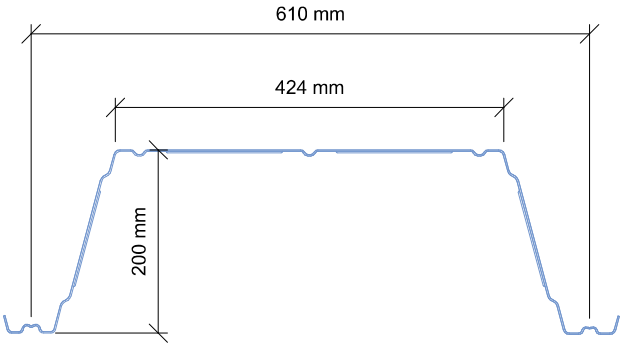
Accessories



Technical Data

Specification Table		
Deck Name	Deck Thickness	Deck Weight
MegaSPAN20	0.953 mm | 0.0375 in.	0.122 kPa | 2.55 psf
MegaSPAN18	1.105 mm | 0.0435 in.	0.142 kPa | 2.97 psf

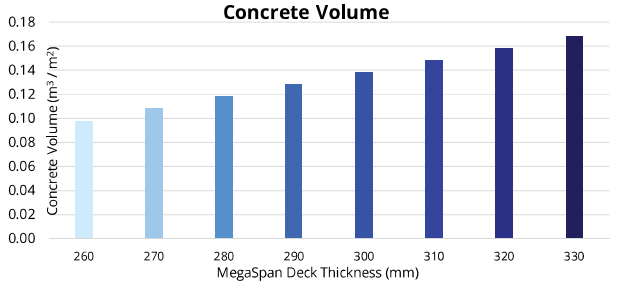
INNOVATIVE PROFILE

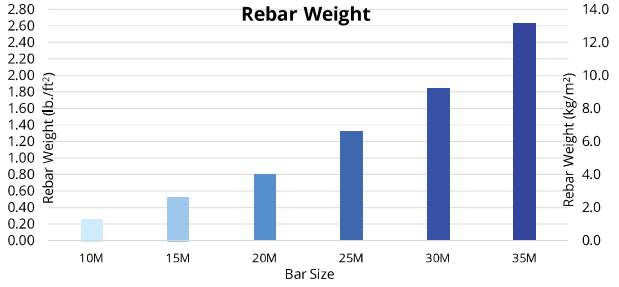


Concrete Volume (m^3 / sq.m. Floor Area)								
Slab Depth (mm)	260	270	280	290	300	310	320	330
Conc. Avg. Thk (mm)	96	106	116	126	136	146	156	166
Conc. Volume	0.096	0.106	0.116	0.126	0.136	0.146	0.156	0.166

Concrete Volume (m^3 / 100 sq.ft. Floor Area)								
Slab Depth (in)	10.5	11	11.5	12	12.5	13	13.5	14
Conc. Avg. Thk (in)	4.12	4.62	5.12	5.62	6.12	6.62	7.12	7.62
Conc. Volume	0.972	1.090	1.208	1.326	1.444	1.567	1.688	1.798

Bottom Rebar Weight Estimation							
Rebar Size		10M	15M	20M	25M	30M	35M
Rebar Weight	kg/m²	1.287	2.575	3.863	6.438	9.014	12.877
	Lb./ft²	0.264	0.528	0.791	1.319	1.846	2.637





Span Tables

Maximum Span for MegaSPAN20 - Metric												
Slab Depth (mm)	SDL = 1.25 kPa + LL = 1.92 kPa						SDL = 1.25 kPa + LL = 4.8 kPa					
	10M	15M	20M	25M	30M	35M	10M	15M	20M	25M	30M	35M
260	6.3	7.1	7.8	9.0	10.0	10.3	5.0	5.7	6.2	7.2	8.0	8.3
270	6.4	7.2	7.9	9.1	10.1	10.7	5.1	5.8	6.4	7.3	8.2	8.6
280	6.5	7.3	8.0	9.2	10.2	10.7	5.2	5.9	6.5	7.5	8.3	8.9
290	6.5	7.4	8.1	9.3	10.3	10.7	5.3	6.0	6.6	7.6	8.4	9.2
300	6.6	7.4	8.2	9.4	10.4	10.7	5.4	6.1	6.7	7.7	8.5	9.5
310	6.7	7.5	8.2	9.5	10.5	10.7	5.5	6.2	6.8	7.8	8.7	9.7
320	6.7	7.6	8.3	9.5	10.6	10.7	5.6	6.3	6.9	7.9	8.8	9.9
330	6.8	7.6	8.4	9.6	10.7	10.7	5.6	6.3	6.9	8.0	8.9	10.0

Maximum Span for MegaSPAN20 - Imperial												
Slab Depth (in)	SDL = 25 psf + LL = 40 psf						SDL = 25 psf + LL = 100 psf					
	10M	15M	20M	25M	30M	35M	10M	15M	20M	25M	30M	35M
10.5"	20' 9"	23' 6"	25'11"	29'11"	33' 2"	34' 7"	16' 8"	18'10"	20' 9"	24' 0"	26' 7"	27'11"
11"	21' 2"	23'11"	26' 3"	30' 3"	33' 7"	35' 0"	17' 1"	19' 4"	21' 3"	24' 6"	27' 2"	29' 2"
11.5"	21' 6"	24' 3"	26' 7"	30' 8"	34' 0"	35' 0"	17' 6"	19' 9"	21' 8"	25' 0"	27' 9"	30' 4"
12"	21' 9"	24' 6"	26'11"	31' 0"	34' 4"	35' 0"	17'10"	20' 1"	22' 1"	25' 5"	28' 3"	31' 7"
12.5"	22' 1"	24' 9"	27' 2"	31' 3"	34' 8"	35' 0"	18' 2"	20' 6"	22' 5"	25'10"	28' 8"	32' 3"
13"	22' 4"	25' 0"	27' 5"	31' 6"	35' 0"	35' 0"	18' 6"	20'10"	22'10"	26' 3"	29' 1"	32' 9"
13.5"	22' 6"	25' 3"	27' 8"	31' 9"	35' 0"	35' 0"	18'10"	21' 1"	23' 1"	26' 7"	29' 6"	33' 2"
14"	22' 9"	25' 6"	27'11"	32' 0"	35' 0"	35' 0"	19' 1"	21' 5"	23' 5"	26'11"	29'10"	33' 7"

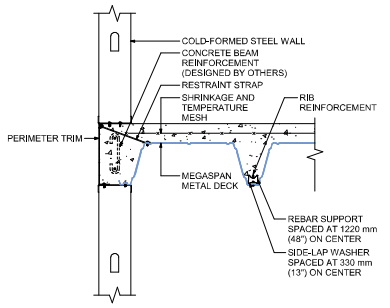
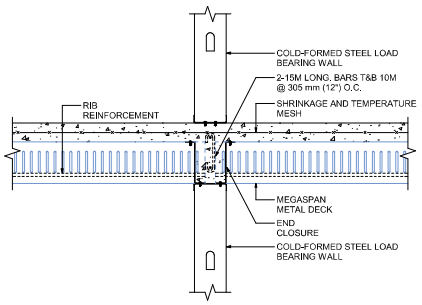
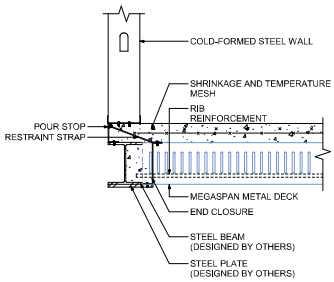
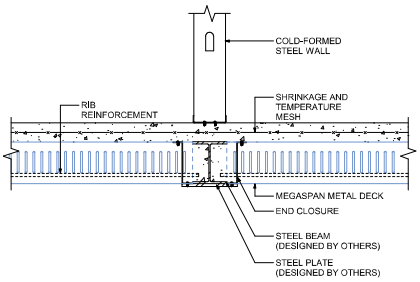
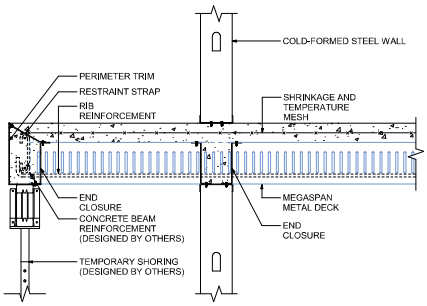
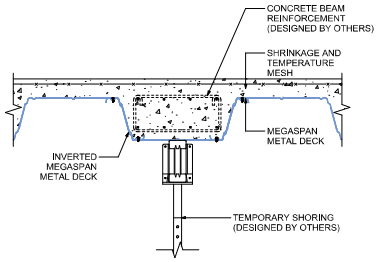
Maximum Span for MegaSPAN18 - Metric												
Slab Depth (mm)	SDL = 1.25 kPa + LL = 1.92 kPa						SDL = 1.25 kPa + LL = 4.8 kPa					
	10M	15M	20M	25M	30M	35M	10M	15M	20M	25M	30M	35M
260	6.7	7.5	8.2	9.3	10.1	10.4	5.3	6.0	6.5	7.4	8.1	8.4
270	6.8	7.6	8.3	9.4	10.4	10.7	5.5	6.1	6.6	7.6	8.3	8.7
280	6.9	7.7	8.4	9.5	10.5	10.7	5.6	6.2	6.8	7.7	8.5	9.0
290	7.0	7.8	8.5	9.6	10.6	10.7	5.7	6.3	6.9	7.8	8.6	9.3
300	7.1	7.9	8.5	9.7	10.7	10.7	5.8	6.4	7.0	7.9	8.8	9.6
310	7.2	7.9	8.6	9.8	10.7	10.7	5.9	6.5	7.1	8.1	8.9	9.8
320	7.2	8.0	8.7	9.9	10.7	10.7	6.0	6.6	7.2	8.2	9.0	10.0
330	7.3	8.1	8.8	9.9	10.7	10.7	6.1	6.7	7.3	8.3	9.1	10.2

Maximum Span for MegaSPAN18 - Imperial												
Slab Depth (in)	SDL = 25 psf + LL = 40 psf						SDL = 25 psf + LL = 100 psf					
	10M	15M	20M	25M	30M	35M	10M	15M	20M	25M	30M	35M
10.5"	22' 3"	24' 9"	27' 0"	30' 9"	33'11"	35' 0"	17'10"	19'10"	21' 8"	24' 8"	27' 3"	28' 2"
11"	22' 8"	25' 2"	27' 5"	31' 3"	34' 4"	35' 0"	18' 4"	20' 4"	22' 2"	25' 3"	27'10"	29' 4"
11.5"	23' 0"	25' 7"	27'10"	31' 7"	34'10"	35' 0"	18' 9"	20'10"	22' 8"	25' 9"	28' 5"	30' 7"
12"	23' 5"	25'11"	28' 2"	32' 0"	35' 0"	35' 0"	19' 2"	21' 3"	23' 1"	26' 3"	28'11"	31'10"
12.5"	23' 8"	26' 3"	28' 6"	32' 4"	35' 0"	35' 0"	19' 7"	21' 8"	23' 6"	26' 9"	29' 5"	32'10"
13"	24' 0"	26' 6"	28' 9"	32' 7"	35' 0"	35' 0"	19'11"	22' 0"	23'11"	27' 2"	29'11"	33' 4"
13.5"	24' 3"	26' 9"	29' 0"	32'11"	35' 0"	35' 0"	20' 3"	22' 4"	24' 3"	27' 6"	30' 4"	33'10"
14"	24' 6"	27' 0"	29' 3"	33' 2"	35' 0"	35' 0"	20' 7"	22' 8"	24' 7"	27'11"	30' 8"	34' 4"

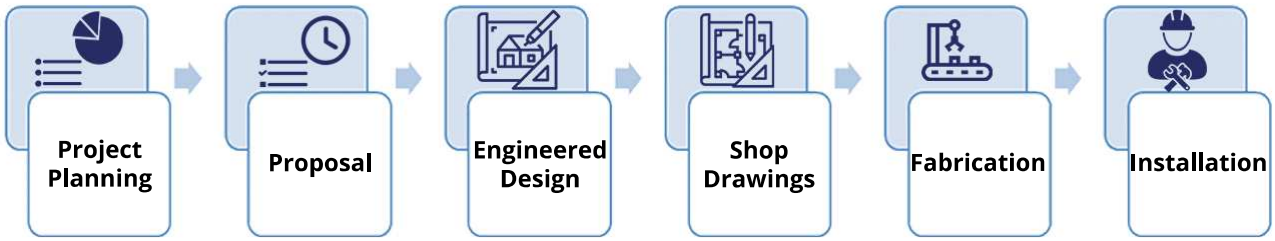
Note: SDL = Super Imposed Dead Load, LL = Live Load or Roof Snow Load

Construction Details

The following examples of construction details for MegaSPAN® composite metal deck are typical for lightweight steel framing and structural steel framing. For further typical details please contact Engineering at Canadian Panel Tech. These details are for reference and should only be used with the approval of the projects engineer of record.

	EXTERIOR BUILDING ENVELOPE	INTERIOR BUILDING ENVELOPE
LIGHTWEIGHT STEEL FRAMING		
STRUCTURAL STEEL FRAMING		
CANTILEVER & INVERTED BEAM		

Engineering Process



Project Planning	Proposal	Engineered Design	Shop Drawings	Fabrication	Installation
MegaSPAN® Engineering Team reviews and provides support by coordinating with Consultants & Architects	Proposals & accurate bids are determined by preliminary design based on discussion with Clients & Project Managers	Engineering softwares are used to frame MegaSPAN® and optimize the cost of composite metal deck system	3D Building Information Modelling (BIM) is used to develop accurate shop drawings	Deck profile is manufactured with high quality control and precision for fast & easy construction	Our Engineering Team will guide your installation crews and provide training to ensure accurate installation

STEEL DECK, CONCRETE, AND A STRUCTURAL BOND

CANADIAN Panel Tech

MegaSPAN

COMPOSITE METAL DECK SYSTEM

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