



 **BAILEY**[®]
STRUCTURAL SYSTEMS

COMSLAB[®]
Long Span Composite Floor System



COMSLAB®

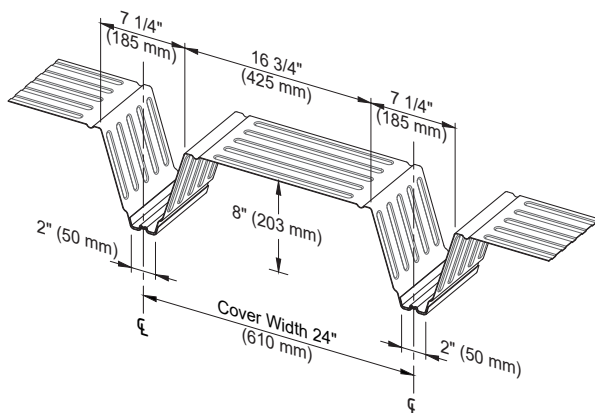
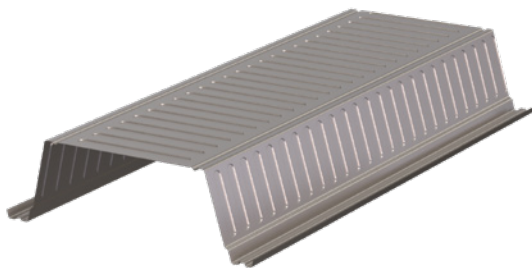
Long Span Composite Floor System
High Performance
Fast Track Construction
Cost Effective

CONTENTS

4	Bailey Metal Products Ltd.
5	Introducing COMSLAB®
6	Key Benefits
7	Building Applications
8	Design Criteria & Technical Data
10	Design Criteria – Vibration & Vibratory Loading
11	Construction Details
12	Construction and Installation Guidelines
16	Fire Ratings
18	Acoustic Performance
21	Components for CS210 & CS120
22	Reference links to load tables

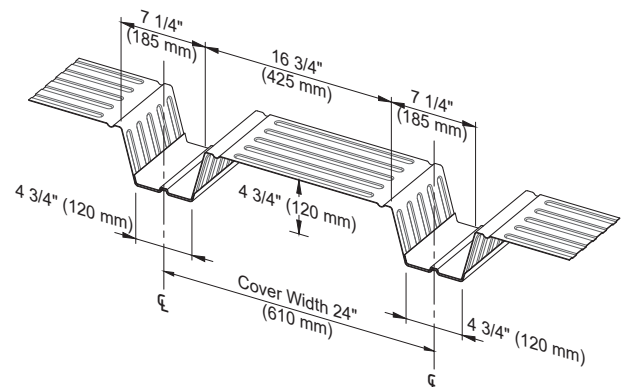
The Original Deep Deck CS-210

Up to 10m (33') clear spans, with a total slab depth ranging from 270mm to 340mm (10.5" to 14"). Provides up to a 2 hour fire rating and offers superior acoustic performance.



The Thinner Slab CS-120

Up to 8m (26') clear spans, with a total slab depth ranging from 190mm to 260mm (7.25" to 10"). Provides up to a 2 hour bare fire rating and offers acoustic performance of STC 50 (7.5" total slab, bare).





BAILEY METAL PRODUCTS LTD.

Bailey Metal Products is one of Canada's leading cold-formed steel framing producers.

Our comprehensive range of high quality steel framing materials is supported by steel roll forming facilities across Canada.

Bailey's innovative and unique composite steel/concrete floor system offers a practical and cost effective alternative to conventional cast-in-place concrete slabs. Fast becoming the structural floor of choice for mid-rise commercial and residential projects, the **COMSLAB®** system from Bailey incorporates simple basic components to produce a structurally efficient floor system suitable for a wide range of building applications.

The unique deep deck profile, combined with single bar reinforcement, serve to provide excellent structural performance while yielding significant savings in concrete, rebar, and shoring. A stiffer, stronger and lighter floor system means the weight and

size of the primary structure and foundation can often be reduced, which can yield significant cost benefits.

COMSLAB® features shallow slab depth keeping overall building height to a minimum and maximizes usable interior height. Along with serving as permanent concrete formwork, the rigid steel deck provides a safe working platform during construction, and its deep profile easily accommodates the placement of MEP services.

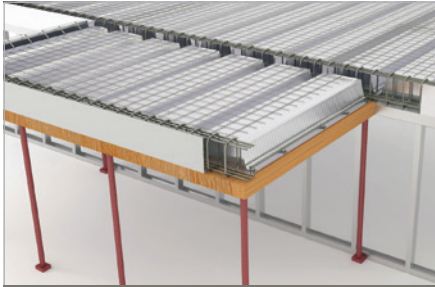
Speed and simplicity of erecting improves construction schedule and minimizes equipment costs such as heavy cranes. The nestable profile makes for cost effective transport and efficient jobsite storage. The system features UL and ULC listed 1 and 2 hour fire rated assemblies.





COMSLAB® LONG SPAN CONCRETE FLOOR SYSTEM

A combination of embossed deep steel deck, concrete slab and one-way rebar that have cured together and bonded structurally to act as one element to provide slab reinforcement.



COMSLAB® Balcony

COMSLAB® is lightweight and easy to work with. It can be rapidly installed in even the tightest work environments.

COMSLAB® is a fire rated, structurally superior composite floor.

It's specially designed for use in hotels, multi storey residential buildings, long-term care facilities, multi-family residential units, storage buildings, schools and/or office buildings. **COMSLAB®** incorporates easily into all structural systems, including lightweight steel framing, structural steel, masonry, specialty beams, poured concrete, insulated concrete forms or wood framing construction. It is a proven, reliable, and cost-effective composite steel deck.



Perimeter trims and restraint straps



Efficient Use of Materials
40% less concrete and rebar versus
conventional concrete slabs

A quality product, manufactured by Bailey Metal Products Limited, **COMSLAB®** is lightweight and self-seating for long span floor requirements. Easy to work with, it can be rapidly installed in even the tightest work environments. It's a practical solution, especially when building in, and around, tight downtown locations where large crane truck access is limited.

COMSLAB® is designed for applications and use in all building construction. Its unique concept allows for flexible design options. It easily accommodates the placement of all services, duct work and conduit.

COMSLAB® sections can be supplied pre-cut to your specifications for even greater time and material savings.

COMSLAB® can be adapted to many other environmentally friendly building opportunities. It's an economical and creative option for the construction of mezzanines, and roof-top green spaces or gardens.

COMSLAB® IS A LEED FRIENDLY PRODUCT FOR RECYCLABILITY, WASTE REDUCTION AND CLEAN AIR BUILDING.

COMSLAB® KEY BENEFITS



SPACE OPTIMIZATION

- Long span capacity allows for open concept design
- Low profile slabs to maximize ceiling height
- Reduces building height
- Integrates mechanical, electrical, plumbing and fire suppression services



PERFORMANCE

- Non-combustible
- High performance STC (up to 61) and IIC (up to 65)
- Predictable floor vibration performance
- Durable and dimensionally stable
- Ceiling options: drywall, post-paint, and acoustical ceiling grid



EFFICIENT CONSTRUCTION

- 40% less rebar, 40% less concrete, less shoring and reduced weight vs. conventional cast-in-place concrete slabs
- Promotes fast track construction with optional field panelized lift-in-place sections
- Versatile and integrates with any structural system



APPROVALS AND RATINGS

- 1 and 2 hour ratings for both CS-120 and CS-210 – UL D918
- High performance STC (up to 61) and IIC (up to 65)



FAST TRACK CONSTRUCTION

- Simple base components
- Permanent concrete platform
- Instant working platform
- Minimal crane time
- Minimal shoring allows fit out to proceed quickly



VERSATILE

- Incorporates easily onto any structure: steel, concrete, masonry, ICF and Cold Formed Steel (CFS)

01

COMSLAB® • Building Applications

COMSLAB® BUILDING APPLICATIONS

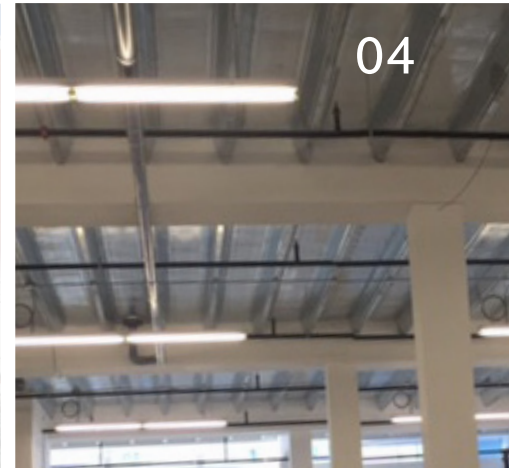
- 01 Mid-Rise Residential/ Hospitality
- 02 Mezzanines
- 03 Multilevel & Storage
- 04 Exposed Interior
- 05 Highrise
- 06 Education Buildings
- 07 Building Re-purpose



03

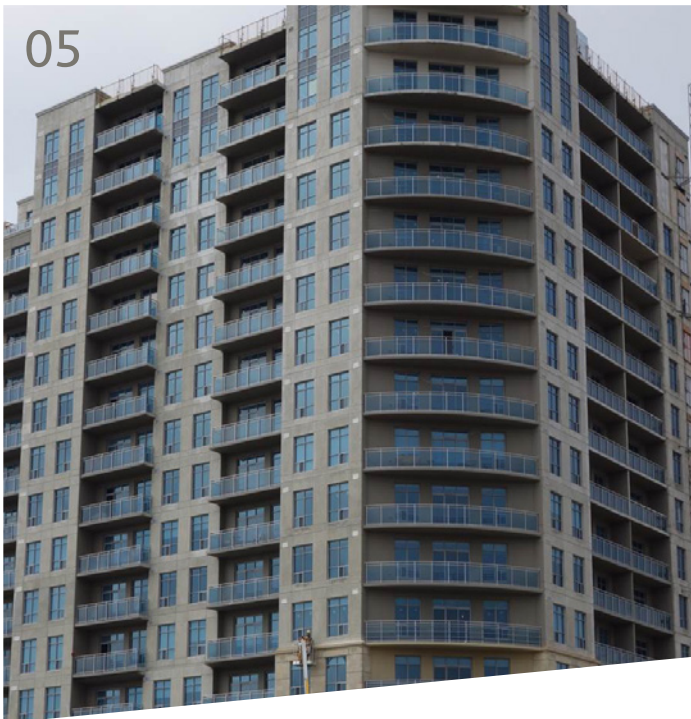


04



02

05



06



07





COMSLAB® DESIGN CRITERIA AND TECHNICAL DATA

This catalogue provides technical & structural information for the COMSLAB® composite concrete slab system. All calculations, whenever applicable, were based on CSSBI S3-2019, CSSBI 12M-24 & CSA A23.3-24. Design span tables are also presented, as well as various construction applications to assist the designer in detailing common structural assemblies. Additional assistance regarding the COMSLAB® Composite Floor System construction method may be obtained by contacting the Bailey Metal Products sales office in your area.

We wish to acknowledge the significant contributions of Dr. R.M. Schuster, P.Eng., Dist. Professor Emeritus of Structural Engineering at the University of Waterloo, whose expertise and work formed the basis of the structural span tables and technical information used in this catalogue. The current span tables have been prepared by Bailey Metal Products Limited.

MATERIALS

- **Steel deck** meets the requirements of **ASTM A653** Standard Specification of Steel Sheet, Zinc-coated (Galvanized) by the Hot-dip Process, Structural (Physical) Quality. The guaranteed minimum yield strength is **380 MPa (55 ksi)** with a minimum zinc coating mass of **275 g/m² Z275 (G90)** total both sides. Steel deck base thickness is **0.953 mm (0.0375")** or **1.26 mm (0.0495")**.
- **Reinforcing steel** meets the requirements of **CSA G30.18: 21**. Guaranteed minimum yield strength is **400 MPa**. The clear distance of each reinforcing bar from the bottom of the steel deck is **40 mm (1.5")**.
- **Shrinkage & Crack Control Mesh** COMSLAB® shall have minimum shrinkage and temperature reinforcement.
- **Concrete** has a minimum compressive strength of **30 MPa (4.35 ksi)** with a maximum aggregate size of **20 mm (3/4")**. Normal density structural concrete.

SECTION PROPERTIES OF STEEL DECK

All structural section properties of the steel deck were calculated in accordance with **CSA Standard S136-16 (R2021)** and substantiated with tests at the STaR testing laboratory in Cambridge, Ontario.

STRUCTURAL TESTING

Since the COMSLAB® composite slab system also has reinforcing steel in each rib; **shear-bond** is not a mode of failure. This was substantiated by tests carried out at the University of Salford, by Prof. D. O'Leary in 1993 and more recently at the STaR testing laboratory in Cambridge, Ontario in 2016. Please contact Bailey Engineering for further information regarding shear-bond.

SHORING DURING CONSTRUCTION

COMSLAB® Unshored Span Requirements were established in accordance with **CSSBI 12M-24**, using the following strength and serviceability/deflection criteria:

- **Strength** – Calculations were based on the combined loads due to the wet concrete, the steel deck and certain construction live loads.

COMSLAB®

DESIGN CRITERIA AND TECHNICAL DATA

Minimum construction live loads applied separately are:

- 1) **1 kPa (20 psf)** uniform load, or
2 kPa (40 psf) uniform load (in some jurisdictions)
- 2) **2.2 kN/m (147 lb/ft)** transverse concentrated line load at the centre of the span.

For alternate loads contact Bailey®

• **Serviceability** – Calculated deflections were based on the uniform dead load due to wet concrete and steel deck, and the maximum mid-span deflection was limited to **L/180 or 20 mm (0.79 in.)**, whichever is smaller.

SPAN TABLES AND LOAD TABLES

The floor system is designed to resist its self-weight and superimposed design loads. The span tables provide the maximum recommended spans, while the load tables indicate the maximum superimposed uniform design loads. The load tables also include the following composite slab properties:

ϕM_n – factored positive moment capacity

ϕV_n – factored vertical one-way shear capacity

I_u – uncracked moment of inertia (transformed to steel)

I_c – cracked moment of inertia (transformed to steel)

I_d – average moment of inertia (transformed to steel) = $0.5 \times (I_u + I_c)$

- Deflection parameters SLDP and SWDP (refer to the design example for explanation)
- Tables are based on simply supported spans. For continuous spans, design must be carried out in accordance with CSA A23.3-24, including negative bending reinforcement over supports.
- These tables do not apply to cantilevers. For cantilevers, the deck functions as formwork only. Positive and negative reinforcement must be designed in accordance with CSA A23.3-24.
- Self-weight is already incorporated in the **COMSLAB®** Load Tables. The tables present maximum superimposed nominal live loads. Superimposed dead loads may be added to the live loads using a 1.25/1.5 factor (i.e., $0.833 \times \text{SIDL}$).
- For applications not covered in this document (e.g., moving loads, suspended loads, cantilevers, continuous spans, etc.), please contact a Bailey representative.

DESIGN CRITERIA FOR COMPOSITE DECK

• Strength

- Since shear-bond failure is not a governing mode, only flexural and one-way shear resistances were evaluated.
- Slab flexural and shear resistances were calculated in accordance with CSSBI S3-2019.

• Serviceability

- The uncracked moment of inertia was used to calculate deflection due to self-weight and the average of the uncracked and cracked moments of inertia was used to calculate deflection due to superimposed loads, in accordance with CSSBI S3-2019.
- Deflection calculations are based on the specified superimposed uniform live load, with a maximum instantaneous deflection limit of $L/360$.
- Span tables are limited to a long-term deflection of $L/240$, with an absolute maximum of 25 mm (Δ_{NET} over 3 months to 5 years). In accordance with CSA A23.3-24, long-term deflection may be reduced by providing compression (top) reinforcement.
- For calculation examples of self-weight and long-term deflection, refer to Page 22.

COMSLAB® DESIGN CRITERIA

VIBRATION & VIBRATORY LOADING

Vibration performance is linked to the subjective perception of each and everyone occupying the structure. Various approaches can be used to predict performance including finite element analysis, calculation per AISC Design Guide 11, as well as the ACI or CSA equivalent. The application in which the product is being used, the floor dampening and various architectural components will have impact on the performance. The bearing conditions, the connections and tolerance of occupants will also have an impact on the results of a vibration analysis. The major factors that influence vibration performance are: the stiffness of the floor (moment of inertia) and the mass, both of which are available in the tables, as well as damping. Damping increases as more external components are added, such as ceilings and non-load bearing walls. When oscillating vibrations are expected on a floor, such as from machinery, adequate attention is required to ensure safety. Significant repetitive vibrations can cause adverse effects such as deck delamination or tracking. In such cases, it is often preferable to isolate the equipment causing such vibrations from the floor / roof. This is often accomplished by the use of isolator pads or floating floors. When isolation is not effective or possible, a conservative approach to designing the floor is to ignore the contribution of the deck in the composite phase, and design the floor solely on the basis of reinforced concrete. In these cases, the deck is used as a form only.

Contact Bailey technical support for load tables neglecting the deck contribution.



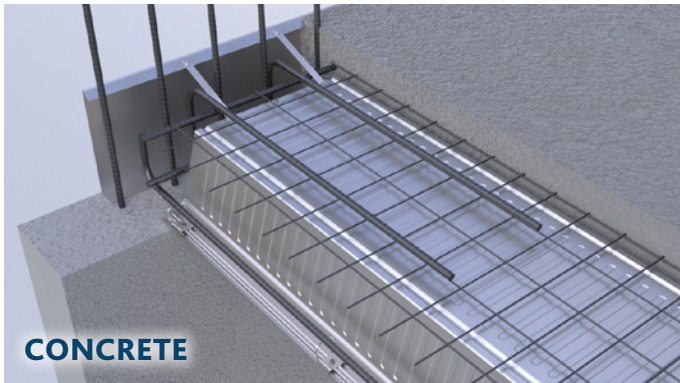
COMSLAB® CONSTRUCTION DETAILS



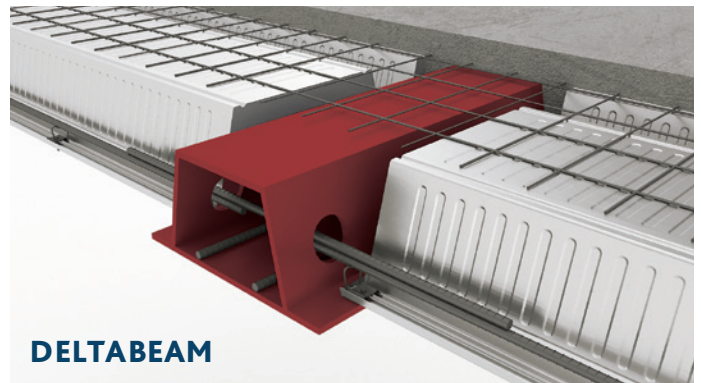
COMSLAB® WITH STUD WALL



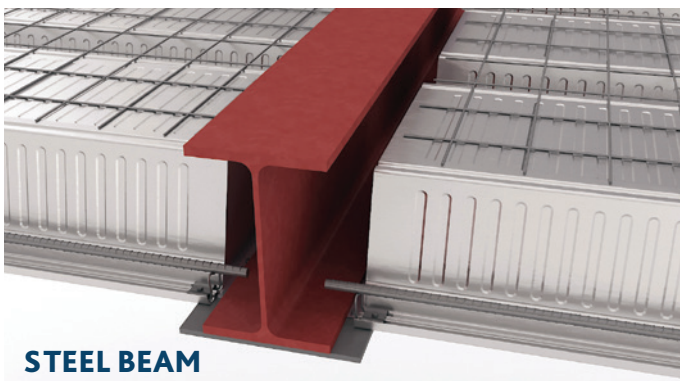
INVERTED COMSLAB® BEAM



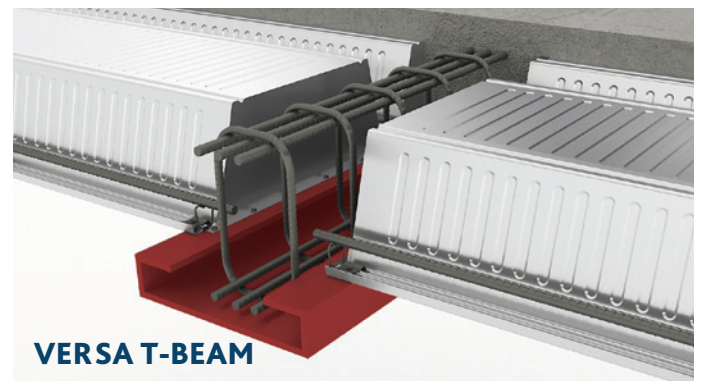
CONCRETE



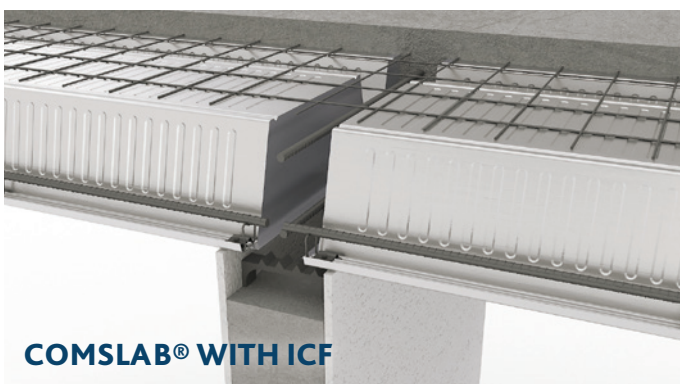
DELTABEAM



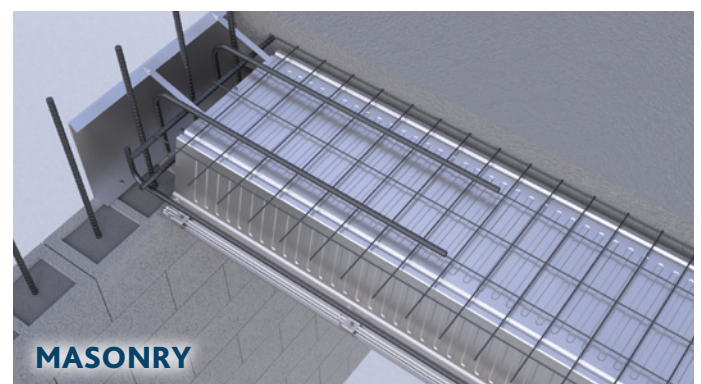
STEEL BEAM



VERSA T-BEAM



COMSLAB® WITH ICF



MASONRY

COMSLAB® CONSTRUCTION AND INSTALLATION GUIDELINES

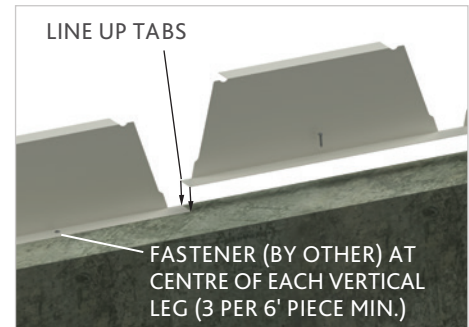
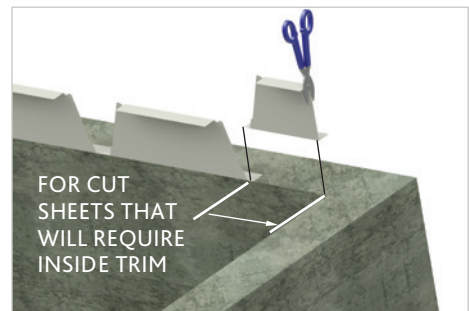
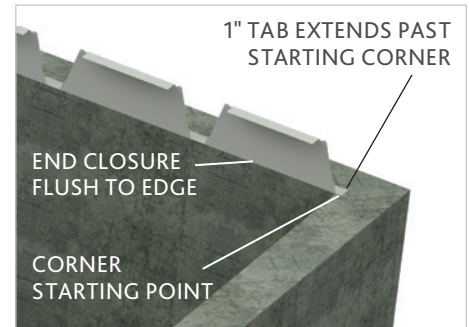


1.0 DECK & ACCESSORIES

1.1 END CLOSURES

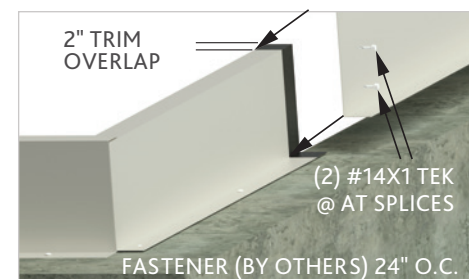
End closures are used to contain the concrete, provide alignment for the **COMSLAB®** profile and help prevent web crippling at the ends of the deck sheet. They are typically fastened to continuous supporting structure with shot-fired pins or self-drilling fasteners at maximum intervals of 610mm (24") o.c. or as specified by the engineer of record. These closures are manufactured from 1.37mm (0.054") galvanized steel, generally 1830mm (6 ft) long or longer for angle cut installations.

Fasteners to the bearing structure to be designed and provided by others. End closures are installed before deck is put in place. In locations where **COMSLAB®** coverage is reduced from 610mm (24"), end closures must be cut and adjusted. When used in conjunction with hot-rolled steel beams, these End Closures provide concrete cover to the steel beam for fire resistance.



1.2 INSIDE TRIMS

At longitudinal supports where deck low/flute is appropriately positioned near edge of support, fasten deck low/flute to continuous support at 350mm (14") o.c. using shot-fired pins, self-drilling fasteners (depending on the structural frame type) or as specified by the engineer of record. Where deck low/flute is not appropriately positioned, cut deck on top flange and fasten to Inside Trim closure (Z-shape) at 350mm (14") o.c. All fasteners to the bearing structure are to be designed and provided by others.



COMSLAB® CONSTRUCTION AND INSTALLATION GUIDELINES

1.3 PLACING OF COMSLAB® DECK 1.3.5 Two options available for deck placement:

1.3.1 Do not set bundles of decking on the structure without first verifying that the structure has sufficient strength and stability to safely support the concentrated weight of the panels and the weight of the installation crew.

1.3.2 As panels are often shored for the concrete pour, ensure that they have sufficient strength before using them as a working deck when shoring is not in place.

1.3.3 When properly supported before the concrete pour, panels are designed to support uniform loads evenly distributed over the panel surfaces. Care should be taken to avoid excessive load concentration such as temporary storage of materials for sub-trades. It should be noted that deck bundles, and bundles of reinforcement bar, should be placed perpendicular to panel direction and within close proximity of supports to avoid unnecessary concentrated loads. Prior to the pouring of concrete, concentrated point loads can be imposed by heavy equipment, ladders or platform feet, etc., and may cause panel deformation or even panel failure leading to the possibility of personal injury.

1.3.4 Locate COMSLAB® bundle with the tag indicating the correct floor, bay and piece mark (Reference latest set of COMSLAB® plans tag information).

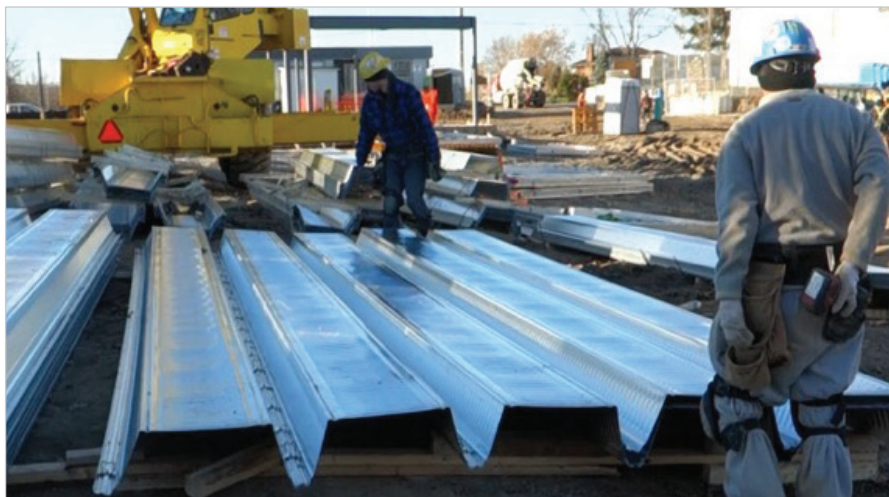
DESIGN THICKNESS

0.0375" ☐
0.0435" ☐
0.0495" ☐

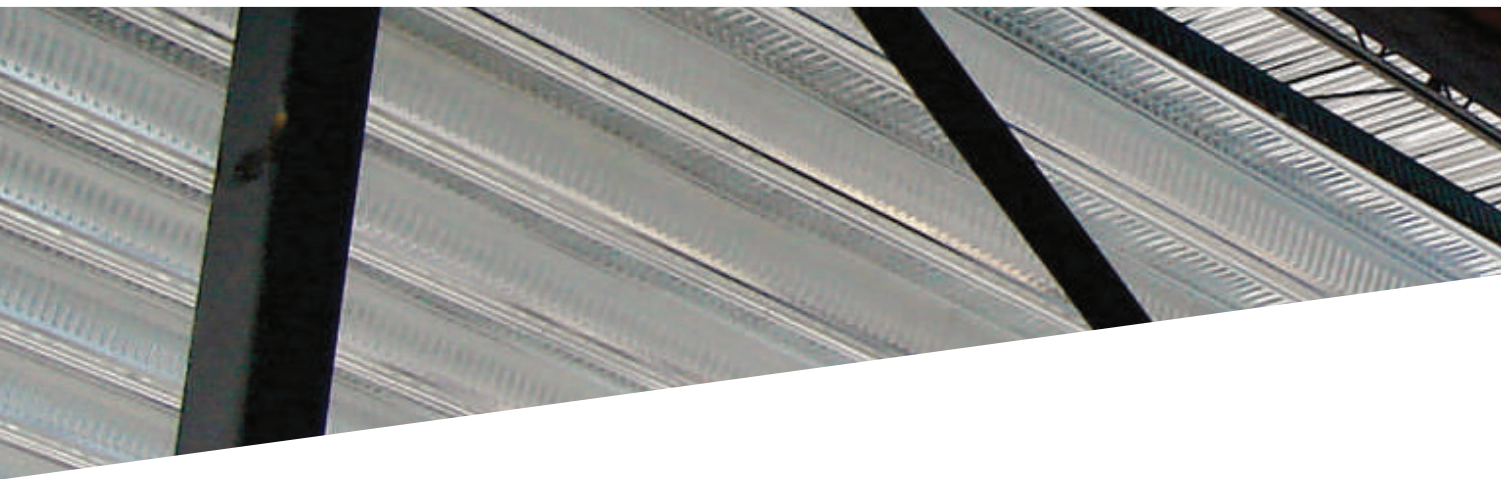
TAG EXAMPLE

Floor-Bay Locations	Qty.	@	Length
G-1	1	@	5' 0"

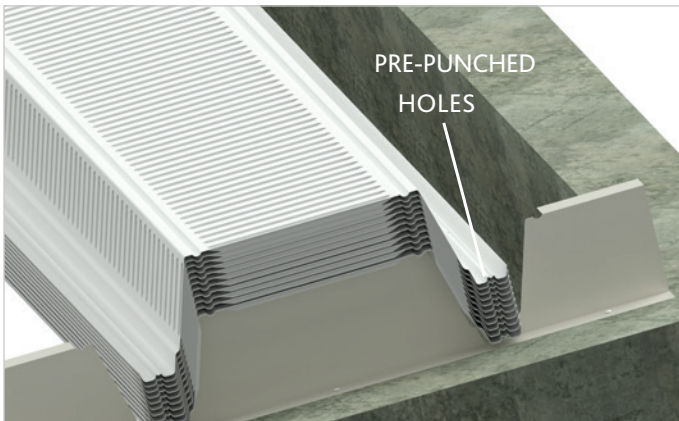
1. Progressively position individual COMSLAB® deck panels over the end closures (male to female overlap).
2. Alternatively, panels may be assembled at an onsite staging area, braced and craned into place.



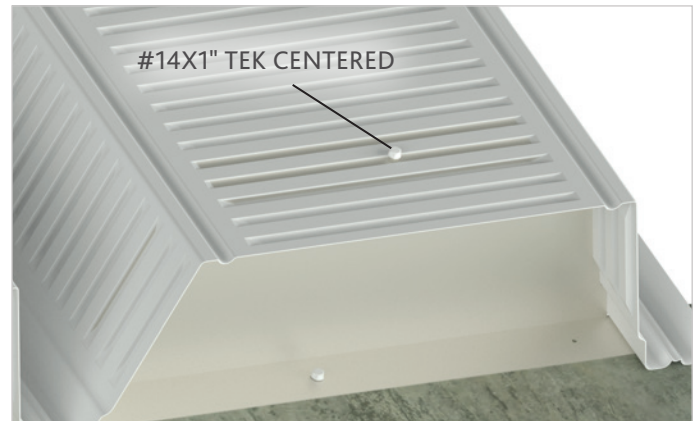
COMSLAB® CONSTRUCTION AND INSTALLATION GUIDELINES



1.3.6 Starting at the first full available deck space, lay bundles of deck so that pre-punched holes to be parallel to and nearest to the bearing surface.



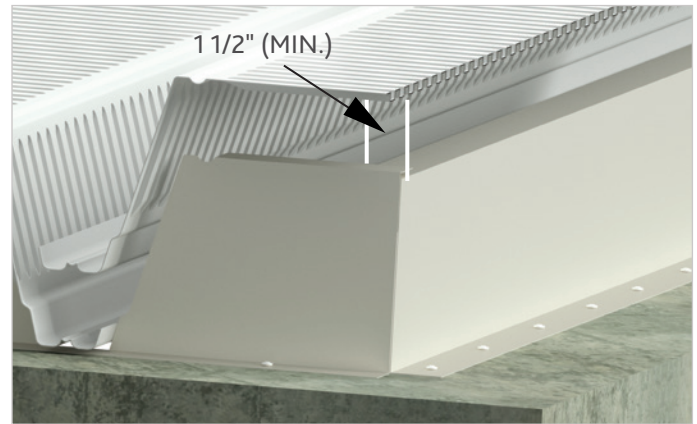
1.3.8 After each deck is properly placed, fasten deck to end closure at each end using (1) #14x1" TEK Screw* as shown below.



1.3.7 Maintain a minimum of 50 mm (2") end bearing at each end of deck.

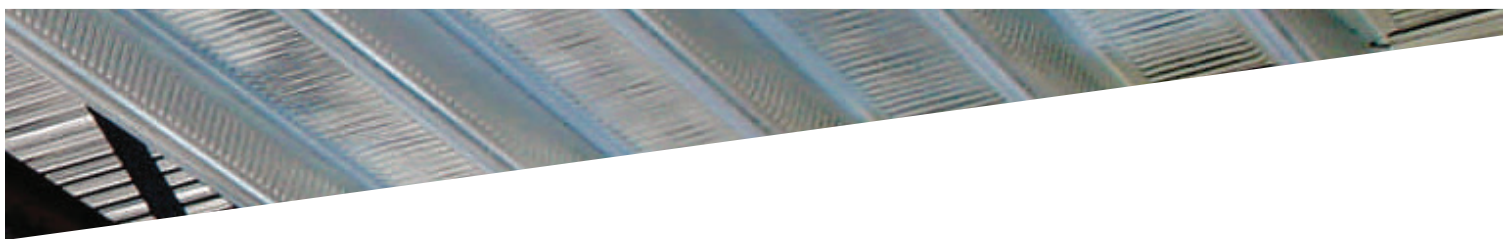


1.3.9 At cut deck edges at ends of bays (or similar), maintain a minimum of 40 mm (1 1/2") bearing on inside trim (IT-#)*.



COMSLAB®

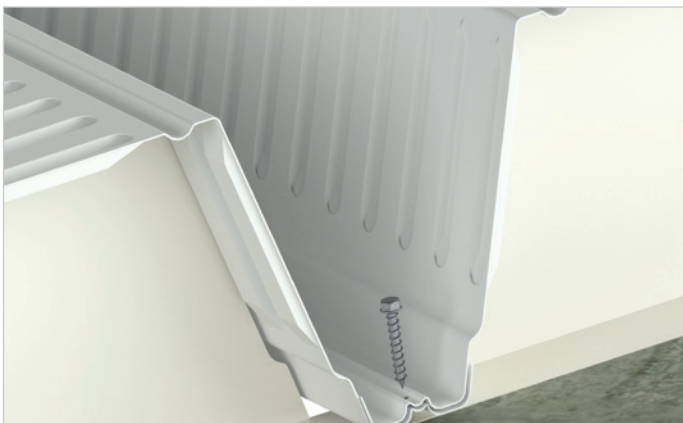
CONSTRUCTION AND INSTALLATION GUIDELINES



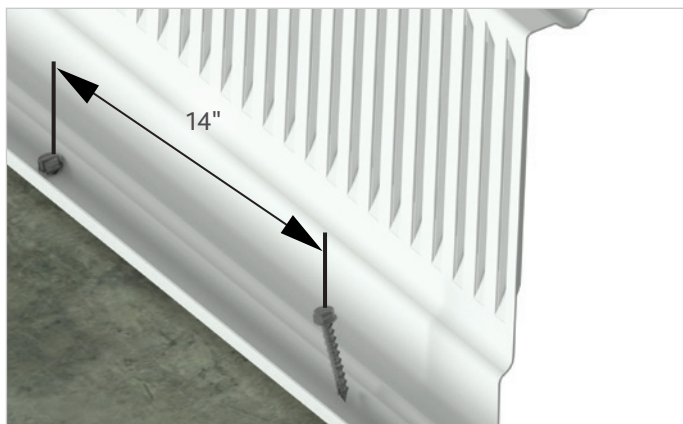
1.4 FASTENING THE COMSLAB® DECK

COMSLAB® panels shall be positively fastened to the supporting structure to avoid movement during construction and excessive deflection during placement of concrete.

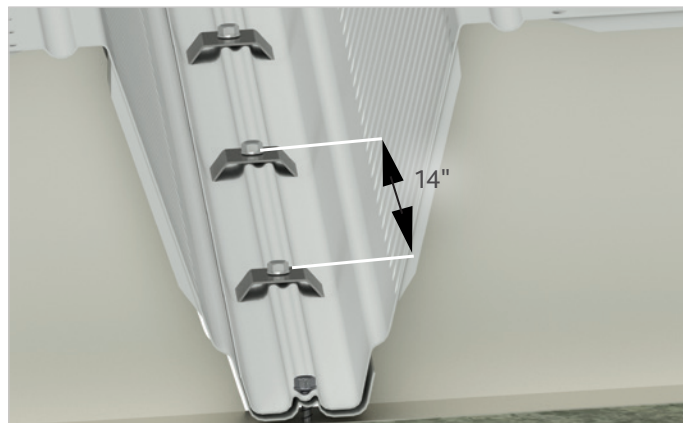
1.4.1 Using the same fasteners (by others) used to fasten the End Closure (EC-#)*, fasten the **COMSLAB®** deck lows through the End Closure and onto the bearing surface at both ends of the deck.



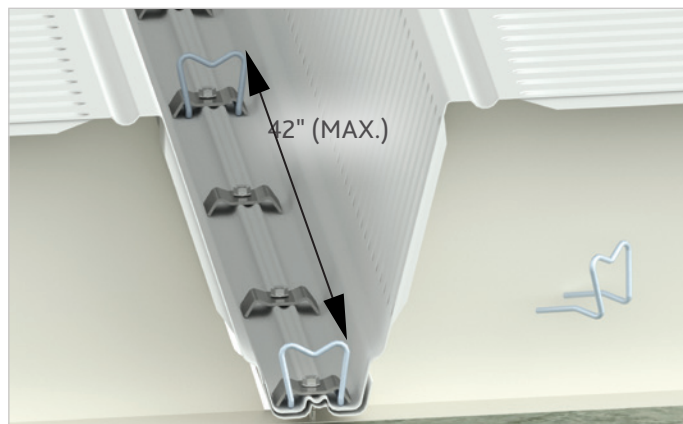
1.4.2 Where **COMSLAB®** deck rests min. 50 mm (2") directly on the parallel bearing surface, fasten the deck at 350 mm (14") O.C. to continuous support with self-drilling fasteners or shot-fired pins, or as specified by the engineer of record. Fasteners to the bearing structure are to be designed and provided by others.



1.4.3 Fasten overlapping joints at 350 mm (14") on centre at pre-punched holes with Side-lap Washers* and #14x1" TEK Screws*. Distance from first fastener at bearing to first pre-punched hole may vary, but must not exceed 350 mm (14").



1.4.4 Starting at the first and last Side-lap Washers*, install Rebar Chairs* at 1050 mm (42") O.C. (max.)



COMSLAB® CONSTRUCTION AND INSTALLATION GUIDELINES

1.5 PERIMETER TRIMS

Are required for the retention of wet concrete to the correct level at floor perimeters and designed openings. They are shaped with a top stiffening lip, are manufactured for the design slab thickness and are supplied in 3 m (10 ft) lengths of galvanized steel. Reference **COMSLAB®** drawings to ensure use of correct Perimeter Trim size and bearing position at each location. Perimeter Trims (PT- #)* are fastened to the support structure at 350 mm (14") o.c. to continuous support using self-drilling fasteners, shot-fired pins or other as specified by the engineer of record. Fasteners to the bearing structure are to be designed and provided by others.

Note: If Special Section (SS- #)* Perimeter Trim is required for short cantilever conditions, maintain a 50 mm (2") minimum bearing on structural surface.



1.6 RESTRAINT STRAPS

To assist in ensuring that the Perimeter Trim does not deform excessively during the concrete pour, the stiffening lip of the Perimeter Trim is connected to the deck with Restraint Straps at approximately 400 mm (16") o.c. using either pop rivets or self-drilling fasteners. The Restraint Strap can be adjusted to suit the pitch and alignment of the Perimeter Trim.



1.7 SIDE-LAP WASHERS

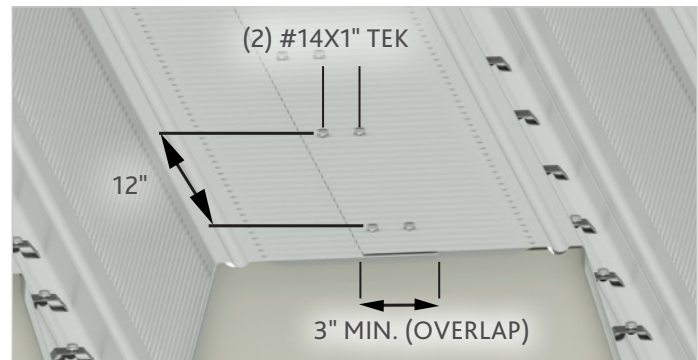
Since the **COMSLAB®** deck acts compositely with the concrete, Side-lap Washers are important connecting elements that contribute to composite action with the concrete. These washers are pre-punched to receive the self-drilling fastener.

Note: that every side-lap fastener shall include a side-lap washer. This washer is required to properly attach the individual steel deck panels together.



1.8 DECK SPLICING & STITCHING

Where stitches are required at spliced **COMSLAB®** deck pieces, overlap the deck a minimum of 75 mm (3"), and fasten with (2) #14x1" TEK screws* side by side at 300 mm (12") O.C. down the length of the deck panel. Ensure the same splice and overlap detail is performed at each bearing end closure of the spliced deck panel.



COMSLAB®

CONSTRUCTION AND INSTALLATION GUIDELINES



Welded wire mesh as shrinkage reinforcement

2.0 RIB REINFORCEMENT

The **COMSLAB®** design requires that one steel reinforcing bar be placed in each rib profile. The Rebar size can vary from 10 M to 35 M in diameter. The Rebar shall be placed on Rebar Supports which ensure 40mm (1.5") cover from the bottom flange to the underside of the reinforcing bar.

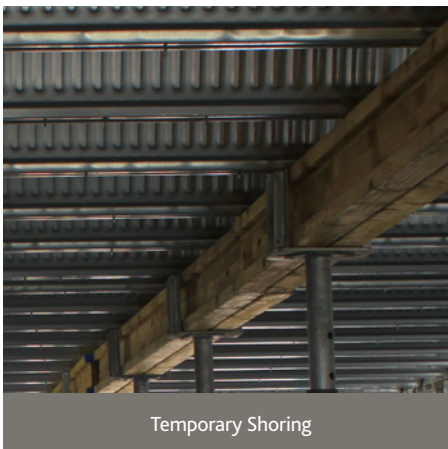
3.0 WIRE MESH PLACEMENT

COMSLAB® shall have minimum shrinkage mesh and temperature reinforcement as specified by CSSBI-S3-19 Table 2 and it should be placed above the top of the steel deck and positioned towards the top of the slab or as specified by the engineer of record. Mesh should be lapped a minimum of 152mm (6") onto the adjacent mesh.

4.0 TEMPORARY SUPPORTS

Where the design span exceeds the maximum un-shored span, the wet concrete weight and construction loads shall be supported by adding temporary supports (shoring) as designed by the engineer of record or shoring engineer. Where temporary supports are required, it is important that:

- Shoring posts and beams have strength equal or greater than the components specified in the shoring design.
- Post spacing shall not exceed that given in the shoring design.
- Posts must be plumb and sufficiently tight so they do not topple.
- The floor below must have sufficient strength to support the shoring posts. Where the floors below are also the **COMSLAB®** Floor System, posts may need to be extended to level(s) below as specified in the shoring design.
- Shoring is normally placed at mid-span or at other suitable intervals, as required.
- Shoring beams shall provide a minimum bearing width of 100mm (4").
- The shoring structure shall remain in place as specified by the engineer of record or shoring engineer.



Temporary Shoring

COMSLAB® CONSTRUCTION AND INSTALLATION GUIDELINES



5.0 CONCRETE PLACEMENT

5.1 Concrete shall be placed in accordance with CSA A23.1.

5.2 Before starting concrete placement, the steel deck should be inspected to confirm it has been properly and completely fastened and that the deck has adequate bearing on all supports. Damaged areas must be repaired and accepted by the engineer of record prior to concrete placement. All dirt, grease and debris, which could adversely affect the composite slab performance, must be removed.

5.3 All safety barriers must be in place, reinforcement bars secured and, if required, the shoring should be examined to make sure it is securely in place.

5.4 Concrete to be used should have a minimum cylinder strength of 30 MPa (4.35 ksi) with a maximum 20 mm (0.75").

5.5 Care shall be taken to avoid concrete heaping in any area during concrete placement. Concrete should be poured from a low level to avoid impacting the deck. It should be placed uniformly over the supported area of deck and spread towards areas between supports. To lessen the potential of overloading the deck, the concrete should be pumped onto the floor. In pumping operations, free-fall of concrete should be minimized to avoid impact loading of deck and segregation of concrete.

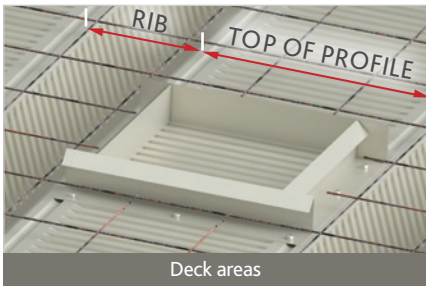
In cold weather applications, steps shall be taken to ensure the deck clean and ready to receive concrete, and that suitable heating is applied. Heating blankets should be used as required. Refer to the engineer of record for appropriate cold-weather concreting method.

COMSLAB®

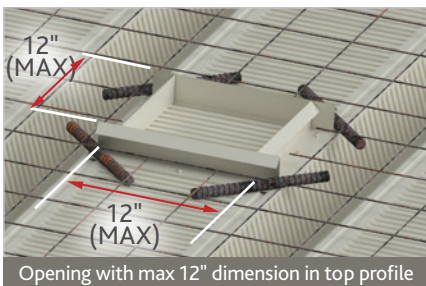
CONSTRUCTION AND INSTALLATION GUIDELINES



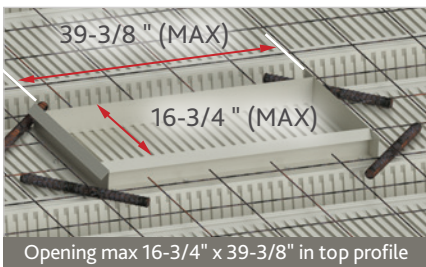
Sleeve installed prior to pour



Deck areas



Opening with max 12" dimension in top profile



Opening max 16-3/4" x 39-3/8" in top profile



Opening larger than 16-3/4" in a rib

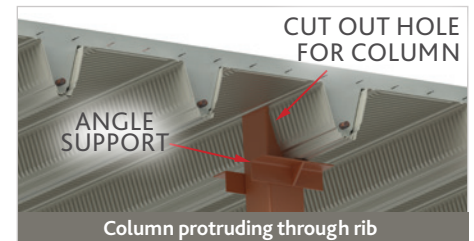
6.0 OTHER CONSIDERATIONS

6.1 Penetrations – Penetrations through the floor decking shall be cut after the concrete has cured. Before placing concrete, any openings shall be boxed out with form work as specified by the engineer of record. The following guidelines are suggested for isolated openings at right angles to the deck span, or as specified by the engineer of record:

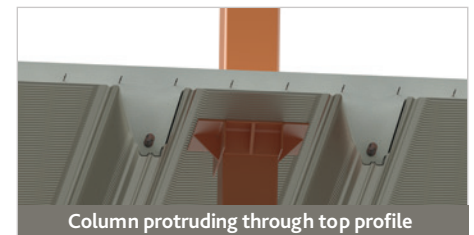
- Up to 12" square penetrations centered on the top of the profile of the deck is acceptable without additional reinforcement, other than the minimum shrinkage and temperature mesh.
- Up to 16-3/4" width by 39-3/8" length opening with additional reinforcement.
- Close grouping of openings transverse to the profile shall be treated as one opening requiring additional reinforcement as specified by the engineer of record.
- Openings larger than 16-3/4" that interfere with a rib require structural steel framing as specified by the engineer of record.
- After the slab has reached 75% of the required concrete compressive strength, a nibbler, power saw or coring machine can be used to cut out openings in the top profile with the approval of the engineer of record.

6.2 SERVICE HOLES – Sleeves shall be fastened in place before concrete placement. Cut-out of holes in deck shall be done only after the concrete has reached 75% of its design strength, or as specified by the engineer of record.

6.3 COLUMNS AND COMSLAB® DECKING – The steel deck can be cut and fitted to accommodate various column shapes to minimize grout loss. Where no supporting steel work is provided, steel angle brackets shall be provided to support the steel decking, as specified by the engineer of record.



Column protruding through rib



Column protruding through top profile

6.4 HANGER SYSTEM – The geometry of the ribs allows for the suspension of services from the profile top flange between ribs. Pre-set threaded rod hangers are easily installed before the concrete is placed. Consult with your mechanical and electrical consultants as well as installation contractors for accepted specifications. Follow manufacturer specifications for all hanger systems used.

COMSLAB® FIRE RATINGS



FIRE RATINGS

These are the most commonly used ratings. Additional UL assemblies available. Please speak with your representative to learn more

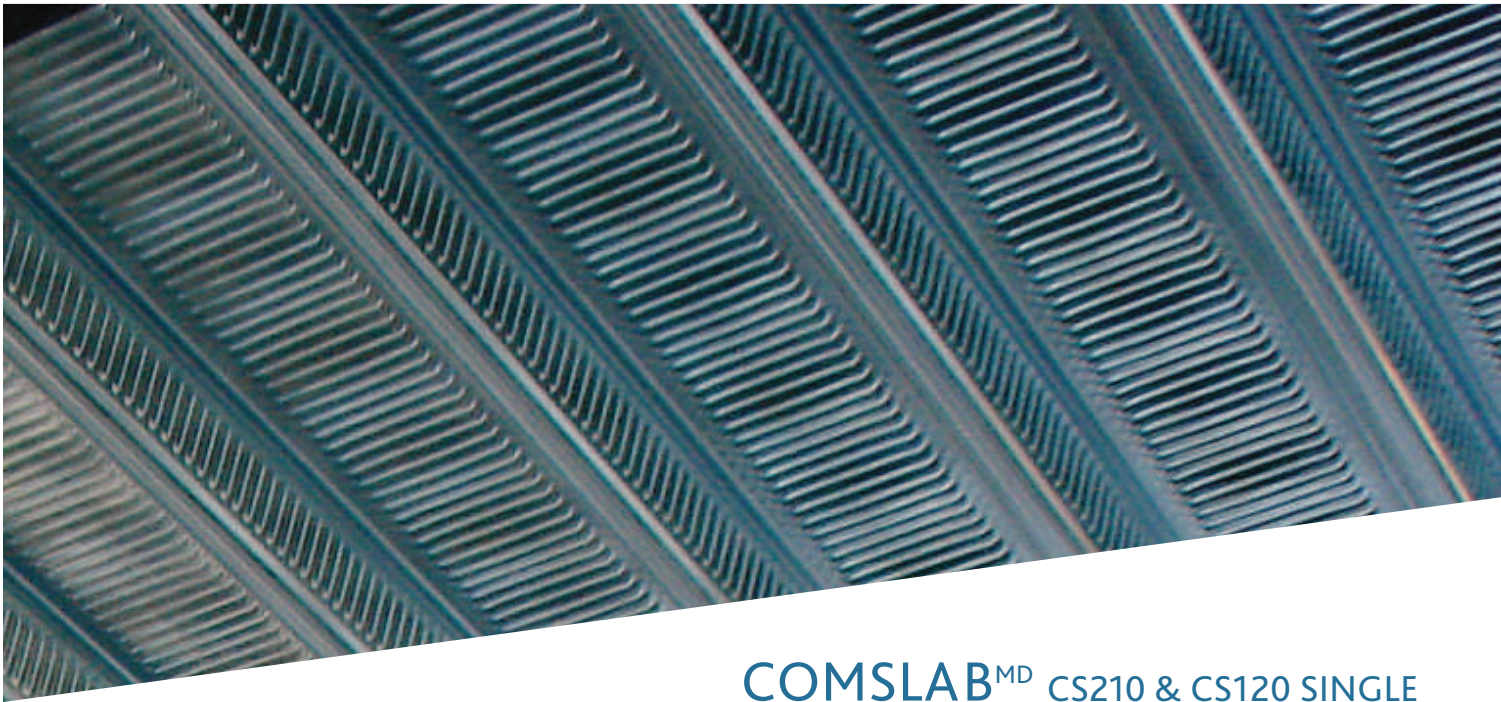
FIRE RESISTANCE

COMSLAB complies with IBC (International Building Code) These provide a margin of safety during a fire, and serve as fire separations between adjacent units and / or areas of the building. Fire resistance can be evaluated both by prescriptive methods provided by codes, or by testing full assemblies in accordance with ASTM E119 & CAN/ULC-S101. **COMSLAB®** offers a range of UL and ULC tested assemblies with fire resistance ratings between 1 to 2 hours, depending on the needs of the building.

As part of the UL / ULC process, UL conducts 3rd party audits ensuring that all quality procedures are being followed. At Bailey, ensuring that high quality products are delivered to customers is of the upmost importance, ensuring the structural and fire protection performance of the final product.

For detailed information, see the "Fire Resistance and Acoustic Performance" table in this guide, or visit the "UL Product iQ" website at: **productiq.ulprospector.com** for the full fire resistance listing.

COMSLAB® FIRE RATINGS



COMSLAB^{MD} CS210 & CS120 SINGLE SPAN - UNPROTECTED - UNRESTRAINED



Design No.	Rating HR	Concrete Topping	Assembly	Deck Type
ULC F918	1	64 mm	Unprotected	CS210 or CS120
	2	89 mm	Unprotected	CS210 or CS120



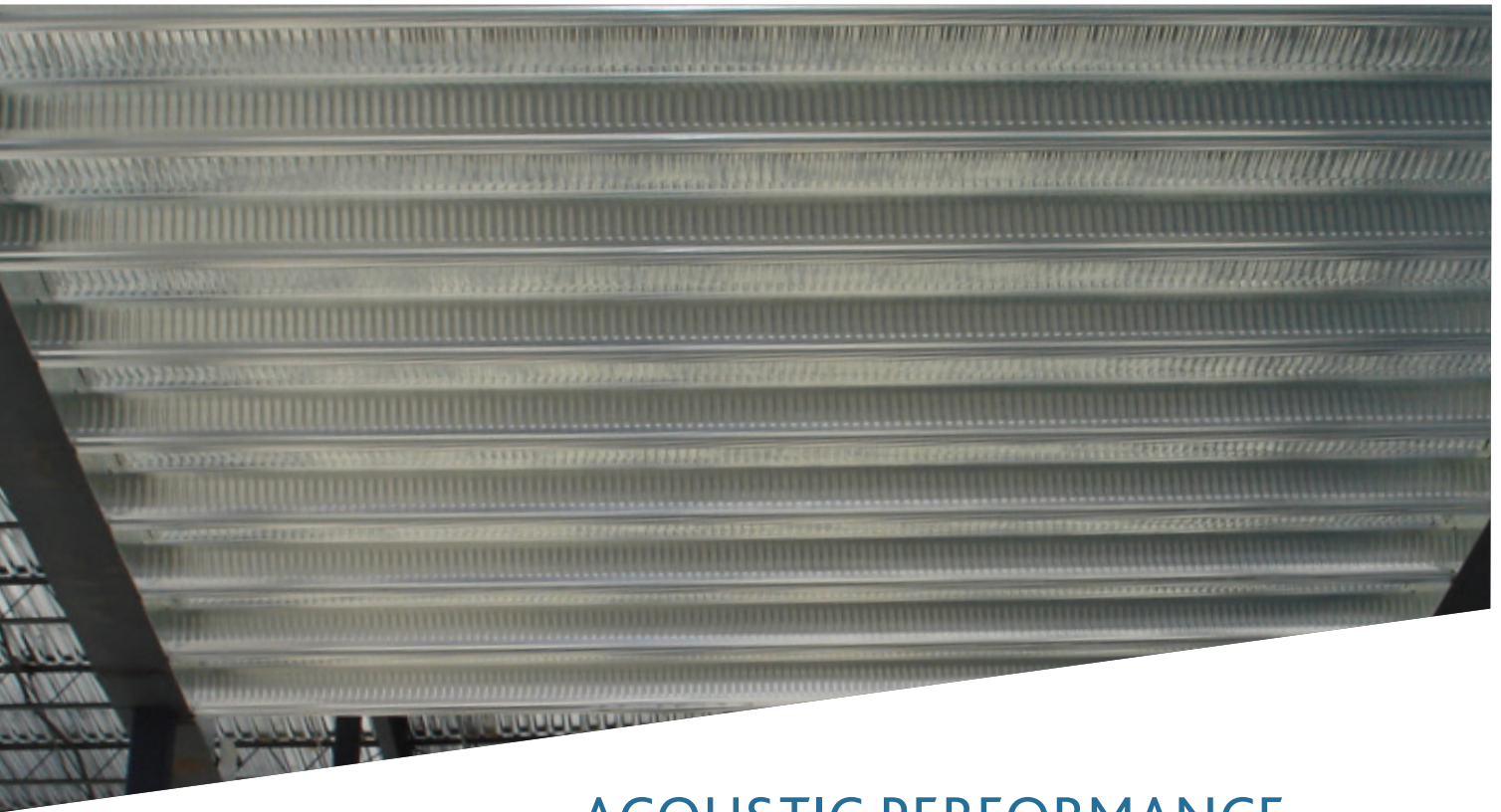
**Underwriters
Laboratories®**
Laboratoires des Assureurs



**Underwriters
Laboratories**

NOTES: All rated assemblies are determined on the basis of results of tests conducted in accordance with **ASTM E119/UL 263** and **CAN/ULC-S101** Testing conducted using full-scale built floors, loaded to capacity and subjected to the standard time-temperature curve.

COMSLAB® ACOUSTIC PERFORMANCE



ACOUSTIC PERFORMANCE

SOUND ATTENUATION

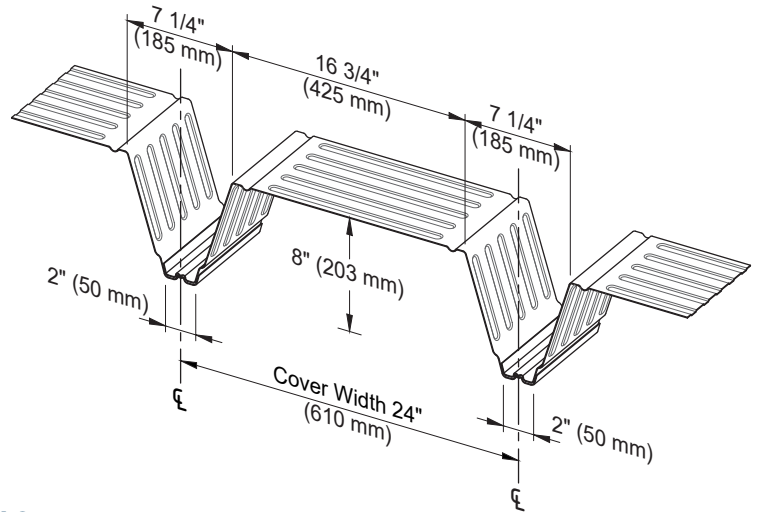
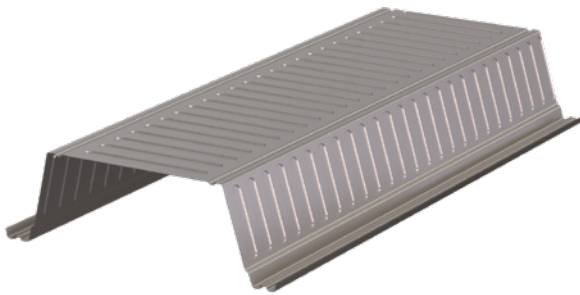
Sound isolation in a building, particularly multi-residential and office buildings, is of high importance in today's construction industry. When evaluating sound transmission through a floor system two main measurements are used, namely the Sound Transmission Class (STC) and the Impact Isolation Class (IIC). The STC rating is a measure of how well a partition, such as a floor, attenuates airborne sounds. Building codes require a minimum STC of 50 in multi-residential buildings.

COMSLAB® achieves STC ratings of 56 to 61 using only furring channel and a single layer of 5/8" gypsum board. The IIC rating is a measure of how well

a partition blocks impact related vibrations, such as footsteps on a floor. IIC Ratings are highly dependent on the top surface of the floor and are therefore highly influenced by the finished floor type. The base assemblies of **COMSLAB®** achieve IIC ratings of between 15 to 39 without any finished floor. For areas that are carpeted, an IIC rating of at least 60 can be achieved with the CS210 deck. In areas where hardwood floors and ceramic tiles are to be installed, improved IIC values can be achieved by installing sound control mats offered by various acoustical control product suppliers. Contact Bailey Metal Products Limited for further assistance.

COMSLAB®

ACOUSTIC PERFORMANCE - CS 210

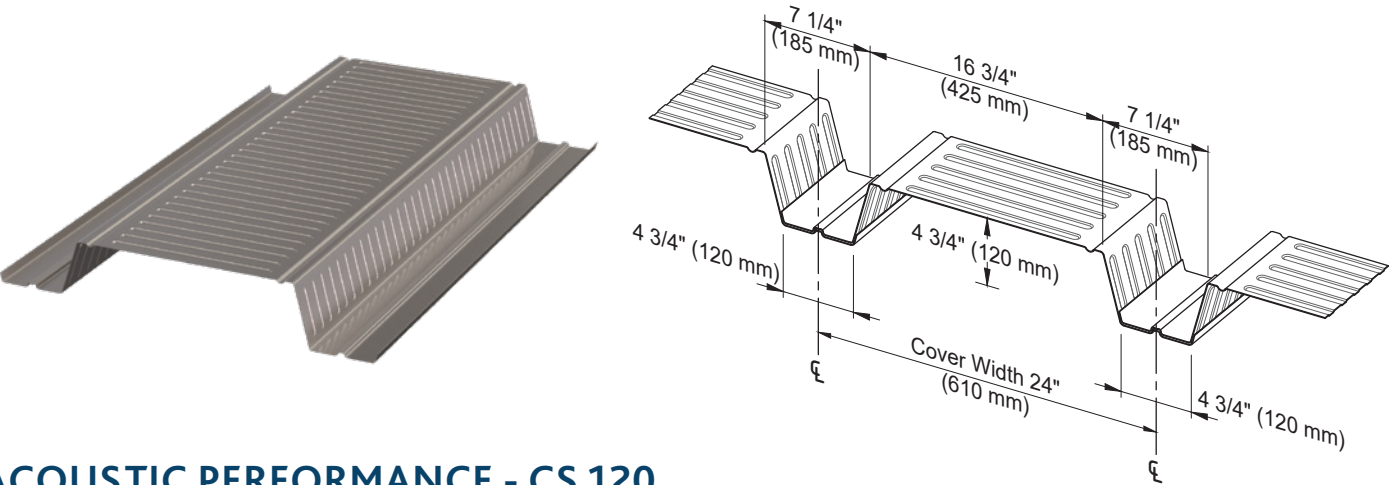


ACOUSTIC PERFORMANCE - CS 210

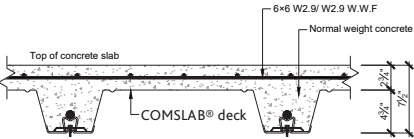
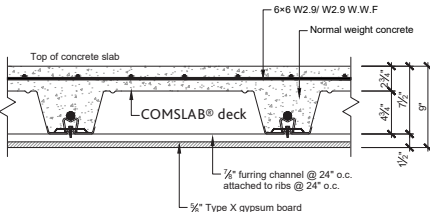
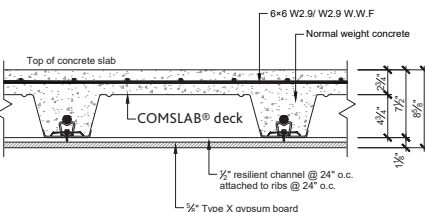
ASSEMBLY	CONFIGURATION	STC	TEST REPORT	IIC	TEST REPORT
	Topping: 2.5" Underside: Bare	47	NGC #5009077	21	NGC #7009076
	Topping: 2.5" Underside: Furring Channel + 5/8" Type X gypsum board	56	NGC #5009050	-	-
	Topping: 2.5" Underside: Resilient Channel + 5/8" Type X gypsum board	58	NGC #5009047	-	-

COMSLAB®

ACOUSTIC PERFORMANCE - CS 120

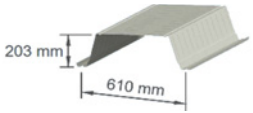
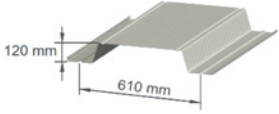
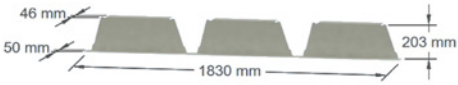
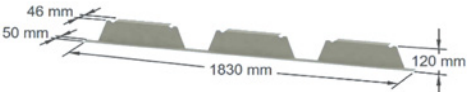
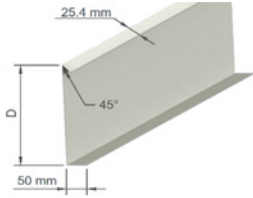
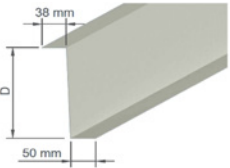
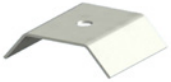


ACOUSTIC PERFORMANCE - CS 120

ASSEMBLY	CONFIGURATION	STC	TEST REPORT	IIC	TEST REPORT
	Topping: 2.75" Underside: Bare	50	NGC #5018105_R1	15	NGC #7018140_R1
	Topping: 2.75" Underside: Furring Channel + 5/8" Type X gypsum board	52	NGC #5018107_R2	26	NGC #018142_R2
	Topping: 2.75" Underside: Resilient Channel + 5/8" Type X gypsum board	48	NGC #5018117_R1	28	NGC #7018159_R1

COMSLAB®

COMPONENTS CS210 & CS120

MATERIALS	THICKNESS	WEIGHT	PACKAGING PIECES
	in.	Imperial	
COMSLAB® CS-210 & 120 (203 mm) STEEL DECK (Z275 FINISH) 	0.0375 0.0435 0.0495	5.4 lb/ft 6.07 lb/ft 7.07 lb/ft	30 pieces per bundle cut to length
COMSLAB® CS-120 (120 mm) STEEL DECK (Z275 FINISH) 	0.0375 0.0435 0.0495	5.2 lb/ft 5.9 lb/ft 6.9 lb/ft	30 Pieces per bundle cut to length
CS-210 (203 mm) 90° END CLOSURES (Z275 FINISH) 	0.054	1.8 lb/ft or 10.5 lb/pc	Bundled at QTY needed for order
CS-120 (120 mm) 90° END CLOSURES (Z275 FINISH) 	0.054	1.8 lb/ft or 10.5 lb/pc	Bundled at QTY needed for order
PERIMETER TRIMS (Z275 FINISH) D= Overall Slab depth 	0.054	39 lb/ft or 45 lb/pc	Bundled at QTY needed for order
INSIDE TRIMS (Z180 FINISH) CORRIDOR TRIMS (Z180 FINISH) D= Depth per deck series or as required 	0.033 0.043 0.054	20 lb/pc 25 lb/pc 30 lb/pc	Bundled at QTY needed for order
SIDE-LAP WASHERS (Z180 FINISH) 	0.043	25 lb per carton	500 pieces per carton
REBAR SUPPORTS (Z180 FINISH) 	0.033	45 lb per carton	300 pieces per carton
RESTRAINT STRAPS (Z180 FINISH) 	0.033	10 lb per carton	50 pieces per carton
FASTENERS No.14 1/4 - 14 X 1" Hex S.D. Zinc 		4 lb per carton	300 pieces per carton
SCREWS No.8 x 1/2" Wafer S.D. Zinc 		4 lb per carton	1500 pieces per carton

COMSLAB®



Follow this link for the following Canadian
Technical Documents:

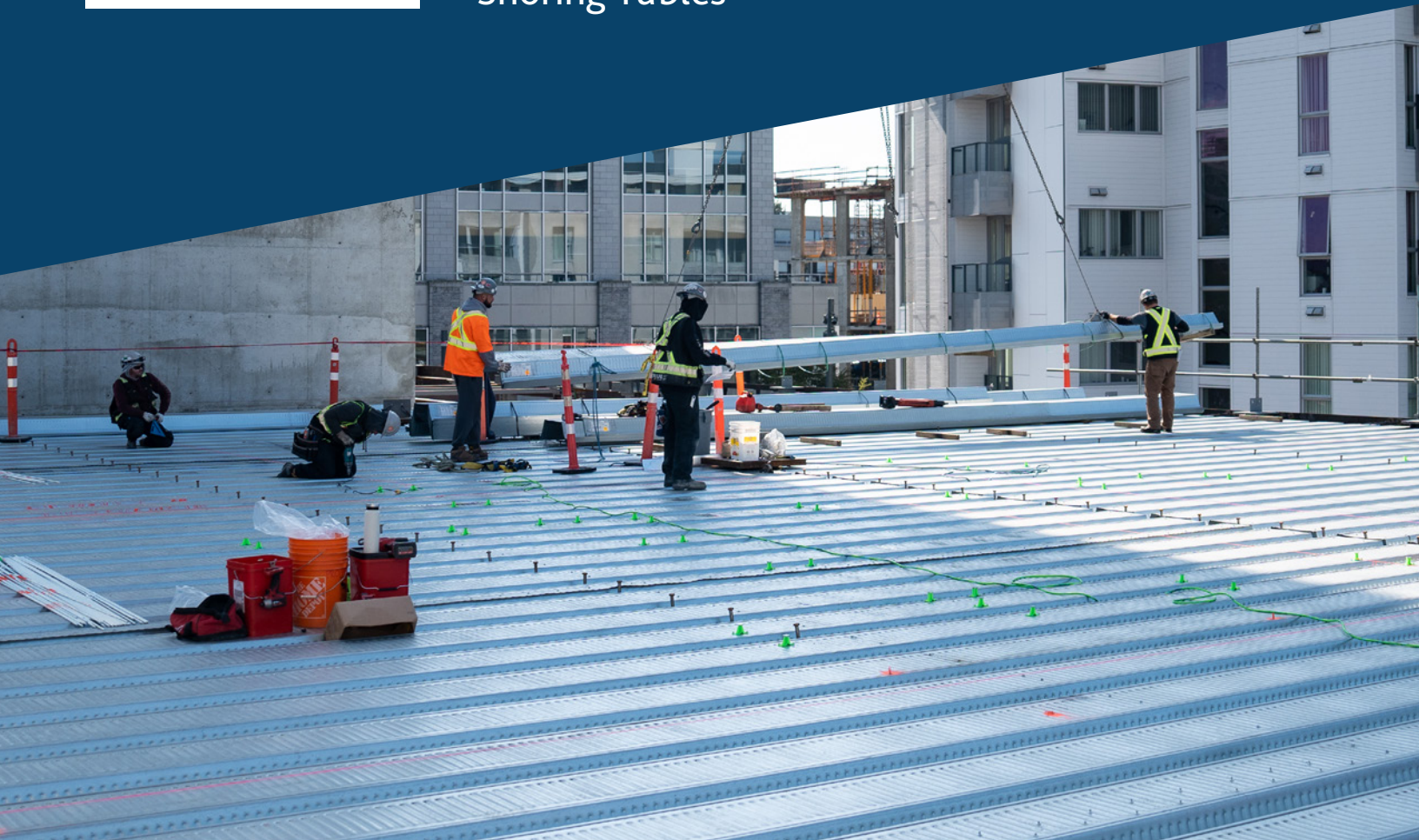
Load Tables

Calculation Examples

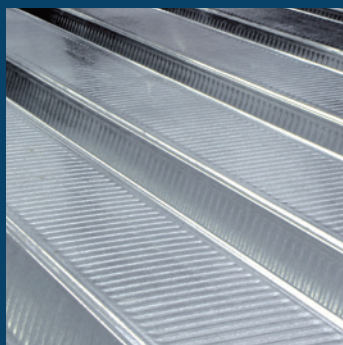
Span Tables

Dry Deck Properties

Shoring Tables







COMSLAB[®]

COMSLAB LONG SPAN COMPOSITE FLOOR SYSTEM



COM0626-500