



Your Best Deck Investment.

EDECK625 - 2IPM PERMEABLE



PERMEABLE PAVER APPLICATIONS

The Paverdeck™ system has drainage capacity of min. 2 inches per minute, which can accommodate extreme rainfall and snowmelt, and promotes the proper percolation of surface water to the ground thus allowing the water to return naturally to its source. The Paverdeck™ system has been successfully applied in urban infrastructure projects for stormwater management and to promote urban tree growth.

The Paverdeck™ system contributes to LEED® credits under the Materials and Resources category. The system is manufactured with recycled steel content; has a zero-carbon footprint during use; and is itself 100 percent recyclable.

Evolutiondeck Inc., as a professional engineering company, is available to assist with technical or design issues on projects.

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EVOLUTIONDECK Inc. is an engineering company authorized by the Association of Professional Engineers of Ontario to offer professional engineering services to the public. The PAVERDECK™ system components once assembled serves as a structural platform manufactured using galvanized cold formed steel panels, beams, and components, and is principally designed to hold hard-surface finishes such as concrete or stone pavers. This technical specification has been produced as a general reference to support building officials, architects, engineers, builders and installers with the design specification of PJT components in various residential and commercial applications. Platforms designed and constructed pursuant to this specification are in compliance with the structural provisions of the Ontario Building Code. Site specific conditions, including setbacks and clearances are to be reviewed by the design responsible engineer.

APPLICATION. The PAVERDECK™ structural components are suitable for use in platform applications above or below grade for suspended pavements, and conforms with loading provisions of Part 4 and Part 9 of the Ontario Building Code (being ONTARIO REGULATION 350/06, "OBC"). Design conforms to CAN/CSA-S136, "North American Specification for the Design of Cold-Formed Steel Structural Members".

COMPONENTS. The PAVERDECK™ system is comprised of the following principal components, each designed in accordance with section 4.3.4.2 of the Ontario Building Code. Components are made from galvanized sheet steel manufactured in compliance with ASTM A653/A653M-98 Z275 (G90), and minimum yield strength of 345MPa (50ksi).

- **BEAMS.** Structural beam designs to be sized per application by a qualified professional engineer to provide minimum 75mm (3") bearing surface, and may include: (a) painted structural iron conforming to Grade 350 W steel in CAN/CSA-G40.21, and using an EPDM 40 mil isolation layer (or equiv.); (b) galvanized cold formed steel beams conforming to CSSBI; (c) poured-in-place concrete grade beam on compacted granular bench with EPDM 40 mil isolation layer (or equiv.).
- **STARTER CHANNEL.** Galvanized cold-formed steel C-channel as per CSSBI 600S162-054, or equiv.
- **FIELD PANEL (PJTZ-625S1200-054).** Integrated field deck panels manufactured by Evolutiondeck Inc. in compliance with CAN/CSA-S136 with 159 mm (6.25 inch) joist height and web-to-web spacing from 250-305 mm (10-12 inches).
- **END PANEL (PJTC-625S1200-054).** Integrated end deck panels manufactured by Evolutiondeck Inc. in compliance with CAN/CSA-S136, with 159mm (6.25 inch) joist height.

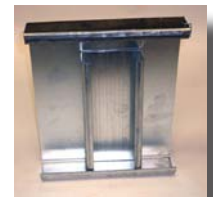
SUBGRADE PREPARATION. Where a concrete grade beam is specified, provide aggregate footing base conforming to ASTM D1241-07 or equivalent. Compaction should be at least 95% Proctor density (per ASTM D 698) for pedestrian areas. For areas subjected to vehicular traffic, compact to at least 95% Modified Proctor Density (per ASTM D 1557).

COLUMNS AND FOUNDATIONS. Foundation pads or grade beams are placed on compacted subgrade base optionally below the frost line. Note the loading capacity of the foundation is dependent on local soil bearing conditions, check with local building officials for minimum sizes. Compatible foundation designs must comply with the Ontario Building Code, and include: (1) 254 mm (10-inch) diameter concrete columns on expanded footing forms (e.g. Bigfoot); (2) filled concrete block on concrete footing pads; (3) helical steel pile foundation systems in compliance with CCMC 13059-R or equivalent (installed per manufacturer specifications); or (4) perimeter grade beam using 30 MPa concrete (designed per application by a qualified professional engineer).

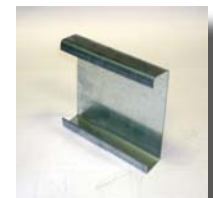
PAVER UNDERLAYMENT. Install GEOTEX 401 or equivalent non-woven heavy duty geotextile on top of metal deck. Apply suitable finishes directly over geotextile or on bedding sand. Finishes include pre-cast concrete pavers; permeable pavers; natural stone pavers; permeable concrete; recycled rubber pavers, or PVC decking.

ANODE CORROSION PROTECTION. While the Paverdeck™ system has a long service life underground, it is advisable to provide a R3 disc-type zinc anode (per ASTM B-418-95 Type II, MIL-18001 or equiv.) for each 10 m² of deck system at location(s) to facilitate inspection every five years.

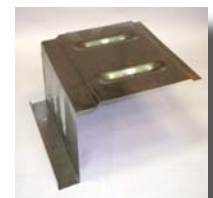
WATER PERMEABILITY. The Paverdeck™ system has integrated drainage capacity of minimum 50 mm (2 inches) water per minute, which can accommodate extreme rainfall and snowmelt and exceeds average soil permeabilities. The Paverdeck™ system promotes proper percolation of surface water to the ground to return naturally to its source. Install permeable finishes to provide a permeable deck surface per manufacturers instructions.



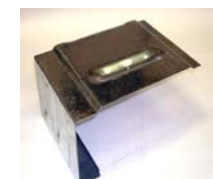
Beam



Starter



Field Panel



End Panel

MAXIMUM CLEAR SPANS WITH UNIFORM LOADING. The platform system remains elastic and satisfies structural performance requirements for uniform total load combinations as noted below. Consult with Evolutiondeck Inc. for project-specific loading conditions.

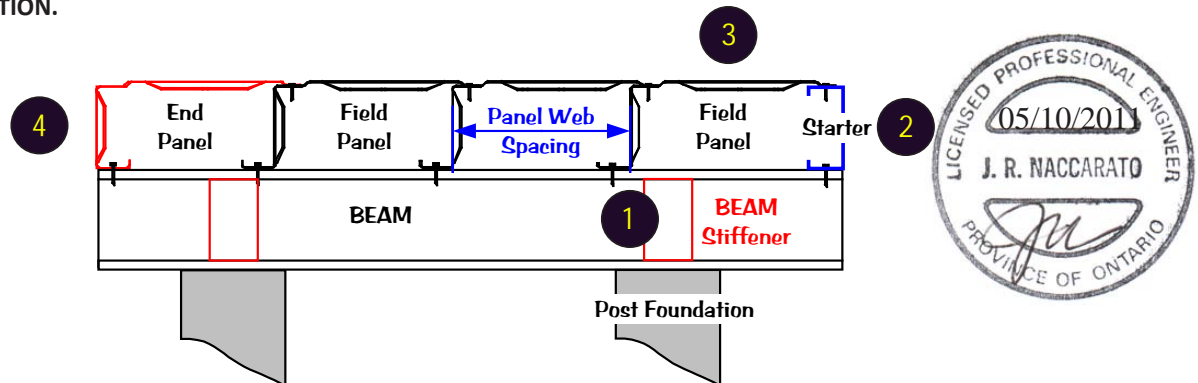
- (a) Uniform commercial total load combinations up to 9.5 kPa (200 psf): 3.65 m (12 ft) maximum clear span between beams
- (b) Uniform residential total load combinations up to 5.2 kPa (109 psf): 4.3 m (14 ft) maximum clear span between beams
- (c) Maximum cantilever: 1 m (39.37 inches).

MAXIMUM CONCENTRATED LOADS. The platform system remains elastic and satisfies structural performance requirements for transient concentrated total load combinations up to 944 kg (2000 lbs) per point load over 100 x 100 mm bearing surface at the specified clear spans (e.g. light vehicular traffic).

VARIATIONS FROM SPECIFICATION. Consult with Evolutiondeck Inc. for site-specific loading criteria or considerations.

FASTENER CONNECTIONS. Platform systems are assembled using all-weather M12 x 1 self-drilling screws as described in ESR – Report 1976 (Tek), ER-4780 (Driil-Flex), ER-5454 (Pro-twist), ER-5280 (Grabber) or equivalent. The screwed connections conform to CSA S136-2007 and CSSBI Technical Bulletin (Dec. 2006), and were validated by Evolutiondeck Inc. through independent testing.

PLATFORM INSTALLATION.



1. At least one screw fastener will be located at all intersections between the structural beam, platform panels, and the starter c-channel. Install the beam onto the foundation columns, placing a WEB STIFFENER at the location of the foundation column.
2. Install the STARTER C-Channel over top of the BEAMS using the supplied screw fasteners.
3. Then install first FIELD PANEL section, seating the leading right edge of the section on top of the previously installed STARTER. Secure this joint using the approved screws not more than 75mm (3.0) inches from either end and 305mm (12.0 inches) between screws. Secure the bottom flange of the FIELD PANEL onto the structural beam using at least one screw. Continue adding and securing the FIELD PANEL sections in a similar manner along the length of the structure.
4. Install an END PANEL section as the last piece along the width of the deck.
5. Install optional zinc anode system bolting through the joist web at a location accessible in the future to inspect and replace the anode. Install minimum one anode per 10m² of surface area.
6. The beams and platform may be installed below grade.
7. FIELD and END panels may be cross-cut (square, curved or angled) using gas cutoff saw with abrasive blade, or a circular saw with metal cutting blade.
8. FIELD and END panels may be cut longitudinally along the length of the panel.
9. Surface finishes may be applied using known techniques suitable to the finish employed.