

DIVISION 26 SECTION 260533

IN FLOOR CELLULAR RACEWAY SYSTEM FOR ON-GRADE APPLICATION

WALKERDECK® WDR3 or WDR2

\*\* NOTE TO SPECIFIER \*\* Cordeck; Electrified floor deck products.
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This section is based on the products of Cordeck, which is located at:
12620 Wilmot Rd.
Kenosha, WI 53142
Toll Free Tel: 877-857-6400
Tel: 262-857-3000
Email: [request info (sales@cordeck.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Cordeck&coid=41454&rep=&fax=&message=RE:%20Spec%20Question%20(05320cor):%20%20&mf=)
Web: [www.cordeck.com](http://www.cordeck.com)
 [ Click Here ] for additional information.
Cordeck's manufacturing lines include electrified deck, roof deck, floor deck, form deck and related accessories. You can be certain of our products total, maximum effectiveness, along with our ability to deliver the industry's highest quality, service, value and customer satisfaction. At Cordeck, we're devoted to our customers. We stand ready to earn, and keep, your full confidence and trust.
N-R-G FLORÆ and WalkerdeckÆ are the ideal wire management solution models for structural steel building construction. These systems integrate the structural steel framework with the building's necessary wire and cable distributions. The result is a dynamic system solution, harnessing building strength together with efficiency and flexibility in terms of existing, and future, electrical needs.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Cellular Raceways, Trenchduct, Presets and Activation Kits
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 053500 – Metal Decking
		2. Division 27 - Communication
		3. Division 28 – Electric Safety & Security
	1. REFERENCES \*\*NOTE TO SPECIFIER\*\* Delete references from the list below that are not actually required by the text of the edited sections.

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* + 1. AISI - Design of Cold Formed Steel Structural Members.
		2. ASTM A 568 - General Requirements for Standard Specification for Steel.
		3. ASTM. A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
		4. ASTM. A 1008 - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable.
		5. Military Specification - MIL-P-21035.
		6. SDI - Specifications and Commentary for Composite Steel Floor Deck.
		7. Underwriters Laboratories Inc. - UL 209, UL Standards of Safety for Cellular Metal Floor Raceway and Fittings.
		8. NEC - National Electrical Code.
	1. SUBMITTALS
		1. Submit under provisions of Section 01300.
		2. Product Data: Manufacturer's data sheets on each product to be used, including:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
		3. Shop Drawings: Indicate deck plan, support locations, projections, openings and reinforcement, cellular raceways and outlet box locations, pertinent details, and accessories.

\*\* NOTE TO SPECIFIER \*\* Delete the following paragraphs if LEED is not applicable. LEED-NC credits available as follows: 1. Recycled steel used to manufacture the products (1 or 2 points) and 2. System is designed for cut to length at the factory, so little or no construction waste. (1 or 2 points).

* + 1. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
			1. List of proposed materials with recycled content. Indicate post-consumer recycled content and pre-consumer recycled content for each product having recycled content.
			2. Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content.
		2. Welders Certificates: Certify welders employed on the Work, verifying AWS qualification within previous 12 months.
		3. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Manufacturer shall have a minimum of five years documented experience with the type of electrified floor system specified in this section.
		2. Installer Qualifications: Installer shall have a minimum of five years documented experience with the installation of the type of electrified floor system specified in this section.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Store products in manufacturer's unopened packaging until ready for installation.
		2. Cut plastic wrap to encourage ventilation. Store raceway on dry wood sleepers; slope for positive drainage.
	3. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Cordeck, which is located at: 12620 Wilmot Rd. ; Kenosha, WI 53142; Toll Free Tel: 877-857-6400; Tel: 262-857-3000; Email: [request info (infloorsystems@cordeck.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Cordeck&coid=41454&rep=&fax=&message=RE:%20Spec%20Question%20(05320cor):%20%20&mf=); Web: [www.cordeck.com](http://www.cordeck.com)

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01600.
	1. CELLULAR RACEWAYS
		1. Cellular Raceways General:
			1. Steel shall conform to ASTM A 563 and A 1008 and shall have minimum yield of 40 KSI.
			2. Cellular raceway shall be hot dipped galvanized in accordance with ASTM A 653, minimum G60 galvanized coating.
			3. Accessories for the cellular raceway shall be hot dipped galvanized and shall conform to ASTM A 653.
			4. Galvanizing repair paint for the cellular deck system shall be high zinc dust content paint for repair of damaged galvanized surfaces, complying with Military Specification MIL-P-21035.

\*\* NOTE TO SPECIFIER \*\* Select one of the following deck unit paragraphs as required and delete the one not required.

* + 1. Cellular Raceway Units: Walkerdeck type: WDR3 or WDR2

\*\* NOTE TO SPECIFIER \*\* Select one of the following deck thickness paragraphs as required and delete the one not required.

* + - 1. 3 inch (76 mm) deep by 24 inches (610 mm) wide, providing three separate wiring raceways of the following minimum areas: Power 8.6 square inches (5484 mm2); Data 18.8 square inches (12130 mm2); and Communication 18.8 square inches (12130 mm2).
			2. 2 inch (51 mm) deep by 24 inches (610 mm) wide, providing three separate wiring raceways of the following minimum areas: Power 4.3 square inches (2800 mm2); Data 11 square inches (7100 mm2); and Communication 11 square inches (71000 mm2).
		1. Design Thickness of Cellular Deck: As required to satisfy the project loading criteria. In no case shall the design thickness be less than the minimum established by UL Standard for safety number 209.
	1. PRESET INSERTS

\*\* NOTE TO SPECIFIER \*\* Select one of the following preset insert paragraphs as required and delete the one not required.

* + 1. Preset Inserts: Insert shall be PK Series.
			1. Preset inserts shall provide triple service access and shall be UL Listed and Classified.
			2. Preset insert shall be a single piece die-cast zinc alloy.
			3. Top entry opening of the preset shall be a minimum of 5-1/2 inches by 6-3/4 inches (140 mm by 171 mm). Provide with minimum 0.029 inch (7 mm) steel closure cap with non-corrosive coating. Cavity base shall be a minimum of 1-3/16 inch (30 mm) from the bottom of the cellular deck.
			4. Preset inserts shall have a perimeter concrete retention flange at the base of the unit to minimize the application of sealant required to prevent concrete from entering the cell area.
			5. Mechanical fasteners for mounting activation to the insert shall be attached to vertical factory tapped, cast bosses.
	1. TRENCH HEADER (VA STYLE)
		1. Trench Header: UL Labeled, bottomless or intermittent bottom trench header.

\*\* NOTE TO SPECIFIER \*\* Select one of the following openings paragraphs as required and delete the one not required.

* + 1. Openings: Provide Walkerdeck\* with: WDR3 or WDR2
			1. Two 2-1/2 inch by 6 inch (64 mm by 152 mm) ovals into communication cell raceway.
			2. One 2-3/4 inch by 3-1/2 inch (70 mm by 89 mm) diameter opening into power cell of three-cell raceway.
			3. Openings shall be factory cut. Grommets shall be provided for all holes.
		2. Removable Covers: Conform to UL Standard 209 minimum thickness roller leveled steel. Retain covers in position by counter sunk stainless steel hold-down screws threaded into a continuously slotted side rail. Cover plates shall have overlapping joints and shall be fully gasketed.
			1. Removable Steel Cover Thickness are available in 1/4” (6.35 mm) OR 3/8” (9.525 mm)
		3. Cover Plates: Maximum of 3 feet (914 mm) in length.
		4. Side Rail: Continuously slotted side rail shall allow for interchangeable relocation of cover plates.
		5. External Leveling: External leveling screws shall be installed for pre-pour leveling.
		6. Internal Height Adjustment: Side clip assembly coupled with the removable side rail shall allow for a maximum of 3/4 inch (19.1 mm) internal height adjustment prior to the concrete pour.
		7. Side Rail Assembly: Consists of combination clips, extruded top rail, and a sheet metal angle. Sheet metal angle shall not contain holes, screws rivets, or other fasteners, and shall be easily removed and replaced in the field, if job conditions require a change in the trench height, prior to concrete pour. Side rail shall be rigidly supported by the adjoining concrete. Minimum width of the trenchduct body shall be 3/4 inch (19.1 mm) less than the cover plate width.
		8. Coupling: Incorporated into the trenchduct design to permit proper alignment of the trenchduct and tile trim prior to welding into position.
		9. Trenchduct Trim: Vinyl trenchduct trim shall be factory installed so that the exposed surface is flush with the cover plates. Prior to the installation of the finished floor tile, the trim shall be reversed so that it extends above the trenchduct level to accommodate 1/8 inch (3.2 mm) vinyl tile floor finish. Optional aluminum trim shall be made available as specified. Provide aluminum trim for tile applications unless otherwise indicated.
		10. Compartment Dividers: Fully adjustable compartment dividers shall be of a nominal 16 gauge (1.5 mm) steel with minimum 1/2 inch (12.7 mm) wide shelf at top covered with 1/16 inch (1.6 mm) thick gasket for longitudinal bearing of cover plate.
		11. Field Modification: Trenchduct shall be fabricated permit disassembly by removal of screws only. Disassembly shall allow for field modification of individual components and reassembly using the same components without welding.
		12. Fittings: Provide all tees, horizontal elbows, and x-unit fittings as required. When necessary, said fittings shall be provided with tunneling to maintain separation of services. Provide other fittings as required to conform to the layout drawings.
		13. Accessories: Provide trenchduct raceway with the necessary accessories as required to make a complete installation. Accessories shall include but not be limited to:
			1. Coupling mechanisms.
			2. End closures.
			3. Cover lifting device.
			4. Void closures.
	1. ACTIVATION KITS
		1. Activation kits shall be the FloorPort® Series as manufactured by Wiremold/Legrand Company and furnished by Cordeck.
		2. Provide activation kits with UL Listed and Classified triple service access.
		3. Activation kits shall be capable of flush or recessed mounting.
		4. Activation kits shall provide for two separate receptacle boxes and faceplates to accommodate duplex receptacles and communication device mounting brackets.
		5. Activation kits shall provide barrier kit bracket to separate power and communication wires in partition feed cover.

\*\* NOTE TO SPECIFIER \*\* Select one of the following two optional activation kit paragraphs and delete the paragraph not required.

* + 1. Recessed with Flange (FloorPort FP Series) Activations: Cover assembly to include flange for mounting to floor. Activation cover to be one-piece lid activated by a single push tab and shall include two large egress openings for power and cable regress and shall have positive stops in open position.

\*\* NOTE TO SPECIFIER \*\* Select one of the following cover assembly paragraphs as required and delete the paragraphs not required.

* + - 1. Cover assemblies shall be die-cast aluminum with brushed aluminum finish (AL).
			2. Cover assemblies shall be die-cast zinc with plated brass finish (BS).
			3. Cover assemblies shall be die-cast zinc with painted black finish (BK).
			4. Cover assemblies shall be die-cast zinc with painted finish, color to as selected by the Architect.

\*\* NOTE TO SPECIFIER \*\* Select one of the following two optional cover paragraphs and delete the paragraph not required.

* + - 1. Cover to be recessed (CC style) in lid for carpet or tile to match finish floor.
			2. Cover or lid to be flush (BB style) with finished floor, no recess for carpet or tile.
		1. Recessed without Flange (FloorPort FP Series) Activations: Activation cover to be a one-piece lid activated by a single push tab and shall include two large egress openings for power and cable egress and shall have positive stops in open position.

\*\* NOTE TO SPECIFIER \*\* Select one of the following cover assembly paragraphs as required and delete the paragraphs not required.

* + - 1. Cover assemblies shall be die-cast aluminum with brushed aluminum finish (AL).
			2. Cover assemblies shall be die-cast aluminum with powder coated finish in black (BK), bronze (BZ), brass (BS), gray (GY), or nickel (NK), color to be selected by Architect.
			3. Cover to be recessed (CC style) in lid for carpet or tile to match finish floor.
			4. Cover or lid to be flush (BB style) with finished floor, no recess for carpet or tile.
		1. Flush Partition with Flange (FloorPort FP Series) Activations: Cover assembly to include a flange for mounting to floor. Activation to include to metal covers and to be provided with one 1 inch (25 mm) trade size screw plug for power or communication type cabling, and one combination 1-1/4 inch (32 mm) and 2 inch (51 mm) trade size screw plug for communications type cabling. Activation must allow for both communication and power cabling. Partition feed activation to include an internal barrier kit.

\*\* NOTE TO SPECIFIER \*\* Select one of the following cover assembly paragraphs as required and delete the paragraphs not required.

* + - 1. Cover assemblies shall be die-cast aluminum with brushed aluminum finish (AL).
			2. Cover assemblies shall be die-cast aluminum with powder coated finish in black (BK), bronze (BZ), brass (BS), gray (GY), or nickel (NK), color to be selected by Architect.
		1. Flush Partition without Flange (FloorPort FP Series) Activations: Activation to include two metal covers and to be provided with one 1 inch (25 mm) trade size screw plug for power or communication type cabling, and one combination 1-1/4 inch (32 mm) and 2 inch (51 mm) trade size screw plug for communications type cabling. Activation must allow for both communication and power cabling. Partition feed activation to include an internal barrier kit.

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1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly prepared.
		2. Verify building framing components are ready to receive Work.
		3. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
	2. INSTALLATION
		1. Install in accordance with manufacturer's instructions.
		2. Field cutting shall be accomplished neatly with as good an overall fit and alignment as possible.
		3. Level and align cellular raceway intended for electrical raceways within 1/8 (3 mm) horizontally and vertically. Butt ends, allow for maximum 1/8 inch (3 mm) gap. Contact manufacturer for gaps wider than 1/8 (3 mm). Tape and seal joints watertight.
		4. Fasten cellular raceway to concrete slab as specified in installation drawings.
		5. Touch up welded surfaces with galvanized repair paint specified immediately after welding.
		6. Keep the interiors of cells that will be used as raceways free of welds having sharp points or edges.
		7. Construction Loading: Protect cellular raceway system from concentrated construction loading and traffic as required. Use planking as necessary to prevent profile damage to the cellular raceways, trenchduct and presets. Profile damage is defined as indentations or bucking of webs and flanges resulting in the reduction of the sectional properties.
		8. Prepare surfaces to receive concrete as required.
			1. Seal System: Before concrete placement, make a final inspection of the entire infloor system. Seal any gaps in the system to prevent concrete from entering.
			2. Clean surfaces of all dirt, debris, oil, or other foreign matter to ensue intended mechanical interlock between concrete and steel.
			3. Supports for screeds shall be located over permanent or temporary floor raceway supports.
		9. Concrete Placement: Provide and place concrete in accordance with Section 03310. Conform to the ACI 318 Building Code.
	3. FIELD QUALITY CONTROL
		1. Provide cast-in-place concrete as indicated on the Drawings and as specified under Section 03310. No concrete containing chlorides from any source shall be placed over or in contact with the floor deck system.
		2. Reinforced concrete shall be in accordance with American Concrete Institute Specifications for Structural Concrete Buildings (ACI 301-72) and ACI Building Code Requirements for Reinforced Concrete (ACI 318-83).
		3. Concrete placement shall follow proper and accepted industry practice and be in accordance with ACI Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete (ACI 304-73).
		4. Concrete must be vibrated at all headers and raceways to ensure that the concrete completely fills all voids. Care must be taken not to over vibrate. Over vibration will cause segregation of materials in the concrete mix, which in turn leads to weakening of concrete strength.
		5. Shrinkage and temperature reinforcement above the floor system shall be in accordance with (ACI 318-83). Care shall be taken during concrete placement and, in particular, during concrete vibration, to prevent rising of top reinforcement within the slab.
		6. Concrete shall be carefully hand finished to a minimum of 24 inches (610 mm) adjacent to trenchduct sides or headerduct access openings so that the top of finished concrete and trenchduct cover plates are flush.
	4. PROTECTION
		1. Protect installed products until completion of project.
		2. Do not move or transport equipment or heavy traffic over system during construction period, without first installing ramps. Ramps shall be designed so that imposed loads are not transferred to system components.
		3. Components of the system, which are damaged during construction, shall be replaced before Substantial Completion.
		4. Touch-up, repair or replace damaged products.

END OF SECTION

*\*Walkerdeck is a registered trademark of The Wiremold Company.*