

<b>CSI®</b> CONSOLIDATED SYSTEMS, INC. Metal Dek Group®	<b>STANDARD OPERATING PROCEDURES</b>	DATE <b>10/30/09</b>	PROCEDURE <b>SOP 1.29.MDG</b>
		REVISION 0	PAGE 1
		APPROVAL <b>Allan Abbata</b>	
<b>SUBJECT: Shipping, Handling and Field Installation of 36" Deep-Dek Cellular Roof Panel</b>			

## RECOMMENDED HANDLING PROCEDURES and INSTALLATION GUIDELINES

### 1.0 SCOPE

**Deep-Dek® Cellular** roof panel (non-acoustical or acoustical) is a 36" wide assembly by which a bottom liner panel is attached to three (3) Deep-Dek® top hat sections to form a cellular roof panel. This SOP describes specific shipping and handling procedures for field installation of this product. The **Deep-Dek® Cellular** profile is used as a metal roof form that can support an entire roofing system and may include rigid insulation board, other roofing materials, standing seam roof or a lightweight insulating concrete roof system. When used as part of a roof system described above, the **Deep-Dek® Cellular** roof panels must be installed so that the ribs of abutting units uniformly line up and therefore present a smooth panel/cell transition at the butted ends of the units.

### 2.0 RESPONSIBILITIES

The Metal Dek Group® is responsible for manufacturing the **Deep-Dek® Cellular** roof panels according to the approved deck layout dimensions and installation directives set forth by the deck manufacturer's Engineering Group. The product will be delivered to the jobsite in crated bundles as a preassembled component to maintain the required shape of the panels. The Deck Erector will be responsible for the proper handling and installing of the **Deep-Dek® Cellular** roof panels and associated accessories as shown on the Deck Erection (Final Field Use) Drawings without damage or loss of character. Special care must be taken of the aesthetic **Klean Line-R™** (bottom liner panel) when it is a part of the deck system. (See Typical Erection Drawings below in Item No. 6 - Forms and Records). (Also see Item 7.0 Procedures for additional responsibilities.)

### 3.0 REFERENCES

1. SDI Manual of Construction with Steel Deck
2. Steel Deck Institute Design Manual - Latest Publication
3. Metal Dek Group® Erection (Final Field Use) Drawings

### 4.0 REQUIREMENTS

The Deck Erector must be knowledgeable and preferably experienced in handling and installing this deck type and have a thorough understanding of the Steel Deck Institute Code of Recommended Standard Practice and Manual of Construction with Steel Deck. All parties involved, including but not limited to, Architect, Engineer of Record, General Contractor, Steel Fabricator and Steel Erector should receive and review documented field handling and installation procedures for **Deep-Dek® Cellular** roof panel. The ultimate review and execution of this procedure will be the responsibility of the General Contractor.

### 5.0 DEFINITIONS

Butt Ends: Where two pieces of deck meet on a bearing member and do not overlap. The two pieces are generally separated by a slight gap that is specified in typical details shown on the deck drawings.

Hidden Side Lap: The "seven" shape at each side of the cellular deck profile that allows two pieces of adjoining deck to be connected.

Hat Section: The top corrugated section of the deck profile that is welded to a bottom liner panel.

Liner Panel: The flat bottom beaded panel portion of the deck profile that contains the side laps and is welded to the top hat section.

<b>CSI®</b> CONSOLIDATED SYSTEMS, INC. Metal Dek Group®	<b>STANDARD          OPERATING          PROCEDURES</b>	DATE 10/30/09	PROCEDURE SOP 1.29.MDG
		REVISION 0	PAGE 2
		APPROVAL Allan Abbata	
<b>SUBJECT: Shipping, Handling and Field Installation of 36” Deep-Dek Cellular Roof Panel</b>			

**RECOMMENDED HANDLING PROCEDURES and INSTALLATION GUIDELINES**

Plastic Lath: A polymer woven fabric with large diamond shaped opening that is placed in the void of the cellular panel and is used to create an air space between the liner panel and acoustical insulation batt.

Acoustical Insulation Batt: A rectangular piece of fiberglass material of specific dimension and density that is made to fit on top of the plastic lath inside the void of the cellular panel and is utilized to absorb sound.

Start Point: The location noted on the deck drawings as the place to begin placing deck.

Bundle Tag: A tag placed on the top sheet of all deck bundles that has information describing the number of pieces, lengths and other information including the CSI catalogue number for the product.

**6.0 FORMS AND RECORDS**

*Metal Dek Group® Deck Erection Drawings* (Final Field Use Dek Drawings)  
 Bundle Tag Information  
 Panel Piece Identification Tag

**7.0 PROCEDURES**

**(Manufacturers Recommended Shipping and Handling Procedures)**

The following procedures are recommended handling procedures set forth as standards developed by the deck manufacturer. The **Deep-Dek® Cellular** roof panel is supplied as a custom product and shall be handled with a total understanding of the project’s roof deck system, the supplied deck erection (Final Field Use) drawings and these recommended handling procedures.

1. **Each Deep-Dek® Cellular roof panel will arrive at the project site in crated bundles ready for off loading and/or storage. Depending on profile and weight each bundle could have up to 4 cellular panels. Each panel again depending on profile and gauge could weight upwards of 40 lbs/ft.**
2. **Recommended Procedures for proper handling of the 36” wide Deep-Dek® Cellular Roof Panels:**
  - Crated bundles may be handled as a unit as long as the packaging is in tact.
  - Fork lifts or straps must be placed at lifting points where dunnage is prevalent to support the entire bundle load.
  - Bundles may be disbanded prior to handling for erection purposes.
  - Begin the handling procedure by placing pre-cut wooden blocks (supplied by the manufacturer) located in between each hat section of the cellular panel (2 required per lifting point) as noted on the deck drawings.
  - Secure each “blocked” cellular panel with lifting straps or forks spread to within 5 feet of the deck panel ends also as noted on the deck drawings.
  - Only handle one (1) cellular panel at a time.
  - Bundle Tag Information will be supplied on all crated bundles and attached to the outside crating material. All deck panel pieces within each bundle will also be tagged for proper deck panel identification.
3. **Maintaining a level deck panel during handling to supporting members is paramount.**
4. **Repeat above procedures until all Deep-Dek® Cellular Roof Panels are removed from the ‘crated’ bundles, spread on the supporting structure and made ready for installation.**
5. **Alternative methods may be employed by the erector but only with manufacturer’s concurrence.**

<b>CSI®</b> CONSOLIDATED SYSTEMS, INC. Metal Dek Group®	<b>STANDARD OPERATING PROCEDURES</b>	DATE 10/30/09	PROCEDURE SOP 1.29.MDG
		REVISION 0	PAGE 3
		APPROVAL Allan Abbata	
<b>SUBJECT: Shipping, Handling and Field Installation of 36” Deep-Dek Cellular Roof Panel</b>			

**RECOMMENDED HANDLING PROCEDURES and INSTALLATION GUIDELINES**

**(Manufacturers Recommended Installation Guidelines)**

The following procedures reflect the recommended installation guidelines set forth as standards developed by the deck manufacturer. The **Deep-Dek® Cellular** roof panel is supplied as a custom product and shall be installed with a total understanding of the project’s roof deck system, the supplied deck erection (Final Field Use) drawings and these recommended installation procedures.

**1. Install the *Deep-Dek® Cellular* Roof Panel in accordance with the *Metal Dek Group® Erection Drawings with General Notes* and *SDI Manual of Construction with Steel Deck*. The specific location and orientation of *Deep-Dek® Cellular* is depicted on the *Metal Dek Group® Erection Drawings* designated as "Final Field Use Dek Drawings".**

**2. Recommended Procedures for Proper Erection and Installation of 36” wide *Curve-Dek® Cellular* Roof Panels:**

- For proper installation, begin deck @ “**Start Point**” as noted on the deck drawings.
- Installation of the initial **Deep-Dek® Cellular** roof panel is critical for maintaining proper bearing and straight alignment of the entire roof deck system. Refer to the “Recommended Installation Procedures and General Notes - Deck Placement” on the Final Field Use Dek Drawings.
- The cover width dimension must be achieved and maintained to provide consistent coverage over each bay throughout the entire building.
- Maintaining the “**Minimum Bearing Length**” of each deck panel on supporting members is paramount.
- **For Single Span Conditions** and with the initial deck panel aligned and in place, attach the deck panel to supporting members starting at the end support and proceed by walking toward the opposite end support as shown on the Final Field Use Dek Drawings. Attach the next (adjacent) panel by first aligning the panel side laps (clamping is suggested) and then attaching the panel as stated above. Continue by attaching the side lap as shown on the Final Dek Field Use Drawings.
- **For Multiple Span Conditions** and with the initial deck panel aligned and in place, attach the deck panel to supporting members starting at the end support and proceed by walking toward the opposite end support making the attachment to all supporting members as shown on the Final Field Use Dek Drawings. Repeat these steps until each deck panel is attached to the end and intermediate supporting members. Attach the next (adjacent) panel by first aligning the panel side laps (clamping is suggested) and then attach the panel as stated above. Continue by attaching the side lap as shown on the Final Field Use Dek Drawings.
- Continue the installation process by taping all butted ends over supports to minimize infiltration of any moisture prior to the installation of roofing materials.
- Repeat the above procedures until all **Deep-Dek® Cellular** roof panels are installed and secured.

**3. After the *Deep-Dek® Cellular* roof panels have been installed as shown on the deck erection plans, it will be necessary to make sure all deck ribs and rib openings are uniformly lined up with the specified dimensions.**

**4. Subcontractors are to adhere to all OSHA standards for maintaining field construction practices. *Deep-Dek® Cellular* components may contain sharp edges and proper field precautions should be implemented.**

**5. Extreme care shall be taken to protect the *Deep-Dek® Cellular* roof panels from being damaged prior to, during and after installation and for maintaining the required design curvature at all times. Special attention shall be given to protect the aesthetic appearance of the *Klean Line-R™* cellular bottom panel when applicable.**

<b>CSI®</b> CONSOLIDATED SYSTEMS, INC. Metal Dek Group®	<b>STANDARD          OPERATING          PROCEDURES</b>	DATE 10/30/09	PROCEDURE SOP 1.29.MDG
		REVISION 0	PAGE 4
		APPROVAL Allan Abbata	
<b>SUBJECT: Shipping, Handling and Field Installation of 36” Deep-Dek Cellular Roof Panel</b>			

**RECOMMENDED HANDLING PROCEDURES and INSTALLATION GUIDELINES**

6. Location(s) of openings in the *Deep-Dek*® Cellular roof panels shall be the responsibility of the trades requiring them. These openings shall be field cut and reinforced as required by the Engineer of Record. Holes shall be cut prior to installation of the above deck roofing materials. The penetrations shall be cut in such a manner as to present a neat appearance without burrs or sharp edges and in accordance with the SDI Manual of Construction for Steel Decks.

7. Suspended ceilings, light fixtures, duct works and/or other utilities are permitted and can be suspended from the *Deep-Dek*® Cellular roof panels. Any such work must be approved with expressed written permission from the Engineer of Record. The EOR is responsible for the design and location of all hanging loads from the deck.

8. For any instances in which a situation arises that is not covered by this Field SOP, contact is to be established with the *Metal Dek Group*®, Project Services Group, to provide guidance in resolving the issue(s) before proceeding.

This SOP is offered as the *Metal Dek Group*'s recommendation for product installation. It is not intended as a guarantee or as a requirement. Successful installation can be achieved by following this procedure. The responsibility for appropriate quality installation procedures and safety practices ultimately lies with the General Contractor and the subcontractors involved. The *Metal Dek Group*® is available to answer questions or concerns associated with this SOP.