

# Steel Deck

NATIONWIDE DESIGN, MANUFACTURE AND DELIVERY



**NEW MILLENNIUM**

BUILDING SYSTEMS

**Building a better steel experience.**





# Steel Deck

New Millennium manufactures a wide range of structural and architectural deck products and systems. Deck profiles are available in a variety of finishes and can be used in a wide range of applications such as roofing, flooring, ceiling and cladding solutions. Deck products meet required steel deck certifications and are manufactured in accordance with the specifications of the Steel Deck Institute.

## Certifications

New Millennium is a Steel Joist Institute (SJI) member company, fully certified to manufacture K, LH and DLH-Series steel joists, and Joist Girders. New Millennium is also a Steel Deck Institute (SDI) member company, fully certified to manufacture roof deck, form deck and composite floor deck.

- New Millennium products meet FM, UL, and ULC requirements
- The Indiana, Virginia, Florida, Tennessee, and Arkansas facilities are ICC certified
- All Versa-Dek profiles (including acoustical), as well as F, B, acoustical B, N, and acoustical N deck are Factory Mutual approved for use as a component in Class 1-60, 1-75 and 1-90 wind uplift metal roof decking construction
- Steel deck products are approved by Underwriters Laboratory and listed in the UL Fire Resistance Directory
- All acoustical deck has been tested in accordance with ANSI ASTM C423 and E795 to determine the noise reduction coefficient (NRC) rating
- Welders are certified in accordance with AWS D1.1 and D1.3
- The Indiana, Virginia and Nevada facilities meet CSA Standard W47.1 in Division 2 for open web joist
- The Indiana facility is certified in accordance with the requirements of the current IBC/Michigan Building Code, Chapter 17, Section 1705, Paragraph 2.2
- The Florida facility is certified in accordance with the requirements of the Miami-Dade County, Florida Building Code, Article IV, Chapter 8
- The Arkansas and Florida facilities are certified in accordance with the Houston, Texas Building Code, section 1704.2.2
- The Nevada and Mexico facilities are certified in accordance with the requirements of LA City
- The Nevada facility is certified in accordance with the requirements of Clark County

## ICC Reports

ICC-ES, a nonprofit organization, evaluates building products and publishes reports that verify they comply with building codes. For complete reports of New Millennium deck verified by ICC-ES, please visit [www.newmill.com/certifications/certifications.html](http://www.newmill.com/certifications/certifications.html)



### **Roof Deck** .....pages 4-13

Roof deck is available in a range of profiles and options, including: dove-tail Versa-Dek® and Super Versa-Dek®; Deep-Dek®; and 1.ORD, F, B, and N deck profiles. Online load table tools and diaphragm design tools simplify roof deck specification.



### **Composite Deck** .....pages 18-21

Composite decks are designed to interlock with the overlaying concrete slab (by mechanical means or deck profile shape or both) to develop a composite floor system. Once the concrete cures, the deck acts as slab external reinforcement, resulting in a composite floor system with superior strength and stiffness. Composite deck solutions include long-span composite systems ideal for multi-story projects.



### **Architectural Deck**.....pages 14-17

Architectural Deck establishes industry-first aesthetic standards for exposed metal deck systems placed in ceiling and cladding assemblies. Factory-applied finish coatings effectively eliminate on-site painting activities and help shorten construction schedules.



### **Form Deck**.....pages 22-23

Form deck is used extensively in floor construction as an economical form to support concrete slabs during construction. Certain deck types may eliminate the need for expensive temporary shoring.

### **Typical Fastener Layouts**.....pages 24-25

Deck attachment patterns are designed by the engineer of record. The type of fastening system used will depend on the uplift capacity, diaphragm shear capacity and the thickness of the supporting members. The different types of systems that can be used are power actuated fasteners, arc spot welds, arc seam welds and self-drilling screws.

### **Deck Fastening** .....page 26

Deck can be attached to supports and at side laps with welds or mechanical fasteners, such as power-actuated fasteners and screws. Automated mechanical fastening tools can speed up deck installation.

### **Deck Accessories** ..... page 27

Everything you need to finish your project, furnished with G60 galvanized coating as minimum. Stock accessories are 20 gage, U.N.O. We can provide special light-gage accessories to meet your requirements.

### **Deck Finishes** .....page 27

Primer-painted or galvanized finishes are available for New Millennium steel decks. Architectural Deck features the factory-controlled application of high-performance coating systems.

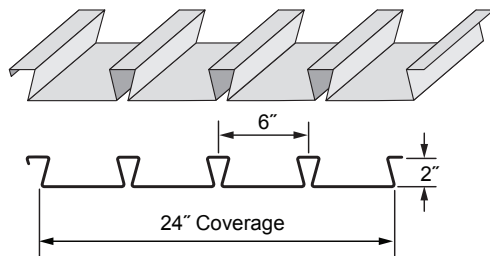
## Versa-Dek® Dovetail Roof Deck

Versa-Dek® allows the design of highly functional and versatile building elements that will also enhance construction economies of almost any project. Versa-Dek® provides a clean, smooth lineal plank ceiling aesthetic while concealing side lap and roofing fastener penetrations.

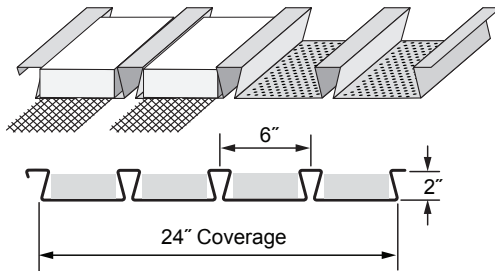
The strength of the shape provides impressive span and overhang capabilities while being ideally suited for open interior and exterior spaces. Versa-Dek® 2.0 S ES and 2.0 LS ES are tailored to provide a desired finish ceiling aesthetic while meeting stringent acoustical and structural requirements.

Deck available in lengths from 6'-0" to 40'-0". Please check with your local New Millennium facility for lengths outside these parameters. Conforms to ASTM A1008/A1008M for uncoated and painted deck, A653/A653M for galvanized deck. Approved by UL, ULC and listed in the UL and ULC Fire Resistance Directories.

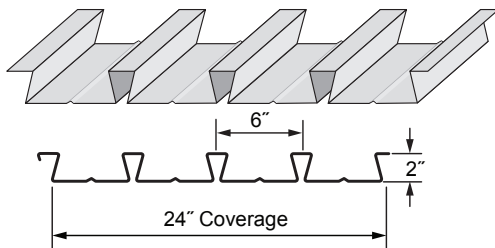
Versa-Dek® 2.0 S ES\*



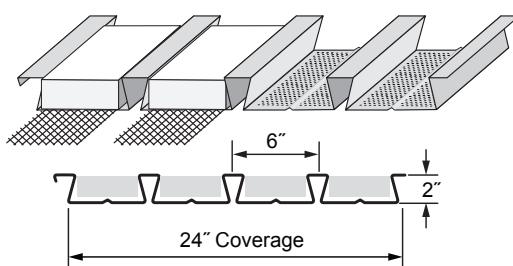
Versa-Dek® 2.0 S ES Acoustical\*



Versa-Dek® 2.0 LS ES



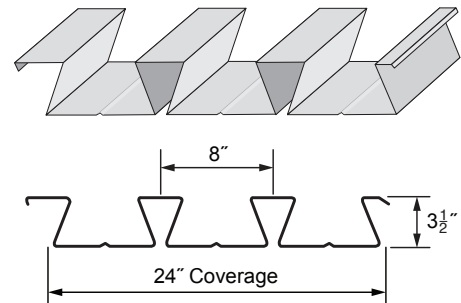
Versa-Dek® 2.0 LS ES Acoustical



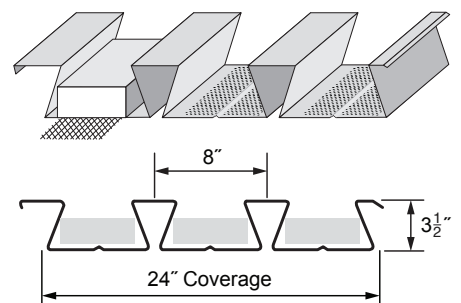
Refer to published tables for the minimum yield strength used for each deck type, contact New Millennium for availability of higher yield strengths when required, or use our deck specification tool to view load tables with commonly available non-standard yield strengths and/or gages.

- Structural roof deck unit provides a support surface for various roofing materials
- Aesthetically appealing dovetail shape creates a lineal plank ceiling finish
- All LS and LS ES types contain an additional minor rib stiffener along the flat dovetail shape to create a tighter lineal plank ceiling aesthetic
- Available as an acoustic deck with NRC ratings as follows: type 2.0 S ES Acoustical, 0.90; type 2.0 LS ES Acoustical, 1.15; type 3.5 LS Acoustical, 0.95
- Type 3.5 LS Acoustical can be used as a structural roof deck unit supporting lightweight insulating concrete (LWIC)
- Types 2.0 S ES, 2.0 LS ES, 3.5 LS, 2.0 S ES Acoustical, 2.0 LS ES Acoustical and 3.5 LS Acoustical are FM and ICC approved

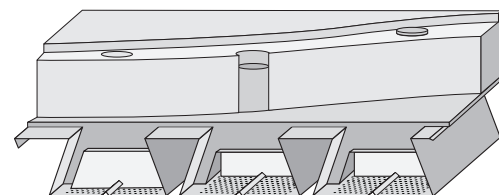
Versa-Dek® 3.5 LS



Versa-Dek® 3.5 LS Acoustical

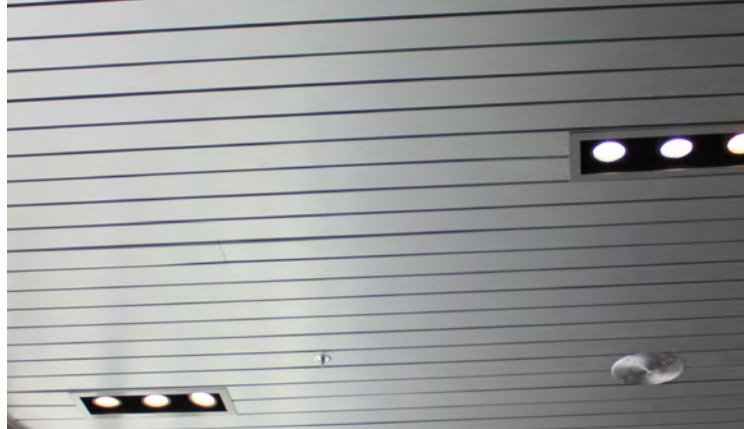


Versa-Dek® 3.5 LS Acoustical (LWIC)



\* For exposed ceiling applications, New Millennium recommends a minimum gage of 20 for S ES and LS ES type profiles.





## Super Versa-Dek® Dovetail Roof Deck

Super Versa-Dek® is a deep dovetail hybrid structural roof deck unit fabricated using a (1 ½" or 3" deep) top profile and a Versa-Dek® 3.5 LS profile. This hybrid profile is mechanically fastened to provide a support surface for various types of above deck roofing materials. Super Versa-Dek® panels are delivered fully assembled to the job site.

Versa-Dek® 3.5 LS is a dovetail-shaped roof deck profile that provides a clean, smooth lineal plank ceiling aesthetic while concealing side lap and roofing fastener penetrations.

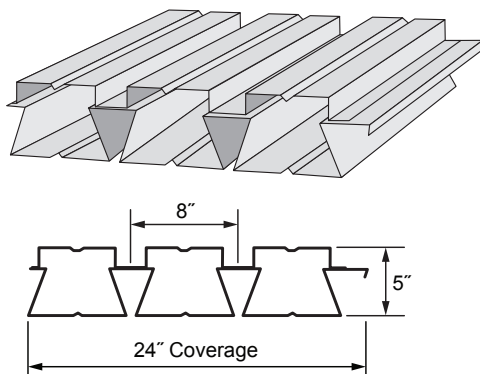
Super Versa-Dek® 6.5 LS provides the same attractive appearance as Versa-Dek® 3.5 LS with an additional 3" depth.

The added depth enhances the strength of the shape, providing impressive span capabilities, making it ideally suited for long, open interior and exterior spaces.

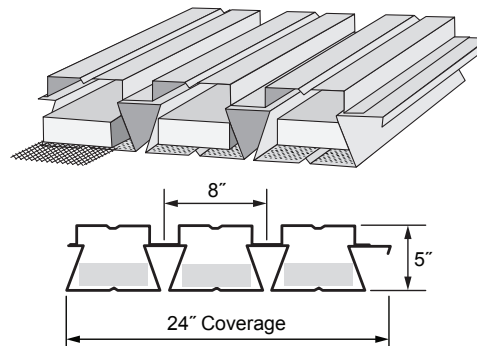
Combine sound absorbing features and factory-applied coatings to give Versa-Dek® a desired finish ceiling aesthetic while meeting stringent acoustical and structural requirements.

- Structural roof deck unit provides a support surface for various roofing materials
- Contains an additional minor rib stiffener along the flat dovetail shape to create a tighter lineal plank ceiling aesthetic
- Available as an acoustic deck with an NRC rating of 1.05

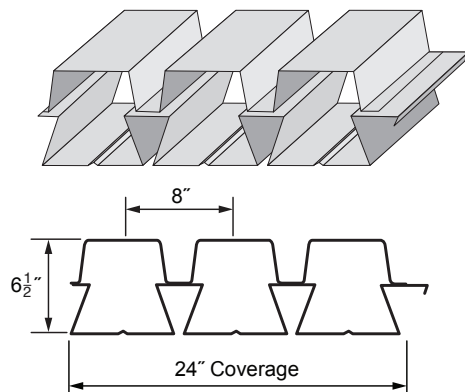
Super Versa-Dek® 5.0 LS



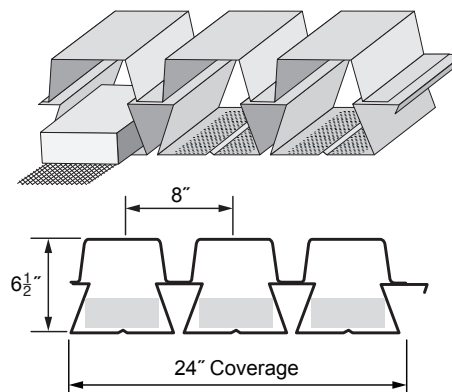
Super Versa-Dek® 5.0 LS Acoustical



Super Versa-Dek® 6.5 LS



Super Versa-Dek® 6.5 LS Acoustical



## Standard Deep-Dek® Roof Deck

Standard Deep-Dek® is a single cell (hat) unit that provides a support surface for various types of roofing materials. Deep-Dek® products produce a deep fluted look for dramatic underside aesthetics.

Deep-Dek® and Deep-Dek® Acoustical eliminate unsightly side lap screw penetrations. The strength of the shape provides impressive span and overhang capabilities making it ideally suited for long, open interior and exterior spaces.

Combine sound absorbing features and factory-applied coatings to give Deep-Dek® a desired finish ceiling aesthetic while meeting stringent acoustical and structural requirements.

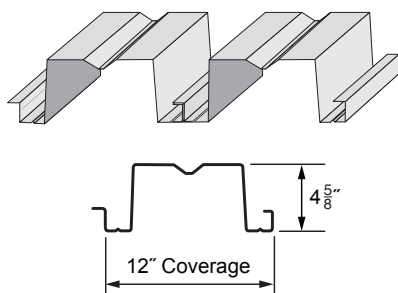
Deck available in lengths from 6'-0" to 40'-0". Please check with your local New Millennium facility for lengths outside these parameters. Conforms to ASTM A1008/A1008M for

uncoated and painted deck, A653/A653M for galvanized deck. Approved by UL, ULC and listed in the UL and ULC Fire Resistance Directories.

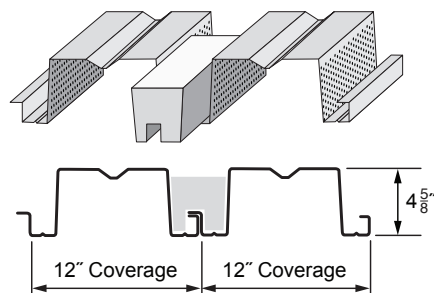
Refer to published tables for the minimum yield strength used for each deck type, contact New Millennium for availability of higher yield strengths when required, or use our deck specification tool to view load tables with commonly available non-standard yield strengths and/or gages.

- Exceptionally long spans can be achieved with Deep-Dek®
- Deep fluted look for dramatic underside aesthetics
- Available as an acoustic deck with NRC ratings as follows: type 4.5 at 0.70; type 6.0 at 0.75, type 7.5 at 0.80
- Deep-Dek® 4.5, 6.0, and 7.5 are ICC and UL approved

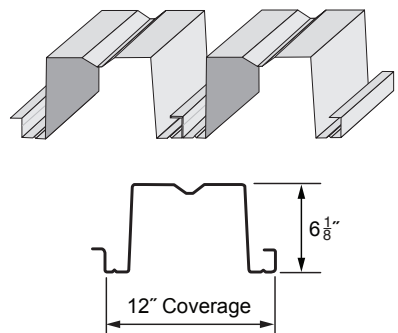
Deep-Dek® 4.5



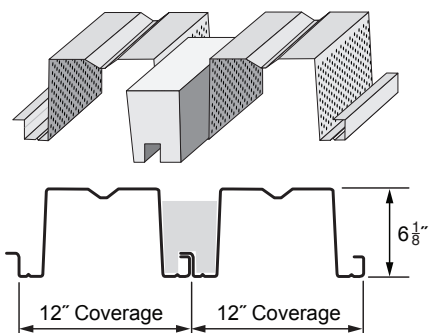
Deep-Dek® 4.5 Acoustical



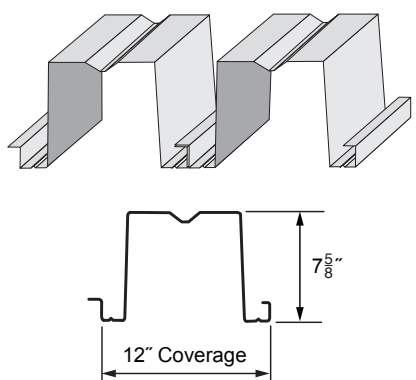
Deep-Dek® 6.0



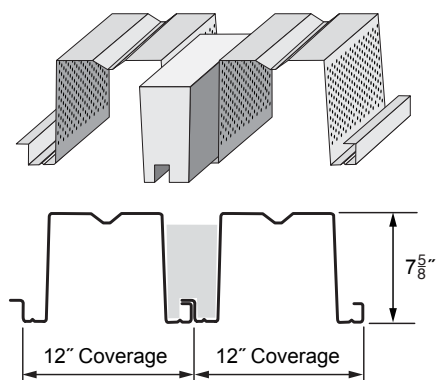
Deep-Dek® 6.0 Acoustical



Deep-Dek® 7.5



Deep-Dek® 7.5 Acoustical



## Cellular Deep-Dek® Roof Deck

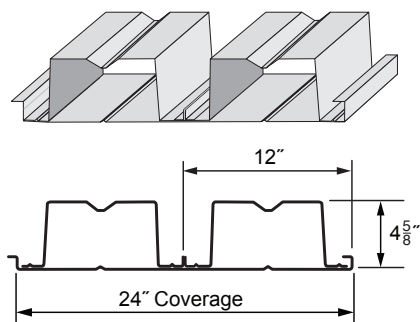
Cellular Deep-Dek® is a double or triple cell (hat) unit with the liner panel that provides a support surface for various component roof systems.

The liner panel with Dek-Knek® Side Lap Attachment System provides a finished underside ceiling with self-aligning side laps and concealed fasteners. The strength of the shape provides impressive span and overhang capabilities making it ideally suited for long, open interior and exterior spaces.

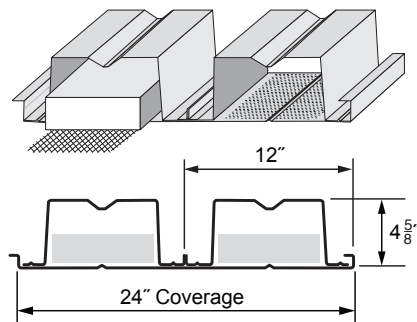
Combine sound absorbing features and factory-applied coatings to give Cellular Deep-Dek® a desired finish ceiling aesthetic while meeting stringent acoustical and structural requirements.

- Exceptionally long spans can be achieved with Cellular Deep-Dek®
- Available as an acoustic deck with NRC ratings as follows: type 4.5 at 1.00; type 6.0 at 1.00; type 7.5 at 1.05
- Cellular Deep-Dek® 4.5, 6.0, and 7.5 are ICC approved
- Triple cell (hat) units are also available for 36" cover width applications.

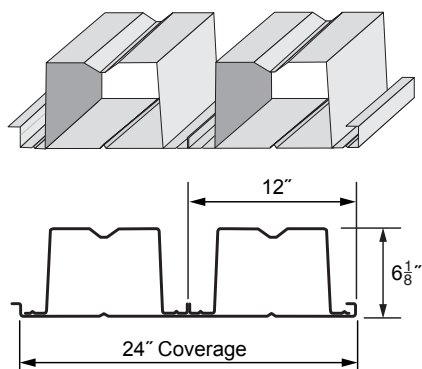
Deep-Dek® 4.5 Cellular



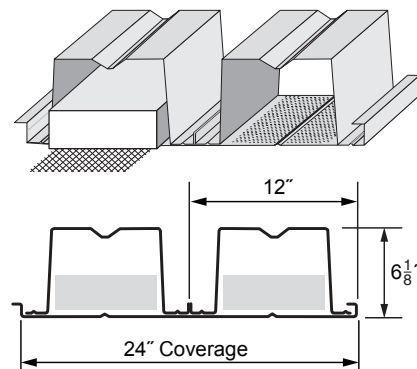
Deep-Dek® 4.5 Cellular Acoustical



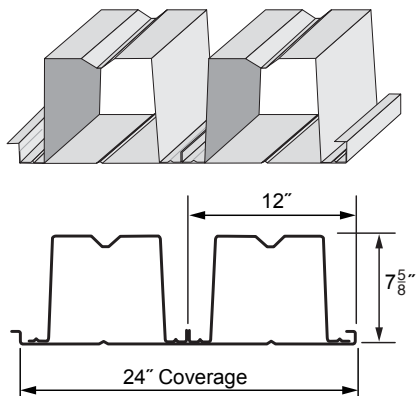
Deep-Dek® 6.0 Cellular



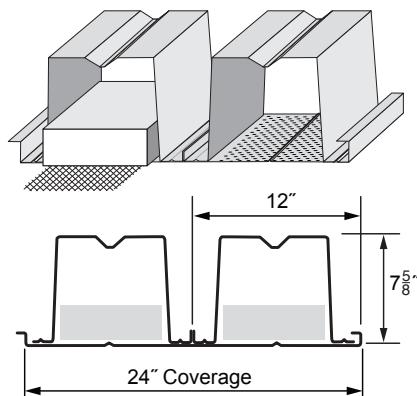
Deep-Dek® 6.0 Cellular Acoustical



Deep-Dek® 7.5 Cellular



Deep-Dek® 7.5 Cellular Acoustical

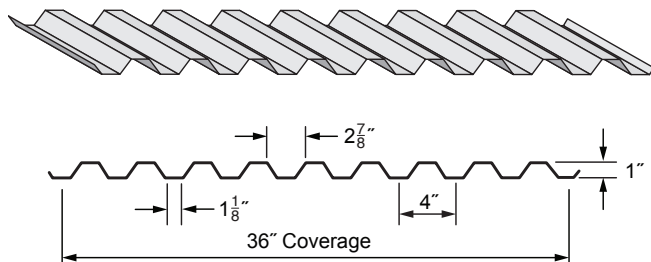




### 1.ORD, 1.ORDV Roof Deck

Type 1.ORD roof deck provides an economical option when support spacing is small. Where rigid roofing insulation is used with 1.ORD deck, a minimum 1" thickness is required.

Deck available in lengths from 6'-0" to 40'-0". Please check with your local New Millennium facility for lengths outside these parameters. Conforms to ASTM A1008/A1008M for uncoated and painted deck, A653/A653M for galvanized deck. Approved by UL, ULC and listed in the UL and ULC Fire Resistance Directories.



Yield strength up to 80ksi. Refer to published tables for the minimum yield strength used for each deck type, contact New Millennium for availability of higher yield strengths when required, or use our deck specification tool to view load tables with commonly available non-standard yield strengths and/or gages.

- Available with nested side laps only
- Available as a vented deck, type 1.ORDV is manufactured with slot vents in the bottom flutes. The openings equal 0.5% of total surface. Type 1.ORDV is to be specified when venting is required for cementitious insulation fill
- 1.ORD deck can also be used as wall siding
- Stiffer floors for reduced live load deflections and reduced vibration
- Shortened construction timeline
- 1.ORD is ICC and UL approved

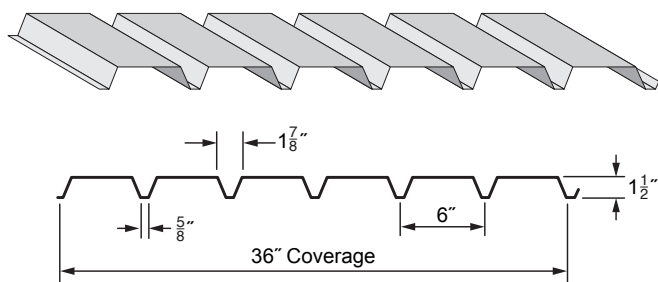




## F Roof Deck

Type F (Intermediate Rib) roof deck provides an economical choice for applications where insulation requirements are lower. Where rigid roofing insulation is used with F deck, a minimum 1" thickness is required.

Deck available in lengths from 6'-0" to 40'-0". Please check with your local New Millennium facility for lengths outside these parameters. Conforms to ASTM A1008/A1008M for uncoated and painted deck, A653/A653M for galvanized deck. Approved by UL, ULC and listed in the UL and ULC Fire Resistance Directories.



Yield strength up to 80ksi. Refer to published tables for the minimum yield strength used for each deck type, contact New Millennium for availability of higher yield strengths when required, or use our deck specification tool to view load tables with commonly available non-standard yield strengths and/or gages.

- Available with nested side laps only
- Type F roof deck is Factory Mutual approved for use as a component in Classes 1-60, 1-75 and 1-90 wind uplift construction. For additional information download FM Tables. When ratings above 1-90 are required, the Contract Documents must specify special requirements in accordance with Factory Mutual Data Sheet 1-29, Section 2.2.13
- Type F roof deck is ICC and UL approved



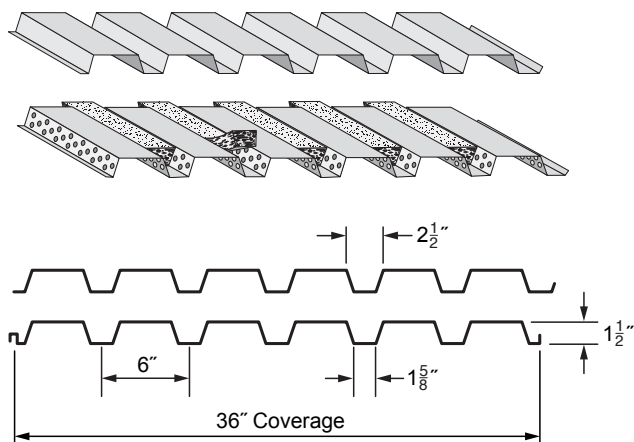
## B Roof Deck Overview

Type B (Wide Rib) roof deck provides the best balance of strength and economy of all the 1½" deep roof decks. Where rigid roofing insulation is used with B deck, a minimum 1" thickness is required. Choices range from standard or cellular profiles with acoustic options.

### Standard B Deck

Deck available in lengths from 6'-0" to 40'-0". Please check with your local New Millennium facility for lengths outside these parameters. Conforms to ASTM A1008/A1008M for uncoated and painted deck, A653/A653M for galvanized deck. Approved by UL, ULC and listed in the UL and ULC Fire Resistance Directories.

Yield strength up to 80ksi. Refer to published tables for the minimum yield strength used for each deck type, contact New Millennium for availability of higher yield strengths when required, or use our deck specification tool to view load tables with commonly available non-standard yield strengths and/or gages.



- Available with nested side laps, types B, B-Dek, BV, BV-Dek, BA and BA-Dek or with interlocking side laps, types BI, BIV and BIA
- Available as an acoustic deck, types BA, BA-Dek and BIA are manufactured with perforations in the vertical ribs, having an NRC rating of 0.50 to 0.95 when used with rigid insulation, as tested in accordance with ANSI/ASTM C423 and E795
- Available as a vented deck, types BV, BV-Dek and BIV are manufactured with slot vents in the bottom flutes, to be specified when venting is required for cementitious insulation fill. The openings for types BV and BIV can be specified from 0.5% up to 1.5% of total surface. The openings for BV-Dek can be specified from 0.25% up to 2.0% of total surface
- Also available with rolled-in hanger tabs (non-vented types only)
- Type B roof deck is Factory Mutual approved for use as a component in Classes 1-60, 1-75 and 1-90 wind uplift construction. For additional information, download FM Tables. When ratings above 1-90 are required, the Contract Documents must specify special requirements in accordance with Factory Mutual Data Sheet 1-29, Section 2.2.13
- Types B, BI and B-Dek are ICC, FM and UL approved



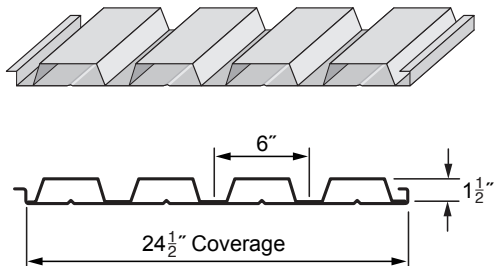


## B-Dek Cellular

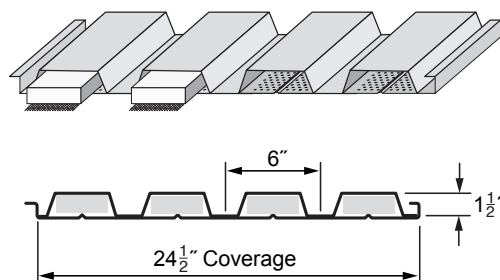
B-Dek Cellular is a 1 1/2" deep cellular structural roof deck unit that provides a support surface for various types of roofing materials. The liner panel with Dek-Knek® Side Lap Attachment System provides a finished underside ceiling with self-aligning side laps and concealed fasteners. The acoustic version B-Dek Cellular Acoustical features a perforated liner panel, providing a noise reduction coefficient (NRC) value of 0.70 when used with a rigid insulation. Fiberglass acoustic batts are installed in the B-Dek Cellular Acoustical cells at the factory under controlled conditions.

- Available in 24 1/2" cover width
- Available in seven steel gage thicknesses (see load tables) with various deck/liner panel thicknesses, a variety of galvanized coating weights and an array of paint systems
- Used as a secondary structural member to provide for lateral force distribution to the structure's vertical force resisting system
- B-Dek Cellular Acoustical available with optional plastic lath to protect the acoustical properties of the deck when painting in the field
- Types B-Dek Cellular and B-Dek Cellular Acoustical are ICC approved

B-Dek Cellular



B-Dek Cellular Acoustical



## N Deck Overview

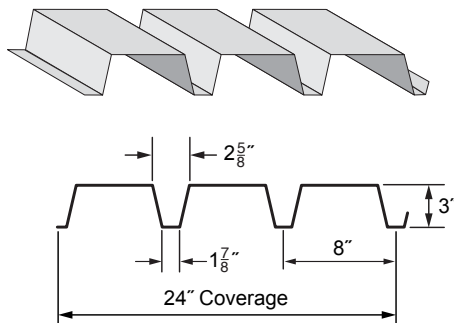
Type N (Deep Wide Rib) is a 3" deep roof deck well suited for applications where it is desirable to space the supporting members as far apart as possible. This is often the case in structures such as gymnasiums where it is usually more economical to minimize the number of long span structural members.

### Standard N Deck

Deck available in lengths from 6'-0" to 40'-0". Please check with your local New Millennium facility for lengths outside these parameters. Conforms to ASTM A1008/A1008M for uncoated and painted deck, A653/A653M for galvanized deck. Approved by UL, ULC and listed in the UL and ULC Fire Resistance Directories.

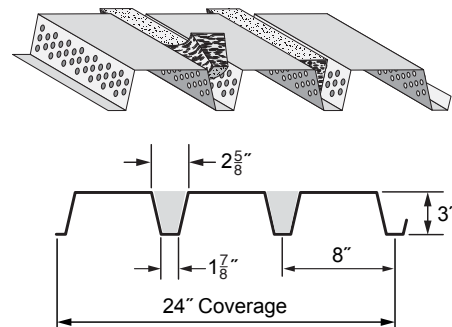
Yield strength up to 80ksi. Refer to published tables for the minimum yield strength used for each deck type, contact New Millennium for availability of higher yield strengths when required, or use our deck specification tool to view load tables with commonly available non-standard yield strengths and/or gages.

Standard N Deck

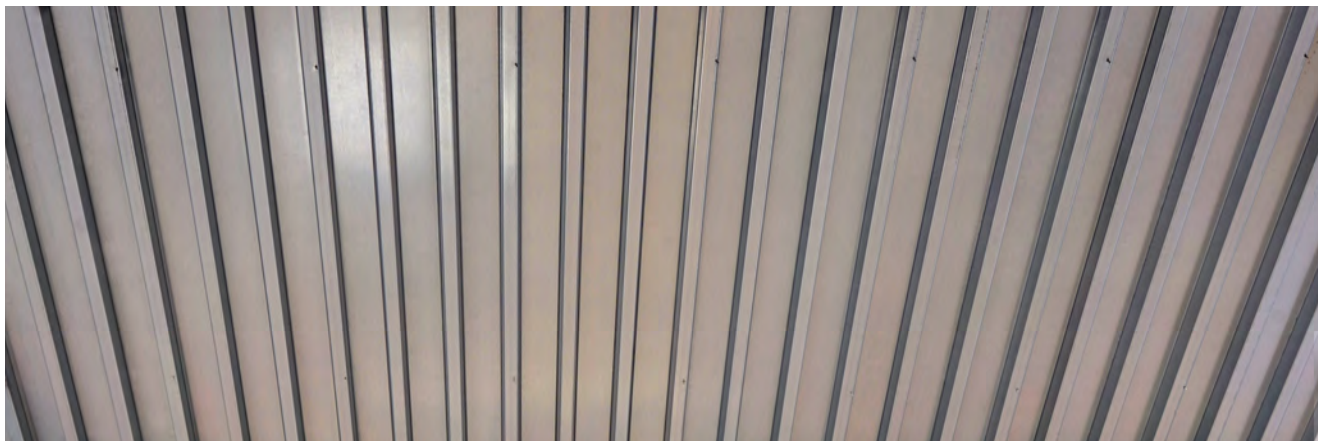


- Available with nested side laps, types N, NA, N-Dek and NA-Dek
- Available as an acoustic deck manufactured with perforations in the vertical ribs, type NA having an NRC rating of 0.60 to 0.95 when used with rigid roofing insulation
- Type N and NA-Dek are Factory Mutual approved for use as a component in Classes 1-60, 1-75 and 1-90 wind uplift construction. For additional information download FM Tables. When ratings above 1-90 are required, the Contract Documents must specify special requirements in accordance with Factory Mutual Data Sheet 1-29, Section 2.2.13
- N and N-Dek are UL, FM and ICC approved
- NA-Dek is FM and ICC approved

Standard N Deck Acoustical





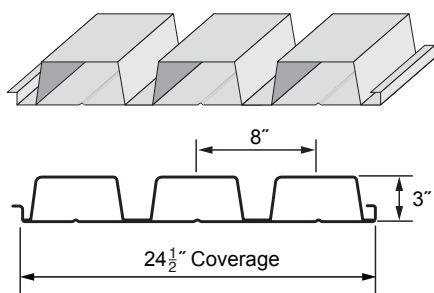


## N-Dek Cellular

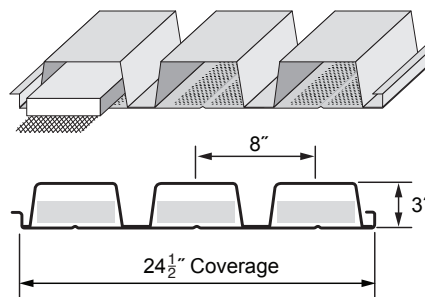
N-Dek Cellular is a 3" deep, cellular structural roof deck unit that provides a support surface for various types of roofing materials. The liner panel with Dek-Knek® Side Lap Attachment System provides a finished underside ceiling with self-aligning side laps and concealed fasteners. N-Dek Cellular Acoustical features a perforated liner panel that provides a noise reduction coefficient (NRC) value of 0.95 with rigid insulation. Fiberglass insulation batts are installed in the deck cells at the factory under controlled conditions.

- Available in a 24½" cover width
- Available in seven steel gage thicknesses (see load tables) with various deck/liner panel thicknesses, a variety of galvanized coating weights and an array of paint systems
- N-Dek Cellular Acoustical available with optional plastic lath to protect the acoustical properties of the deck when painting in the field
- Types N-Dek Cellular and N-Dek Cellular Acoustical are ICC, FM and UL approved

N-Dek Cellular



N-Dek Cellular Acoustical

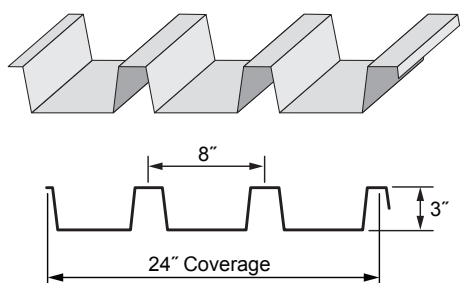


## Inverted N-Dek

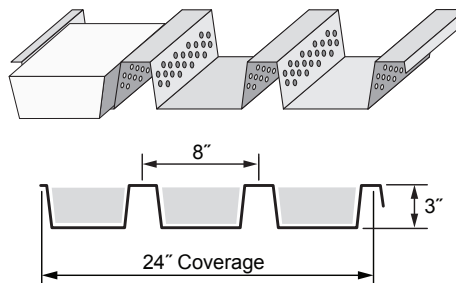
Inverted N-Dek is the 3" N-Dek profile placed in the inverted position for a unique ceiling aesthetic appearance. The finished look provides a smooth ceiling appearance with heavy shadow lines. Inverted N-Dek Acoustical is a 3" deep,

wide rib, inverted, acoustical structural roof deck unit that provides a support surface for various types of roofing materials with an NRC rating of 0.80 when used with rigid roofing insulation.

Inverted N-Dek



Inverted N-Dek Acoustical



# ARCHITECTURAL DECK

Architectural Deck Ceiling and Cladding Systems combine with exposed structural frames to create striking and spacious interiors, as well as dramatic and high-performing exteriors. Optional acoustical treatments absorb sound energy. Applications readily integrate lighting, electrical, plumbing and fire suppression systems.

Combine sound absorbing features and factory-applied coatings to give Versa-Dek® a desired finish ceiling aesthetic while meeting stringent acoustical and structural requirements.

## Versa-Dek® Family of Architectural Deck

Achieve the architectural vision of your project while reducing cost and enhancing performance. The Versa-Dek® family is available in multiple sizes and profiles to create striking and spacious interiors.

- Dovetail side lap for concealed fastening
- Clear spans up to 27' (Super Versa-Dek® 6.5LS)
- Noise Reduction Coefficients (NRC) up to 1.15
- All 2" and 3½" deep roof Versa-Dek profiles (including acoustical) are ICC and FM approved
- Versa-Wedge® hanging system for MEP components
- Optional warranted painted metal systems

See pages 4-5 for Versa-Dek® details

## Versa-Dek®

Versa-Dek® is a dovetail-shaped roof deck profile that provides a clean, smooth, lineal plank ceiling aesthetic while concealing side lap and roofing fastener penetrations. Available in 2" and 3½" depth profiles.

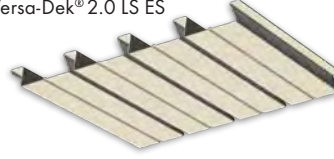
## Super Versa-Dek®

Super Versa-Dek® is fabricated as a hybrid profile, providing extra depth with the same attractive appearance as Versa-Dek®. The added depth enhances the strength of the shape providing impressive span and overhang capabilities making it ideally suited for long, open interior and exterior spaces.

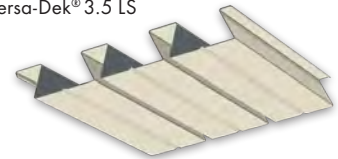
Versa-Dek® 2.0 S ES



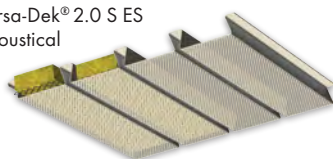
Versa-Dek® 2.0 LS ES



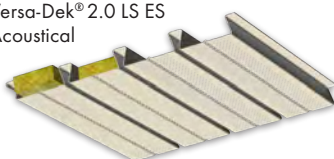
Versa-Dek® 3.5 LS



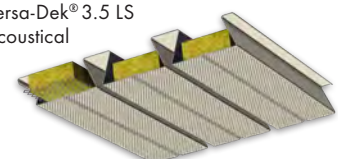
Versa-Dek® 2.0 S ES  
Acoustical



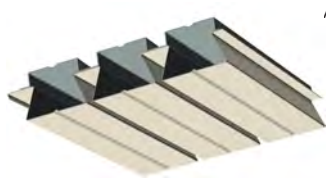
Versa-Dek® 2.0 LS ES  
Acoustical



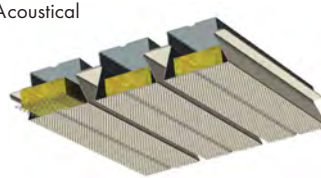
Versa-Dek® 3.5 LS  
Acoustical



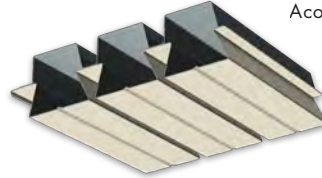
Super Versa-Dek® 5.0 LS



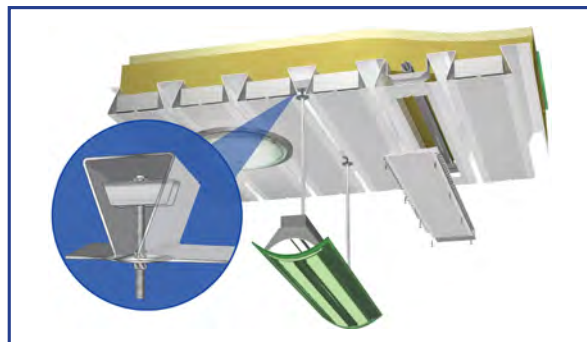
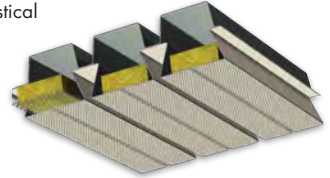
Super Versa-Dek® 5.0 LS  
Acoustical



Super Versa-Dek® 6.5 LS



Super Versa-Dek® 6.5 LS  
Acoustical



The Versa-Wedge™ hanger system is an economical and efficient way to install such items as suspended ceilings, sprinkler pipes, mechanical (HVAC) ducts and other utilities and/or equipment from the deck. Versa-Wedge™ hangers are easy to install, removable and reusable allowing for future hanging capabilities. The Designer (EOR) must take into account and be responsible for proper sequence of loading including any seismic design considerations as they relate to the ultimate design of the deck.





## Deep-Dek® Family of Architectural Deck

The Deep-Dek® family provides design teams unparalleled freedom in open space design. The strength of the shape provides impressive span and overhang capabilities making it ideally suited for long, open interior and exterior spaces. Combine sound absorbing features and factory-applied coatings to give Deep-Dek® a desired finish ceiling aesthetic while meeting stringent acoustical and structural requirements.

- 4½", 6" and 7½" profile depths
- Deep Dek® is available in 12" cover width
- Deep Dek® Cellular is available in 24" and 36" cover widths
- Conceals MEP components
- Noise Reduction Coefficients (NRC) up to 1.05
- ICC approved
- Dek-Strut hanging system
- Optional warranted painted metal systems

## Deep-Dek® and Deep-Dek® Acoustical

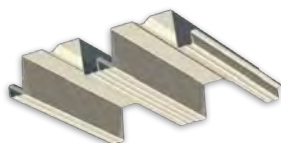
Deep-Dek® and Deep-Dek® Acoustical are roof deck profiles that provide a dramatic deep-fluted visual effect while eliminating unsightly side lap screw penetrations.

## Deep-Dek® Cellular and Deep-Dek® Cellular Acoustical

Deep-Dek® Cellular and Deep-Dek® Cellular Acoustical are long span roof deck profiles that provide a clean, smooth visual ceiling effect while concealing side lap and roofing fastener penetrations.

See pages 6-7 for Deep-Dek® details

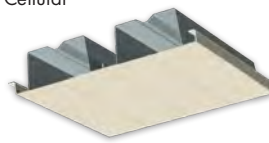
Deep-Dek® 4.5



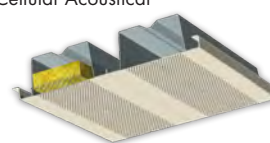
Deep-Dek® 4.5  
Acoustical



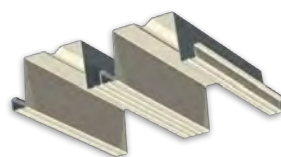
Deep-Dek® 4.5  
Cellular



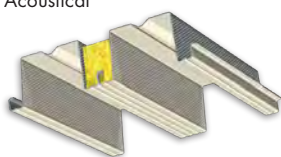
Deep-Dek® 4.5  
Cellular Acoustical



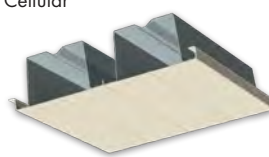
Deep-Dek® 6.0



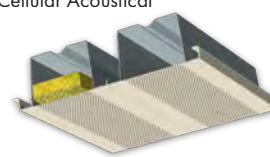
Deep-Dek® 6.0  
Acoustical



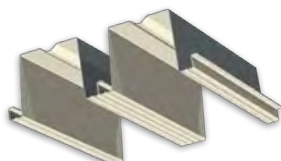
Deep-Dek® 6.0  
Cellular



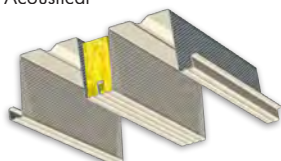
Deep-Dek® 6.0  
Cellular Acoustical



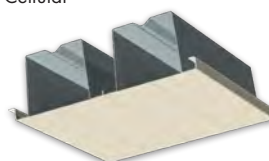
Deep-Dek® 7.5



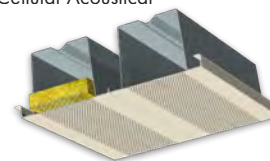
Deep-Dek® 7.5  
Acoustical



Deep-Dek® 7.5  
Cellular



Deep-Dek® 7.5  
Cellular Acoustical

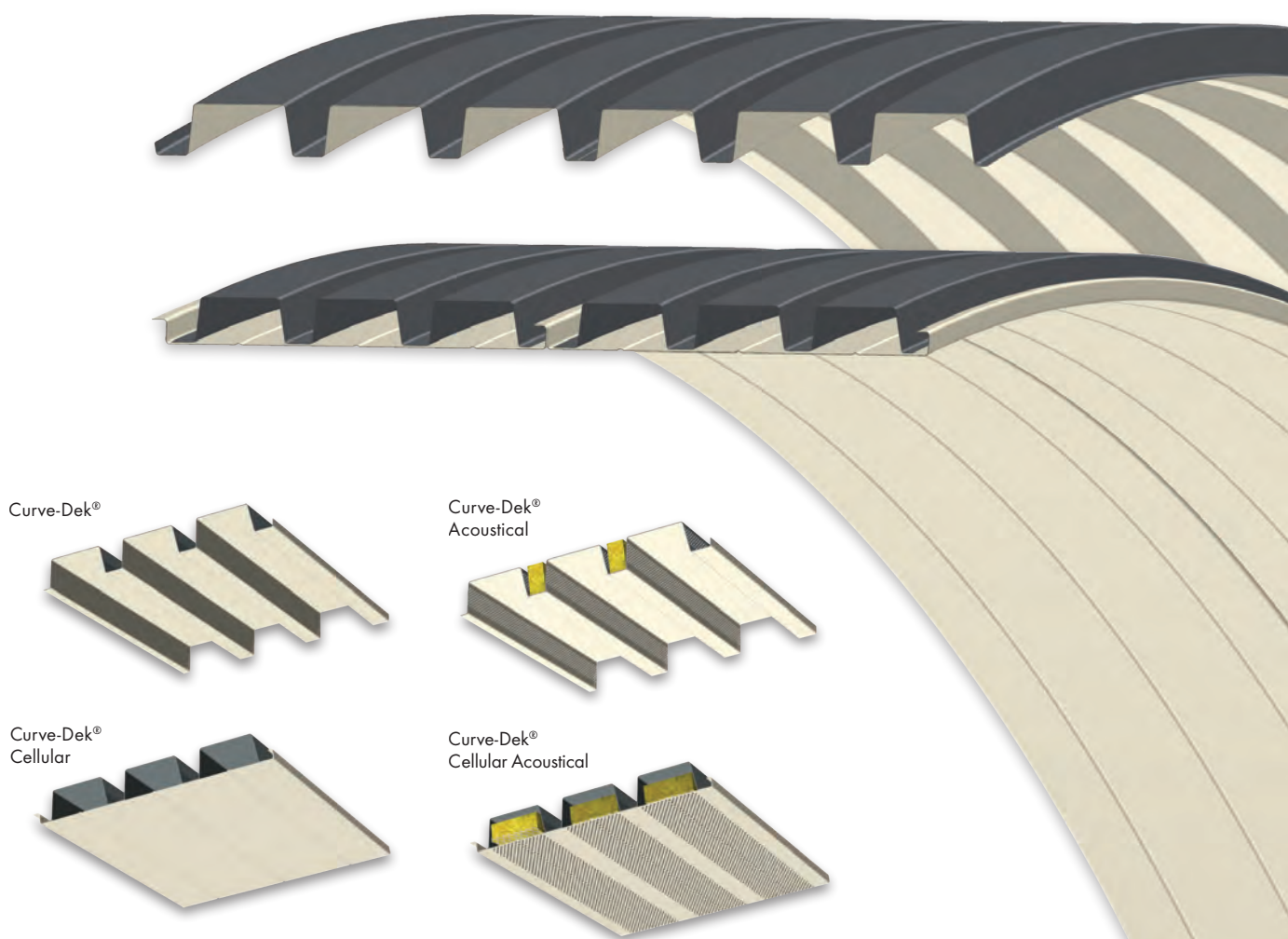


## Curve-Dek® Architectural Deck

Curve-Dek® is an innovative product solution designed to meet the growing demand for curved roof and canopy applications. Curve-Dek® allows the design team to create striking ceiling and roof configurations utilizing a smooth curved building component.

From bold fluted to smooth lineal textures, Curve-Dek® offers variety for your design. These looks are further enhanced by their ability to provide concave and convex curvatures and acoustical properties to meet challenging demands.

- 3" deep profile
- Radii as low as 100'-0"
- Galvanized sheet steel with continuous lengths up to 36'-0"
- Clear span capacity up to 18'-0"
- Deck liner cellular panel with stiffening ribs for enhanced aesthetic
- Dek-Knek® side lap conceals fastener tips from view (Curve-Dek® Cellular and Curve-Dek® Cellular Acoustical)
- Noise Reduction Coefficients up to 0.95
- Warranted painted metal systems







## CURVE-DEK® FABRICATION LIMITATIONS

### N Panels

- 20 gage decking will curve to a 220'-0" radius
- 18 gage decking will curve to a 120'-0" radius

### Liner Panels

- 20 gage panels will curve to a 150'-0" radius
- 18 gage panels will curve to a 100'-0"

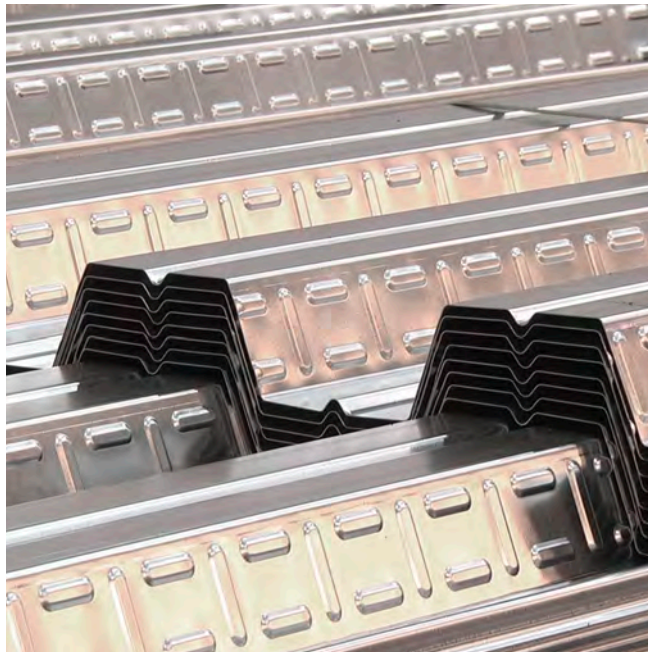
**NOTE:** Lengths longer than 36'-0" need to be verified with Operations.

# COMPOSITE DECK

New Millennium manufactures a wide range of composite deck products and systems to meet your needs. Choose from a variety of profiles and depths. Composite deck meets the required steel deck certifications, and in accordance with the specifications, of the Steel Deck Institute.

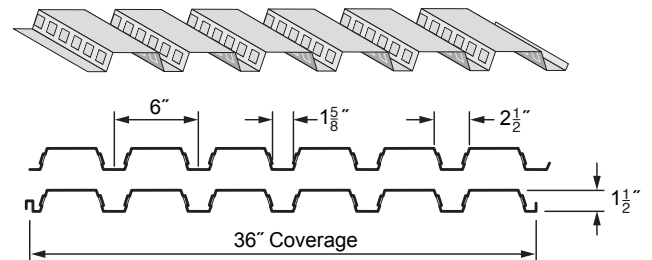
## Standard Composite Deck

Standard composite deck has embossments in the vertical ribs that bond with the concrete slab to develop a composite floor system. Once the concrete cures, the resulting composite floor system provides superior strength and stiffness. When combined with composite joists, standard composite can create long spans that are optimal for a variety of multi-story projects.

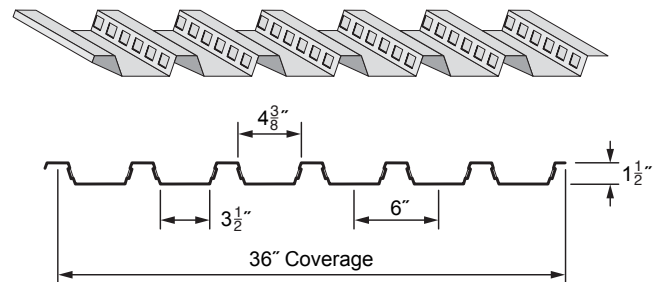


- Available with nested side laps, type 1.5CD, 1.5CDR
- Available with interlocking side laps, type 1.5CDI, 2.0CD, 3.0CD (extended side laps can be provided upon request to facilitate screw installation)
- Also available with rolled-in hanger tabs, types 1.5CD, 1.5CDI, 2.0CD, 3.0CD
- 1.5CD, 1.5CDI, and 1.5CDR enable the designer to space the structural members to over 11'-0" on center without any additional shoring
- 2.0CD enables the designer to space the structural members to over 14'-0" on center without any additional shoring
- 3.0CD enables the designer to space the structural members to over 16'-0" on center without any additional shoring

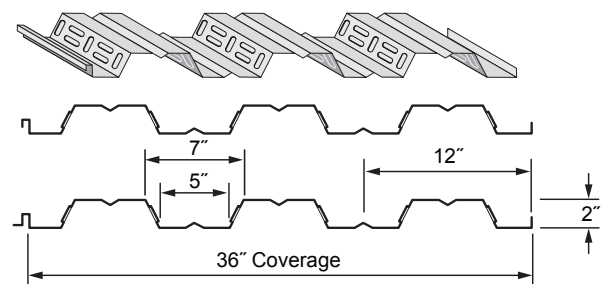
1.5CD, 1.5CDI Composite Deck



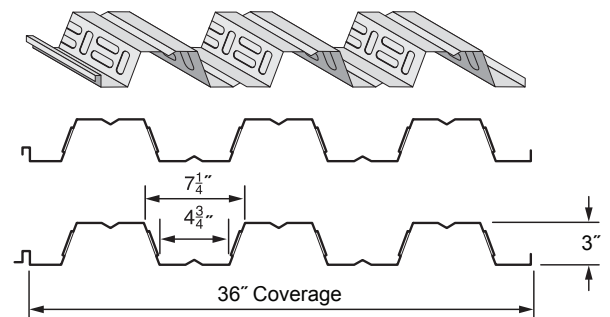
1.5CDR Composite Deck



2.0CD Composite Deck



3.0CD Composite Deck



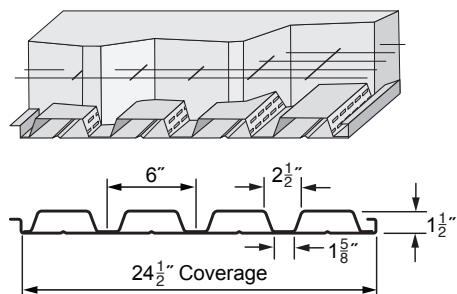
## Cellular Composite Deck

Cellular floor deck with continuous (underside) beaded liner panel allows for increased deck spans, increased clear spans (unshored) and increased cantilever spans over non-cellular types. Available with acoustical cellular deck option, fiberglass insulation batts installed in the deck cells at the factory under controlled conditions.

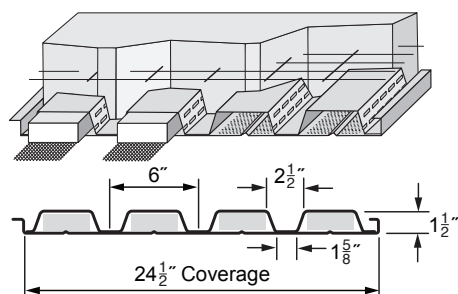


- 1.5CFDCA Acoustical achieves a noise reduction coefficient (NRC) value of 0.70
- 2.0CFDCA Acoustical achieves a noise reduction coefficient (NRC) value of 0.75
- 3.0CFDCA Acoustical achieves a noise reduction coefficient (NRC) value of 0.85
- 1.5CFDC and 1.5CFDCA are also available in 36½" cover widths
- 2.0CFDC, 2.0CFDCA, 3.0CFDC and 3.0CFDCA are also available in 36" cover widths
- 1.5CFDCA, 2.0CFDCA, and 3.0CFDCA available with optional plastic lath to protect the acoustical properties of the deck when painting in the field

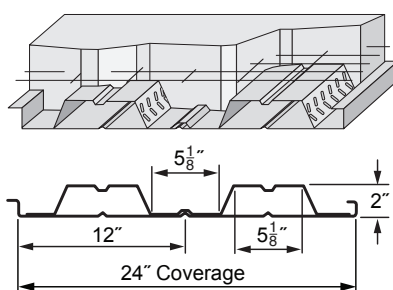
1.5CFDC Composite Floor Deck Cellular



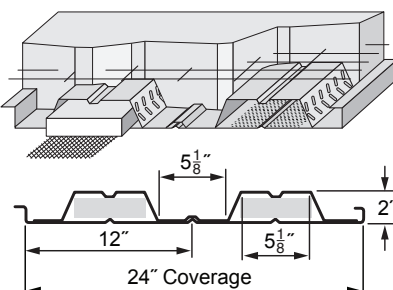
1.5CFDCA Composite Floor Deck Cellular Acoustical



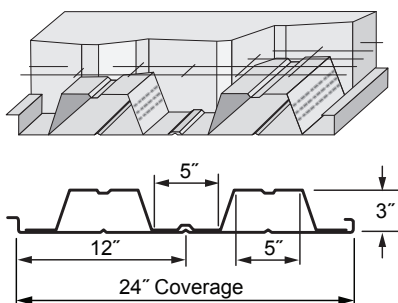
2.0CFDC Composite Floor Deck Cellular



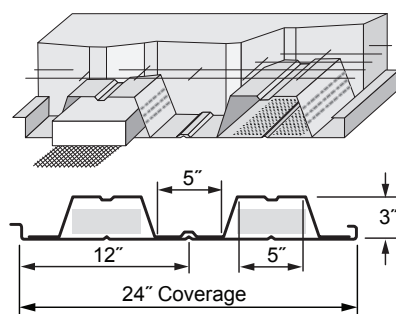
2.0CFDCA Composite Floor Deck Cellular Acoustical



3.0CFDC Composite Floor Deck Cellular



3.0CFDCA Composite Floor Deck Cellular Acoustical



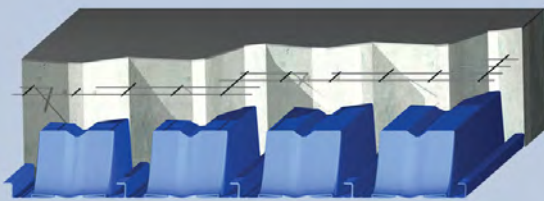


## LONG-SPAN COMPOSITE DECK

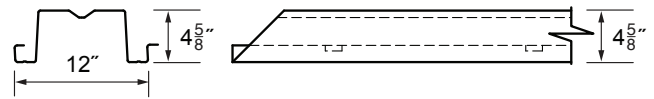
Long-span composite deck is engineered to address market specific multi-story construction. It utilizes composite floor technology that can weigh up to 40% less than comparably utilized cast-in-place (CIP) concrete floors and can achieve clear spans up to 36'. Long-span composite deck is available in two distinct deck profiles in a range of depths, spans and acoustic capabilities.



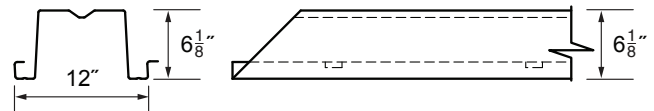
### Deep-Dek® Composite



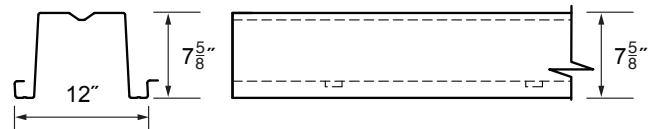
#### Deep-Dek® Composite 4.5



#### Deep-Dek® Composite 6.0



#### Deep-Dek® Composite 7.5



### Deep-Dek® Composite minimizes floor depth, maximizes savings

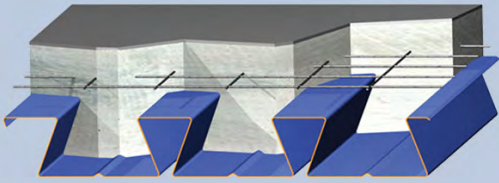
A long-span composite system featuring Deep-Dek® Composite can keep floor depth to a minimum while allowing for maximum safety, performance and cost savings.

Deep-Dek® Composite combines the structural advantages of a flat-plate slab with the time and cost-saving advantages of a permanent form slab. Span-to-depth ratios equal those of traditional cast-in-place concrete and hollow-core plank. Space-saving Deep-Dek® Composite floors weigh less than equivalent concrete floors and install faster.

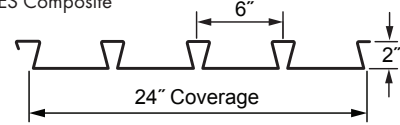
Choose from a deep-fluted appearance or a smooth surface with thin structural ribbing. Available in a variety of finish options. The smooth surface of Deep-Dek® Composite Cellular Acoustical also allows for optional acoustical treatments.

Create open interior spaces with clear spans up to 36' wide. Concrete pours can be unshored for spans up to 22'. Optimize multi-story construction with low-profile slabs as thin as 7.625", maximizing ceiling height and reducing building height. Reduce costs and increase job site safety by pre-assembling panels up to 30' wide on the ground with our Panelized Delivery Method.™

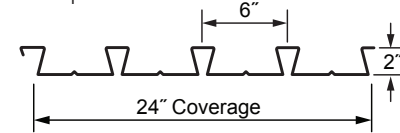
## Versa-Dek® Composite



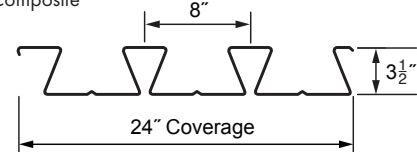
Versa-Dek® 2.0 S ES Composite



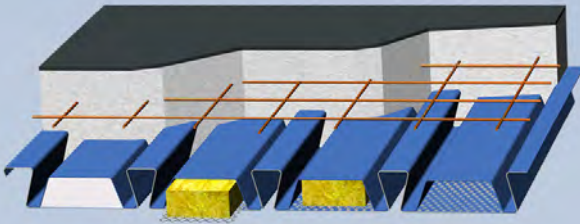
Versa-Dek® 2.0 LS ES Composite



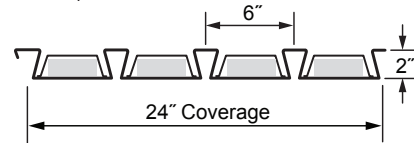
Versa-Dek® 3.5 LS Composite



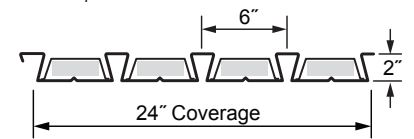
## Versa-Dek® Composite Acoustical



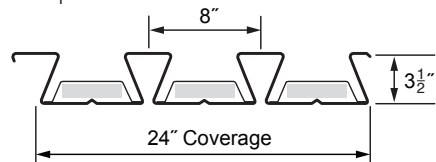
Versa-Dek® 2.0 S ES Composite Acoustical



Versa-Dek® 2.0 LS ES Composite Acoustical



Versa-Dek® 3.5 LS Composite Acoustical



## Versa-Dek® Composite brings aesthetics to long-span applications

Long-span composite deck featuring Versa-Dek® Composite is ideal for use in mid-rise residential structures, providing clear spans up to 28'. This deck offers the thinnest total floor depths, with slab profiles as thin as 4", reducing story height and maximizing ceiling height.

Reduce costs by eliminating suspended ceilings. Left exposed, the dovetail design provides a clean, lineal-plank aesthetic for office, retail and academic spaces. Versa-Dek® Composite is non-combustible and is fire-resistance rated up to four hours without protective coverings such as gypsum and spray-on materials.

Optional acoustical treatments up to NRC 0.70 control noise reverberation within occupied spaces. Versa-Dek® Composite can be supplied with a factory-applied primer option. Versa-Wedge™ is a hanger system to suspend lighting or facilitate MEP integration.

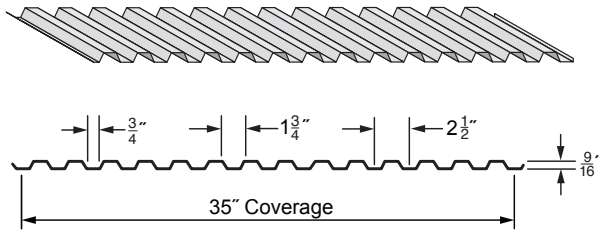
Versa-Dek® Composite is ideally suited to work with light gage structural steel wall systems. It also integrates with any beam or other bearing-wall method.

## FORM DECK

Form deck is used extensively in floor construction as an economical form to support concrete slabs during construction. All of our deck products meet required steel deck certifications in accordance with the specifications of the Steel Deck Institute.

Form deck is available in lengths from 6'-0" to 40'-0". Please check with your local New Millennium facility for lengths outside these parameters. Conforms to ASTM A1008/A1008M for uncoated and painted deck, A653/A653M for galvanized deck. Approved by UL, ULC and listed in the UL and ULC Fire Resistance Directories.

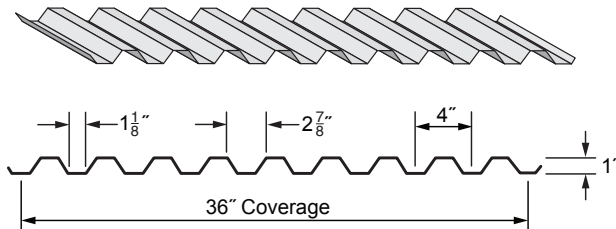
Yield strength up to 80ksi. Refer to published tables for the minimum yield strength used for each deck type, contact New Millennium for availability of higher yield strengths when required, or use our deck specification tool to view load tables with commonly available non-standard yield strengths and/or gages.



### 0.6FD, 0.6FDV Form Deck

Type 0.6FD form deck is used extensively in floor construction as an economical form to support concrete slabs during construction. Specifying 0.6FD deck may eliminate the need for expensive temporary shoring. Floor systems using 0.6FD deck are some of the most economical floors available.

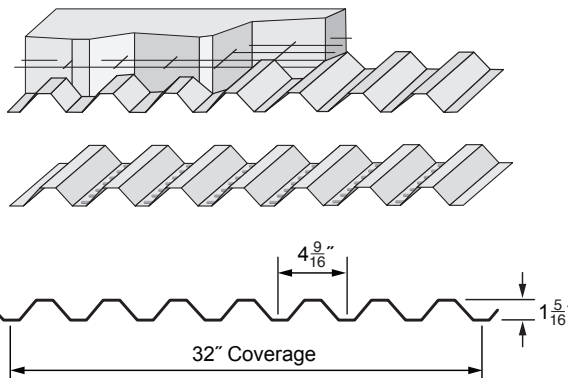
- Available with nested side laps only
- Available as a vented deck, type 0.6FDV is manufactured with slot vents in the bottom flutes, the openings equal 0.5% of total surface
- 0.6FD and 0.6FDV are UL approved. 0.6FD is ICC approved



### 1.0FD, 1.0FDV Form Deck

Type 1.0FD form deck is used extensively in floor construction as an economical form to support concrete slabs during construction. Specifying 1.0FD deck may eliminate the need for expensive temporary shoring. Floor systems using 1.0FD deck are some of the most economical floors available.

- Available with nested side laps only
- Available as a vented deck, type 1.0FDV is manufactured with slot vents in the bottom flutes, the openings equal 0.5% of total surface
- 1.0FD and 1.0FDV are UL approved. 1.0FD is ICC approved



### EHD-Dek, EHDV-Dek Form Deck

EHD-Dek is a 1 5/16" deep, permanent form deck system for reinforced concrete (145pcf normal weight) slabs. The deck system can also be used as a roof or lightweight insulating concrete roof deck system.

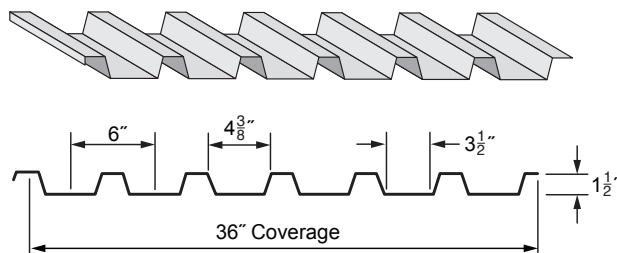
- Available in four steel gage thicknesses
- Available as a vented deck, type HDV-Dek is manufactured with slot vents in the bottom flutes, the openings can be adjusted from .25% - .75%
- Type EHD-Dek and EHDV-Dek are ICC and UL approved
- Manufactured at our Memphis plant only



### 1.5FD Form Deck

Type 1.5FD form deck is used extensively in floor construction as an economical form to support concrete slabs during construction. Specifying 1.5FD deck may eliminate the need for expensive temporary shoring. Floor systems using 1.5FD deck enable the designer to space the structural members to over 10'-0" on center.

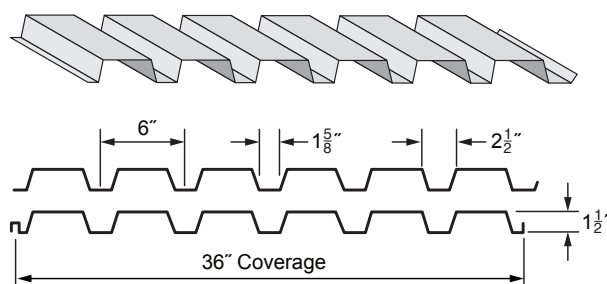
- Available with nested side laps only
- 1.5FD is ICC and UL approved



### 1.5FDR, 1.5FDV, 1.5FDI, 1.5FDIV Form Deck

Type 1.5FDR form deck is also used in floor construction as an economical form to support concrete slabs during construction. Specifying 1.5FDR deck may eliminate the need for expensive temporary shoring. Floor systems using 1.5FDR deck enable the designer to space the structural members to over 10'-0" on center.

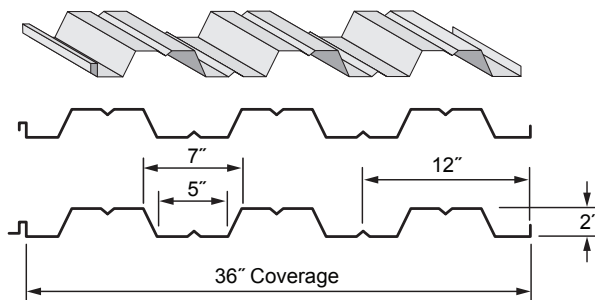
- Available with nested side laps, types 1.5FDR and 1.5FDV or interlocking side laps, types 1.5FDI and 1.5FDIV
- Available as a vented deck, types 1.5FDV and 1.5FDIV are manufactured with slot vents in the bottom flutes, the openings can be specified from 0.5% up to 1.5% of total surface
- Also available with rolled-in hanger tabs (non-vented types only)
- 1.5FDR, 1.5FDV, 1.5FDI and 1.5FDIV are UL approved. 1.5FDR and 1.5FDI are ICC approved



### 2.0FD Form Deck

Type 2.0FD form deck is used in floor construction as an economical form to support concrete slabs during construction. Floor systems using 2.0FD deck enable the designer to space the structural members to over 14'-0" on center without any additional shoring.

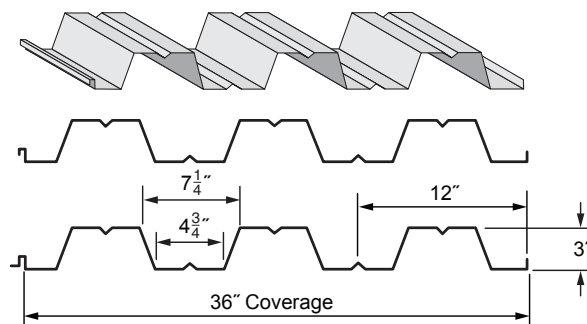
- Available with interlocking side laps only (extended side laps can be provided upon request to facilitate screw installation)
- Also available with rolled-in hanger tabs



### 3.0FD Form Deck

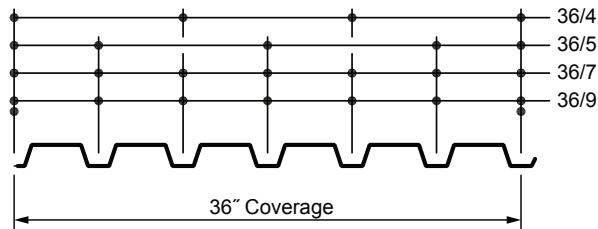
Type 3.0FD form deck is used in floor construction as an economical form to support concrete slabs during construction. Floor systems using 3.0FD deck enable the designer to space the structural members to over 16'-0" on center without any additional shoring.

- Available with interlocking side laps only (extended side laps can be provided upon request to facilitate screw installation)
- Also available with rolled-in hanger tabs

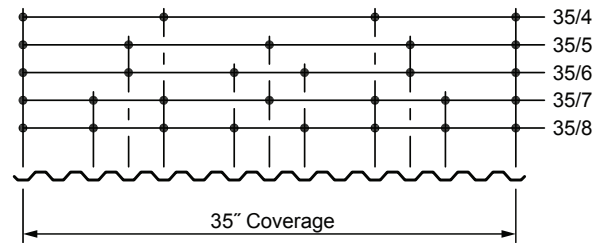


## TYPICAL FASTENER LAYOUTS

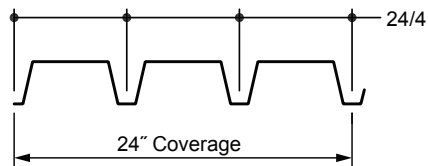
Deck attachment patterns are designed by the engineer of record. The type of fastening system used will depend on the uplift capacity, diaphragm shear capacity and the thickness of the supporting members. The different types of systems that can be used are power driven fasteners, arc spot welds, arc seam welds and self-drilling screws.



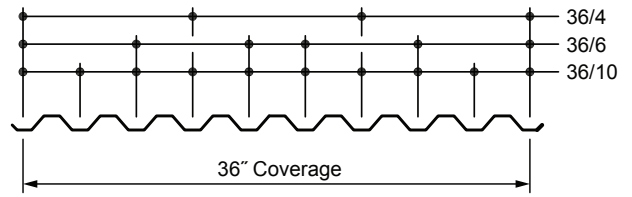
B, BI, BV, BIV, BA, BIA, F, 1.5FDR,  
1.5FDI, 1.5FDV, 1.5FDIV, 1.5CD, 1.5CDI



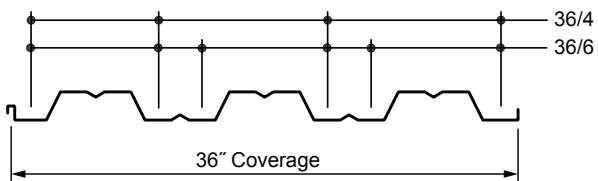
0.6FD, 0.6FDV



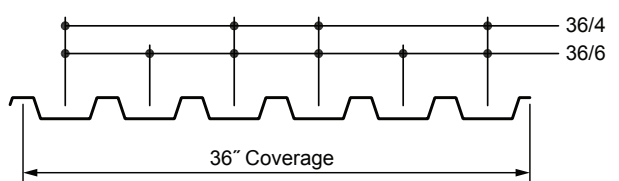
N, NA



1.0RD, 1.0RDV, 1.0FD, 1.0FDV

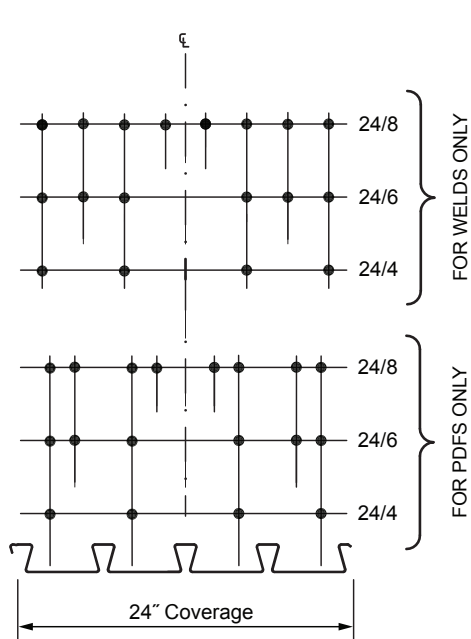


2.0FD, 3.0FD, 2.0CD, 3.0CD

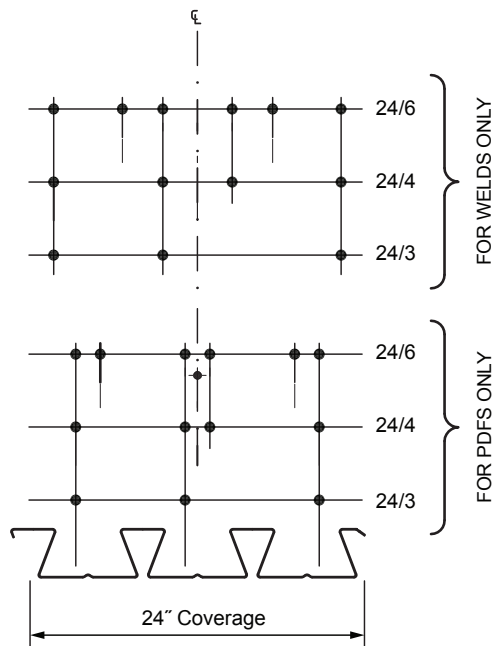


1.5FD, 1.5CDR

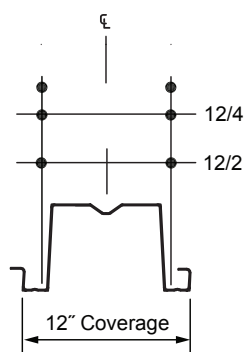




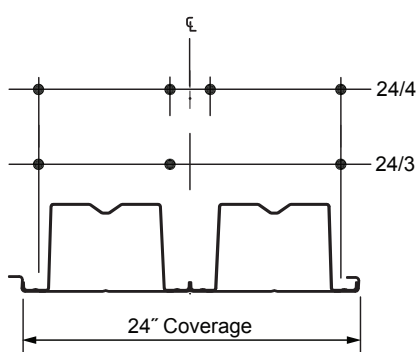
Versa-Dek® 2.0 S ES & 2.0 LS ES  
and their acoustical variations



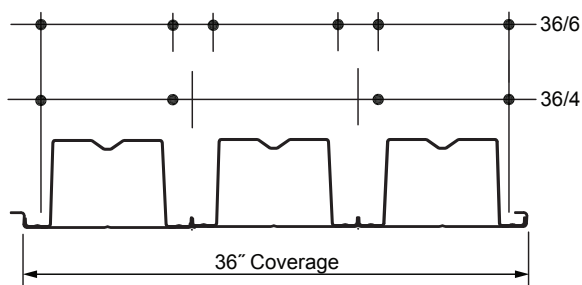
Versa-Dek® 3.5 LS  
and their acoustical variations



Deep-Dek® 4.5, 6.0, 7.5  
and their acoustical variations



Deep-Dek® 4.5, 6.0, 7.5 Cellular  
and their acoustical variations

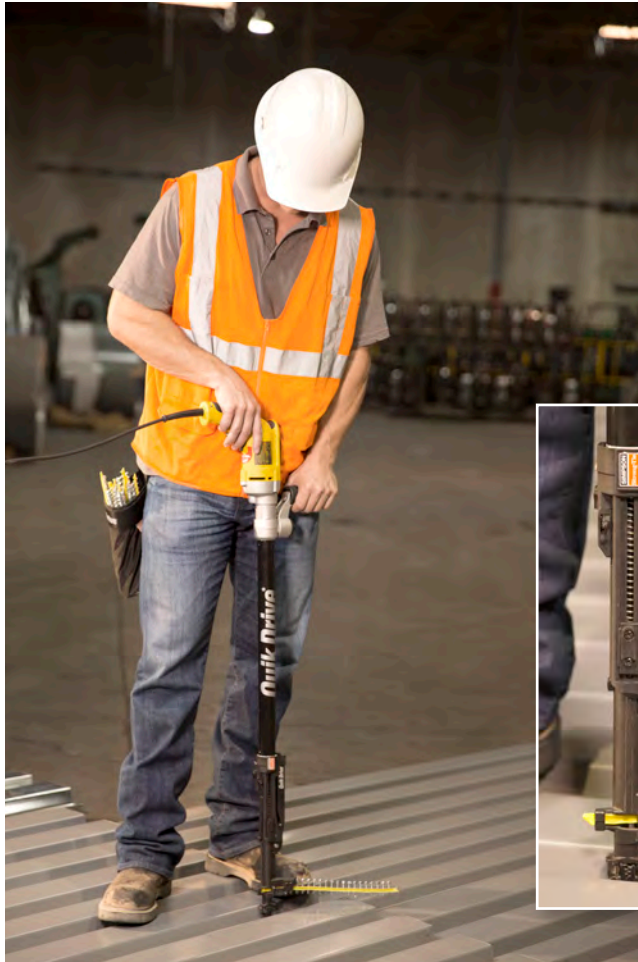


Deep-Dek® 4.5, 6.0, 7.5 Cellular  
and their acoustical variations



## Deck Fastening

Roof deck, form deck and composite deck can be attached to supports using a range of methods, including automated mechanical fastening tools. Automated methods can also be used for side lap fastening of nested steel decking.



### Automated Deck Fastening

Today's most advanced, automated steel deck tools can accelerate deck installation to reduce costs to the project.

- One tool can perform both side lap stitching and support fastening
- Significantly faster than welding and hand drilling
- No costs for welding materials and touch-ups
- Uniform quality and strength of connections
- More cost-effective than shear-lock connecting systems



### Traditional Deck Fastening

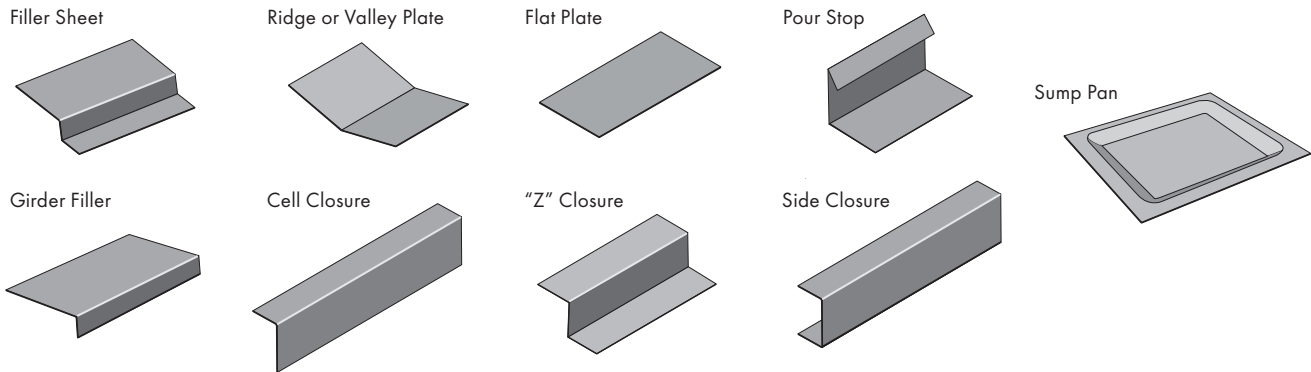
Deck is traditionally attached to the building frame with arc spot welds (also referred to as "puddle welds"), self-drilling screws or powder or pneumatically driven pins. Sheet-to-sheet fastening is traditionally done with screws, button punching (crimping), clinching or welds. Welding uses a minimum visible 5/8" diameter puddle weld, spaced an average of 12" on center, not to exceed 18" on center. Weld washers must be used on all deck units that are less than 22 gage. Side laps are to be fastened together between supports at a maximum spacing of 36" on center whenever the deck span exceeds 5'-0". Automated fastening methods follow these same requirements, with the advantage of enhanced speed and potential cost efficiencies.

For more information, check out our "Faster Steel Deck Installation" video at [www.newmill.com/installation](http://www.newmill.com/installation)



## Deck Accessories

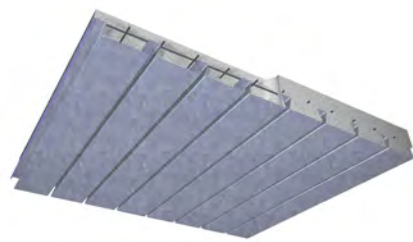
New Millennium has everything you need to complete your deck projects. We offer many standard and special deck accessories including ridge/valley plates, filler sheets, Z closures, pour stops and more. Accessories are furnished with G60 galvanized coating as minimum, in 10' lengths. Stock accessories are 20 gage, U.N.O. We can provide special light-gage accessories to meet your requirements, including notched or reinforced pour stops and accessories made of 304 stainless steel.



## Deck Finishes

Primer-painted or galvanized finishes are available for New Millennium steel decks. The standard primer-painted finish is gray on both the top and bottom sides. The galvanized finish is available in G30, G40, G60 and G90 coatings. Decks can also be furnished with two-coat bright white primer bottom sides combined with either primer-painted or galvanized topsides. The primer-painted finish is intended to protect the steel for a reasonable installation period while exposed to ordinary atmospheric conditions and shall be considered an impermanent and provisional coating. Always store steel deck off the ground with one end elevated and protected from the elements with a weatherproof covering that is ventilated to avoid condensation.

Clear-Coated Exposed Metal Finish



Pre-Treatment plus Primer Coating



Finish Coating Systems







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high-performance structural steel joist and deck solutions**

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