SECTION 05 31 13

STEEL FLOOR DECKING

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\*\* NOTE TO SPECIFIER \*\* Vulcraft/Verco Group; steel joists and decking.  
This section is based on the products of Vulcraft/Verco Group, which is located at:6610 CR 60St. Joe, IN 46785Email: [request info (dave.bjork@nucor.com)](https://arcat.com/rfi?action=email&company=Vulcraft%252FVerco%252BGroup&message=RE%253A%2520Spec%2520Question%2520(05311vrc)%253A%2520&coid=36399&spec=05311vrc&rep=&fax=)  
Web: <http://www.vulcraft.com> | <http://www.vercodeck.com>   
 [ [Click Here](https://arcat.com/company/vulcraft-verco-group-36399) ] for additional information.  
We are the SAFEST, highest quality, lowest cost, most productive and most profitable steel and steel products company in the world. We are committed to this while being cultural and environmental stewards in our communities where we live and work. We are succeeding by working together.  
One of Verco's values is the commitment to safety. Safety is in the forefront of our minds when it comes to fabricating, loading and delivering our products to the site. Safety is also foremost when it comes to our products themselves. Our commitment to safety extends to those who use our products, whether they know it or not. Our products typically carry the weight of floors and roofs in non-residential structures and we take great pride in gathering the information necessary to design and fabricate a product that will safely carry the loads intended for the structure.  
Along with the other values noted in our mission statement, Verco also has a strong commitment to the communities and the environment where our facilities are located. We strive to be "good neighbors" to those who live and work within our communities, both human and nonhuman.

1. GENERAL
   1. SECTION INCLUDES

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

* + 1. Floor Decking; Composite:
       1. Profile: Type W2-36.
       2. Profile: Type W3-36.
       3. Profile: B-36.
       4. Profile: N3-32
       5. Profile: N-24
       6. Profile: Dovetail Floor Decks
       7. Profile: BR-36
    2. Floor Decking; Non-Composite:
       1. Profile: Type SV.
       2. Profile: Type DV.
    3. Floor Decking; Cellular Composite:
       1. Profile: Type W2.
       2. Profile: Type W3.
       3. Profile: Type B-36.
       4. Profile: Type N3-32.
       5. Profile: Type N-24.
    4. Floor Decking; Cellular Composite Acoustical:
       1. Profile: Type W2.
       2. Profile: Type W3.
       3. Profile: Type B-36.
       4. Profile: Type N3-32.
       5. Profile: Type N-24.
  1. RELATED SECTIONS

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

* + 1. Section 03 31 00 - Structural Concrete
    2. Section 03 34 00 - Low Density Concrete
    3. Section 03 50 00 - Cast Decks and Underlayment.
    4. Section 05 12 13 - Architecturally-Exposed Structural Steel Framing.
    5. Section 05 50 00 - Metal Fabrications.
    6. Section 09 90 00 - Painting and Coating.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American National standards institute (ANSI):
       1. ANSI/SDI-C - Standard for Composite Steel Floor Deck.
    2. American Welding Society (AWS):
       1. AWS D1.3 - Structural Welding Code-Sheet Steel.
    3. ASTM International (ASTM):
       1. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
       2. ASTM A1063/A1063M - Standard Specification for Steel Sheet, Twin-Roll Cast, Zinc-Coated (Galvanized) by the Hot-Dip Process.
       3. ASTM A 1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
       4. ASTM A 1039/A1039M - Standard Specification for Steel, Sheet, Hot Rolled, Carbon, Commercial, Structural, and High-Strength Low-Alloy, Produced by Twin-Roll Casting Process.
       5. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
       6. ASTM C1513 - Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections.
       7. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
       8. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.
       9. ASTM E795 - Standard Practices for Mounting Test Specimens During Sound Absorption Tests.
    4. International building Code (IBC):
       1. IBC 1704 - Structural Tests and Special Inspections.
       2. IBC 1705 - Statement of special inspections.
    5. Underwriters Laboratories (UL).
  1. DEFINITIONS
     1. ASD - Allowable Strength Design (ASD) method.
     2. LRFD - Load and Resistance Factor Design method.
     3. TSW - Top Seam Welds.
     4. BP - Button Punch.
     5. VSC2 - PunchLok II
  2. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data: For each type of decking specified, including dimensions, components, profiles, and finishes.
     3. Shop Drawings: Layout of decks, anchoring, reinforcing, openings, joints, accessories, and attachments details.

\*\* NOTE TO SPECIFIER \*\* Delete welding certificates if not required.

* + 1. Welding certificates.

\*\* NOTE TO SPECIFIER \*\* Delete product certificates if not required.

* + 1. Product certificates.

\*\* NOTE TO SPECIFIER \*\* Delete product test reports if not required.

* + 1. Product Test Reports: Tested by qualified testing agency, showing compliance with specified requirements for acoustical floor deck.

\*\* NOTE TO SPECIFIER \*\* Delete "Field quality-control reports" Paragraph below if Contractor is not responsible for field quality-control testing and inspecting.

* + 1. Field quality-control reports.

\*\* NOTE TO SPECIFIER \*\* Delete the following paragraph if LEED is not applicable.

* + 1. LEED Submittals: Provide product data to document recycled content.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: All primary products specified in this section shall be supplied by a single manufacturer with a minimum of ten years' experience in the manufacture of steel deck.
        1. Manufacturer offering deck products must be a member of the Steel Deck Institute.
     2. Installer Qualifications: Minimum two years' experience installing similar products.

\*\* NOTE TO SPECIFIER \*\* Delete if contractor is not responsible for acquiring testing agency.

* + 1. Testing Agency Qualifications per ASTM E 329: For testing indicated.

\*\* NOTE TO SPECIFIER \*\* Delete if welding is not required.

* + 1. Welding Qualifications: Per AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."

\*\* NOTE TO SPECIFIER \*\* Delete if FM Global listing is not required.

* 1. PRE-INSTALLATION CONFERENCE
     1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Deliver products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
     2. Store products in clean, dry, sheltered area off the ground until ready for use.
     3. Protect products from exposure to direct sunlight and rain.

\*\* NOTE TO SPECIFIER \*\* Retain subparagraph below if acoustical floor deck with insulation is required.

* + - 1. Protect steel deck from exposure to sunlight and rain. Store steel deck on the jobsite off the ground and covered with waterproof material to prevent exposure to rain or condensation.
      2. Protect and ventilate acoustical insulation to maintain insulation free of moisture.
    1. Handle materials to avoid damage.
  1. 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 recommended limits.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Vulcraft/Verco Group, which is located at:6610 CR 60St. Joe, IN 46785Email: [request info (dave.bjork@nucor.com)](https://arcat.com/rfi?action=email&company=Vulcraft%252FVerco%252BGroup&message=RE%253A%2520Spec%2520Question%2520(05311vrc)%253A%2520&coid=36399&spec=05311vrc&rep=&fax=);Web: <http://www.vulcraft.com> | <http://www.vercodeck.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 01 60 00 - Product Requirements.
  1. PERFORMANCE REQUIREMENTS
     1. Structural Characteristics: Calculated per AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members."

\*\* NOTE TO SPECIFIER \*\* Delete paragraph if decking is not part of a fire-resistance rated assembly.

* + 1. Fire-Resistance Ratings per ASTM E 119 or UL 263.

\*\* NOTE TO SPECIFIER \*\* Delete design designation option not required.

* + - 1. Indicate design designations from UL's "Fire Resistance Directory."
         1. Indicate rating and design designation on the Drawings.
      2. Indicate design designations from a qualified testing agency.
         1. Indicate rating and design designation on the Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete if meeting Factory Mutual requirements are not required.  
\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. FLOOR DECKING; COMPOSITE

\*\* NOTE TO SPECIFIER \*\* Delete profile options not required. See individual product data sheets for section properties, loading data.

* + 1. Profile: Type W2-36 FormLok. Grade 50 steel.

\*\* NOTE TO SPECIFIER \*\* The difference between the PLW2 FORMLOK profile and W2 FORMLOK profile is the method of sidelap attachment; the panels themselves are identical in both geometry and material properties. The prefix "PL" designates a PunchLok version of the W2 profile, while W2 alone indicates the top seam weld or button punch version of the same W2 profile. Delete sidelap options not required.

* + - 1. Sidelap: PLW2-36Deck used with PunchLok II System.
      2. Sidelap: W2-36 Deck used with TSWs or BPs.
      3. Sidelap: W2-36-SS Deck used with Side-lap Screws.
      4. Mechanical embossments on surface of deck increase shear bond strength between the concrete and steel. Can be used as a composite deck or simply as a form deck.
         1. Rib Depth: 3 inches (76 mm).
         2. Width: 36 inches (914 mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.
      5. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60 or G90.

* + - * 1. ASTM A1008 SS GR50 minimum.
        2. IAPMO UES ER-2018.
        3. UL listed.
        4. ANSI/SDI C-2017.

\*\* NOTE TO SPECIFIER \*\* For lengths other than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 6 to 40 ft (1829 mm to 12192 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 22 gage. 0.0299 inches (0.759 mm).
      2. Thickness: 20 gage. 0.0359 inches (0.912 mm).
      3. Thickness: 18 gage. 0.0478 inches (1.214 mm).
      4. Thickness: 16 gage. 0.0598 inches (1.519 mm).

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Primer: White.
         2. Primer: Gray.
         3. Finish: \_\_\_\_\_\_\_\_.
         4. Finish: As detailed on the Drawings
    1. Profile: Type W3-36 FormLok. Grade 50 steel.

\*\* NOTE TO SPECIFIER \*\* The difference between the PLW3 FORMLOK profile and W3 FORMLOK profile is the method of sidelap attachment; the panels themselves are identical in both geometry and material properties. The prefix "PL" designates a PunchLok version of the W3 profile, while W3 alone indicates the top seam weld or button punch version of the same W3 profile. Delete sidelap options not required.

* + - 1. Sidelap: PLW3-36 Deck used with PunchLok II System.
      2. Sidelap: W3-36 Deck used with TSWs or BPs.
      3. Sidelap: W3-36-SS Deck used with Side-lap Screws.
      4. Mechanical embossments on surface of deck increase shear bond strength between the concrete and steel. Can be used as a composite deck or simply as a form deck.
         1. Rib Depth: 3 inches (76 mm).
         2. Width: 36 inches (914 mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.
      5. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60 or G90.

* + - * 1. ASTM A1008 SS GR50 minimum.
        2. IAPMO UES ER-2018.
        3. UL listed.
        4. ANSI/SDI C-2017.

\*\* NOTE TO SPECIFIER \*\* For lengths other than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 6 to 40 ft (1829 mm to 12192 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 22 gage. 0.0299 inches (0.759 mm).
      2. Thickness: 20 gage. 0.0359 inches (0.912 mm).
      3. Thickness: 18 gage. 0.0478 inches (1.214 mm).
      4. Thickness: 16 gage. 0.0598 inches (1.519 mm).

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Primer: White.
         2. Primer: Gray.
         3. Finish: \_\_\_\_\_\_\_\_.
         4. Finish: As detailed on the Drawings
    1. Profile: Type B-36 FormLok. Grade 50 steel.

\*\* NOTE TO SPECIFIER \*\* The difference between the PLB FORMLOK profile and B FORMLOK profile is the method of sidelap attachment; the panels themselves are identical in both geometry and material properties. The prefix "PL" designates a PunchLok version of the B profile, while B alone indicates the top seam weld or button punch version of the same B profile. Delete sidelap options not required.

* + - 1. Sidelap: PLB-36 Deck used with PunchLok II System.
      2. Sidelap: B-36 Deck used with TSWs or BPs.
      3. Sidelap: B-36-SS Deck used with Side-lap Screws.
      4. Mechanical embossments on surface of deck increase shear bond strength between the concrete and steel. Can be used as a composite deck or simply as a form deck.
         1. Rib Depth: 1.5 inches (38 mm).
         2. Width: 36 inches (914 mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.
      5. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60 or G90.

* + - * 1. ASTM A1008 SS GR50 minimum.
        2. IAPMO UES ER-2018.
        3. UL listed.
        4. ANSI/SDI C-2017.

\*\* NOTE TO SPECIFIER \*\* For lengths other than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 6 to 40 ft (1829 mm to 12192 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 22 gage. 0.0299 inches (0.759 mm).
      2. Thickness: 20 gage. 0.0359 inches (0.912 mm).
      3. Thickness: 18 gage. 0.0478 inches (1.214 mm).
      4. Thickness: 16 gage. 0.0598 inches (1.519 mm).

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Primer: White.
         2. Primer: Gray.
         3. Finish: \_\_\_\_\_\_\_\_.
         4. Finish: As detailed on the Drawings
    1. Profile: Type N3-32 FormLok. Grade 50 steel.

\*\* NOTE TO SPECIFIER \*\* The difference between the PLN3 FORMLOK profile and N3 FORMLOK profile is the method of sidelap attachment; the panels themselves are identical in both geometry and material properties. The prefix "PL" designates a PunchLok version of the N3 profile, while N3 alone indicates the top seam weld or button punch version of the same N3 profile. Delete sidelap options not required.

* + - 1. Sidelap: PLN3-32 Deck used with PunchLok II System.
      2. Sidelap: N3-32 Deck used with TSWs or BPs.
      3. Sidelap: N3-32-SS Deck used with Side-lap Screws.
      4. Mechanical embossments on surface of deck increase shear bond strength between the concrete and steel. Can be used as a composite deck or simply as a form deck.
         1. Rib Depth: 3 inches (76 mm).
         2. Width: 32 inches (813 mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.
      5. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60 or G90.

* + - * 1. ASTM A1008 SS GR50 minimum.
        2. IAPMO UES ER-2018.
        3. UL listed.
        4. ANSI/SDI C-2017.

\*\* NOTE TO SPECIFIER \*\* For lengths other than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 6 to 40 ft (1829 mm to 12192 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 22 gage. 0.0299 inches (0.759 mm).
      2. Thickness: 20 gage. 0.0359 inches (0.912 mm).
      3. Thickness: 18 gage. 0.0478 inches (1.214 mm).
      4. Thickness: 16 gage. 0.0598 inches (1.519 mm).

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Primer: White.
         2. Primer: Gray.
         3. Finish: \_\_\_\_\_\_\_\_.
         4. Finish: As detailed on the Drawings
    1. Profile: Type N-24. Formlok. Grade 50 steel. ASD and LRFD.

\*\* NOTE TO SPECIFIER \*\* The difference between the PLN FORMLOK profile and N FORMLOK profile is the method of sidelap attachment; the panels themselves are identical in both geometry and material properties. The prefix "PL" designates a PunchLok version of the N profile, while N alone indicates the top seam weld or button punch version of the same N profile. Delete sidelap options not required.

* + - 1. Sidelap: PLN-24 Deck used with PunchLok II System.
      2. Sidelap: N-24 Deck used with TSWs or BPs.
      3. Sidelap: N-24-SS Deck used with Side-lap Screws.
      4. Mechanical embossments on surface of deck increase shear bond strength between the concrete and steel. Can be used as a composite deck or simply as a form deck.
         1. Rib Depth: 3 inches (76 mm).
         2. Width: 24 inches (610 mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.
      5. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60 or G90.

* + - * 1. ASTM A1008 SS GR50 minimum.
        2. IAPMO UES ER-2018.
        3. UL listed.
        4. ANSI/SDI C-2017.

\*\* NOTE TO SPECIFIER \*\* For lengths other than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 6 to 40 ft (1829 mm to 12192 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 22 gage. 0.0299 inches (0.759 mm).
      2. Thickness: 20 gage. 0.0359 inches (0.912 mm).
      3. Thickness: 18 gage. 0.0478 inches (1.214 mm).
      4. Thickness: 16 gage. 0.0598 inches (1.519 mm).

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Primer: White.
         2. Primer: Gray.
         3. Finish: \_\_\_\_\_\_\_\_.
         4. Finish: As detailed on the Drawings.
    1. Profile: Formlok Dovetail Rook Decks. Grade 40 steel. ASD and LRFD.

\*\* NOTE TO SPECIFIER \*\* Delete profile type option not required.

* + - 1. Profile Type: 2.0D.
         1. Rib Depth: 2 inch (51 mm).
         2. Ribs: 4.
         3. Width: 24 inches (610 mm).
         4. Edges: Side lap when installed.
      2. Profile Type: 3.5D
         1. Rib Depth: 3.5 inch (mm).
         2. Ribs: 3.
         3. Width: 24 inches (610 mm).
         4. Edges: Side lap when installed.
      3. Standards Compliance:
         1. ASTM A653 SS GR 40 Minimum.

Zinc Coating: G90.

* + - * 1. IAPMO UES ER-423.
        2. UL listed.
        3. ANSI/SDI RD-2017.

\*\* NOTE TO SPECIFIER \*\* For lengths shorter than 6 ft, contact manufacturer for details.

* + - 1. Standard Lengths: 6 to 42 ft (1829 to 12802 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required. For 19 gage contact manufacturer for details.

* + - 1. Thickness: 22 gage. 0.0299 inches (0.759 mm).
      2. Thickness: 20 gage. 0.0359 inches (0.912 mm).
      3. Thickness: 18 gage. 0.0478 inches (1.214 mm).
      4. Thickness: 16 gage. 0.0598 inches (1.519 mm).

\*\* NOTE TO SPECIFIER \*\* Delete finish option not required.

* + - 1. Finish: Enhanced 2-coat polyester paint.
      2. Finish: White factory primer paint.
      3. Finish: Galvanized.
      4. Finish: \_\_\_\_\_\_\_\_.
      5. Finish: As detailed on the Drawings.
    1. Profile: Type BR Formlok. Grade 50 steel.

\*\* NOTE TO SPECIFIER \*\* Delete sidelap option not required.

* + - 1. Sidelap: BR-36 FormLok Deck used with Welded Side-laps
      2. Sidelap: BR-36-SS FormLok Deck used with Side-lap Screws
      3. Features:
         1. Rib Depth: 1.5 inch (38 mm).
         2. Width: 36 inches (914 mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.
      4. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60 or G90.

* + - * 1. ASTM A1008 SS GR50 minimum.
        2. IAPMO UES ER-2018.
        3. UL listed.
        4. ANSI/SDI C-2017.

\*\* NOTE TO SPECIFIER \*\* For lengths other than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 6 to 40 ft (1829 mm to 12192 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 22 gage. 0.0299 inches (0.759 mm)
      2. Thickness: 20 gage. 0.0359 inches (0.912 mm)
      3. Thickness: 18 gage. 0.0478 inches (1.214 mm)
      4. Thickness: 16 gage. 0.0598 inches (1.519 mm)

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Primer: White.
         2. Primer: Gray.
         3. Finish: \_\_\_\_\_\_\_\_.
         4. Finish: As detailed on the Drawings.
  1. FLOOR DECKING; NON-COMPOSITE

\*\* NOTE TO SPECIFIER \*\* Delete profile options not required. See individual product data sheets for section properties, loading data.

* + 1. Profiles: SV Non-Composite. Grade 80 steel.
       1. Shallow Vercor.
          1. Rib Depth: 9/16 inch ( mm).
          2. Width: 36 inches (914 mm).
          3. Edges: Side lap when installed.
       2. Standards Compliance:
          1. ASTM A653 SS GR80 minimum.

Zinc Coating: G90.

* + - * 1. IAPMO UES ER-2018.
        2. UL listed.
        3. ANSI/SDI NC-2017 and RD-2017.

\*\* NOTE TO SPECIFIER \*\* For lengths other than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 6 to 40 ft (1829 mm to 12192 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 26 gage. 0.0179 inches (0.455 mm)
      2. Thickness: 24 gage. 0.0239 inches (0.607 mm)
      3. Thickness: 22 gage. 0.0299 inches (0.759 mm)
      4. Thickness: 20 gage. 0.0359 inches (0.912 mm)

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:

\*\* NOTE TO SPECIFIER \*\* Galvanized deck can be considered permanent form. Uncoated decks should not be considered permanent forms; therefore, the weight of the slab on uncoated decks should be deducted from the allowable load of the reinforced slab. Uncoated deck is available only as a special order.

* + - * 1. Finish: Galvanized. Standard.
        2. Finish: None. Uncoated.
        3. Finish: \_\_\_\_\_\_\_\_.
        4. Finish: As detailed on the Drawings.
    1. Profiles: DV Non-Composite. Grade 80 steel. ASD and LRFD.
       1. Shallow Vercor.
          1. Rib Depth: 1-5/16 inch ( mm).
          2. Width: 36 inches (914 mm).
          3. Edges: Side lap when installed.
       2. Standards Compliance:
          1. ASTM A653 SS GR80 minimum.

Zinc Coating: G90.

* + - * 1. IAPMO UES ER-2018.
        2. UL listed.
        3. ANSI/SDI NC-2017 and RD-2017.

\*\* NOTE TO SPECIFIER \*\* For lengths other than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 6 to 40 ft (1829 mm to 12192 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 26 gage. 0.0179 inches (0.455 mm)
      2. Thickness: 24 gage. 0.0239 inches (0.607 mm)
      3. Thickness: 22 gage. 0.0299 inches (0.759 mm)
      4. Thickness: 20 gage. 0.0359 inches (0.912 mm)
      5. Optional Features:

\*\* NOTE TO SPECIFIER \*\* Galvanized deck can be considered permanent form. Uncoated decks should not be considered permanent forms; therefore, the weight of the slab on uncoated decks should be deducted from the allowable load of the reinforced slab. Uncoated deck is available only as a special order.

* + - * 1. Finish: Galvanized. Standard.
        2. Finish: None. Uncoated.
        3. Finish: \_\_\_\_\_\_\_\_.
        4. Finish: As detailed on the Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete Article if not required.

* 1. FLOOR DECKING CELLULAR COMPOSITE

\*\* NOTE TO SPECIFIER \*\* Delete profile options not required. See individual product data sheets for section properties, loading data.

* + 1. Profile: Type B Cellular FormLok Composite Floor Deck

\*\* NOTE TO SPECIFIER \*\* Delete sidelap option not required.

* + - 1. Sidelap: PLBCD-36 FormLok Deck used with PunchLok II System
      2. Sidelap: BCD-36 FormLok Deck used with TSWs or BPs
      3. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60.

* + - * 1. IAPMO UES ER-2018.
        2. UL and FM listed.
        3. ANSI/SDIC-2017.
      1. Features:
         1. Rib Depth: 1-1/2 inch ( mm).
         2. Width: 36 inches (914 mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.

\*\* NOTE TO SPECIFIER \*\* For lengths longer than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 7.5 to 30 ft (2286 to 9144 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 20 gage. 0.0359 inches (0.912 mm)
      2. Thickness: 18 gage. 0.0478 inches (1.214 mm)
      3. Thickness: 16 gage. 0.0598 inches (1.519 mm)

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Finish: \_\_\_\_\_\_\_\_.
         2. Finish: As detailed on the Drawings.
    1. Profile: Type N3 Cellular Formlok Floor Composite

\*\* NOTE TO SPECIFIER \*\* Delete sidelap option not required.

* + - 1. Sidelap: PLN3CD-32 FormLok Deck used with PunchLok II System
      2. Sidelap: N3CD-32 FormLok Deck used with TSWs or BPs
      3. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60.

* + - * 1. IAPMO UES ER-2018.
        2. UL and FM listed.
        3. ANSI/SDIC-2017.
      1. Features:
         1. Rib Depth: 3 inch ( mm).
         2. Width: 32 inches ( mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.

\*\* NOTE TO SPECIFIER \*\* For lengths longer than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 7.5 to 30 ft (2286 to 9144 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 20 gage. 0.0359 inches (0.912 mm)
      2. Thickness: 18 gage. 0.0478 inches (1.214 mm)
      3. Thickness: 16 gage. 0.0598 inches (1.519 mm)

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Finish: \_\_\_\_\_\_\_\_.
         2. Finish: As detailed on the Drawings.
    1. Profile: Type N-24 Cellular Floor Deck

\*\* NOTE TO SPECIFIER \*\* Delete sidelap option not required.

* + - 1. Sidelap: PLNCD-24 FormLok Deck used with PunchLok II System
      2. Sidelap: NCD-24 FormLok Deck used with TSWs or BPs
      3. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60.

* + - * 1. IAPMO UES ER-2018.
        2. UL and FM listed.
        3. ANSI/SDI C-2017.
      1. Features:
         1. Rib Depth: 3 inch ( mm).
         2. Width: 24 inches (610 mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.

\*\* NOTE TO SPECIFIER \*\* For lengths longer than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 7.5 to 30 ft (2286 to 9144 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 20 gage. 0.0359 inches (0.912 mm)
      2. Thickness: 18 gage. 0.0478 inches (1.214 mm)
      3. Thickness: 16 gage. 0.0598 inches (1.519 mm)

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Finish: \_\_\_\_\_\_\_\_.
         2. Finish: As detailed on the Drawings.
    1. Profile: Type W3 Cellular Floor Deck. Grade 50 steel.

\*\* NOTE TO SPECIFIER \*\* Delete sidelap option not required.

* + - 1. Sidelap: PLW3CD-36 FormLok Deck used with PunchLok II System
      2. Sidelap: W3CD-36 FormLok Deck used with TSWs or BPs
      3. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60.

* + - * 1. IAPMO UES ER-2018.
        2. UL listed.
        3. ANSI/SDIC-2017.
      1. Features:
         1. Rib Depth: 3 inch ( mm).
         2. Width: 36 inches ( mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.

\*\* NOTE TO SPECIFIER \*\* For lengths longer than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 7.5 to 30 ft (2286 to 9144 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 20 gage. 0.0359 inches (0.912 mm)
      2. Thickness: 18 gage. 0.0478 inches (1.214 mm)
      3. Thickness: 16 gage. 0.0598 inches (1.519 mm)

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Finish: \_\_\_\_\_\_\_\_.
         2. Finish: As detailed on the Drawings.
    1. Profile: Type W2 Cellular Floor Deck. Grade 50 steel.

\*\* NOTE TO SPECIFIER \*\* Delete sidelap option not required.

* + - 1. Sidelap: PLW2CD-36 FormLok Deck used with PunchLok II System
      2. Sidelap: W2CD-36 FormLok Deck used with TSWs or BPs
      3. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60.

* + - * 1. IAPMO UES ER-2018.
        2. UL listed.
        3. ANSI/SDI C-2017.
      1. Features:
         1. Rib Depth: 2-1/16 inch ( mm).
         2. Width: 36 inches ( mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.

\*\* NOTE TO SPECIFIER \*\* For lengths longer than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 7.5 to 30 ft (2286 to 9144 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 20 gage. 0.0359 inches (0.912 mm)
      2. Thickness: 18 gage. 0.0478 inches (1.214 mm)
      3. Thickness: 16 gage. 0.0598 inches (1.519 mm)

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Finish: \_\_\_\_\_\_\_\_.
         2. Finish: As detailed on the Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required. See manufacturer's website for noise reduction coefficient data.

* 1. FLOOR DECKING; CELLULAR COMPOSITE ACOUSTICAL

\*\* NOTE TO SPECIFIER \*\* Delete profile options not required. See individual product data sheets for section properties, loading data.

* + 1. Profile: Type B Cellular Acoustical Formlok Composite Floor Deck Grade 50 steel.

\*\* NOTE TO SPECIFIER \*\* Delete sidelap option not required.

* + - 1. Sidelap: PLBCD-36 AC FormLok Deck used with PunchLok II System
      2. Sidelap: BCD-36 AC FormLok Deck used with TSWs or BPs
      3. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60.

* + - * 1. IAPMO UES ER-2018.
        2. UL and FM listed.
        3. ANSI/SDI C-2017.
      1. Features:
         1. Rib Depth: 1-1/2 inch ( mm).
         2. Width: 36 inches (914 mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.

\*\* NOTE TO SPECIFIER \*\* For lengths longer than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 7.5 to 30 ft (2286 to 9144 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 20 gage. 0.0359 inches (0.912 mm)
      2. Thickness: 18 gage. 0.0478 inches (1.214 mm)
      3. Thickness: 16 gage. 0.0598 inches (1.519 mm)

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Finish: \_\_\_\_\_\_\_\_.
         2. Finish: As detailed on the Drawings.
    1. Profile: Type N3 Cellular Acoustical Formlok Composite Floor Deck

\*\* NOTE TO SPECIFIER \*\* Delete sidelap option not required.

* + - 1. Sidelap: PLN3CD-32 AC FormLok Deck used with PunchLok II System
      2. Sidelap: N3CD-32 AC FormLok Deck used with TSWs or BPs
      3. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60.

* + - * 1. IAPMO UES ER-2018.
        2. UL and FM listed.
        3. ANSI/SDI C-2017.
      1. Features:
         1. Rib Depth: 3 inch ( mm).
         2. Width: 32 inches ( mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.

\*\* NOTE TO SPECIFIER \*\* For lengths longer than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 7.5 to 30 ft (2286 to 9144 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 20 gage. 0.0359 inches (0.912 mm)
      2. Thickness: 18 gage. 0.0478 inches (1.214 mm)
      3. Thickness: 16 gage. 0.0598 inches (1.519 mm)

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Finish: \_\_\_\_\_\_\_\_.
         2. Finish: As detailed on the Drawings.
    1. Profile: Type N-24 Cellular Acoustical Floor Deck

\*\* NOTE TO SPECIFIER \*\* Delete sidelap option not required.

* + - 1. Sidelap: PLNCD-24 AC FormLok Deck used with PunchLok II System
      2. Sidelap: NCD-24 AC FormLok Deck used with TSWs or BPs
      3. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60.

* + - * 1. IAPMO UES ER-2018.
        2. UL and FM listed.
        3. ANSI/SDI C-2017.
      1. Features:
         1. Rib Depth: 3 inch ( mm).
         2. Width: 24 inches (610 mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.
         4. \* NOTE TO SPECIFIER \*\* For lengths longer than standard, contact manufacturer for details.
      2. Standard Lengths: 7.5 to 30 ft (2286 to 9144 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 20 gage. 0.0359 inches (0.912 mm)
      2. Thickness: 18 gage. 0.0478 inches (1.214 mm)
      3. Thickness: 16 gage. 0.0598 inches (1.519 mm)

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Finish: \_\_\_\_\_\_\_\_.
         2. Finish: As detailed on the Drawings.
    1. Profile: Type W3 Cellular Floor Deck. Grade 50 steel.

\*\* NOTE TO SPECIFIER \*\* Delete sidelap option not required.

* + - 1. Sidelap: PLW3CD-36 AC FormLok Deck used with PunchLok II System
      2. Sidelap: W3CD-36 AC FormLok Deck used with TSWs or BPs
      3. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60.

* + - * 1. IAPMO UES ER-2018.
        2. UL listed.
        3. ANSI/SDI C-2017.
      1. Features:
         1. Rib Depth: 3 inch ( mm).
         2. Width: 36 inches ( mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.

\*\* NOTE TO SPECIFIER \*\* For lengths longer than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 7.5 to 30 ft (2286 to 9144 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 20 gage. 0.0359 inches (0.912 mm)
      2. Thickness: 18 gage. 0.0478 inches (1.214 mm)
      3. Thickness: 16 gage. 0.0598 inches (1.519 mm)

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Finish: \_\_\_\_\_\_\_\_.
         2. Finish: As detailed on the Drawings.
    1. Profile: Type W2 Cellular Floor Deck. Grade 50 steel.

\*\* NOTE TO SPECIFIER \*\* Delete sidelap option not required.

* + - 1. Sidelap: PLW2CD-36 AC FormLok Deck used with PunchLok II System
      2. Sidelap: W2CD-36 AC FormLok Deck used with TSWs or BPs
      3. Standards Compliance:
         1. ASTM A653 SS GR50 minimum.

Zinc Coating: G60.

* + - * 1. IAPMO UES ER-2018.
        2. UL listed.
        3. ANSI/SDI C-2017.
      1. Features:
         1. Rib Depth: 2-1/16 inch ( mm).
         2. Width: 36 inches ( mm).
         3. Edges: Male and female, creating an interlocking side lap when installed.

\*\* NOTE TO SPECIFIER \*\* For lengths longer than standard, contact manufacturer for details.

* + - 1. Standard Lengths: 7.5 to 30 ft (2286 to 9144 mm).

\*\* NOTE TO SPECIFIER \*\* Delete thickness options not required.

* + - 1. Thickness: 20 gage. 0.0359 inches (0.912 mm)
      2. Thickness: 18 gage. 0.0478 inches (1.214 mm)
      3. Thickness: 16 gage. 0.0598 inches (1.519 mm)

\*\* NOTE TO SPECIFIER \*\* Delete option features not required or delete all.

* + - 1. Optional Features:
         1. Finish: \_\_\_\_\_\_\_\_.
         2. Finish: As detailed on the Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete sidelap attachment paragraphs if not required.

* 1. SIDELAP ATTACHMENT
     1. VSC2 connection made on interlocking deck sidelaps with the Vulcraft/Verco Group PunchLok II Tool at spacing designated on the approved installation drawings.
     2. Self-Drilling Corrosion Resistant Hex Washer Head Screws: Deck may be installed with short leg on the top or underside. The minimum edge distance for screw must be 1-1/2 times the shank diameter of the screw.

\*\* NOTE TO SPECIFIER \*\* Delete screw size options not required.

* + - 1. No 8 screws spaced as designated on the Drawings.
      2. No 10 screws spaced as designated on the Drawings.
      3. No 12 screws spaced as designated on the Drawings.
      4. No 14 screws spaced as designated on the Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete if sidelaps are not to be welded.

* + 1. Arc Seam Welds: 3/8 x 1 in (10 x 25 mm) spaced as designated on the Drawings.
    2. Fillet Weds: Sized and spaced as designated on the Drawings.
  1. DECK ATTACHMENT

\*\* NOTE TO SPECIFIER \*\* Delete deck attachment paragraphs not required.

* + 1. Deck attachment pattern will be as indicated on drawings. Attachment pattern will provide sufficient strength to resist shear due to lateral loading and wind uplift.
    2. Hilti Fasteners:

\*\* NOTE TO SPECIFIER \*\* Delete substrate thickness option not required.

* + - 1. Substrate Thickness: 1/8 in (3 mm) minimum, to 3/8 in (10 mm) maximum.
         1. Hilti X-HSN 24 Fastener: Dome style head, red guidance washer and 0.472 inch (11.99 mm) diameter steel silver-colored top-hat washer.
      2. Substrate Thickness: 1/4 in (6 mm) minimum.
         1. Hilti X-ENP-19 L15Fastener: Fully knurled tip and tapered shank fitted with two 0.590 in (14.99 mm) diameter steel cupped washers.
    1. Pneutek Fasteners:
       1. Pneutek fasteners have 1/2 in (13 mm) diameter heads and must be driven with the Pneutek Air/Safe fastening system to ensure tight contact between the fastener head and attached deck.

\*\* NOTE TO SPECIFIER \*\* Delete substrate thickness options not required.

* + - 1. Substrate Thickness: 0.113 in (2.87 mm) minimum, 0.155 in (3.94 mm) maximum.
         1. Pneutek SDK61.
      2. Substrate Thickness: 0.155 in (3.94 mm) minimum, 0.250 in (6 mm) maximum.
         1. Pneutek SDK63.
      3. Substrate Thickness: 0.187 in (4.75 mm) minimum, 0.312 in (8 mm) maximum.
         1. Pneutek K64.
      4. Substrate Thickness: 0.281 in (7 mm) minimum.
         1. Pneutek K66.
    1. Self-Drilling Screws compliant with ASTM C1513:
       1. No. 12 self-drilling, self-tapping screws.
       2. Minimum Support Attachment Thickness: 0.109 in (2.8 mm); the minimum thickness used on top chord of Vulcraft/Verco Group joists.

\*\* NOTE TO SPECIFIER \*\* Support material thickness impacts the pull-out capacity of a screw subjected to tension loads. To evaluate diaphragms utilizing screws into supports other than 0.109 in (2.8 mm) thick, please contact the manufacturer or manufacturer representative.

* + - 1. Minimum Support Attachment Thickness (in/mm): \_\_\_\_\_\_.
    1. Welding:
       1. Arc Spot Welding:
          1. Decking Welded to Supports: Visible weld diameter, 3/4 in (19 mm) minimum for arc spot (puddle) welds.
       2. Arc Seam Welding:
          1. Required at support locations adjacent to the sidelap.
          2. Visible Weld Size (WxL): 3/8 x 1 in (9 x 25 mm) excluding circular ends of welds.
  1. ACCESSORIES
     1. Miscellaneous Sheet Metal Items Conforming to ANSI/SDI C:
        1. Sump Pans, Sump Plates, Valley Strips, Eave Strips, Edge Closures, Cell Closures: Fabricated of metal of same type and finish as deck. Galvanized unpainted steel may be used in lieu of primer painted accessories with primer painted steel deck.
     2. Profile Closures: As shown on the design drawings.

1. EXECUTION
   1. EXAMINATION
      1. Do not install floor deck until supporting construction is in place.
      2. Examine support framing and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance of work of this section.
      3. If supporting construction is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Verify that surfaces to receive deck are free of debris.
      2. Place deck in accordance with approved installation drawings.
      3. Locate deck bundles to prevent overloading of support members.
   3. INSTALLATION
      1. Install and fasten deck and accessories in accordance with the Contract Documents, approved installation drawings, manufacturer's documented instructions and requirements of ANSI/SDI-RD or ANSI/SDI C as applicable.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Welds shall comply with AWS D1.3.
    1. Place deck panels on structural supports and adjust to final position with ends aligned. Attach firmly to the supports immediately after placement in order to form a safe working platform.
    2. Cut and neatly fit and reinforce deck units and accessories around openings and other work projecting through or adjacent to the decking as shown on the construction drawings.
    3. End Bearing: Install deck ends over supports with a minimum end bearing as shown on the installation drawings.
    4. Deck End Laps: Where specified on the plans install deck end laps as shown on the installation drawings.
    5. Side Closures: Fasten to supporting structure and deck in accordance with the Contract Documents, approved installation drawings, and requirements of ANSI/SDI RD or ANSI/SDI C as applicable.
    6. Reinforce steel deck openings per contract documents and approved shop drawings.
    7. Trades that subsequently cut unscheduled openings through the deck are responsible for reinforcing the openings.
    8. Acoustical Batt Insulation: Supplied by the deck manufacturer and installed by the erecting contractor prior to installation of insulation.
  1. FIELD QUALITY CONTROL
     1. Do not use deck units as a working platform or storage area until units are in position and permanently attached to the structure.
     2. Construction loads must not exceed load carrying capacity of the deck.
  2. INSPECTION AND REPAIR
     1. Before deck placement, the deck shall be inspected for tears, dents, or other damage that will affect structural performance.
     2. Inspections:

\*\* NOTE TO SPECIFIER \*\* Delete inspection options not required.

* + - 1. In accordance IBC 1705.2.2, 2012.
      2. In accordance IBC 1705.2.2, 2015.
      3. In accordance IBC 1704.3, 2009.
  1. PROTECTION
     1. Protect installed products until completion of project.

END OF SECTION