**STEEL ROOF DECK SPECIFICATION 05 31 23**

The following suggested specification for VERCO® roof deck contains numbers and titles applicable to MasterFormat® 2012 from the Construction Specifications Institute (CSI) and Construction Specifica- tions Canada (CSC). Electronic versions are available for download from Verco's website for qualified design and construction professionals in preparation for site specific construction specifications.

**Standard Form CSI 3-Part Section Format**

**PART 1 -- GENERAL**

1.1 SUMMARY

A. Steel roof deck and accessories as shown on the

Contract Documents, including basic layout, types of deck units, and attachments required.

1.2 PERFORMANCE REQUIREMENTS A. Diaphragm Values:

1. The gage, attachment to supports, and

PunchLokII® sidelap connections (VSC2) of the deck are designed to provide allowable

diaphragm shear and flexibility factor in

accordance with Verco evaluation reports. Other ICC-ES or IAPMO ES recognized sys-

tems will be acceptable as an equal only if

they meet the required allowable diaphragm shear and flexibility factor shown on the structural drawings. The proposed sidelap

connection shall be hazard-free with no

exposed sharp edges that can cut cables or hoses, and shall allow measurement-free

visual inspection.

B. Factory Mutual Listing:

1. Provide roof deck units which have been evaluated by Factory Mutual, FM Standard

4451, and are listed in the Factory Mutual

Approval Guide for "Class 1" fire rated con- struction.

1.3 SUBMITTALS

A. Shop Drawings: Indicate deck plan, support loca- tions, projections, openings, pertinent details, and

accessories.

B. Product Data: Deck profile characteristics and dimensions, structural properties, and finishes.

C. Manufacturer's Standards.

D. Welders Certificates: Certify welders employed on Work, verifying AWS qualification within

previous 12 months.

**Notes To Specifier**

This Section includes structural metal roof deck, non-cellular, acoustic or non-acoustic type; including miscellaneous accessories. When concrete fill is required, refer to Section 03 52 16 for materials informa- tion. Steel floor deck is specified in Section

05 31 13. Edit to avoid conflicting require- ments. Copyright 2014 by Verco Decking, Inc., a Nucor Company.

Restrict statements to identify system performance requirements or function criteria only.

Delete if Deep or Shallow VERCOR™

decks.

Only request submittals needed to verify compliance with Project requirements.

**Standard Form CSI 3-Part Section Format (cont.)**

1.4 SUSTAINABLE DESIGN SUBMITTALS

A. Manufacturer's Certificate: Products meet or exceed specified sustainable design requirements.

1. Materials Resources Certificates:

a. Recycled material content for recycled content products.

2. Indoor Air Quality Certificates:

a. Zero (0) Volatile organic compound, VOC, content for each painted and/or coated metal deck as delivered.

1.5 QUALITY ASSURANCE

A. Perform Work according to ASCE 3 for composite decks.

B. Perform Work according to <\_ > standard.

1.6 DELIVERY, STORAGE, AND HANDLING A. Steel deck

1. Do not bend or structurally damage decking.

2. Store deck on dry wood sleepers; slope for positive drainage.

3. Cover deck with waterproof material, venti- lated to avoid condensation.

4. Architecturally exposed deck shall be appro-

priately packaged or protected to minimize structural damage during shipment.

B. Acoustic Insulation

1. Store in area protected from weather until installation.

**PART 2 – PRODUCTS**

2.1 MATERIALS

A. Verco Decking, Inc., a Nucor Company.

1. PLB™-36, [22] [20] [18] [16] gage, 36" wide,

1½" deep, [with ShearTranz® II-42].

**\*\* OR \*\***

2. HSB®-36, [22] [20] [18] [16] gage, 36" wide,

1½" deep.

**\*\* OR \*\***

3. HSB®-36-SS, [22] [20] [18] [16] gage,

36" wide, 1½" deep.

**\*\* OR \*\***

4. PLN3™, [22] [20] [18] [16] gage, 32" wide,

3" deep.

**\*\* OR \*\***

5. HSN3™, [22] [20] [18] [16] gage, 32" wide,

3" deep.

**\*\* OR \*\***

6. HSN3™-NS, [22] [20] [18] [16] gage,

32" wide, 3" deep.

**\*\* OR \*\***

**Notes to Specifier (cont.)**

Use this Article to specify compliance with with LEED, USGBC GreenBuild, Health Product Declarations, and other sustainability measures.

Insert "State of Department of Transportation," "Municipality of Department of Public Works," or other agency as appropriate.

Use this Article to specify compliance with overall reference standards affecting products and installation.

Edit/Delete the listed metal deck profiles for specific project.

1. Used with the PunchLok® II (VSC2) Tool and Standard Sidelap.

2. Used with Top Seam Weld (TSW) or Button Punch (BP) Tool and Standard Sidelap.

3. Used with Self-Drilling Screws and

Screw Sidelap (SS).

4. Used with the PunchLok® II (VSC2) Tool and Standard Sidelap.

5. Used with Top Seam Weld (TSW) or Button Punch (BP) Tool and Standard Sidelap.

6. Used with Self-Drilling Screws and

Nested Sidelap (NS).

**Standard Form CSI 3-Part Section Format (cont.)**

7. PLN™-24, [22] [20] [18] [16] gage, 24" wide,

3" deep.

**\*\* OR \*\***

8. N-24, [22] [20] [18] [16] gage, 24" wide,

3" deep.

**\*\* OR \*\***

9. N-24-SS, [22] [20] [18] [16] gage, 24" wide,

3" deep.

**\*\* OR \*\***

10. [PLB-36 AC] [HSB® AC] [PLN3 AC] [HSN3™

AC] [PLN-24 AC] [N-24 AC] [Acoustical] [Fully Perforated] Roof Deck Panels [22] [20] [18] [16] gage, [36"] [32"] [24"] wide, [1-1/2"]

[3"] deep.

a. Vertical webs except at side joint perforated with 5/32" diameter holes on

staggered 7/16" centers to provide [0.8]

[0.85] Noise Reduction Coefficient. NRC

of completed assembly shall be as determined by tests in accordance with

ASTM designation C423 conducted by

Riverbank Acoustical Laboratories. b. Provide factory punched vent tabs

projecting upwards in interior bottom

flanges at approximately 6" on center.

11. [PLB CD] [HSB® CD] [PLN3 CD] [HSN3™

CD] [PLN-24 CD] [N-24 CD] Roof Deck Panels [20/20] [20/18] [18/20] [18/18] [18/16] [16/18] [16/16] gage, [36"] [32] [24"] wide,

[1-1/2"] [3"] deep.

12. [PLB CD AC] [HSB® CD AC] [PLN3 CD AC] [HSN3™ CD AC] [PLN-24 CD AC] [N-24 CD AC] Acoustical Roof Deck Panels [20/20] [20/18] [18/20] [18/18] [18/16] [16/18] [16/16] gage, [36"] [32] [24"] wide, [1-1/2"] [3"] deep.

a. Vertical webs except at side joint perforated with 5/32" diameter holes on staggered 7/16" centers to provide [0.8]

[0.95] Noise Reduction Coefficient. NRC

of completed assembly shall be as determined by tests in accordance with

ASTM designation C423 conducted by

Riverbank Acoustical Laboratories. b. Provide factory punched vent tabs

projecting upwards in interior bottom

flanges at approximately 6" on center.

**Notes to Specifier (cont.)**

7. Used with the PunchLok® II (VSC2) Tool and Standard Sidelap.

8. Used with Top Seam Weld (TSW) or Button Punch (BP) Tool and Standard Sidelap.

9. Used with Self-Drilling Screws and

Screw Sidelap (SS).

In this article, select acoustical deck profile type(s) for this Project.

a. PLB AC or HSB® AC have NRC of

0.80.

PLN3 AC, HSN3 AC, PLN-24 AC, and N-24 AC have NRC of 0.85.

b. Provide venting as appropriate for roofing systems and concrete placement.

In this article, select cell deck profile

type(s) for this Project.

In this article, select acoustical cell deck profile type(s) for this Project.

a. PLB CD AC or HSB® CD AC have

NRC of 0.80.

PLN3 CD AC, HSN3 CD AC, PLN-24 CD AC, and N-24 CD AC have NRC of 0.95.

NOTE: Vent tabs not put in any Cell Deck profiles.

**Standard Form CSI 3-Part Section Format (cont.)**

13. Deep VERCOR™, [26] [24] [22] [20] gage,

36" wide, 1-5/16" deep, with VentLok louvers in each web **\*\*OR\*\*** sidelap vents at approx- imately 10" on center.

**\*\* OR \*\***

14. Shallow VERCOR™, [26] [24] [22] [20] gage,

36" wide, 9/16" deep, with sidelap vents at approximately 10" on center.

B. Substitutions: [**Section 01 60 00 - Product**

**Requirements**] [**Not Permitted**].

C. Galvanized Deck using Sheet Steel: ASTM A653 or A1063, Grade 50Structural Quality; with [**G30**] [**G60**] [**G90**] galvanized coating.

**\*\* OR \*\***

D. Painted, Galvanized Deck using Sheet Steel: ASTM A653 or A1063, Grade 50 Structural Quality.

**\*\* OR \*\***

Painted Ungalvanized Sheet Steel: ASTM A1008/ A1008M, Grade 50 Structural Steel, unfinished or mill finished [primer painted bottom], or [primer

with painted top and painted bottom (painted/ painted)], paint color using deck manufacturer's standard primer paints per:

1. Factory Primer Painted Gray: The gray primer is applied by a roller coat process and oven cured having a 0.3 mil nominal dry film thickness on side exposed to view.

**\*\* OR \*\***

2. Factory Primer Painted "Double" White: The white primer is applied by a roller coat pro- cess and oven cured having a 0.6 mil nominal

thickness on side exposed to view.

3. Contact Deck Manufacturer for special colors and availability.

**\*\* OR \*\***

E. Sheet Steel: ASTM A1008/A1008M, Grade 50

Structural Steel, unfinished or mill finished.

**\*\* OR \*\***

F. Galvanized Steel: ASTM A653 or A1063, SS, Grade 80, minimum, with Zinc coated per ASTM A653 or A1063, G90.

G. Welding Materials: AWS D1.3.

**Notes to Specifier (cont.)**

In this article, select Deep or Shallow VERCOR

profile type(s) for this Project.

Provide venting as appropriate for roofing systems and concrete placement.

Provide sidelap vents as appropriate for roofing systems and concrete placement.

D. NOTE: For Type B and N deck profiles except Cell Deck, Deep Vercor and Shallow Vercor.

E. NOTE: For Type B and N deck profiles except Cell Deck, Deep Vercor and Shallow Vercor.

F. NOTE: For Deep Vercor and Shallow Vercor except type B, type N, and Cell Deck profiles.

**Standard Form CSI 3-Part Section Format (cont.)**

2.2 SUSTAINABILITY CHARACTERISTICSS A. Materials and Resources Characteristics:

1. Recycled Content Materials: Minimum [10**%**] [20**%**] [ ] recycled content.

B. Indoor Environmental Quality Characteristics:

1. Paints and Coatings: Zero volatile organic compound content for each painted and/or

coated metal deck as delivered.

2.3 ACCESSORIES

A. Flute Closures: Closed cell [**foam rubber**] or

[**metal**] profiled to fit deck.

B. Acoustical Batt Insulation: Glass fiber type, mini- mum [**0.75**] lb/cu ft density; packed into each flute of deck.

1. Acoustical batts per **Section 09 81 00**. Acoustical batts furnished and installed in Accoustical Cell Deck, but only FURNISHED and NOT INSTALLED in Acoustical Deck.

C. [**Sump Pans,**] [**Sump Plates,**] [**Valley Strips,**] [**Eave Strips,**] [**Edge Closures,**] [**Cell Closures**]: Fabricated of metal of same type and

finish as deck.

**PART 3 – EXECUTION**

3.1 INSTALLATION

A. Erect metal deck according to [**SDI Manual,**] [**Manufacturer's Code Approvals,**]

[**Manufacturer's Instruction.**]

B. Bear deck on steel supports with [**1-1/2**] [**2**] [**3**]

inch minimum bearing. Align and level.

C. Fasten deck to steel support members at ends and intermediate supports with:

1. [**1/2" effective diameter arc spot welds**]

or [**3/8" wide by 1" long arc seam welds**]

in accordance with AISI S100.

**\*\* OR \*\***

2. Pneutek fasteners.

**\*\* OR \*\***

3. Hilti fasteners.

**\*\* OR \*\***

4. **SDI Recognized** #12 or #14 self-drilling, self- tapping screws.

D. Ends of units shall be lapped a minimum of 2 in.

over supports or butted.

**Notes to Specifier (cont.)**

1. In this Section specify recycled content to meet LEEDs MR 4.1 or MR 4.2 or other sustainability measure.
2. Include for compliance with school projects or other.

B. Acoustical Deck Insulation installation by roofing contractor. Delete if Acoustical Cell deck.

4. SDI Recognized screws are limited to Buildex, Elco, Hilti, or Simpson Strong-Tie screws. Generic screws may also be used with appropriate adjustment factors.

**Standard Form CSI 3-Part Section Format (cont.)**

E. Connecting Sidelaps:

1. Use Verco PunchLok®II tool to create interlocking VSC2 connection at spacing designated on the shop/erection drawings.

VSC2's may be made in either direction.

**\*\* OR \*\***

2. Connect sidelap as shown on approved shop/erection drawings.

3. Comply with AWS requirements and procedures for welding sheet steel.

4. Connect male/female side laps at [36] inches

o.c. maximum.

F. Reinforce steel deck openings per contract docu- ments and approved shop drawings.

G. Install wet concrete stops at roof edge upturned to top surface of slab to contain wet concrete. Install

stops of sufficient strength to remain stationary

under wet concrete without distortion.

H. Install sheet steel closures and angle flashings to close openings between deck and walls, columns,

and openings.

3.2 FIELD QUALITY CONTROL

A. Welding: Inspect welds according to AWS D1.3.

**\* END OF SECTION \***

**Notes to Specifier (cont.)**