SECTION 05313 - STEEL FLOOR DECK

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Steel floor deck and accessories.

B. Formed steel deck end forms to contain wet concrete.

C. Framing for openings up to and including 18 inches.

D. Bearing plates and angles.

E. Shear stud connectors.

1.2 REFERENCES

A. AISI - Specification for the Design of Cold-Formed Steel Structural Members.

B. ASTM A36 - Structural Steel.

C. ASTM A108 - Steel Bars, Carbon, Cold-Finished, Standard Quality.

D. ASTM A446 - Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Structural (Physical) Quality.

E. ASTM A525 - Steel Sheet, Zinc-Coated, Galvanized by the Hot-Dip Process.

F. ASTM A611 - Steel, Cold-Rolled Sheet, Carbon, Structural.

G. AWS D1.1 - Structural Welding Code.

H. SDI - Design Manual for Composite Decks, Form Decks, Roof Decks.

1.3 PERFORMANCE REQUIREMENTS

A. Design metal decking in accordance with SDI Design Manual for Composite Decks, Form Decks, Roof Decks.

B. Calculate to structural working stress design and maximum vertical deck deflection of 1/240.

C. Lateral deflection of diaphragm shall not exceed 1/500 of the height of the wall.
D. Design deck and shear studs to resist a maximum shear strength of 55000 psi.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Shop Drawings: Indicate decking plan, support locations, projections, openings and reinforcement. Indicate temporary shoring of decking where required.

C. Product Data: Provide deck profile characteristics and dimensions, structural properties, finishes.

D. Manufacturer's Installation Instructions: Indicate specific installation sequence, special instructions.

1.5 QUALIFICATIONS

A. Installer: Company specializing in performing the work of this Section with minimum 3 years documented experience.

B. Design deck layout, spans, fastening, joints, and under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in State of Mississippi.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site under provisions of Section 01600.

B. Store and protect products under provisions of Section 01600.

C. Cut plastic wrap to encourage ventilation.

D. Separate sheets and store decking on dry wood sleepers; slope for positive drainage.

1.7 FIELD MEASUREMENTS

A. Verify that field measurements are as shown on Drawings.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. VULCRAFT

B. WHEELING

C. CONSOLIDATION

D. Substitutions: Under provisions of Section 01600.

2.2 MATERIALS

A. Sheet Steel: ASTM A446, Grade B Structural Quality; with G60 galvanized coating conforming to ASTM A525.

B. Bearing Plates Angles: ASTM A36 steel.

C. Stud Shear Connectors: ASTM A108 steel, Grade 1015 forged steel, headed, uncoated.

D. Welding Materials: AWS D1.1.

E. Touch-Up Primer: Zinc chromate.

2.3 ACCESSORIES

A. Flute Closures: Closed cell foam rubber profiled to fit tight to the decking.

2.4 FABRICATION

A. Metal Decking: Sheet steel, configured as follows:

Span Design:	Multiple, Double, Single
Minimum Metal Thickness (Excluding Finish):	28
Nominal Height:	.6 inch profile to WR
Formed Sheet Width:	MFG Standard
Side Joints:	Lapped
Flute Sides:	Plain vertical face.

B. Fasteners: Galvanized hardened steel.

C. Weld Washers: Mild steel, uncoated, 3/4 inch outside diameter, 1/8inch thick.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.
B. Beginning of installation means installer accepts existing conditions.

3.2 INSTALLATION

A. Erect metal decking in accordance with SDI Design Manual for Composite Decks, Form Decks, Roof Decks.

B. Bear decking on masonry support surfaces with 6 inch minimum bearing. Align and level.

C. Bear decking on steel supports with 1-1/2 3 inch minimum bearing. Align and level.

D. Weld in accordance with AWS D1.1.

E. Weld stud shear connectors through steel deck to structural members below as indicated.

F. Immediately after welding deck and other metal components in position, coat welds, burned areas, and damaged surface coating, with touch-up prime paint.

END OF SECTION