MEPNN Supplier Scouting Opportunity Synopsis

Section 1: General Information

Scouting Number	2025-087
Item to be Scouted	Powder Driven Fasteners
Days to be scouted	21
Response Due By	04/10/2025
Description	Knurled shank steel pin installed with a controlled explosion (powder). The steel pin and charge for the installation should be provided as a system. The charge needs to be calibrated to the pin to provide the proper installation depth.
Notify Requester Immediately	
State item to be used in	New Mexico

Section 2: Technical Information

Type of supplier being sought	Manufacturer
Reason	BABA
Describe the manufacturing processes (elaborate to provide as much detail as possible)	Includes but is not limited to metal forming, cutting, knurling, heat treatment, and finishing
Provide dimensions / size / tolerances / performance specifications for the item	See attached .pdf specifications. MEPNN Supplier Scouting- Powder Driven Fastener Specification.pdf Page 4, 2.04 Mechanical Fasteners, B. Powder Driven Fasteners The size may vary. The system needs to be tested for code compliance with steel decking to provide load capacities in an ICC-ES code evaluation report. The examples I have of commercially available powder driven fasteners are all not BABA compliant. They do illustrate the type of product we're looking for though. The Hilti X-ENP-19 (https://productdata.hilti.com/APQ_HC_RAW/ASSET_DOC_LOC_1577773.pdf) and X-HSN 24 (https://productdata.hilti.com/APQ_HC_RAW/ASSET_DOC_LOC_1577823.pdf) pins and the Pneutek line of pins (https://www.pneutek.com/ESR-2941.pdf%202024-2026.pdf) meet the project requirements. The specific dimensions are proprietary. Different pin sizes would provide different capacities which is acceptable. The pins will be installed into a steel substrate with a thickness varying from 3/16" to 1", so multiple pin diameters and lengths may be required.
List required materials needed to make the product, including materials of product components	See attached spec sheet. MEPNN Supplier Scouting- Powder Driven Fastener Specification.pdf Page 4, 2.04 Mechanical Fasteners, B. Powder Driven Fasteners
Are there applicable certification requirements?	No
Are there applicable regulations?	Yes
Details	International Building Code 2021
Are there any other stndards, requirements, etc.?	Yes
Details	Tested for code compliance with steel deck providing load capacities in an ICC-ES code evaluation report.

NAICS 1	221310 Water Supply and Irrigation Systems
NAICS 2	
Additional Technical Comments	

Section 4: Business Information

Estimated potential business volume	5000 units (pins)
Estimated target price / unit cost information (if unavailable explain)	$0.81 per unit (pin)
When is it needed by?	Project dependent over 8 years
Describe packaging requirements	Best available. Delivered undamaged. Specifics discussed in negotiation.
Where will this item be shipped?	Clovis, NM

Additional Comments

Is there other information you would like to include?	As Requested for BABA Compliance: Agency Providing Funds: Bureau of Reclamation: Albuquerque Area Office Name/POC: Ken Richards Email: krichards@usbr.gov

SECTION 05 31 00
STEEL DECKING

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. American Iron and Steel Institute (AISI): Specifications for the Design of Cold Formed Steel Structural Members.
2. American Welding Society (AWS): D1.3, Structural Welding Code-Sheet Steel.
3. ASTM International (ASTM):
   a. A611, Standard Specification for Structural Steel (SS), Sheet, Carbon, Cold-Rolled.
   b. A653, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
   c. A780, Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
   d. A924, Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
4. Factory Mutual (FM):
   a. Factory Mutual Approval Guide.
   b. FM Research Corporation (FMRC): Approval Requirements for Steel Roof Deck Construction.
5. International Code Council Evaluation Service, Inc. (ICC-ES): Evaluation Reports for Deck Fasteners.
6. Steel Deck Institute (SDI):
   a. Design Manual for Composite Decks, Form Decks and Roof Decks.
   b. Diaphragm Design Manual.
7. UL: Fire Resistance Directory.

1.02 AMERICAN IRON AND STEEL

A. This section contains materials that shall comply with the American Iron and Steel requirements of this Contract.

1.03 BUILD AMERICA BUY AMERICA (BABA)

A. This section contains materials that shall comply with the Build America Buy America requirements of this Contract.

1.04 SUBMITTALS

A. Action Submittals:

1. Plan view layout of decking showing type and section properties of deck panels, reinforcing channels, pans, special jointing, and accessories.
2. Location of openings, deck laps, and deck attachment details.

B. Informational Submittals:

1. Decking manufacturer's installation requirements.
2. Welding Procedures, Qualifications, and Inspection Report: As specified in Section 05 05 23, Welding.
3. Operation manuals for mechanical fastener installation tools.
4. Manufacturer's Certificate of Compliance, in accordance with Section 01 61 00, Common Product Requirements.
5. Certificate of compliance with the Build America, Buy America Act. See Section 01 33 00, Submittal Procedures.
6. Certificate of compliance with the American Iron and Steel. See Section 01 33 00, Submittal Procedures.

1.05 QUALITY ASSURANCE

A. General: For metal decking section properties, meet requirements of AISI Specifications for Design of Cold-Formed Steel Structural Members.

B. FM Requirements:

1. Steel Roof Deck: Listed in Factory Mutual "Approval Guide" for Class 1 fire rating and Class 1-90 wind uplift rating.
2. Mechanical Fasteners: Packing containers shall show name of manufacturer and product and FMRC approval mark.

C. Qualifications for Field Welding: As specified in Section 05 05 23, Welding.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.

B. Store deck bundles on platforms or pallets, with one end elevated to provide drainage.

C. Protect bundles against condensation with a ventilated waterproof covering.

D. Stack bundles so there is no danger of tipping, sliding, rolling, shifting or material damage.

E. Architecturally exposed deck shall be appropriately packaged and protected to prevent damage during shipment.

PART 2 PRODUCTS

2.01 METAL DECKING

A. Provide metal deck as shown as shown on the Drawings:

B. Materials and Finishes:

1. Galvanized Deck:
   a. Sheet steel for galvanized deck and accessories shall conform to ASTM A653 Structural Quality Grade 33 or higher, as shown on the Drawings.
   b. Galvanizing shall conform to ASTM A924 with coating class of G90 as defined in ASTM A653.

C. Manufacturers:

1. Vulcraft Division of Nucor Co., Brigham City, UT.
2. ASC Steel Deck, Kalama, WA.

2.02 SHOP PRIMER

A. Clean and coat with shop paint primer where shown in Finish Schedule.

B. Surface Preparation and Primer: As specified in Section 09 90 00, Painting and Coating.

2.03 ACCESSORIES

A. Provide pour stops, column closures, end closures, cover plates, girder fillers, ridge and valley plates, finish strips, reinforcing channels, and other accessories as required for complete installation.

B. Accessories shall be minimum 22-gauge, except edge forms shall be sized as required by the deck manufacturer, unless shown otherwise on the Drawings.

2.04 MECHANICAL FASTENERS

A. Self-Drilling Screws: Self-drilling, self-tapping screws with hexagonal washer head and corrosion-resistant finish.

1. Corrosion-resistant finish equivalent to hot dip galvanizing, consisting of an electroplated zinc base layer with organic or thermoset top coat.

B. Powder Driven Fasteners:

1. Tested for code compliance in combination with the steel deck.
2. Knurled shank, minimum 1/2-inch diameter steel washer, corrosion-resistant coating.
3. Pin diameter and length to suit deck type and flange thickness of steel support member.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine supporting framing and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance of steel deck.

3.02 INSTALLATION

A. Locate deck bundles to prevent overloading of support framing members.

B. Install at right angles to supporting members in a three span minimum lay-up, unless shown otherwise, and in accordance with Specifications and manufacturer's installation recommendation.

C. Bearing: 1-1/2 inches, minimum.

D. Endlaps: Minimum of 2 inches and located over supports.

E. Do not stretch sidelaps.

F. Closure Plates:

1. Install closure and cover plate accessories as recommended by the metal deck manufacturer, unless shown otherwise on the Drawings.
2. Floor Deck and Form Deck Closures:
   a. Fasten column closures, cell closures, and zee closures to deck to provide tight fitting closures at open ends of ribs and sides of decking.
   b. Fasten cell closures at changes of direction of deck units unless otherwise indicated.

G. Holes and Openings:

1. Cut and fit around roof openings and other work projecting through or adjacent to decking.
2. Locate holes and openings as shown to clear structural framing and bracing members.
3. Reinforcement around Openings:
   a. Roof Deck: For hole sizes of at least 6 inches across, but not more than 12 inches across in roof deck, reinforce with 0.0474-inch design thickness steel plate, painted or galvanized to match deck coating. Extend plate at least 12 inches beyond opening in all directions and attach to top of roof deck with No. 10 self-drilling screws at 6-inch spacing and at all corners. For openings larger than 12 inches across, reinforce roof deck with framing as shown on the Drawings.
   b. Composite Floor Deck and Form Deck: Reinforce openings as shown on the Drawings.

H. Protect deck areas from heavy concentrated loads or wheel traffic with planking or other approved means.

I. Install temporary shoring, if required, to meet strength and deflection limitations, before placing any concrete topping on deck panels.

J. Completed Deck: Free from buckles and irregularities, and in accordance with FM requirements and UL requirements.

3.03 DECK ATTACHMENT

A. Fasten panels as shown on the Drawings.

B. Welded Connections: Weld deck sidelaps, attachment to framing, and accessories in accordance with AWS D1.3 and as specified in Section 05 05 23, Welding.

C. Mechanical Fasteners:

1. Self-Drilling Screws:
   a. Install screws in accordance with manufacturer's written instructions and with special installation tool. Do not over-torque.
   b. Remove and redrive screws at sidelaps where upper sheet is not drawn tightly against lower sheet.

2. Powder Driven Fasteners:
    a. Install fasteners in accordance with manufacturer's written instructions and with special installation tool.
    b. Minimum Sidelap Edge Distance: 3/8-inch.
    c. Minimum End or End Lap Distance: 1-inch.
    d. Head Projection: As specified by manufacturer for correct penetration into flange of steel support member.

3.04 TOUCHUP PAINTING

A. Immediately following erection, remove unused deck edge trimmings, screws, fasteners, welding washers, butt ends of welding rods, and debris from completed installation.

B. Clean field welds, bolted connections, rust spots, and abraded areas.

C. Repair damaged painted surfaces as specified in Section 09 90 00, Painting and Coating.

D. Repair damaged galvanized surfaces with zinc-rich spray paint in accordance with ASTM A780; color to match galvanized deck.

E. Use magnetic gauge to determine that thickness of repair is equal to or greater than base painted or galvanized coating.

3.05 FIELD QUALITY CONTROL

A. An independent testing agency will be retained by Owner to perform following inspections.

1. Welded Connections: Visually inspect in accordance with AWS D1.3, Section 7, and as specified in Section 05 05 23, Welding.
2. Mechanical Fasteners: Visually inspect, in accordance with manufacturer's instructions, for each type of fastener.

B. Repair or replace defective welds and fasteners.

C. Special inspection will be provided by Owner as shown on the Drawings.

END OF SECTION