

TECHNICAL ANNEXURE 1 (EM12K)

1. SCOPE

Low Alloy Steel Bare Solid Wire diameter 4.0 mm for Submerged Arc Welding that confirms to ASME, Section II C, SFA- 5.17 Class EM-12K.

2. GENERAL

The wire shall comply with the requirements called for in the Latest Edition and addenda (applicable on the date of issue of purchase order) of ASME Section II C, SFA- 5.17, EM12K. All tests, acceptance criteria etc. referred in this document shall be in accordance with this. Additional requirements specified in this document are also to be complied.

3. CHEMICAL COMPOSITION

As per ASME Section II C, SFA- 5.17, EM12K.

4. SIZE

The Wire shall be supplied in Diameter 4.0 mm as specified in the Purchase Order. The tolerance on diameter shall be as per ASME Sec II C, SFA- 5.02 .Net weight of each coil shall be 25 kg.

5. FORM

The Wire shall be appropriately layer wound in coils with hardboard liner / Steel liner support of dimensions and weight as given below.

- a. Inner Diameter of Liner : 305 + 10/-0 mm
- b. Width of Coil (maximum) : 100 mm
- c. Net Weight of Coil : 25 Kg.

The wire in coil form along with liner shall be so designed & constructed to prevent distortion of the wire coil / unwinding of the wire/ contamination of the wire during transportation, storage and use under normal conditions.

6 . FINISH AND UNIFORMITY

The wire shall be copper coated by an appropriate process that results in uniform coating thickness without any flaking providing a bright and glossy finish that ensures prevention from rusting in long duration storage.

The Wire surface shall be entirely free from slivers, depressions, scratches, scales, seams, laps, drawing compounds or any other foreign matter that would adversely affect the welding characteristics or properties of Weld metal.

The wire shall be of a single continuous length made from a single heat/melt without any splices.

TECHNICAL ANNEXURE 1 (EM12K)

7 . WINDING, TEMPER, CAST, & HELIX

The Wire shall be layer wound in coils so that kinks, waves, sharp bends, overlapping or wedging are not encountered leaving it free to unwind without any restriction.

The outside end of the wire (The end with which welding is to begin) shall be identified and securely fixed so that it can be readily located and admitted into the wire feed system. This end shall be fastened to avoid unwinding.

The inner end of the wire shall be fixed to the hardboard liner/ steel liner so as to ensure unrestricted layer by layer unwinding of the wire in the wire feed sprocket.

The temper, cast and helix of wire on coils shall ensure unrestricted layer by layer unwinding and easy straightening in the wire feed system and shall render itself to accurate tracking to the Weld groove as it issues out of the current contact tube.

8 . IDENTIFICATION

Adhesive labels containing following product information shall be securely affixed in a prominent location on the hardboard liner/Steel liner of the coil. The Label shall be so affixed that it stays in place during usage of the coil under normal conditions.

- a) Specification & Classification Designation.
- b) Brand Name.
- c) Batch/Lot Number.
- d) Size & Net Weight.

9 . PACKAGING

The Wire Coils completely devoid of moisture or any other foreign materials to adequately sealed in suitable cartons to ensure against any deterioration in 'Wire Quality' during transportation by sea or long duration storage. The appropriate precautionary information as specified in ASME Section II C, SFA-5.17, EM-12K shall be prominently displayed in legible print on cartons.

10 . TESTING AND CERTIFICATION

- 10.1 The testing authority shall certify that supplies made against the batch conforms to the requirements of the latest Edition and addenda (Applicable on the date of issue of Purchase order) of ASME Section II C, SFA-5.17, EM-12K.
- 10.2 Batch/Lot classification shall be Class S1 of SFA 5.01 filler Metal Procurement Guidelines of ASME Section II C.
- 10.3 The level of testing shall be Schedule "J" of SFA 5.01 Filter Metal Procurement Guidelines of ASME Section II C.
- 10.4 Original Test certificates in English giving details of tests done for compliance to this Purchase Instruction and ASME Section II C, SFA-5.17, EM-12K shall be sent.

Sl. No.	Pre –Qualification Criteria	Bidder remark
1	<p>Bidder shall be a manufacturer of the Quoted Submerged Arc Welding Wire / an authorized dealer of the same.</p> <p>If the offer is quoted by agent, letter of authorization and agreement duly signed by the manufacturer is required to consider the offer.</p>	
2	<p>Bidder (Principle Supplier) shall have successful experience for supplying SAW Wire Consumables to any govt. Organizations/ PSUs/ Public Ltd./ Company/Reputed Industries etc.</p> <p>Purchase orders copies/ related documents to be submitted along with offer to consider the offer.</p> <p>Note: <u>Successful experience means – supplied and accepted.</u></p>	
3	<p>Kindly provide the self-declaration for “<u>successfully supplied and accepted by customer</u>” on Principle Supplier letter head regarding document SI . No. 2.</p> <p>In self-declaration document, kindly provide the following details:</p> <ul style="list-style-type: none"> • PO Number. • PO Date. • PO items description (or) Manufacturing Standard. • Brand Name. • Supplied Quantity. • Manufacturer Name. 	
4	Quoted Welding Consumables brand name	
5	Quoted Welding Consumables catalogue	
6	Mill address (manufacturing address) shall be provided along with offer.	
7	Mill capacity for SAW Wire (By Principle Supplier) shall be provided along with offer.	

Sl. No.	Pre –Qualification Criteria	Bidder Remark.
8	Manufacturer shall submit manufacturing process flow chart (Raw material to finished product) along with offer for SAW Wire.	
9	Manufacturer (Principle Supplier) shall submit a valid ISO 9001 certificate or Quality management system certificate or Written down procedure.	
10	Shall confirm to Technical Specifications as per “TECHNICAL ANNEXURE 1 (EM12K)”.	
11	<p>Vendor should give confirmation to BHEL’s Technical Specification as per “TECHNICAL ANNEXURE 1 (EM12K)”. Any deviation from the Specification are to be mentioned in the “Bidder remark Space”.</p> <p>If There is no deviation vendor should indicate “No Deviation”.</p>	
12	Original Certified material test report in English signed by the manufacturer giving details of tests done in compliance with “TECHNICAL ANNEXURE 1 (EM12K)”.	
13	The testing authority shall certify that supplies made against the batch conforms to the requirements of the latest Edition and addenda (Applicable on the date of issue of Purchase order) of ASME Section II C, SFA-5.17, EM-12K.	