



BHARATH HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI-620 014
WELDING TECHNOLOGY CENTRE

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**WELDING CONSUMABLE PURCHASE INSTRUCTION FOR
LOW ALLOY STEEL BARE SOLID FILLER ROD ER70S-A1**

1.0 GENERAL:

- 1.1 The Rod shall comply with requirements specified in the Latest Edition and Addenda (Applicable on the date of Issue of Purchase Order) of ASME Sec.II.C.SFA-5.28, ER70S-A1. All tests, acceptance criteria shall be in accordance with this. Additional requirements specified in this document shall also be complied.
- 1.2 The Rods shall be supplied in sizes and quantities as specified in the Purchase Order.
- 1.3 The rods are intended for use as filler for radiographic quality butt welded joints in high pressure boiler tubes and pipes.
- 1.4 Every batch of rods shall be inspected & test certificates countersigned by Inspecting Authority approved by IBR for the country of origin (Latest).

2.0 Chemical Composition:

- 2.1 The chemical composition of the Rods shall conform to ASME SEC.II.C SFA5.28-ER70S-A1.

3.0 Mechanical Properties:

- 3.1 The mechanical properties of the Rods shall conform to ASME SEC.II.C SFA5.28-ER70S-A1.

4.0 USABILITY AND RADIOGRAPHIC SOUNDNESS:

- 4.1 The Rod when used as filler in GTAW with 100 % Argon shielding shall deposit weld metal that flows freely, uniformly without sputter or other defects and shall exhibit excellent wetting characteristics. The resultant weld metal shall be smooth and uniform with no visible evidence of cracks/porosity or other defects and shall meet radiographic soundness requirements.

5.0 FORM & SIZE:

- 5.1 The Rods shall be supplied in straight lengths of 1000 mm +15,-0mm and as specified in the Purchase Order. The tolerance on diameter shall be as per SFA-5.02.

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REVIEWED & APPROVED:


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6.0 FINISH & UNIFORMITY:

6.1 The Wires shall meet the requirements of clause 17.1. and 17.4 of SFA-5.28

7.0 IDENTIFICATION:

7.1 Each Rod shall have the Classification designation "ER70S-A1", brand/trade designation marked or embossed on both ends for positive identification.

8.0 MARKING:

8.1 The rods shall meet the requirements of clause 4.6 of SFA-5.02.

9.0 PACKAGING:

9.1 Rods of the same size and batch/lot shall be packed in water resistant plastic tube shaped cartons. Each tube carton shall weigh not more than 10 Kg. The cartons shall be provided with watertight lid to ensure waterproof during transit & storage. Tube Cartons shall be packed in waterproof boxes with crates so as to ensure no damage during shipment and normal storage conditions. Weight of each crate shall not exceed 1000kg.

9.2 The cartons shall have product information as per clause 4.6 of SFA-5.02

10.0 TESTING & CERTIFICATION:

10.1 Each consignment of rods supplied shall be from one batch only.

10.2 Batch/Lot classification shall be Class S1 as per SFA-5.01 Filler metal procurement guidelines of ASME Sec.II.C. (Latest Edition and Addenda)

10.3 The Level of Testing shall be Schedule J as per SFA-5.01 Filler metal procurement guidelines of ASME Sec.II.C. (Latest Edition and Addenda)

10.4 Three copies of Original Test certificates in English countersigned by Inspecting Authority (Latest) approved by IBR for country of origin giving details of tests as per 8.3 done in compliance with this Purchase Instruction and ASME Sec.II.C, SFA-5.28, ER70S-A1 shall be sent.

10.5 The Testing Authority shall certify that supplies made against the batch conform to the requirements of the Latest Edition & Addenda (Applicable on the date of issue of Purchase Order) of ASME Sec.II.C.SFA-5.28 ER70S-A1.