

Pre-Qualification Criteria		
Sl. No.	DESCRIPTION	Bidder reply.
1	Bidder shall be a manufacturer of Welding Consumables / an authorized dealer of Welding Consumables. If the offer is quoted by agent, letter of authorization and agreement duly signed by the manufacturer is required to consider the offer.	
2	Welding Consumables brand name shall be provided along with offer.	
3	Test certificates in English is required along with supply.	
4	Guarantee certificate in English is required along with supply.	
5	Shall confirm to Technical Specification as per WCPI 161/11.	
5	Bidder shall have successfully supplied ER90S-B91(ASME SEC.II.C.SFA-5.28 ) to any govt. Organizations/ PSUs/ Public Ltd./ Company/Reputed Industries. Purchase orders copies to be submitted along with offer to consider the offer. Note: Successfully supplied means – supplied and accepted	



**WELDING CONSUMABLE PURCHASE INSTRUCTION FOR  
LAS WIRE ASME.SEC.II.C SFA-5.28, ER90S-B91**

**1.0 GENERAL:**

- 1.1 The wire shall comply with the 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, ER90S-B91. All tests, acceptance criteria shall be in accordance with this. Additional requirements specified in this document shall also be complied.
- 1.2 The wires shall be supplied in sizes and quantities as specified in the purchase order.
- 1.3 The wires are intended for use as a welding electrode for butt-welding of tubes in pulsed GMAW process with Argon plus 5% to 20% CO<sub>2</sub> gas shielding in automatic straight tube butt welding machine and orbital TIG welding machine with 100 % Argon shielding for radiographic quality high pressure boiler components.

**2.0 CHEMICAL COMPOSITION:**

The chemical composition of the wire shall conform to ASME SEC.II.C SFA-5.28, ER90S-B91 and additionally Mn+Ni≤1.2% maximum and Nitrogen content ≥ (0.5xAl+0.03%) minimum.

**3.0 MECHANICAL PROPERTIES:**

Mechanical properties of the wire shall conform to ASME SEC.II.C SFA-5.28, ER90S-B91 with 95% argon + 5% CO<sub>2</sub> Gas shielding. Hardness of weld metal & HAZ shall be 195 HV to 320 HV.

**4.0 RADIOGRAPHIC SOUNDNESS & USABILITY:**

- 4.1 The wire when used as an electrode in GMAW with Argon plus 5% to 20% CO<sub>2</sub> or orbital welding with 100% Argon shall deposit a weld metal that flows freely, uniformly without sputtering or other defects and shall exhibit excellent wetting characteristics.
- 4.2 The resultant weld metal shall be smooth, uniform with no visible evidence of cracks, porosity or other defects and shall meet the radiographic soundness requirements as per ASME SEC.II.C SFA 5.28 ER90S-B91.

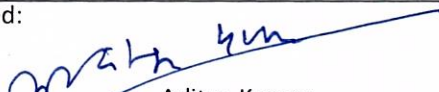
**5.0 SIZE:**

The wire shall be supplied in diameter 0.8/0.9/1.0 mm as specified in the purchase order. The tolerance on diameter shall be as per SFA-5.02.


**6.0 FORM & WEIGHT:**

The wire shall be precision layer wound in S300 and/or S100 plastic spools as mentioned in the purchase order and the net weight of the wire shall be 10/12.5/15Kg and 700-1000g respectively. The spools shall meet the clause 4.3.4 of SFA-5.02.

Prepared:

  
Aditya Kumar  
Sr. Engineer / WTC

Reviewed and Approved.

  
R Arivazhagan  
Sr. Manager /WTC

**7.0 FINISH & UNIFORMITY:**

The wire shall meet the requirements of clause 4.2 of SFA-5.02.

**8.0 WINDING REQUIREMENTS:**

The wire shall meet the requirements of clause 4.4 of SFA-5.02.

**9.0 IDENTIFICATION :**

The wire shall meet the requirements of clause 4.5.2 & 4.5.5 of SFA-5.02.

**10.0 MARKING:**

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

**11.0 PACKAGING:**

11.1 The wire should be completely devoid of moisture or any other foreign material with adequate sealing in suitable cartons to ensure no deterioration in the electrode quality during transportation by sea or long duration storage.

11.2 The cartons shall be packed in waterproof boxes with crates so as to protect them from damage during shipment and storage under normal conditions. Weight of each crate shall not exceed 1000kg. The cartons shall have product information as per clause 4.6 of SFA-5.02

**12.0 TESTING & CERTIFICATION:**

12.1 Each consignment of electrodes supplied shall preferably be from one batch only.

12.2 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).

12.3 The level of testing shall be Schedule K as per SFA-5.01 filler metal procurement guidelines of ASME Sec.II.C (Latest edition and addenda).

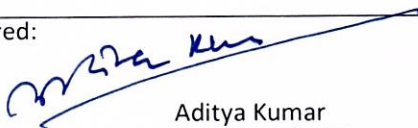
12.4 Three copies of original certified material test report in English signed by the manufacturer giving details of tests done in compliance with this WCPI and ASME Sec.II.C.SFA-5.28, ER90S-B91 shall be sent.

12.5 A copy of valid IBR approval certificate for the brand being supplied shall be sent along with every consignment or Original certified material test report in English countersigned by Inspecting Authority (Latest) approved by IBR for country of origin giving details of tests done for compliance to this Purchase instruction and ASME Sec.II.C.SFA-5.28, ER90S-B91.

12.6 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, ER90S-B91.


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