



**BHARATH HEAVY ELECTRICALS LIMITED**  
TIRUCHIRAPALLI-620 014  
WELDING TECHNOLOGY CENTRE

WCPI - 204  
Revision No.: 00  
Date: 03.03.2015

**WELDING CONSUMABLE PURCHASE INSTRUCTION (WCPI)**  
**AS PER ASME SEC.II.C, SFA-5.1 E7018 FOR STRUCTURAL APPLICATIONS**

**1.0 GENERAL:**

- 1.1 The electrodes 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-5.1, E7018. All tests, acceptance criteria shall be in accordance with this. Additional requirements specified in this document shall also be complied.
- 1.2 The electrodes shall be supplied in quantities as specified in the purchase order.
- 1.3 All sizes of electrode shall be suitable for welding in all positions of boiler structural, IS 2062 material applications.

**2.0 CHEMICAL COMPOSITION:**

The chemical composition of the undiluted weld metal shall conform to ASME SECII.C SFA-5.1, E7018.

**3.0 MECHANICAL PROPERTIES:**

The mechanical properties of the weld metal deposited using this electrode after stress relieving the test plate assembly at  $620 \pm 15^\circ\text{C}$  for 300 minutes shall meet the requirements of ASME SECII.C SFA-5.1, E7018.

**4.0 RADIOGRAPHIC SOUNDNESS:**

The electrode shall be suitable for radiography quality welding and the radiographic test shall meet the requirements of ASME SECII.C SFA-5.1, E7018.

**5.0 SIZE:**

The electrodes shall be supplied in diameters and lengths as specified in the purchase order. The tolerance on diameter and length shall be as per SFA-5.02.

**6.0 CORE WIRE, COVERING, EXPOSED CORE AND IDENTIFICATION:**

The electrodes shall meet the requirements of clause 3.2, 3.3, 3.4 of SFA-5.02.

**7.0 MOISTURE CONTENT OF COVERING:**

Moisture content of the electrode covering shall not exceed the limit specified in ASME Sec II C, SFA 5.1 E7018.

Prepared:

Suraj N  
Engineer/WTC

Reviewed and Approved:

  
S. Singaravelu  
SDGM / WTC



### 8.0 FILLET WELD TEST:

Fillet weld test done using this electrode shall meet the requirements specified in ASME SEC II C SFA 5.1, E7018.

### 9.0 PACKAGING

9.1 Electrodes in standard quantity shall be wrapped tightly in a corrugated paper with moisture proof packing in polythene bags and sealed. These shall be further packed either in hermetically sealed containers or in cardboard packets and then packed with polythene bags and sealed.

The number of electrodes per packet shall be such that the net weight of each packet does not exceed 5Kg. Packets shall be further packed in cardboard cartons each weighing not more than 25kg. The cartons shall be packed in waterproof boxes with crates so as to ensure no damage during shipment and normal storage conditions.

9.2 Weight of each crate shall not exceed 1000kg.

9.3 Markings of packages shall be as per clause 4.6 of SFA-5.02.

### 10.0 TESTING & CERTIFICATION:

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

10.2 Batch /Lot classification shall be Class C1 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 K 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 signed by the manufacturer giving details of tests done in compliance with this WCPI and ASME Sec II C, SFA-5.1,E7018 shall be sent.

10.5 The manufacturer 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-5.1, E7018.

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Sl. No.	Pre –Qualification Criteria for E7018	Bidder remark
1	<p>Bidder shall be a manufacturer of the Quoted Welding Consumables / 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> <p>(Specify: Manufacturer / Authorized dealer)</p>	
2	<p>Bidder (Principle Supplier) shall have successful experience for supplying of Welding Consumables ( E7018 as per ASME Section IIC) 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: Successful experience means – supplied and accepted.</p>	
3	<p>Kindly provide the self-declaration for “successfully supplied and accepted by customer” 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"> <li>I. PO number</li> <li>II. PO date</li> <li>III. PO items description</li> <li>IV. Brand Name</li> <li>V. Supplied Quantity</li> </ul>	
4	<p>Quoted Welding Consumables brand name shall be provided along with offer.</p>	
5	<p>Mill address (manufacturing address) shall be provided along with offer.</p>	
6	<p>Mill capacity for Quoted Welding Consumables (By Principle Supplier) shall be provided along with offer.</p>	
7	<p>Manufacturer shall submit manufacturing process flow chart (Raw material to finished product).</p>	
8	<p>Manufacturer (Principle Supplier) shall submit a valid ISO 9001 certificate or Quality management system certificate or Written down procedure.</p>	

Sl. No.	Pre –Qualification Criteria for E7018	Bidder Remark.
9	Shall confirm to Technical Specifications as per WCPI – 204/00	
10	<p>Vendor should give confirmation to BHEL’s Technical Specification (as per WCPI - 204/00).</p> <p>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>	
11	The manufacturer shall certified that supplies made against the batch conforms to the requirements of the latest edition(applicable on the date of issue of purchase order) of ASME Sec IIC SFA-5.1,E7018.	