

Technical Specifications

SL. No	Description and Technical Specification of the item	QTY	UNIT	Delivery
1	EA-4 SAW WIRE EA-4 SAW Wire as per ASME SEC IIC, SFA-5.23 and as per WCPI 018N Revision 00. Wire Diameter 4.0 MM.	20,000.00	KG	90 DAYS
2	FLUX F7P4 BASIC FUSED/AGGLOMERATED SUBMERGED ARC WELDING (SAW) FLUX AS PER ASME SEC IIC, SFA-5.23 F7P4-EA4-A4 and as per WCPI – 403B Revision 00.	30,000.00	KG	90 DAYS



WELDING CONSUMABLE PURCHASE INSTRUCTION FOR
ASME.SEC IIC, SFA-5.23, EA-4 SAW WIRE

1.0 General:

- 1.1 The wire shall comply with requirements specified in the latest edition and addenda (applicable on the date of issue of purchase order) of ASME Sec IIC, SFA-5.23, EA-4. All tests, acceptance criteria shall be in accordance with this. Additional requirements specified in this document and purchase order shall also be complied.
- 1.2 The wires shall be supplied in size and quantity as specified in the purchase order.
- 1.3 The wires are intended for use as SAW Wire for multi pass welding of radiographic quality butt joints in Pipes and Headers.

2.0 Chemical Composition:

The chemical composition of the wire shall conform to ASME SEC IIC SFA-5.23, EA-4.

3.0 Size:

The wire shall be supplied in diameter 2.0mm, 2.4mm, 3.2mm, 4.0mm and 4.8 mm as specified in the purchase order. The tolerance on diameter shall be as per SFA-5.02. The net weight of the coil shall be 25 Kg.

4.0 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.

5.0 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 (Each Coil) shall be of a single continuous length made from a single heat/melt without any splices.

6.0 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 wires shall meet the requirements of clause 16.4 of SFA-5.23

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.

7.0 IDENTIFICATION

The wires shall meet the requirements of clause 4.5 of SFA-5.02.

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

8.0 Marking:

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

9.0 Packaging:

9.1 The wire spool shall be completely devoid of moisture or any other foreign material which is adequately sealed in suitable cartons to ensure no deterioration in the wire quality during transportation by sea or long duration storage and shall meet 4.3.1 of SFA 5.02.

9.2 The 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.

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

10.0 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-5.23, EA-4.

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 Filler 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-5.23, EA-4 shall be sent. ...

10.5 Purchase order number, Supplied Quantity, Brand Name, Manufacturer Name, Manufacturing Plant address, Batch/lot details, manufacturing date/month, diameter, Wire description should be available on the test certificate.



WELDING CONSUMABLE PURCHASE INSTRUCTION FOR BASIC FUSED/AGGLOMERATED SUBMERGED
ARC WELDING (SAW) FLUX AS PER ASME SEC IIC, SFA-5.23 F7P4-EA4-A4

1.0 GENERAL:

- 1.1 This purchase instruction prescribes the requirements of low hydrogen basic fused/agglomerated SAW flux that conforms to ASME Sec IIC. SFA 5.23 F7P4-EA4-A4 (latest edition and addenda applicable on the date of issue of purchase order). Additional requirements specified in this document shall also be complied.
- 1.2 The flux is intended to be used in combination with ASME Sec IIC SFA 5.23, EA4 SAW wire for welding of SA516Gr70 material in longitudinal and circumferential seam welds of high pressure Headers, Pipes and Vessels.

2.0 CHEMICAL COMPOSITION:

- 2.1 The flux shall have appropriate chemical composition suitable for circumferential welding along with ASME Sec IIC SFA 5.23, EA4 SAW wire.
- 2.2 The chemical composition of undiluted weld metal deposited using the flux in combination with ASME Sec IIC SFA 5.23 EA4 SAW wire with DCEP shall meet the requirements of ASME Sec IIC SFA 5.23 A4.
- 2.3 Basicity index of the flux shall be more than 1.
- 2.4 The flux shall be either fused or agglomerated.
- 2.5 Flux shall be granular in form and shall be conveyed freely by the flux feeding system. The particle size distribution shall be uniform and consistent in different packs.

3.0 MECHANICAL PROPERTIES:

Mechanical properties after SR(PWHT) at 620 ± 15 °C. This temperature shall be maintained for 1 hour (–0, +15 minutes)

Mechanical properties of the weld metal shall conform to ASME SEC.II.C SFA-5.23, F7P4-EA4-A4.

- a) Impact Test shall be 27 Joules at -40°C (minus 40°C).

In evaluating the test results for Impact Test, the lowest and the highest values obtained shall be disregarded. Two of the remaining three values shall equal or exceed the specified 27 J energy level. One of the three may be lower, but not lower than 20 J, and the average of the three shall be not less than the required 27 J energy level.

- b) Tensile Strength.
- c) Yield Strength (0.2% Offset).
- d) Elongation (%)
- e) Weld metal hardness to be reported.

4.0 RADIOGRAPHIC SOUNDNESS AND USABILITY:

- 4.1 The flux when used with ASME Sec IIC SFA 5.23, EA4 SAW wire shall deposit weld metal that meets the radiographic soundness requirements of Clause 11 in ASME SEC IIC SFA 5.23.
- 4.2 The flux shall permit production of uniform, well shaped beads that merge smoothly with each other and with the base metal side wall during welding.
- 4.3 Flux shall have high current capacity suitable for welding in both AC and DC. Flux shall exhibit excellent slag detachability allowing continuous welding of 90 mm thick circumferential butt welds.
- 4.4 The flux shall exhibit excellent slag detachability.
- 4.5 Diffusible hydrogen content of weld metal deposited using the flux with ASME Sec IIC SFA 5.23, EA4 saw wire shall not exceed 8 ml per 100 grams.

5.0 SIZE

Flux shall be granular in form and shall flow freely through the flux feeding tubes, valves and nozzles of SAW equipment. Bulk density shall be suitable for proper feeding. The particle size distribution shall be uniform and consistent in all the packages.

6.0 MARKING:

The package shall be marked clearly with trade name, classification, lot number, manufacturer name, net weight, health and safety warnings.

7.0 PACKAGING:

- 7.1 Flux shall be suitably sealed in moisture resistant bag or container. The packing shall ensure no ingress of moisture during transportation through sea or long duration storage.
- 7.2 The weight of each unit package shall be 50 Kg maximum.
- 7.3 The bags or containers shall be placed in moisture proof crates to ensure no ingress of moisture or damage to bags or containers. Net weight of each crate shall not exceed 1000Kg.

8.0 TESTING AND CERTIFICATION:

- 8.1 Batch or lot classification shall be Class F1 as per SFA-5.01 filler metal procurement guidelines of ASME Sec.II.C (latest edition and addenda).
- 8.2 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).

- 8.3 Original test certificate in English counter signed by inspecting authority giving details of the tests done in compliance with this purchase instruction and ASME Sec.IIC, SFA-5.23 F7P4-EA4-A4 shall be sent. Additionally, chemical composition of flux shall be reported.
- 8.4 The testing authority shall certify that supplies made against the batch conform to the requirements of the latest edition and addenda (applicable on the date of issue of purchase order) of ASME Sec.IIC, SFA-5.23 F7P4-EA4-A4.
- 8.5. Basicity index of flux, Grain Size of flux, Chemical analysis of flux, Purchase order number, Supplied Quantity, Brand Name, Manufacturer Name, Manufacturing Plant address, Batch/lot details, manufacturing date/month should be available on the test certificate.
- 8.6 A Copy of valid IBR approval certificate for the brand (SAW Wire and flux) being supplied.
(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.IIC, SFA-5.23 F7P4-EA4-A4 shall be sent along with every consignment

Sl. No.	Pre –Qualification Criteria - PR 136270784	Bidder remark
1	If Bidder is a manufacturer, Confirm “Yes or, No” in bidder remark.	
2	Bidder shall be a manufacturer of the Quoted items or an authorized dealer of the same. If the offer is quoted by agent, letter of authorization or agreement duly signed by the manufacturer is required to consider the offer. Tender Enquiry details must be available on Letter of authorization or agreement to consider the offer.	
3	Quoted Welding Consumables Brand Name/Product Name	
4	Quoted Product Catalogue	
5	Manufacturing Plant address	
6	Manufacturer shall submit manufacturing process flow chart (Raw material to finished product) along with offer for Quoted Item.	
7	Manufacturer/Bidder shall submit a valid ISO 9001 certificate or Quality management system certificate or Written down procedure for ISO 9001 or A valid ISO 45001 certificate or Written down procedure for Quality inspection.	
8	Manufacturing Plant capacity for SAW Wire and flux.	

Seal and Sign of Authorized Person

Sl. No.	Pre –Qualification Criteria - PR 136270784	Bidder remark
9	Bidder should give confirmation to BHEL's Technical Specification. Any deviation from the Specification are to be mentioned in the "Bidder remark Space". If There is no deviation vendor should indicate "No Deviation".	
10	Shall confirm to Technical Specifications as per WCPI- 018N and WCPI- 403B. Kindly arrange to provide sign and seal on WCPI for technical acceptance	
11	Bidder (Principle Supplier) shall have successful experience for supplying of SAW Wire or SAW Flux to any govt. Organizations/ PSUs/ Public ltd./ Company/Reputed Industries etc. Purchase orders copies/ related documents to be submitted along with offer to consider the offer. Note: Successful experience means – supplied and accepted.	
12	Diameter details and each spool weight.	
13	IBR status to be provided	

Seal and Sign of Authorized Person

Annexure – A- Additional Terms and Conditions for GeM Enquiry

The terms and condition mentioned in this document are applicable in addition to the GeM General Terms and Conditions. Bidders shall furnish pointwise confirmation/details.

<u>To be filled by bidder</u>		
Description of the Equipment:		
GeM Tender No. & Date		
Name of the firm (Bidder)		:
Address		:
<u>Contact person 1</u> Name: Designation: Office Phone: Mobile: e-mail:		<u>Contact person 2</u> Name: Designation: Office Phone: Mobile: e-mail:
Offer/Quotation reference with date		:
Sl	Terms and conditions	Vendor's confirmation
1.	Inspection by BHEL/as per Technical specification(if any).	
2.	Payment terms: 1. Payment terms for Non MSME Suppliers: 90 days from the Vehicle entry date (Against submission of GST invoice, GeM invoice, LR copy, Last Movement e-Way Bill, UD). 2. Payment terms for Micro & Small Enterprises (MSEs): 45 days from the Vehicle entry date (Against submission of GST invoice, GeM invoice, LR copy, Last Movement e-Way Bill, UD). The supplier should upload UDYAM Registration Certificate in proof of MSE. 3. Payment terms for Medium Enterprises: 60 days from the Vehicle entry date (Against submission of GST invoice, GeM invoice, LR copy, Last Movement e-Way Bill, UD). The supplier should upload UDYAM Registration Certificate in proof of Medium Enterprises. Note: Deviation in above payment terms is not acceptable.	
3.	Response to Tenders for Indigenous supplier will be entertained only if the vendor has a valid GST registration number which should clearly mentioned in the offer. Indicate the GST registration number. If any specific exemption is available, a declaration with due supporting documents need to be furnished for considering the offer.	GST Registration No. _____
4.	EMD / Performance Security:	Not Applicable
5.	Kindly Indicate the HSN Code for all items	HSN CODE : ____
6.	Rate quoted in GeM portal should be on FOR destination basis inclusive of all taxes, P&F, freight etc. Transit Insurance is under Supplier scope. Please indicate how much GST percentage is included in quoted price.	GST in %: ____

Vendor's Seal & Signature

/ On Bidder's office letter pad /

Self-Declaration

Enquiry No.	
Enquiry Date	

In line with Government public procurement order Number P-45021/2/2017-B.E-II dated 15.06.2017, and further modified order dt. 28.05.2018, 29.05.2019 & order 04.06.2020 issued by DPIIT

I / We hereby declare that I / We are a "Local Supplier" meeting the requirement of minimum local content (..... %) defined in the above government notification for the goods against above mentioned enquiry Number.

Details of location at which local value addition will be made is as follows:

Door No.	
Street / Address 1	
Street / Address 2	
District	
State	
Country	
PIN Code	

We also understand that the false declarations will be in breach of the code of Integrity under rule 175(1)(i)(h) of the General financial rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

For Company Name:

Seal:

Signature:

Date:

Place:

Note:

" Local Content "means the amount of value added in India which shall ,unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured(excluding net domestic indirect taxes) minus the value of imported content in the item(including all customs duties) as a proportion of the total value, in percent. "Local Supplier "means a supplier or service provider whose product or service offered for procurement meets the minimum local content.

The above declaration shall be submitted mandatorily along with the offer in company letter head with seal & signature.

(Please fill all the yellow color field)