(PR 130496894)		
Sl. No.	Pre- Qualification Criteria	
1	Quoted SAW Wire Brand Name	
2	Quoted SAW Wire catalogue	
3	Quoted SAW Flux Brand Name	
4	Quoted SAW Flux Catalogue	
5	Mill (Manufacturing plant) address	
6	Shall confirm to Technical Specifications as per the WCPI- 413 Revision No.: 04 for Flux Specification.	
7	Shall confirm to Technical Specifications as per the WCPI- 010 Revision No.: 05 for Wire Specification.	
8	Bidder shall submit a valid ISO 9001 certificate or Quality management system certificate or Written down procedure of Principle Supplier(manufacturer)	
9	Bidder shall be a manufacturer of the Quoted "Submerged Arc Welding Wire and Flux " or an authorized dealer of the same. If the offer is quoted by agent , letter of authorization and agreement duly signed by the manufacturer is required to consider the offer	
10	Manufacturing (Principle Supplier) shall have capacity to meet tender requirement for both SAW Wire and SAW flux.	
11	Testing and Certification (Clause 8.4) of WCPI- 413 Revision No.: 04 Means: Valid IBR approval certificate for the brand being supplied /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 (Latest Edition and Addenda , Applicable on the date of issue of Purchase Order) ASME Sec.II.C..SFA-5.23M F62PZ-EB91-B91 , shall be sent along with every consignment.	
12	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-5.23, B91.	
13	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.II.C..SFA-5.23M F62PZ-EB91-B91.	

BHARAT HEAVY ELECTRICALS LIMITED TIRUCHIRAPALLI-620 014 WELDING TECHNOLOGY CENTRE	WCPI – 010 Revision No.: 05 Date: 28.09.2015

WELDING CONSUMABLE PURCHASE INSTRUCTION FOR SAW WIRE AS PER ASME.SEC.II.C SFA-5.23, EB91

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.II.C.SFA-5.23, EB91. All tests, acceptance criteria shall be in accordance with this. Additional requirements specified in this document shall also be complied.

1.2 The wire shall be supplied in size and quantity as specified in the purchase order.

1.3 The wire is intended to be used in submerged arc welding of circumferential seam butt welds in high pressure super critical boiler headers and piping of SA335P91 material.

2.0 CHEMICAL COMPOSITION:

The chemical composition of the wire shall conform to ASME Sec II C SFA-5.23, EB91.

3.0 SIZE:

The wire shall be supplied in diameter as specified in the purchase order. The tolerance on diameter shall be as per ASME SEC IIC, SFA-5.02. Net weight of each coil shall be 25Kg or 30 Kg.

4.0 FORM :

The wire shall be appropriately wound in basket rim B450 as per SFA-5.02 as mentioned in the purchase order and shall meet the requirements of 4.3.4 of SFA-5.02.

5.0 FINISH AND UNIFORMITY:

The wire shall meet the requirements of clause 16.2 of SFA-5.23.

6.0 WINDING REQUIREMENTS:

The wires shall meet the requirements of clause 16.4 of SFA-5.23.

7.0 IDENTIFICATION :

The wires shall meet the requirements of clause 4.5.2, 4.5.4 and 4.5.5 of SFA-5.02.

Prepared:	Reviewed and approved:
Suraj N Engineer/WTC	S. Singaravelu SDGM / WTC

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8.0 MARKING:

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

9.0 PACKAGING:

9.1 The wire coils shall be completely devoid of moisture or any other foreign material that is adequately sealed in suitable cartons to ensure no deterioration in the wire quality during transportation through sea or long duration storage.

9.2 The cartons shall be packed in waterproof boxes with crates 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 & CERTIFICATION:

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

10.2 Batch or 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 the manufacturer giving details of the tests in compliance with this purchase instruction and ASME Sec.II.C, SFA-5.23, EB91 shall be sent.

10.5 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, EB91.

BHARAT HEAVY ELECTRICALS LIMITED TIRUCHIRAPALLI-620 014 WELDING TECHNOLOGY CENTRE	WCPI – 413 Revision No.: 04 Date:28.09.15

WELDING CONSUMABLE PURCHASE INSTRUCTION FOR LOW HYDROGEN BASIC AGGLOMERATED SUBMERGED ARC WELDING (SAW) FLUX AS PER ASME SEC IIC, SFA-5.23M F62PZ-EB9-B91

1.0 GENERAL:

1.1 This purchase instruction prescribes the requirements of low hydrogen basic agglomerated SAW flux for SA335P91 material that conforms to ASME Sec IIC. SFA 5.23M F62PZ-EB9-B91 (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, EB91 SAW wire for welding of SA335P91 material in circumferential seam welds of high pressure boiler headers, vessels and power piping for high temperature creep resistant service.

2.0 CHEMICAL COMPOSITION:

2.1 The flux shall have appropriate chemical composition suitable for SA335P91 circumferential welding along with ASME Sec IIC SFA 5.23, EB91 SAW wire.

2.2 The chemical composition of undiluted weld metal deposited using the flux in combination with ASME Sec IIC SFA 5.23 EB91 SAW wire with DCEP shall meet the requirements of ASME Sec IIC SFA 5.23, B91 with additional requirement of Mn+Ni ≤ 1.2% and Nitrogen content ≥ (0.5 x Aluminum content + 0.03)% minimum.

2.3 The metallurgical behavior of the flux shall be neutral. Basicity index of the flux shall be between 2.6 and 2.9.

3.0 MECHANICAL PROPERTIES:

Mechanical properties of the weld metal shall conform to ASME SEC.II.C SFA-5.23M, F62PZ-EB9-B91. Additionally, Charpy impact energy shall be 27 Joules average minimum at +20°C with single values greater than 20 Joules. Hardness of weld metal as well as heat affected zone shall be 195 HV to 320 HV.

4.0 RADIOGRAPHIC SOUNDNESS AND USABILITY:

4.1 The flux when used with ASME Sec IIC SFA 5.23, EB91 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. Flux shall have high current capacity suitable for welding up to 700A in both AC and DC. Flux shall exhibit excellent slag detachability allowing continuous welding of 120 mm thick circumferential butt welds.

Prepared:	Reviewed and approved:
Suraj N Engineer/WTC	S. Singaravelu SDGM / WTC

4.3 Diffusible hydrogen content of weld metal deposited using the flux with ASME Sec IIC SFA 5.23, EB91 SAW wire shall not exceed 4 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. Grain size of the flux shall be as per EN 760 2-20. 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 Each consignment of flux supplied shall be from one batch only.

8.2 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).

8.3 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).

8.4 Three copies of original test certificate in English counter signed by inspecting authority (latest) approved by IBR for the country of origin giving details of the tests done in compliance with this purchase instruction and ASME Sec.IIC, SFA-5.23 M F62PZ-EB9-B91 shall be sent. Additionally chemical composition of flux shall be reported.

8.5 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-5.23M F62PZ-EB9-B91.

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