PRE QUALIFICATION CRITERIA

The Pre-qualification criteria given below shall be filled separately for each consumable being offered by the supplier.

S No	Pre –Qualification Criteria	Bidder remarks
1	Bidder shall be a manufacturer of Welding Consumables being tendered or an agent of the same. If the offer is quoted by agent, letter of authorization duly signed by the manufacturer is required.	
2	Bidder shall have successfully supplied consumable inserts of the type being tendered, to any govt. Organizations/ PSUs/ Public ltd./ Company/Reputed Industries, as per ASME SEC.II.C. Purchase orders copies (01.01.2017 or later is only acceptable) and related material test certificates to be submitted along with offer. Note: Successfully supplied means – supplied and accepted.	
3	Welding Consumables brand name and its data sheet shall be provided along with offer.	
4	The Lot Classification of the consumable shall be Lot Class S2, as defined in ASME Section II Part C. Supplier shall confirm.	
5	Manufacturing plant address of the quoted electrode shall be provided along with offer.	
6	BHEL/End customer reserve the right to inspect the item ordered at vendor's works.	
7	Suppliers shall submit manufacturing process flow chart (Raw material to finished product) along with offer.	
8	Supplier shall have NPCIL's brand approval for the product being offered. In the absence of NPCIL's brand approval, suppliers shall submit a valid ISO 9001 certificate and Quality Management System (QMS) Manual along with the offer. The acceptance of such offers is subject to acceptance of supplier's QMS by BHEL's customer NPCIL.	
9	Bidder shall confirm to meet WCPS RH 03, RH 04. Any deviations shall be specified with offer. Acceptance of such offers is subject to acceptance by BHEL's customer NPCIL.	

BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI-620 014

WCPS – RH 03, Rev 02 **14.10.2014**

WELDING CONSUMABLE PROCUREMENT SPECIFICATION

Carbon Steel Y type-Consumable inserts

Rev. No.	00	01	02	03	04	05
Prepared By	SK	RK	Ritesh Kumar. 14.10.14			
Reviewed By (QA, BHEL) (MW, BHEL)	MS	VA	14/10/14 Akhilesh 14/10/14 QA/BHEL			
Approved By (BHEL)	VA	SMM	14/10/14			
Approved By (CUSTOMER)	MKS 25.02.2011	MKS 08.10.2013				

Nature of Revision

1. Rev 0: Fresh Issue
2. Rev 1: Body Text revised
3. Rev 2: Body of text totally modified to cover more points on inspection and tests

न्यूक्लियर पावर कार्पोरेशन ऑफ इंडिया लिमिटेड
NUCLEAR POWER CORPORATION OF INDIA LTD.

☑ अनुमोदित / APPROVED
☐ टिप्पणी के अनुसार/अनुमोदित / APPROVED AS NOTED
☐ संविरचन को आगे बढ़ाएं / रोकें ।
PROCEED WITH / HOLD FABRICATION
☐ अंतिम ट्रांसपेरेन्सी एवं प्रतियाँ भेजें ।
SEND FINAL TRANSPARENCIES & PRINTS
☐ संशोधन करें एवं अनुमोदन के लिए पुनः प्रस्तुत करें।
REVISE AND RESUBMIT FOR APPROVAL

जाँचकर्ता CHECKED BY	समीक्षाकर्ता REVIEWED BY	अनुमोदन कर्ता APPROVED BY
22/10/14	22/10/14	22/10/14

किए जानेवाले कार्य का अनुमोदन आपूर्तिकर्ता को विनिर्देशनों के अनुसार आपूर्ति के उत्तरदायित्व से मुक्त नहीं करता ।
The Approval of the work to be done does not relieve the supplier of responsibility of supply according to specifications.

Contents

Page no.

WELDING CONSUMABLE PROCUREMENT SPECIFICATION
Carbon Steel Y type-Consumable inserts

1. Scope

This specification prescribes requirements for carbon steel welding consumable inserts for use in conjunction with GTAW process.

2. General Requirements

2.1 The inserts shall have suitability for weld joining with the following materials.

SA420 Grade WPL 6
SA350 LF2 Class 1
SA333 Grade 6 carbon steel

The inserts are to be placed between pipes and fused to make high quality welds meeting stringent radiographic and ultrasonic test requirements.

2.2 The inserts shall conform to ASME Sec IIC, SFA 5.30, and Classification INMs1 of Group A, Class 4, Style C, Size 3.2 mm. Over and above the code mentioned above, the specific requirements given in this document shall be adhered to. In case of conflict with WCPS and Code, the requirements in WCPS shall prevail.

2.3 The total quantity of inserts in each NB size shall preferably be manufactured from wire coils of a single heat only. Quantity of inserts in each NB size, manufactured from the same heat will be designated as one batch.

2.4 All tests shall be carried out in an NABL approved Lab only.

2.5 All tests as indicated below in para 4 shall be done for each lot of each NB size of inserts ordered.

2.6 Supply from foreign sources shall be inspected and certified by a third party inspection agency. The vendor shall engage only one of three agencies TUV (Nord), BVQI, SGS. Supply from Indian manufacturers shall be inspected and certified by BHEL and NPCIL.

3. Sampling Scheme for inspection and testing

3.1 Each batch in each NB size shall be divided into **"lots".** A lot is defined as 200 numbers of insert rings for sampling inspection.

4. Inspection and Required Tests

4.1 Subsequent to manufacture of rings, the inserts shall be offered to inspection agency for inspection before packing. The vendor shall ensure inspector's clearance of all tests mentioned at the relevant stages described in QAP (Annexure I).

4.2 The inspector shall be allowed and assisted, in carrying out a visual check at random of all lots offered in each batch of all NB sizes. The rings shall have a smooth surface finish, free from slivers, depressions, seams, laps, scratches, scales, oil, grease or other foreign matter that would adversely affect the properties of insert ring.

4.3 The parent coil in each heat shall be checked for chemistry and conformance with standard mentioned in para 2.2 above shall be ensured.

4.4 The insert rings, shall be tested for chemical composition and the results shall meet the requirements of standard referred in para 2.2 above. The samples for the chemical tests shall be drawn from **each lot** by the inspection agency. The lot is as defined in para 3.1 above.

4.5 The cross section profile of the insert shall be in conformance with the standard mentioned in point '2.2' above. To ensure this, the following check shall be done on one ring from each lot in each batch of each NB size as defined in para 3.1.
The cross section of the insert shall be checked in a profile projector or microscope at a magnification of 20X/suitable magnification and the image shall be included in the test report. The cross-section shall be taken at four locations, separated by 90°each. From the resulting image of cross-section the shape and profile of insert shall be checked for the dimensions 'D', 'W', 'H','H/2', 'e' and 'f' as defined in ASME Sec IIC, SFA 5.30, Table 8, and conformance to the values laid out in standard shall be ensured.

4.6 The ID of a sample quantity of inserts shall be measured. The sample size shall be 10% from each lot of each NB size. The ID of inserts shall match the sizes given below.

Insert Size	Ring ID(mm)
20 NB	15.14±0.20
50 NB	45.59±0.25
65 NB	55.34±0.25
100 NB	83.34±0.25
450 NB	323.34±0.25
500 NB	374.34±0.25

In addition, entire quantity of inserts shall be checked using GO and NO-GO gauges for conformance with the above sizes.

5. Certification

The following documents shall be submitted for BHEL approval prior to dispatch:

1. Raw material mill test certificate for wire/coil.
2. Chemistry test report of parent coil.
3. Traceability report, for tracing the source coil for each batch of inserts.
4. Chemical test report of sample insert rings, as per test described in 4.3.
5. Dimensional test report for tests described in 4.4 and 4.5.

6. Marking

The outside of each packet shall be marked with the following information:

1. AWS Specification number and classification.
2. Supplier's name and trade designation.
3. Size and net weight.
4. Heat number/batch number.

7. Packaging

7.1 Packing shall be done only after the inspection and clearance on all test reports from BHEL/ inspection agency.

7.2 Inserts shall be suitably packed in moisture proof packing to ensure protection against rusting and mechanical damage during shipment and storage.

Annexure I to WCPS RH 03 rev 02

Quality Assurance Plan (QAP) for insert rings

Sl No.	Component and operation	Type of check	Quantum of check	Reference documents	Format of record	Inspection *		
						Vendor	BHEL	NPCIL
1	**Raw material**							
	Parent coil	Review of manufacturing test certificate	Each heat	WCPS:RH:03 Rev 02	MTC	P	R	R
	Chemical analysis	Chemical composition	Each heat	WCPS:RH:03Rev 02 & MTC	Test report	P	R	R
2	**Inspection**							
	Identification & Traceability	Heat no., batch no. ,lot no.	Each batch	WCPS:RH:03 Rev 02	Production register	P	R	R
	Finish of ring	Visual check	Each lot	WCPS:RH:03 Rev 02	-	P	W	W
	Chemical analysis	Chemical composition	Each lot	WCPS:RH:03 Rev 02	Test report	P	W	W
	Profile	Dimensional measurement	One from each lot	WCPS:RH:03 Rev 02	Cross section photograph at 20X, Report	P	W	W
	Geometry	Inner diameter of ring	10% from each lot	WCPS:RH:03 Rev 02	Test report	P	W	W
	ID check	GO, NOGO gauge	All rings	WCPS:RH:03 Rev 02	Test report	P	W	W
3	**Packing & Dispatch**							
	Marking	Verification	Random	WCPS:RH:03 Rev 02	-	P	V	V
	Shipping release	Reconciliation of all test reports and TCs	All docs.	WCPS:RH:03 Rev 02	Shipping release	P	H	H

P: Perform, R: Review, V: verify, W: Witness, H: Hold

* - Third party in case of foreign vendor.