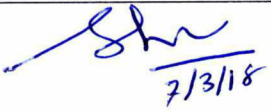


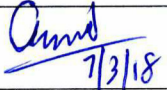
**BHARAT HEAVY ELECTRICALS LIMITED,
TIRUCHIRAPPALI 620 014**

QUALITY ASSURANCE DEPARTMENT

**QUALITY CONTROL PROCEDURE FOR
NON- PRESSURE PARTS**

QCP: 002 / 05

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05	07/03/18	AGM / QA&BE	 7/3/18
04	08/12/11	DGM/QA	-----
03	10/06/10	SM/QA	
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01	01/01/95	SM/QA	
00	01/04/93	SM/QA	

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RECORD OF REVISIONS

Rev No...	Clause No	Details of revision
00	--	This document consolidates all the general requirements and technical disciplines covered in the various previous
01	--	All amendments issued has been regularized and editorial correction made for better clarity. Scope of machining added in this document.
02		Editorial correction made for better clarity. Scope of machining added in this document.
03		Shaded clauses & Type of joints for base plates incorporated. PWHT temperature for P4 material revised.
04		P91 & 92 Bar process requirements added.
05	1.0	Scope modified
	3.0	New materials added.
	3.6.3	TC added.
	4.1.7	Minimum holding time specified.
	4.1.8	P3 and P5 material requirements added.
	4.1.8.1	Alternate method of grinding for gas cut edges included
	4.3.1.3	Newly added
	4.3.2.2	Root gap for SAW defined.
	4.3.3.3	Preheat area defined.
	4.3.13	1:2.5 taper specified
	4.5.3	Hot correction temperatures given for alloy steels
	4.6.7	Table added
	4.6.8.1	Thickness for soaking time defined
	4.6.8.2	Effective thickness for combination of groove and fillet defined as per AWS D1.1 2015
	4.6.11	Width of heat band defined
	4.6.11.1	Width of insulation band defined
	8.1	Machined/bolted surface painting defined
		Fig-1 added
		Annexure A and B added for better clarity

1.0 SCOPE

- 1.1 This procedure details out the process control and quality requirements for manufacture of Non Pressure Parts **in addition to the requirements specified in SQPs and SIPs of the respective products/projects.**

2.0 REFERENCE DOCUMENTS

- 2.1 AWS D.1.1, D1.6, IS 7215 and **GE:M&P 5.11.2.3(b), 5.11.2.1(e) & 5.11.2.2(e)** as guidelines.

3.0 MATERIALS

- 3.1 CLASSIFICATION OF MATERIALS (commonly used):

<u>P No. Group</u>	<u>Specifications</u>
P1 - Group 1 -	Carbon steel : IS 2062/E250A & E250B0,BR& C ,
P1 - Group 2 -	SA 515 Gr 60.SA106 GrB,A36, A53 GrB,
P3 - Group 1	H.Strength CS :SA105, SA 515 Gr 70, SA 299, SA 516 Gr 70,
P3- Group 2	SA 588
P4 -	SA 204 Gr B
P5 A- Gr 1(LAS),	SA 387 Gr 11 & Gr 12, SA 182 Gr F 11 & F 12.
P5 B- Gr1(LAS)	SA 387 Gr 22 Cl.1&CL.2, SA 182 Gr F 22
P15E Gr1	SA387 Gr5 CL.1 &SA387 Gr.9 CL.2
	SA182 F91,F92,SA387 Gr91,Gr92, SA 335 P91,P92
	SA213 T91,T92 ,SA234 WP91,WP92 & SA 336 F91,F92
P6 -	SA 240-410,429
P8 - Stainless steel	SA 240 - 304 ,309,310, 316, 321, 347 & 253MA
IS	IS 2062/E350A,B0,BR& C, E450BR, Fe410, IS3589,IS1079 ,
	IS513 TYPE D , IS 1239, IS 1161 YST 240.
EN	BS EN10025-2, EN10025-3

Any other materials as specified in the drawings.

- 3.2 Raw materials used shall conform to the relevant specification as given in drawings and applicable TDC/PO. Any substitution of materials shall be done only with prior approval of engineering through applicable documents. Where subcontractors procure the raw materials, the same shall have valid test certificates.
- 3.3 Raw materials shall be free from visual defects like cracks, seams, laps, laminations, heavy pitting etc. When defects are noticed in visual inspection the same shall be confirmed using appropriate NDE techniques and repaired using applicable approved process .
- 3.4 All materials are procured with permitted dimensional tolerances of the material specifications and / or TDC. Wherever required, the raw materials shall be corrected prior to fabrication to achieve the required product tolerances.
- 3.5 Customer supplied materials are to be verified as per SP 0626.
- 3.6 The requirements of material traceability shall be as indicated in the respective drawings.
- 3.6.1 Product Attest “P” items indicated as in drawings are traceable to the test certificates and identified with material Specification, grade and melt number by stamping.
- 3.6.2 CERTIFIED items indicated as "C" in drawings are traceable to material Specification / grade only and identified by stamping / engraving / stenciling / painting.

- 3.6.3 Raw materials not covered by the above shall be identified by its W.O.No / Material code / Specification / grade by painting / stenciling / engraving. **The Test certificates for raw materials shall be maintained by OVM vendors.**
- 3.6.4 All subdeliveries shall be identified by its material code by painting or through name plates / tags.
- 3.7 When materials (including stock) are to be upgraded for special contract requirements QC shall ensure that the respective specification, **CQR** and contract TDC (as applicable) are complied.

4.0 FABRICATION

4.1 MARKING, CUTTING AND PREPARATION

- 4.1.1 Raw material shall be marked and cut to size by shearing, machining, saw cutting, flame or plasma (for SS materials) cutting. Flame cut edges shall be cleaned to remove slag. Uneven edges shall be dressed by grinding. Gas cutting notches shall be filled up by grinding the notches smoothly for welding using compatible electrodes and ground before taking up for further fabrication.
- 4.1.2 Wherever raw materials supplied / available are not sufficient for the sizes required, the same can be built up using the splicing either by groove weld/fillet weld sufficient to hold the parts in place instructions given in the respective SQPs/ Drawings/DCN (Incl. Production Notes)
- 4.1.3 Layout for size and shape shall be marked before cutting (for other than CNC applications) The tolerance for marking shall be maintained within + 2mm unless otherwise specified. The diagonal difference shall be within 3 mm.
- 4.1.4 The markings shall be punched at convenient intervals and bordered with white paint.
- 4.1.5 Stainless Steel (SS) materials shall be cut using plasma cutting or shearing only. Any further dressing/ grinding of cut surfaces should be done with separate and clean abrasive wheels.
- 4.1.5.1 The cut edges should be smoothly ground.
- 4.1.5.2 Notches above 3 mm or 20 % 'T' shall be thoroughly cleaned and welded by using a qualified WPS and examined visually and by LPI . The repaired surfaces are to be cleaned to bright metal surface.
- 4.1.6 Clip / Cleat angles of carbon steel above **12** mm thick used for beam connections which are sheared to length shall require heat treatment. Shearing /Flame/gas cutting is prohibited on Gr 91 and Grade 92 materials. Use only bandsaw for cutting of Gr91&92 materials. However for plates use plasma/waterjet/ bandsaw only
- 4.1.7 Heat treatment shall be done after shearing for **P3** materials for $t > 12.5\text{mm}$ and for P4 and P5 materials of **all thickness with a holding time of 15 minutes minimum.**
- 4.1.8 The requirements of preheat for gas cutting are as follows:
- | | | |
|----------------------------------|------------------------|----------------|
| Carbon steel | $t \leq 50\text{mm}$: | : Nil |
| Carbon steel | $t > 50\text{mm}$: | : 100 ° C.min. |
| Alloy steel (P3&P4) | $t \leq 25\text{mm}$: | : Nil |
| Alloy steel (P3&P4) | $t > 25\text{mm}$: | : 150 ° C |

Alloy steel (P5)

Sl no	P5 Material- thickness	Preheat temperature
1	t<13mm	120 °C.
2	For t=13 upto 25mm	150 °C.
3	t>25mm	200 °C.

Stainless steel

Not applicable

- 4.1.8.1 Stress relieving for gas cut edges shall be as follows. **Alternatively, the cut surface can be ground / machined upto 3 mm to remove HAZ and checked by LPI/MPI.**

Material	Thickness	Heat treatment cycle
P1	> 50 mm	600 ° - 650 ° C for 15 minutes
P3	> 16 mm	620-650 ° C for 15 minutes.
P4	> 16 mm	650 ° – 700 ° C for 15 minutes.Furnace cool
P5	All	680 ° - 730 ° C for 15 minutes. Furnace cool
SS (plasma)	Any	Not required

For materials other than P5, P15E Gr 1(Grade 91) and Grade 92 this heat treatment may be clubbed with the final heat treatment of the product.

- 4.1.9 The prepared plates shall be visually inspected and repaired if required as per SIP:NP:06.
- 4.1.10 The raw materials after cutting shall be identified with relevant WO No., DU No., Part No. and Material Spec / Grade (transferred).

4.2 FORMING

- 4.2.1 Before forming , proper cutting plan (Drawing dimensions with process allowances) shall be prepared and cleared by the concerned agency. Forming shall be done using proper tooling free from damages. Method of forming and work centre shall be identified in OPS / relevant QWI referred in PO.
- 4.2.2 Built up (Forming) operations for Beams and columns shall be done by suitable Fixtures,Machines ,WPS & other accessories required for forming. All the Forming operations of sheets / plates shall be done by rolling / pressing. For shell formed components Circularity of rolled shells shall be checked using templates (of length > ¼ of ID).
- 4.2.3 Suitable nonmetallic padding shall be provided while forming of stainless steels to avoid contamination.
- 4.2.4 All formed /Built up components shall be checked for orientation, angle, and other dimensions as per drg. All formed parts shall have smooth finish and shall be free from bends, folds and sudden transitions.
- 4.2.5 Minimum thickness after forming shall be ensured whenever specified in drg.
- 4.2.6 **Forming of U-ROD(Gr91&92)**
- 4.2.6.1 Identify, mark and cut the rod using bandsaw to a length of equivalent to the arc length indicated in the drawing with two arm length(upto butt joint) +20mm.

- 4.2.6.2 Mark the centre of the rod with a heat resistant chalk to be visible after heating. For temperature and other details refer the SQP:NP:15(Latest)
- 4.2.6.3 Remove the “U”rod and air cool to room temperature.
- 4.2.6.4 Visually inspect the bend surface and check dimensions and ensure no surface imperfections.
- 4.2.6.5 Normalizing and tempering of “U”Rods to be done within 72 hours after pressing/bending operation.(Ref.SQP:NP:15(latest)
- 4.2.6.6 Shot blast the “U”Rod to remove scaling and check the dimension. Conduct LPI/Wet MPI and ensure no surface indications.
- 4.2.6.7 Mark and cut the limbs of “U” rods such that the straight portion shall be as per drawing from the tangent point.
- 4.2.6.8 Edge prepare the “U”rod s for butt joint preparation as shown in the drawing by machining No gouging and grinding is allowed.
- 4.2.6.9 For Detailed operation of cold and hot forming of Gr 91 &Gr 92 materials refer SQP:NP:15(latest)
- 4.2.7 **Threading of “U”Rods**
- 4.2.7.1 Mark and cut the rods equivalent to the straight portions as shown in the drawings.
- 4.2.7.2 Threading to be done on one end of the rod to thread size as mentioned in the drawing/ SQP:NP15(latest).
- 4.2.7.3 Edge prepare the other end of the rods by machining for butt welding as shown in the drawing.
- 4.2.7.4 Tolerances for formed components when not specified in drg. Shall be as follows
- a) St.Length / Dia, : + 1 mm/M, 5 mm Max
Width & Height
 - b) Verticality : 1 mm / M, 5 mm Max
 - c) Squareness : 1 mm / M of length / Dia
 - d) Straightness : 1 mm / M, 5 mm Max
 - e) Radius : + 5 mm
 - f) Bend Angle : + 2°
 - g) Ovality : 1%
 - h) E.P Angle : + 5° / - 2.5°
 - i) Diagonal diff : 3 mm

4.3 WELDING

4.3.1 WELDING CONSUMABLES

- 4.3.1.1 Welding consumables conforming to the qualified welding procedures shall be used. However the following guide lines are provided.

- 4.3.1.2 Unless specified otherwise in the WPS, basic coated electrodes E7018 shall be used for SMAW of all structural components involving materials of IS2062 E250 grade.
- 4.3.1.3 All the electrodes are to be procured using Welding consumable procurement instruction (WCPI) issued by WTC.
- 4.3.1.4 For duct welds, rutile electrodes (E6013) shall be used.
- 4.3.1.5 All low hydrogen electrodes shall be dried in the baking oven at 250-300 deg.C for 2 hours and the electrodes shall be held at 100-150 °C until they are used. Electrodes shall not be re-baked more than once and use of electrodes in wet condition is prohibited.
- 4.3.1.6 All rutile electrodes (EXX 13) shall be dried at 100-150 °C deg. C for 1 hour min. and held at 100-150 °C deg.C till use.
- 4.3.1.7 Fluxes for SAW shall be dried at 250 °C for 1 hour min. before use. Height of flux bed while drying in pan or oven, shall not be more than 100mm.
- 4.3.1.8 Unless otherwise specified, SS consumable shall be baked as per Electrode manufacturer's recommendations and stored at 100 ° - 150 ° C until use.
- 4.3.1.9 The type of welds employed in the structural fabrications (Girders, Columns, Beams & Base plates etc) are identified in the annexure –A along with sketch for better clarity and under standing. For further details the fabricator can ref the engg.drg. no.3-35-110-00995/00

4.3.2 FIT UP

- 4.3.2.1 Proper fit up shall be ensured before welding as per Drawing. Tack welding or mechanical clampings shall be used to maintain the fit up requirements before and during welding. Bridge pieces used during fit up shall be of ferritic for ferritic materials and stainless for stainless steel materials. However for P15E Gr.1.(F91 & F92) prepare a fixture for fit-up of butt joint of „U“ rod with Straight rods
- 4.3.2.2 Dimensions of the cross sections of groove welded joint shall be within the following tolerances w.r.t . drawing requirements:

	Root not back gouged	Root back gouged
1. Root face of joint(land)	± 2 mm	Not limited
2. Root opening of joint (with out backing)	± 2 mm	+ 2 mm - 3 mm
Root opening of joint* with backing)	+ 6 mm - 2 mm	Not Applicable
3. Groove angle of of joint	+ 10° - 5°	+ 10° - 5°

*(NOTE): Root opening wider than permitted by above tolerances but not greater than twice the thickness of the thinner part or 20mm, whichever is less may be corrected by edge buildup to acceptable dimensions prior to welding. Such build up edge shall be MPI / LPI checked. For SAW process, the maximum root opening variation (minimum to maximum opening as fit-up) may not exceed 3 mm.

- 4.3.2.3 For C. S. fillet welds, the parts shall be as close as practicable and gap shall be limited to 5 mm (If gap exceeds 2 mm, the leg of fillet shall be increased by the amount of gap but in no case shall exceed 4.8 mm). For thickness 75 mm and above gap up to 8 mm can be permitted provided suitable backing is used.
- 4.3.2.4 For S. S. fillet welds, the parts shall be as close as practicable. Gaps 2 mm and above upto 5mm are acceptable if the fillet size is increased by an amount equal to the gap.
- 4.3.2.4 Parts to be joined by butt welds shall be properly aligned. An offset not exceeding 10% of the thickness of the thinner part joined can be permitted, but in no case more than 3 mm, is permitted.
- 4.3.2.5 The types of weld joints indicated in the fabrication of structural components are identified with symbols in ANNEXUR -A & B .For further details refer the Engg standard drawing no.3-35-110-00995 (Latest)

4.3.3 PRE HEATING

- 4.3.3.1 Pre heating requirements for welding shall be as per Clause 4.6.7 and controls shall be exercised as detailed below. No preheating is required for stainless steels.
- 4.3.3.2 Preheating shall be maintained during the entire process of welding.
- 4.3.3.3 Preheating is to be done using gas burner or induction / resistance heating. The temperature must be uniform and verified using thermal chucks or thermocouples prior to start of welding as well as during welding for a width of 1.5 times the base metal thickness or 75 mm whichever is more, around the point of welding (not less than 25mm in case of tack welding in all directions).
- 4.3.3.4 Where interpass temperature control is required during welding, the temperature must be ensured using thermal chucks / thermocouples with recorder . Inter pass nitrogen / air cooling can be adopted to maintain inter pass temperature in case of stainless steels.
- 4.3.3.5 Wherever post heating is specified after welding, the preheating shall be continued till attaining the post heat temperature and maintained for the required time and cooled slowly by wrapping suitable insulating blankets like asbestos.
- 4.3.4 Welding shall be performed using qualified procedures and qualified personnel. Edge preparation and welding details shall be as per drawing.
- 4.3.5 For items to be manufactured at subcontractor's works (including away centre fabrication) , for requirements of procedure and personnel qualification SIP:NP: 07 (Latest) shall be followed.
- 4.3.6 When double bevel welding is adopted, back gouging and grinding is to be done. Back gouged groove shall be checked with PT / MT before welding from second side. However for P15E Gr.1.(F91 & F92) Only back grinding to be done after interstage PWHT.
- 4.3.7 Proper sequence of welding shall be adopted to minimise distortion. The distortion of the finished jobs, if any may be corrected by mechanical means / hot correction.

- 4.3.7.1 For welding of SS extreme care is to be taken in weld sequencing to minimize the weld distortion and shrinkage. For complex weldments a weld sequence instructions may be prepared by contractor prior to work commencement. Weld joints likely to have high shrinkage should be welded (with minimum restraints) before welding other joints providing allowance for shrinkage. For further details ref.SQP:NP:20
- 4.3.7.2 While cutting long web plates suitable camber may be provided /required to compensate for the distortion during cutting and welding.
- 4.3.8 All butt welds of divider plate and guide vanes in ducts shall be flush ground inside.
- 4.3.9 The use of jigs and fixtures is recommended where ever practicable. Suitable allowances shall be provided for weld shrinkage. Proper sequence of welding shall be followed to control the distortion during welding.
- 4.3.10 All temporary attachments shall be welded with the required preheat. After their removal welded spots shall be ground flush and LPI checked.
- 4.3.11 Groove welds shall preferably be made with minimum reinforcement unless and otherwise specified in drawing / SQP. In case of butt welds, reinforcement shall not exceed 3.2 mm. and shall have gradual transition to the plane of the base material surface.
- 4.3.12 The surface of the welds shall be free from coarse ripples, overlaps, undercuts and abrupt ridges to avoid stress raisers.
- 4.3.13 Where parts of different thicknesses are welded or surface offset is more, the transition shall be made gradual by grinding / machining with **1: 2.5 taper unless specified in the drawing.**
- 4.3.14 Stray arcs shall be avoided to the extent possible. Arc spots if noticed shall be ground and checked by LPI / MPI. Thickness requirements shall be ensured after grinding.
- 4.3.15 Pre heating of Gr 91 & Gr 92 shall be 220 °C .For other process parameters refer the applicable WPS

4.4 WELD REPAIRS

- 4.4.1 Removal of defective weld / portions of the base material may be done by machining, grinding, chipping, gas cutting, oxygen gouging or carbon arc gouging. Defective portions of the weld shall be removed without substantial removal of sound base metal.
- 4.4.2 For under sized welds additional weld metal shall be deposited using an electrode preferably smaller than that used for making original weld limited to 4mm in diameter. The surfaces shall be cleaned thoroughly before deposition.
- 4.4.3 Defective welds/base metal shall be repaired by removing or/and rewelding as follows:
- 4.4.3.1 Overlap / excess weld metal shall be removed by grinding.
- 4.4.3.2 For excess concavity, crater, undersize & undercuts, deposit additional weld metal after cleaning the weld surface.
- 4.4.3.3 For Cracks in weld or base metal, ascertain the extent of crack by suitable NDE /acid etching, remove the crack to sound metal upto each end of the crack by arresting the ends for further propagation and reweld.

- 4.4.3.4 For weld porosity, slag inclusions & lack of fusion remove defective portions & reweld.

4.5 HOT CORRECTION

- 4.5.1 Members which require hot correction are to be supported at suitable locations and mark the locations for heating.
- 4.5.2 Heat the locations marked by using neutral flame. Torches used for heating shall be moved continuously & uniformly over selected area to avoid localised over heating.
- 4.5.3 For Carbon steels the maximum temperature shall not exceed 650 ° C and shall be ensured using thermal chinks / thermocouples.

The temperatures for alloy steels shall not cross for P3 -649 ° C, P4 – 704° C , P5 – 732° C during hot corrections.

- 4.5.3.1 For Austenitic stainless steels the maximum temperature shall not exceed 430 ° C and shall be made known to inspection authorities . Otherwise , after hot correction solution annealing at 1050 – 1100 deg C is to be done.
- 4.5.3.2 For Ferritic/Martensitic/Duplex stainless steels the maximum temperature shall not exceed 315° C and shall be made known to inspection authorities . The temperature shall be ensured using thermal chinks / thermocouples.
- 4.5.4 Additional dead weights may be placed over the positive side of the bend depending upon the requirement to accelerate hot correction.
- 4.5.5 Allow for natural cooling. Accelerated cooling shall not be adopted. Remove the dead weights used after cooling.
- 4.5.6 Wherever the correction for distortion affects the weld joints, applicable NDE shall be repeated after the correction.

4.6 POST WELD HEAT TREATMENT (PWHT)

- 4.6.1 The process controls (temperature control and recording) for heat treatment shall cover the activities before, during and after heat treatment.
- 4.6.2 The weldment shall be cleaned to free of grease, oil etc. prior to heat treatment.
- 4.6.3 PWHT shall be done in a furnace or by local heating a band (including the entire weld and adjacent area of the base metal) .
- 4.6.4 The thermocouples and recording instruments shall be calibrated as per applicable standards and records maintained. The furnace shall have been qualified and calibrated.
- 4.6.5 All materials to be heat treated in furnace shall be loaded in such a way that they shall not be subjected to direct flame impingement. Jobs shall be preferably loaded on raised plat forms so that no material projects into the plane of burners. Alternatively flame deflectors may be provided in front of the burners to avoid direct flame impingement. Ensure loading of test coupons wherever applicable. The furnace temperature shall not exceed 315 ° C at the time of loading material / weldment.
- 4.6.6 Number of thermocouples and their location shall be decided covering maximum and minimum thickness and covering all the zones. The temperature variation within 5 meters shall not exceed 140 ° C during heating period (above 315 ° C).

4.6.7 The **temperature requirements** for Pre heating, Post Weld Heat Treatment(PWHT) & temperatures **for welding** are given as below.(Unless otherwise specified in WPS.)

Material	Pre heating	PWHT	Remarks
Butt/groove welds:			
P1	For t> 38mm , 150 ° C	For t> 50 mm, 600-650 ° C	
P3	All thickness, 150 ° C	All welds when t >16 mm, 620-650 ° C.	For all butt welds in tension members, PWHT to be done.
P4	All thickness, 150 ° C	All welds when t >16 mm, 650-680 ° C.	For all butt welds in tension members, PWHT to be done.
P5	150 ° C (Note2)	680-710 ° C	All welds
P8	120 ° C, 300 type 205 ° C, 400 type	- -	
Fillet welds :			
P1	For t> 38mm , 150 ° C	-	
P3	All thickness, 150 ° C	if throat thickness>13mm, 620-650 ° C.	
P4	All thickness, 150 ° C	if throat thickness>13mm, 650-680 ° C.	
P5	150 ° C (Note2)	All thickness, 680-710 ° C	
P8	120 ° C,300 type 205 ° C ,400 type	-	

Note 1 All welds on P5 material shall be post heated at 250 ° C for 2 hrs or 150 ° C for 4 Hrs, immediately following welding.

4.6.7.1 The soaking time shall be as follows:

- For P1 materials the soaking time shall be 1 hr/inch of thickness(t) (2.5 mts / mm) upto 2" and 2 hrs + 15 minutes for each additional inch for t > 2".
- For P3, P4 & P5 materials the soaking time shall be 1 hr/inch of thickness (2.5 mts/ mm) upto 5" and 5 hrs + 15 minutes for each additional inch for t > 5".
- For combination cycles mentioned above, calculate the minimum soaking time for individual components as 2.5 minutes/mm of the thickness of weld/material whichever is applicable. Soaking time selected for the cycle shall not exceed the limits given below:

Material	Thickness (mm)	Max. soaking time (minutes)
P1 (A,B,C), P4,P5A,	Up to 25 mm	125
P1 (A,B) + P4	26 - 50 mm	200
P1C + P4, P1 + P3	51 - 80 mm	250
P4 + P5A	81 - 150mm	375
P15E Gr1		

4.6.7.2 Unless otherwise specified, in case of mixed loads of materials not covered under simulation HT, the following heat treatment temperatures shall be followed. In such cases, guidelines for soaking can be taken from Clause 4.6.9.

For components having butt joint between P1 & P4, or P3 & P4, the cycle shall be 630 – 670°C.

Where a component has a butt joint between P4 & P5A, the cycle shall be 680 - 720° C.

Where a component has a butt joint between P1 & P3, the cycle shall be 620-660 °C

For P1+P5A material combination, follow the WPS requirements

The following jobs shall not be combined in the same cycle during PWHT.

i. separate jobs of P1 and P4 ii. separate jobs of P4 and P5.

4.6.8 The following rules shall apply to establish the thickness to be used in determining the soaking time for PWHT.

4.6.8.1 For Butt welds, the thickness shall be **weld metal thickness**. For bar stock, the thickness shall be the diameter. **The holding time is based on the weld metal thickness even though some material in the weldment is thicker than the weld.**

4.6.8.2 For fillet welds, the thickness shall be the throat thickness. **The effective throat of a combination PJP bevel groove weld and a fillet weld shall be the shortest distance from the joint root to the weld face of the diagrammatic weld minus 1/8 in [3 mm] for any groove detail requiring such deduction as shown in Fig-1**

4.6.8.3 For partial penetration branch welds, the thickness shall be the depth of the groove prior to welding.

4.6.8.4 For repairs, thickness shall be the depth of the groove as prepared for repair welding.

4.6.8.5 For combination of different welds in a component, maximum thickness of weld shall govern.

4.6.9 Requirements of Rate of Heating (ROH) above loading temperature 315 ° C and Rate of Cooling (ROC) are as given below. During heating and cooling, variation in temperature between thermocouples shall be 85 ° C maximum, unless otherwise specified.

Thickness	ROH / ROC (Max) Above / upto 315 ° C
Up to 25mm	220 ° C / hour
26 - 50 mm	110 ° C / hour
50 – 75 mm	75° C / hour
Above 75 mm	55 ° C
For S.S Matl	200 ° C / hour min (Forced air cooling)

- 4.6.10 In case of interruption during Heat treatment the following action has to be taken depending on the stage of occurrence:

Type of Heat treatment	Stage of interruption	Action
Annealing & stress relieving	Heating	Heat treat subsequently as specified
	Soaking	Heat treat subsequently for balance soaking with minimum 15 minutes.
	Cooling	If the ROC during interruption period meets the specified rate, cool subsequently at required rate upto 400° C. Otherwise, reheat to the soaking temperature, hold for 15 minutes and then cool at the specified rate
Normalising(N) Tempering (T) & Soln. annealing (S)	Heating	Heat treat subsequently as specified
	Soaking	Heat treat subsequently for full soaking(N,S) / Balance soaking (T)
	Cooling	Not applicable

- 4.6.11 Local heat treatment can be carried out by Resistance heating or Induction heating. For local heat treatment of weld joints, width of the heated band on either side of the weld must be **at least 3 times the width of the widest part of the weld groove but not less than twice the thickness of the thicker part welded.**
- 4.6.11.1 **The width of the insulation band on either side shall be at least twice the width of the heating band.**
- 4.6.11.2 A minimum of three thermocouples shall be placed such that at least one is on the weldment /HAZ and the other two on the base material on either side of the weldment.
- 4.6.11.3 The winding arrangement shall be established to attain the required temperature. The initial rate of heating shall be minimum such that it stabilises at the required rate of heating before reaching 400 deg C.
- 4.6.12 After heat treatment, the charts shall be correlated with the job and cleared by QC. The chart shall contain cycle no, Date, W.O and DU details. Temperature, ROH, ROC and soaking time shall be calculated, entered in the chart and signed off by QC.
- 4.6.13 Wherever applicable the test coupons shall be tested and reports obtained to complete the clearance of heat treatment operation.

5.0 NON-DESTRUCTIVE TESTING

- 5.1 The requirement of NDE, extent and type of examination shall be as per respective product SQP and / or CQP .Wherever product SQP is not existing the following requirements shall apply.
- 5.2 Visual inspection shall be performed as per SIP:NP:06 latest
- 5.3 RADIOGRAPHY.
- All Butt welds of Carbon steel for thickness $t > 32\text{mm}$
 - All butt welds of alloy steels for thickness $t > 12\text{mm}$ for P5 and $t > 16\text{mm}$ for P4&P3.
 - All butt welds in monorails.
 - SS butt welds of $t > 16\text{mm}$ unless otherwise specified.

5.3.1 All radiographic films shall possess Firm code, RT agency, Cust. No, Part No, RT reference Number. and weld location reference number. The job shall be numbered with Radiograph number.

5.4 MPI / LPI BEFORE PWHT

- a. All flame cut edges of Carbon steel for $t \geq 38$ mm and alloy steels for $t > 12$ mm.
- b. All butt welds joining plate members in which one of the plate member is over 25 mm thick for Carbon steel and over 12 mm thick for alloy steel.
- c. All fillet welds between tension flange and web.
- d. All fillet welds joining plate members in which both the plate members are over 25 mm thick for Carbon steel and over 12 mm thick for alloy steel.
- e. For all butt welds of CS & AS weld groove after back chipping prior to welding from second side.
- f. All main fillet welds for SS require LPI
- g. MPI/LPI for all fillet welds & HAZ of SA387 Gr.22 materials after HT.

5.5 All NDE shall be carried out by qualified personnel as per BHEL NDT procedures. Where subcontractors use their own procedures for NDE the same shall have the approval of BHEL NDTL.

6.0 MACHINING

6.1 GENERAL

6.1.1 Ensure of raw material identification throughout the machining process. Traceability to the contract shall be ensured by stamping or marking / painting or by tags(WO No.and DU / Part no.)

6.1.2 Where the material identification is likely to be removed during cutting or machining, the transfer of material identification shall be ensured.

6.1.3 In case of components / part processed items received from Subcontracting / other shops, ensure the completeness and clearance by QC / Customer Inspector through Inspection Reports / OPS.

6.1.4 Proper care shall be taken during handling of materials at all stages of manufacture. Items stored in the shop floor shall be properly identified and preserved to prevent mixup and damages / rusting / warpages.

6.1.5 All Machined surfaces shall be properly protected and stored. Wherever long storage is envisaged, they shall be preserved with grease / rust preventive oils and protected suitably with polythene / gunny bag or plastic peel off coatings.

6.2 MARKING

6.2.1 The marking on machined components shall be in such a location which will not be detrimental to the surface finish requirements of the component.

6.2.2 Purpose of marking is to:

- 1. Ensure availability of machining allowance.
- 2. Identify locations for machining.
- 3. Provide reference for setting and inspection.

6.3 PROCESS CONTROLS

- 6.3.1 The following shall be ensured for selection of work centers, tools, jigs and fixtures:
- The work centre for machining shall be identified in OPS / loading sheet based on the process capability of the machine or Machine accuracy established to suit the tolerances.
 - Test hardware (Jigs, Fixtures and Templates) used as a means of inspection / process control shall have been qualified through first off trials and shall be regulated through valid number. The same shall be reflected in the OPS / loading sheet .
 - Softwares used in case of CNC / NC machines shall have been validated through trials or inspection of similar components produced and accepted.
 - All cutting tools shall have been ensured for its correctness before use. In case of regrinding of tools they shall be verified after regrinding.
- 6.3.2 The following shall be ensured before setting the job on the machine, during processing and after completion of machining:
- Ensure the verticality and flatness of the job after clamping by using the reference markings or dialing the surfaces. Ensure the adequacy of clamping.
 - Ensure proper clamping of the correct tool in to the tool holders.
 - After machining the machined surfaces shall be cleaned and all corners shall be deburred. After removing from the machine they shall be properly stored.
 - Before starting reaming ensure proper material allowance for finish operation.
 - During drilling, reaming and tapping the removal of chips shall be done periodically to prevent clogging of chips. For deep drilling ensure that run out and drill travel are verified in free condition and ensure proper clamping of the tools.

6.4 INSPECTION

- 6.4.1 Ensure completeness of all final machining operations. Dimensional inspection shall be done with relevant drawings. Ensure use of calibrated instruments / gauges.
- 6.4.2 Unless otherwise specified in the drawing or SQP, the following tolerances can be used for untoleranced dimensions.

1. Linear Tolerance (:millimeters) - Medium

PERMISSIBLE DEVIATIONS FOR BASIC SIZE RANGE						
Up to 6	From 6 TO 30	from 30-120	From 120-400	From 400-1000	From 1000-2000	Above 2000
± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2.0

2. Angular Tolerance

- Assembly characteristics ± 0.5°
- Other characteristics ± 1°

7.0 FINAL INSPECTION

- 7.1 All dimension shall be inspected as per relevant drawings. Tolerances for fabricated items when not specified in drawings shall be as per clause 4.0.

8.0 CLEANING AND PAINTING

- 8.1 All the temporary cleats, bridge pieces shall be removed carefully so as to avoid damage to parent material. Temporary tack welds shall be ground smooth. Complete assembly shall be cleaned to remove mill scales, spatter, slag, rust, oil or grease. Surfaces shall be prepared and painted as per SIP:PP:22 (latest). Site EPs shall be applied with weldable primer. All site EP shall be protected suitably from mechanical damage. **The machined/bolted surfaces shall be applied with rust preventive oil coating and painting shall not be done on these surfaces. All the machined and bolted surfaces should be suitably masked to avoid handling damages.**
- 8.2 All temporary stiffeners / attachments used for transportation and handling that are removed after site assembly shall be painted with yellow paint.
- 8.3 Match marking and flow direction for applicable components shall be as per the respective product SQP./Drawing
- 8.4 The following details shall be clearly marked with relevant details by paint, bordered and covered by one coat of transparent varnish

Project Name :
 Work order number :
 Component / Assly. Designation :
 DU Number :
 Weight :
 Sub-contractor Name / Code :

- 8.5 Tension flanges in girders are to be identified by hard punching indicating 'TENSION FLANGE'.
- 8.6 Apply grease on the threaded portion of "U" rod and protect the threaded portion from damage with suitable plastic end caps.
- 8.7 For subcontracted items the firm code shall be punched and bordered with white paint.

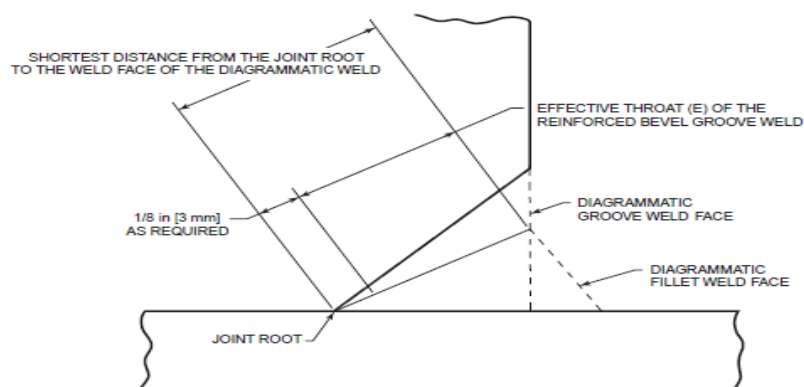
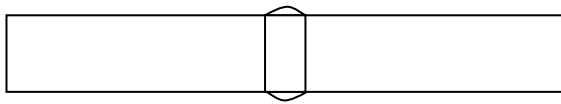
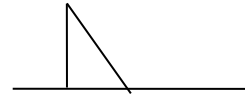
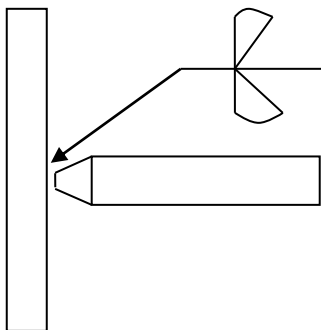
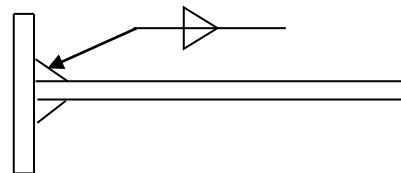
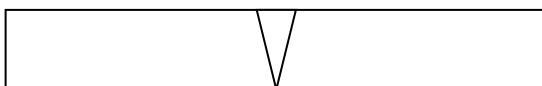
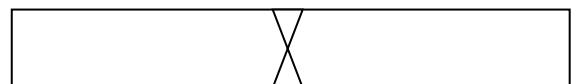


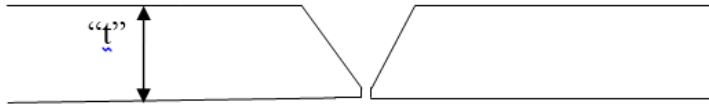
Fig-1

ANNEXURE - A**SQUARE BUTT WELD****BEVEL WELD****K WELD****FILLET WELD****SINGLE V JOINT****DOUBLE V JOINT**

ANNEXURE-B

Examples illustrated with sketch for P1 materials.

Sketch-1 (Full penetration weld joint)



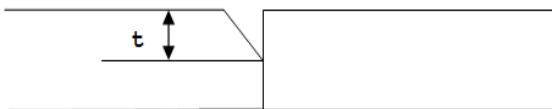
Where "t" is base metal thickness. If "t" is $> 50\text{mm}$ PWHT to be done. RT is applicable and to be carried out as per Cl 5.3 and CQP.

Sketch:2 (Full penetration weld joint double V)



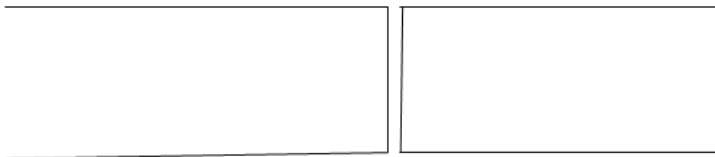
If " $t1/t2$ " $> 50\text{mm}$, PWHT to be done. RT is applicable and to be carried out as per Cl 5.3 and CQP.

Sketch:3 (Partial penetration weld joint bevel)



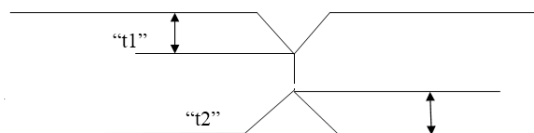
Where "t" is weld metal thickness. If weld depth is $> 50\text{mm}$ PWHT to be done, RT is not applicable, MPI to be done.

Sketch:4 (Partial penetration weld joint)

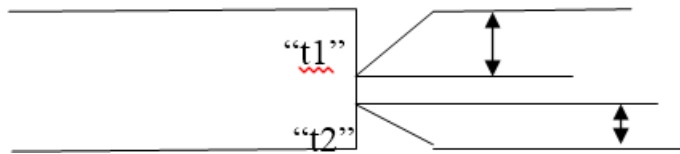


PWHT & RT is not applicable in this case, since only seal welding is required and the weld thickness does not exceed 50 mm. MPI to be done.

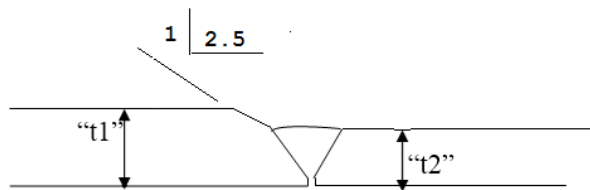
Sketch:5 (Partial penetration weld joint double V)



Where "t" is equal to $t1+t2$. If "t" is $> 50\text{mm}$ PWHT to be done. RT is not applicable. MPI to be done

Sketch:6 (K connection Partial penetration weld joint)

Where "t" is equal to $t_1 + t_2$. If "t" is $> 50\text{mm}$ PWHT to be carried out. RT is not applicable. MPI to be done.

Sketch: 7 (Bi thickness joint)

If t_2 is $> 50\text{mm}$ PWHT to be carried out and if $t_2 > 32\text{mm}$ RT is to be carried out as per Cl 5.3 and CQP. Chamfering in t_1 shall be taken with taper 1:2.5 (Unless specified in drawing)

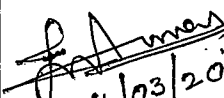
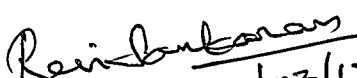


BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI 620 014
QUALITY ASSURANCE

SIP: NP: 06/02

PAGE: 1 Of 5

PROCEDURE FOR VISUAL INSPECTION OF NON PRESSURE PARTS

REV.	DATE	PREPARED BY	REVIEWED BY	APPROVED BY
00	15/07/96	-Sd- P.S.Narayanan	-Sd- A.R.Reddy	-Sd- V.Raghavendran
01	28/03/04	-Sd- A Francis	-Sd- G S N Murthy	-Sd- C R Raju
02	11/03/2017	 11/03/2017 K.Nagarajan, Sr.Engineer/QA	 11/03/2017 J.V.V.Aruna Kumar, DGM/QA	 11/03/17 U.Revisankaran, AGM/QA&BE

Record of Revisions

Revision No.	Clause No.	Details of revision
00		PR:QE:021/02renumbered as SIP:NP:06
		Editorial corrections for clarity
		Clause 3.1 modified
01	3.1	Code related change
	3.2	For better clarity
	3.2.1	For better clarity
	3.2.3	Code related change
	3.2.5	For better clarity
	4.4	Code related change
02	3.2.2,3.2.4, 4.4 (3),4.4 (5)	<i>Clauses modified based on AWS D 1.1 /D1.1M:2015 Standard.</i>

1.0 SCOPE

This procedure details out the visual inspection of all base metal surfaces and weld joints of Non Pressure Parts.

2.0 REFERENCE DOCUMENTS

AWS D 1.1 /D1.1M:2015 & relevant drawings.

3.0 VISUAL INSPECTION OF GAS CUT EDGES

3.1 Limits on acceptability and repair of mill induced laminar discontinuities in cut surfaces

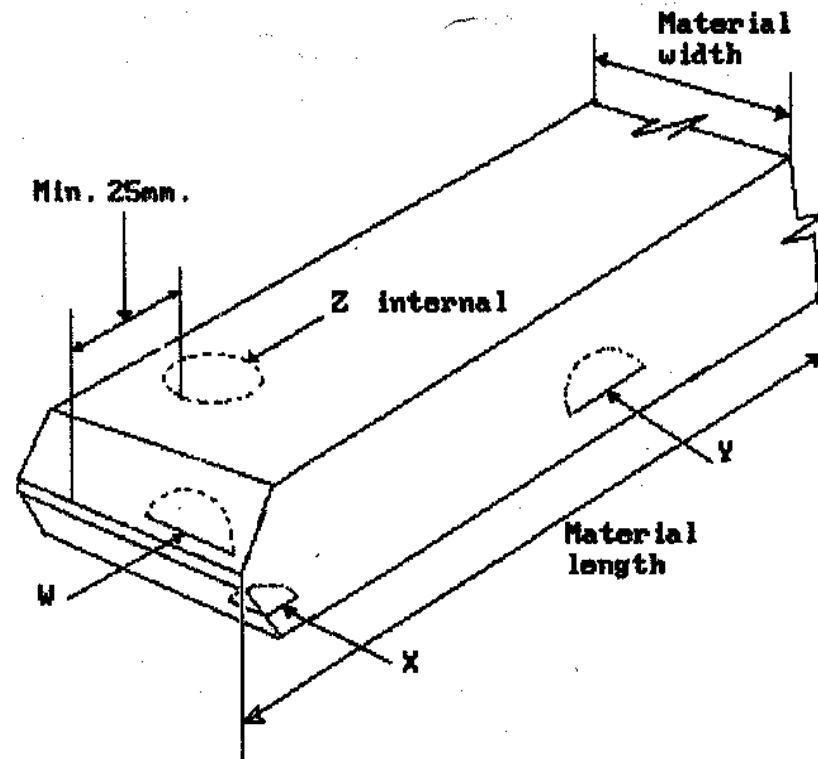
Description of Discontinuity	Repair Required
Any discontinuity 25mm in length or less	No repair required
Any discontinuity over 25mm in length and 3mm max. depth (after grinding & confirmation of depth on 10% of total such locations)	No repair required
Any discontinuity over 25mm in length with depth over 3mm but not greater than 6mm	Remove by grinding and weld.
Any discontinuity over 25mm in length with depth over 6mm but not greater than 25mm	Completely remove and weld.
Any discontinuity over 25mm in length with depth greater than 25mm.	Refer Clause 3.2

3.2 For discontinuities over 25mm in length with depth greater than 25mm, discovered by visual inspection (and subsequent grinding for depth assessment) of plate cut edges/ bevel edges before welding or during examination of welded joints by radiography or ultrasonic inspection, following procedure shall be followed:

3.2.1 Where discontinuities such as W, X or Y in Fig.1 are observed prior to completing the joint, the size, shape and area of the discontinuity shall be determined by UT.

3.2.2 The repair of the discontinuity by welding shall be allowed in case area of discontinuity does not exceed 4% of the cut area with the following exceptions: if the *length* of the discontinuity or the aggregate width of discontinuities on any transverse section, as measured perpendicular to the plate length, exceeds 20% of the plate width, the limit of 4% area shall be reduced by percentage amount of the width exceeding 20% (e.g., if the discontinuity is 30% of plate width, the area of discontinuity cannot exceed 3.6% of the plate area). The discontinuity on the cut edge of the plate shall be gouged out to a depth of 25mm beyond its intersection of the surface by chipping, or carbon arc gouging, or grinding and blocked off by welding with manual shielded metal arc process in layers not exceeding 3mm in thickness.

Fig.1

EDGE DISCONTINUITIES IN CUT PLATE

- 3.2.3 If discontinuity (Z) not exceeding the allowable area in Clause 3.2.2, is discovered after the joint has been completed and is determined to be 25mm or more away from the face of the weld, as measured on the plate surface, no repair of discontinuity is required. If the discontinuity (Z) is less than 25mm away from the weld, it shall be removed to a distance of 25mm from the fusion zone of the weld by chipping, air carbon arc gouging or grinding. It shall then be blocked off by welding with low hydrogen SMAW process in layers not exceeding 3mm in thickness for at least four layers. Submerged arc or other welding process may be used for remaining layers.
- 3.2.4 If the area of discontinuity (W), (X), (Y) or (Z) exceeds the allowable limits of Clause 3.2.2, the plate or sub-component shall be rejected and *replaced*.
- 3.2.5 The aggregate length of weld repair shall not exceed 20% of length of plate surface being repaired.

4.0 VISUAL INSPECTION OF WELDS

- 4.1 Visual examination of welds shall be performed after completion of welding and subsequent cooling to room temperature. However for ASTM A514 and A517 steels (*whenever used*), visual examination of welds shall be performed only after 48 hours of completion of welding.

4.2 All welds shall be cleaned to remove slag, spatter etc. and visually examined for defects like crack, undercut, porosity, lack of fusion etc.

4.3 The welds shall also be examined for size, shape and reinforcement.

4.4 **ACCEPTANCE CRITERIA AND DISPOSITION DETAILS ARE AS FOLLOWS:**

Sl.No.	Nature of defects	Acceptance norms	Disposition
1.	Crack, Lack of fusion, Overlap	Not accepted	Confirm by LPI/MPI, repair and retest.
2.	Crater (Except at the ends of stitch welds outside the required length)	Not accepted	Fill by weld deposit.
3.	<u>Under cut:</u> For T < 25 mm For T $\Rightarrow$ 25 mm	Up to 1.0 mm accepted. (Up to 2.0 mm if within 50mm for any 300 mm weld Length.) Up to 2.0 mm accepted.	To be ground and merged/welded. >2.0mm to be ground and merged/welded.
4.	<u>Porosity:</u> Transverse Butt welds Porosity for other Groove/Fillet welds	Piping porosity not permitted. One pore of ≤ 2.5 mm for each 100 mm of Weld length is permitted (*). *sum of diameters of piping porosity in fillet welds in web to stiffener: 10mm for 25 mm weld & 20mm for 300mm weld is however acceptable.	
5.	<u>Weld profile:</u> (i) Face of fillet (ii) Size (Minimum) (iii) Reinforcement (groove)	Flat or concave (meeting the throat) accepted. convexity is acceptable as below: 2mm for weld width ≤ 8 mm 3mm for weld width > 8 mm < 25 mm 5mm for weld width ≥ 25 mm As per drawing. Under size permitted as below(#) 2mm for nominal size < 5mm 2.5mm for nominal size 6mm 3mm for nominal size > 8 mm #In all case, undersized weld length shall not exceed 10% of the total weld length. <i>3mm (max.) for $t \leq 25$mm ; 5mm(max.) for $t > 25$mm</i> <i>t= thickness of thicker plate for CJP; t= weld size for PJP</i>	

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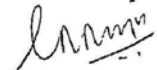
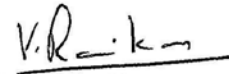
TIRUCHIRAPALLI 620 014

QUALITY ASSURANCE

QUALITY ASSURANCE

SIP: NP: 07/02

WELDING/WELDER QUALIFICATION FOR STRUCTURAL APPLICATIONS

REV.	DATE	PREPARED	REVIEWED	APPROVED
00	15/07/96	P.S.Narayanan	A.R.Reddy	V.Raghavendran
01	13/10/03	 A Francis	 GSN Murthy	 C R Raju
02	25/11/09	 T. Palanisamy	 Bikramaditya Roy	 Ravikumar V

Revision no	Clause no	Revision details
00	--	--
01	--	1.PR:QE:172/00 Renumbered as SIP:NP:07 2.Editorial corrections for better clarity
02	--	1.Completely modified

1.0 SCOPE

1.1 This procedure details out the requirements of Welding procedure qualification/ Performance Qualification tests for welders and welding operators/ Welding procedure specification and maintenance of records for the same at sub Vendor works for structural application.

1.2 REFERENCE DOCUMENTS

1.2.1 AWS D1.1/D1.1M:2008.

2.0 WELDING PROCESS

- a. SMAW -Shielded Metal Arc Welding.
- b. SAW --Submerged Arc Welding.
- c. GMAW -Gas Metal Arc welding. (Note 1to3 to be strictly followed)

#Note,

1. Prior approval for GMAW to be obtained from BHEL/quality.
2. Gas Mixture of 80% Argon & 20% CO2 to be ensured.
3. All Production welds shall be done inside the closed shed only.

3.0 WELDING PROCEEDURE QUALIFICATION

3.1 Prepare draft WPS and get it approved by BHEL WTC.

3.2 Consumable selected for draft WPS shall be as per BHEL approved brand.

3.2.1 All NDE and pre treatment for plate before/after cutting & during/ after welding shall be as per the respective QCP & SQP.

3.3 Test plate of size 180x380mm of Specified thickness-2 nos for all butt (fig 5), corner (Fig 9) & fillet (fig 2) weld joints.

3.4 Minimum procedure qualification test requirement for Structural Fabrication : Carbon Steel to IS 2062 E250 GR A OR B.

Sl. NO	Process	PL. thick	Pre-heat	PWHT	Type of Jt.	Test-position	Position qualified
1	SMAW	25mm	NIL	NIL	Groove butt weld	1G	1G,1F
2	SMAW	40mm	YES 100deg.C	NIL	Groove butt Weld	2G	1G,2G,1F,2F
3	SMAW	56mm	Yes 100deg.C	Yes	Groove Butt weld	1G	1G,1F
4	SMAW	10mm	NIL	NIL	Corner weld	3G	3G, 3F
5	SMAW	*	NIL	NIL	Fillet	3F	3F
6	SAW	25mm	NIL	NIL	Butt weld	1G	1G,1F
7	SAW	25	Yes 100deg.C	NIL	Butt weld	1G	1G & 1F
8	SAW	56mm	YES 100deg.C	NIL	Corner weld	1G	1G & 1F
9	SAW	*	NIL	NIL	Fillet	1F	1F
10	SAW	*	NIL	NIL	Fillet	1F	1F
11	GMAW	10mm	NIL	NIL	fillet	3F	1F
12	GMAW	10mm	NIL	NIL	Groove butt weld	2G	1G,2G,1F,2F

Note:

1.0 * Ref fig 8 for size of test plates for fillet welds.

- 2.0 For all other material combinations separate procedure to the relevant code/standard shall be qualified before start of production welds.
- 3.0 SAW corner groove weld qualification with $15^{\circ}+30^{\circ}$ groove angle (ref fig9) shall be done along with plate groove butt weld.
- 4.0 For pipe WPS qualification Dia. 2 inch of schedule 80 and 6 inch of schedule 120 are to be welded in 5G & 2G position respectively. This qualifies for all sizes, positions and unlimited thickness of pipes and tubes.

3.5 Base material other than Carbon steel, applicable welding process is SMAW only. In such cases PQR shall be qualified as per AWS D.1.1.

3.6 Test shall be done in presence of BHEL/ QC or BHEL nominated AIA.

4.0 **BASE MATERIAL.**

4.1 Test plate base material shall match with drawing or other engineering Documents.

4.2 Test plate weld surface shall be ground smooth and free from Oil & scales.

5.0 **WELDING REQUIREMENT**

5.1 Weld groove configuration and dimensions shall be as shown in the Draft WPS, drawing or Sketch authorized by engineering for processing.

5.2 All Procedure qualification and production welds of SAW process shall be done in 1G/1F position only.

5.3 Details of process and consumable used for welding such as Preheat, consumable size, brand name, AWS classification for electrode, Wire and flux, Shielding gas etc shall be recorded and maintained.

5.4 Details of the welding parameters Such as Welding current, voltage, travel speed, wire feed, shielding gas mixture & gas flow rate etc shall be recorded and maintained.

5.5 Details of number of layers and passes of groove or fillet welds (fig6) shall be recorded.

5.6 Back gouge/grind the second side as applicable and ensure weld soundness by MT/PT before second side weld.

5.7 Complete the weld and ensure weld soundness by applicable NDE (MT, PT, and RT or UT).

5.8 Necessary PWHT (as per draft WPS) shall be done before marking the test Specimen for mechanical test.

5.9 The defective portion of the welds in the test plate shall be discarded and not repaired

6.0 Test plate Specimen & test requirement:

6.1 Test Specimen for butt welded test plate as per fig 5 and Fillet/ corner welded test plate as per fig 7 shall be punched with inspecting engineer's stamp before cutting the test specimen. (No. of test specimen shall be as per table-2)

6.2 WPS test specimen requirement for mechanical test are as follows:

Table 2

Test pl. thickness & dia. In mm	Reduced Section tensile	Bend test 4t, 180°			Macro	thick qualified		Dia. Qualified
		Root	face	Side		Min.	Max.	
T 3 to 10	2	2	2	*	--	3mm	2T	--
T>10 T < 25	2	--	--	4	--	3mm	2T	--
T25 & over	2	--	--	4	----	3mm	Unlimited	--
Dia. 50 & t6	2	2	2	-	--	3mm	20mm	Dia. 20-100
Dia. 150 t12	2	2	2	-	--	5mm	Unlimited	Dia. >100mm
Corner/ fillet weld	--	--	--	--	3	5mm	Unlimited	--

*For 10mm plate or wall thickness, a side bend test may be substituted for each of the required face- and root- bend tests.

7.0 Mechanical test

7.1 Prepare the test specimen as per AWS D1.1 and move to BHEL Lab or NABL accredited lab for mechanical testing.

7.2 Mechanical test to be done in presence of BHEL/QC or BHEL nominated AIA.

8.0 Preparation of PQR & WPS

8.1 Generate qualified WPS and PQR (as per the format enclosed in page 9 and 10) indicating all process parameters, Mechanical/ NDE test results, reports as applicable and submit to inspection engineer for verification and approval.

9.0 Welder/ Welding operator qualification (WQ)

9.1 The welder/ welding operators engaged for procedure qualification tests are automatically qualified for production welding.

9.2 Test material: for carbon and alloy steel respective materials shall be used for test.

9.3 Test plate size: 200x200x25 mm or 200x200 and respective plate thicknesses.

9.4 WQ Test and production position qualified are as follows.

Table 3.

Weld type	Test Position	Production position qualified
Plate Groove	3G	1G, 2G, 3G, 1F, 2F & 3F
Plate groove	1G	1G & 1F
Plate fillet	1F	1F
Plate Fillet	3F	1F, 2F & 3F
Pipe Groove	2G & 5G	All position.
Pipe fillet	4F	1F, 2F & 4F

Note: Additional position can be qualified if required. Only qualified personnel shall be engaged in respective positions for production weld.

9.5 WQ Test requirement: Two Nos of side bend tests or 100% RT for butt welded test piece. Macro examination at three faces for fillet welds as per fig 7.

9.6 On successful test results WQR (as per the format enclosed in page 8) to be prepared & countersigned by inspection engineer and maintained for verification.

9.7 **WQ period of effectiveness:**

Qualification is effective unless : 1) The operator or welder is not engaged in welding for a period exceeding six months or unless 2) There is a specific reason to question his ability.

10 **Documentation:**

10.1 Prepare consolidated list of qualified WPS, Welder and Welding operator qualification records and maintain.

11 **Qualification-Types & Limitations**

11.1 Requalification of WPS is required in the following cases

S1. No	Welding variable	SMAW	SAW	GMAW
1.	Change from Low hydrogen to non low hydrogen electrode	Yes	--	--
2.	Change from wire & flux combination	--	Yes	--
3.	Change in nominal filler metal diameter by	>0.8mm	Increase	yes
4.	>7% Change in voltage each dia. used	--	Yes	Yes
5.	% change in travel speed	--	>15	>25
6.	Change in position qualified	Yes	Yes	Yes
7.	A decrease in Groove angle	Yes	Yes	Yes
8.	A decrease in Root gap	Yes	Yes	Yes
9.	An increase in root face	Yes	Yes	Yes
10.	Addition or deletion of PWHT	Yes	Yes	Yes

12 **PQR/ WPS requirement for Different strength Base materials**

12.1 For dissimilar composition of Low strength to high strength welded connections separate PQR and WPS shall be qualified.

12.2 In such cases Low hydrogen electrodes shall only be used.
(Preheat, Post heat and PWHT as per applicable SQP and draft WPS).

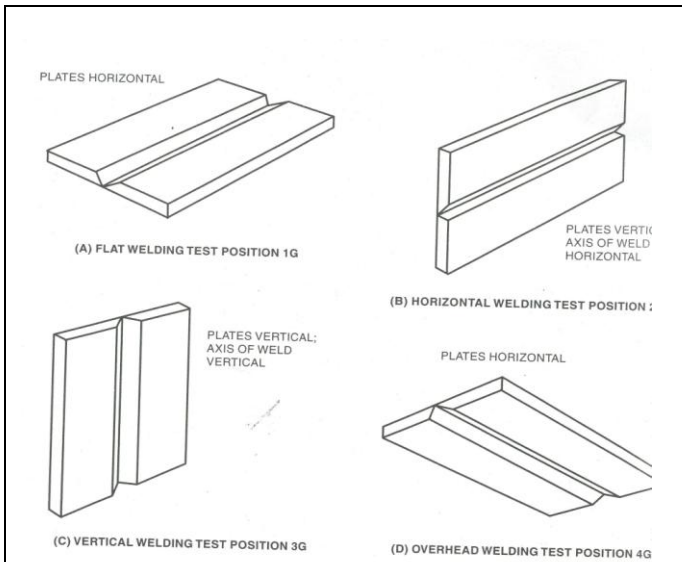


Figure 1

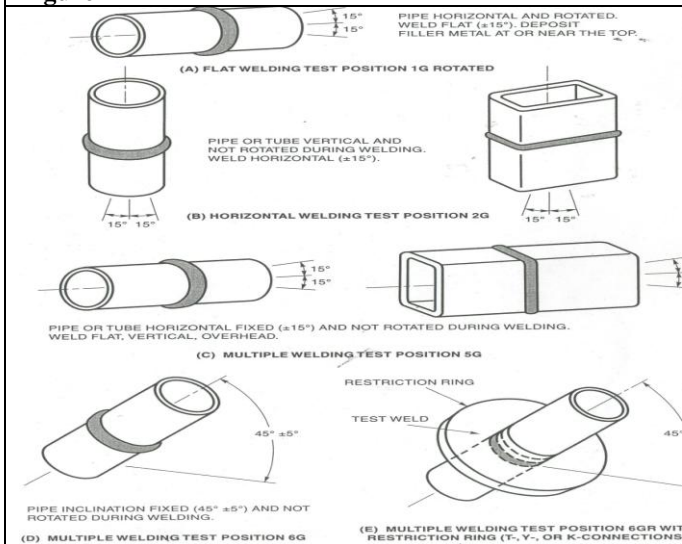


Figure 3

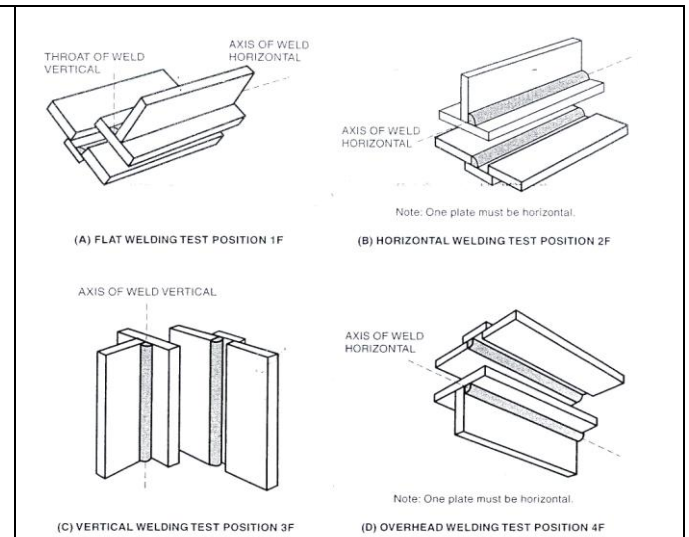


Figure 2

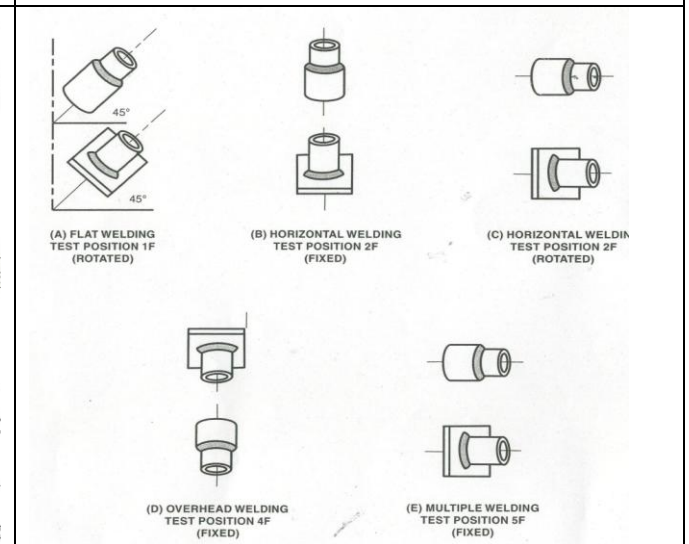


Figure 4

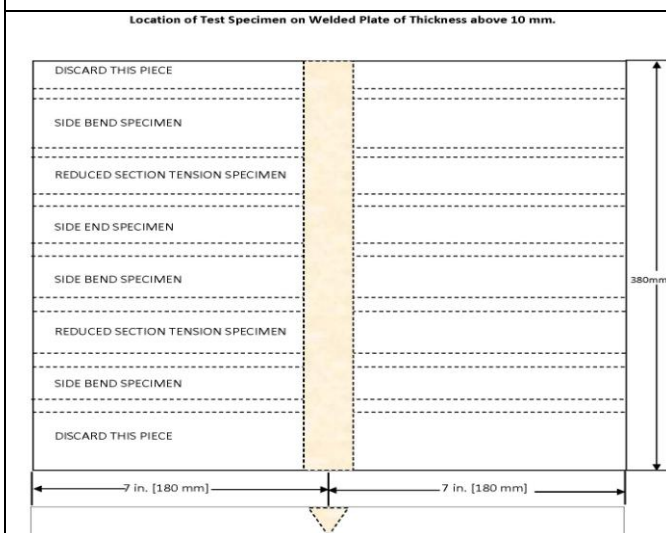
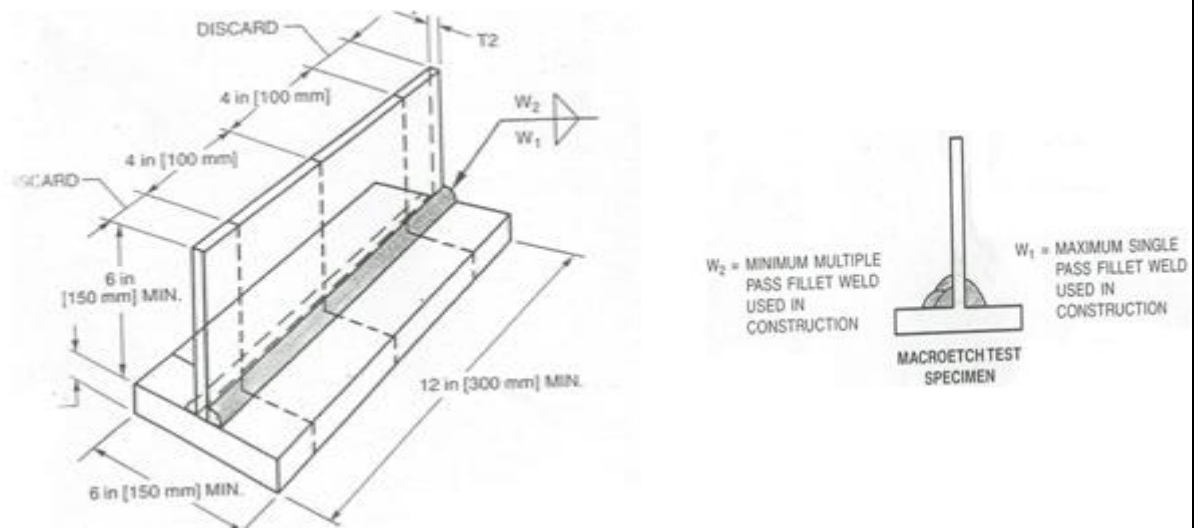


Figure 5

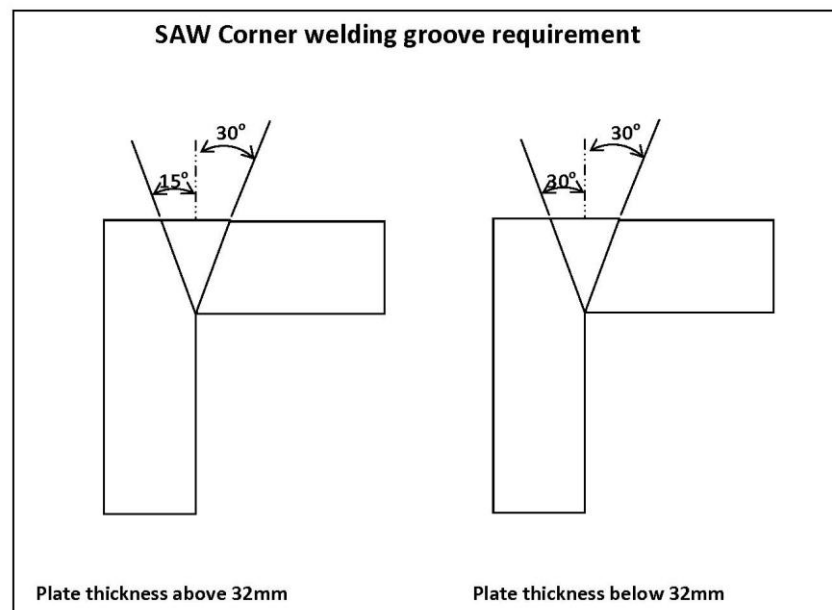
Fillet size	No. of layer	No. of Passes	Joint layer & passes
Up to 10mm	1	1	
12	1 2	1 2	
16	1 2 2	1 2 3	
20	1 2 3 3	1 2 3 4	
25	1 2 3 3 4 4 4	1 2 3 4 5 6 7	

Figure 6

Figure 7 Fillet weld test specimen Details**Figure 8 Fillet weld Test plate Selection details**

Weld Size in mm	T1 minimum	T2 minimum
5	12	5
6	20	6
8	25	8
10	25	10
12	25	12
16	25	16
20	25	20
>20	25	25

Note: Where the maximum plate thickness used in Production is less than the value shown above, the Maximum thickness of the production plates may be Substituted for T1 & T2.

Figure 9

WELDER, WELDING OPERATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Type of Welder _____
 Name _____ Identification No. _____
 Welding Procedure Specification No. _____ Rev _____ Date _____

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.12, Item (1)]		
Electrode (single or multiple) [Table 4.12, Item (7)]		
Current/Polarity		
Position [Table 4.12, Item (4)]		
Weld Progression [Table 4.12, Item (5)]		
Backing (YES or NO) [Table 4.12, Item (6)]		
Material/Spec.	to	
Base Metal		
Thickness: (Plate)		
Groove		
Fillet		
Thickness: (Pipe/tube)		
Groove		
Fillet		
Diameter: (Pipe)		
Groove		
Fillet		
Filler Metal (Table 4.12)		
Spec. No.		
Class		
F-No. [Table 4.12, Item (2)]		
Gas/Flux Type (Table 4.12)		
Other		

VISUAL INSPECTION (4.8.1)

Acceptable YES or NO _____

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance _____ Fillet Size _____
 Fracture Test Root Penetration _____ Macroetch _____
 (Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by _____ Test Number _____
 Organization _____ Date _____

RADIOGRAPHIC TEST RESULTS (4.30.3.2)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks

Interpreted by _____ Test Number _____
 Organization _____ Date _____

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in conformance with the requirements of Clause 4 of AWS D1.1/D1.1M, (_____) *Structural Welding Code—Steel*.
 (year)

Manufacturer or Contractor _____ Authorized By _____
 Form N-4 Date _____

WELDING PROCEDURE SPECIFICATION (WPS) Yes ☐ PREQUALIFIED _____ QUALIFIED BY TESTING _____ or PROCEDURE QUALIFICATION RECORDS (PQR) Yes ☐								
Company Name _____ Welding Process(es) _____ Supporting PQR No.(s) _____				Identification # _____ Revision _____ Date _____ By _____ Authorized by _____ Date _____ Type—Manual ☐ Semiautomatic ☐ Machine ☐ Automatic ☐				
JOINT DESIGN USED Type: Single ☐ Double Weld ☐ Backing: Yes ☐ No ☐ Backing Material: _____ Root Opening _____ Root Face Dimension _____ Groove Angle: _____ Radius (J-U) _____ Back Gouging: Yes ☐ No ☐ Method _____				POSITION Position of Groove: _____ Fillet: _____ Vertical Progression: Up ☐ Down ☐				
BASE METALS Material Spec. _____ Type or Grade _____ Thickness: Groove _____ Fillet _____ Diameter (Pipe) _____				ELECTRICAL CHARACTERISTICS Transfer Mode (GMAW) Short-Circuiting ☐ Globular ☐ Spray ☐ Current: AC ☐ DCEP ☐ DCEN ☐ Pulsed ☐ Power Source: CC ☐ CV ☐ Other _____ Tungsten Electrode (GTAW) Size: _____ Type: _____				
FILLER METALS AWS Specification _____ AWS Classification _____				TECHNIQUE Stringer or Weave Bead: _____ Multi-pass or Single Pass (per side) _____ Number of Electrodes _____ Electrode Spacing Longitudinal _____ Lateral _____ Angle _____ Contact Tube to Work Distance _____ Peening _____ Interpass Cleaning: _____				
SHIELDING Flux _____ Gas _____ Composition _____ Electrode-Flux (Class) _____ Flow Rate _____ Gas Cup Size _____				POSTWELD HEAT TREATMENT Temp. _____ Time _____				
PREHEAT Preheat Temp., Min. _____ Interpass Temp., Min. _____ Max. _____								
WELDING PROCEDURE								
Pass or Weld Layer(s)	Process	Filler Metals		Current		Volts	Travel Speed	Joint Details
		Class	Diam.	Type & Polarity	Amps or Wire Feed Speed			

Form W-1 (Front)

Procedure Qualification Record (PQR) # _____**Test Results****TENSILE TEST**

Specimen No.	Width	Thickness	Area	Ultimate Tensile Load, lb	Ultimate Unit Stress, psi	Character of Failure and Location

GUIDED BEND TEST

Specimen No.	Type of Bend	Result	Remarks

VISUAL INSPECTION

Appearance _____
 Undercut _____
 Piping porosity _____
 Convexity _____
 Test date _____
 Witnessed by _____

Radiographic-ultrasonic examination

RT report no.: _____ Result _____
 UT report no.: _____ Result _____

FILLET WELD TEST RESULTS

Minimum size multiple pass Maximum size single pass
 Macroetch Macroetch
 1. _____ 3. _____ 1. _____ 3. _____
 2. _____ 2. _____

Other Tests**All-weld-metal tension test**

Tensile strength, psi _____
 Yield point/strength, psi _____
 Elongation in 2 in, % _____
 Laboratory test no. _____

Welder's name _____

Clock no. _____ Stamp no. _____

Tests conducted by _____ Laboratory

Test number _____

Per _____

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in conformance with the requirements of Clause 4 of AWS D1.1/D1.1M, (_____) *Structural Welding Code—Steel*
 (year)

Signed _____
 Manufacturer or Contractor

By _____

Title _____

Date _____

**BHARAT HEAVY ELECTRICALS LIMITED,
TIRUCHIRAPPALI 620 014
QUALITY ASSURANCE DEPARTMENT**

**STANDARD QUALITY PLAN FOR
General Structural**

SQP: NP: 07/04

Page 1 of 10

Prepared by	Jeyaram M
Quality Assurance	<i>Jeyaram</i> 23/09/16
REVIEWED BY	SIGNATURE
ENGINEERING (J.Somsasundaram)	<i>J. Somsasundaram</i> 23/09/16
OUT SOURCING (G.Sharavanan)	<i>G. Sharavanan</i> 23/9/2016
QUALITY CONTROL (N. Ramasamy)	<i>N. Ramasamy</i> 23/9/16
QUALITY ASSURANCE (J V V Aruna kumar)	<i>J V V Aruna kumar</i> 23/09/2016

Revision No.	Date	Approved by	Signature
04	23/09/16	AGM / QA&BE	<i>Rev. Jeyaram</i> 23/09/16
03	01/12/07	SDGM/QA	-----
02	14/04/01	DGM/QA	
01	15/07/96	SM/QA	
00	01/04/93	SM/QA	

Proprietary Data – For Internal Use only

RECORD OF REVISIONS

Rev. Clause		Details of revision
No.	No.	
00	--	This document consolidates all requirements of various previous SQPs.
01	--	All amendments issued has been regularised and editorial corrections made for better clarity.Latest applicable TDC numbers incorporated.
02		SIP numbers updated
	2.4.1	Deleted. Cl.2.4.2 to 2.4.5 renumbered.
	Note 2	
	Note 3	Deleted. Consequently, Note 4 to Note 7 renumbered as Note 3 to Note 6.
	3.2 & 3.2.1 in Note 3	Modified in line with QCP:002
	4.1.7 in Note 4	Out of straightness revised in line with AWS D1.1 (2002 edition)
	4.1.7.10(7)	Twist included
03.	Note-1	Matl. IS 2062 Re-designated & IS 8500 replaced with new designation
	NOTE-3	3.2 & 3.2.1 is Re-worded
		3.2.3 Cl. Added
	Note-4	4.1.10 new sub clause no added.
	Note-5	Clause no. 5 SR Temp changed.
04.	Cl 2.1, 2.4.3,2.4.4	Latest revision of NDE procedures updated.
	Cl 2.3	RT/UT included
	Note-1	E350 material added.IS 8500 removed.
Note	2.4.5	Material substitution details given.
	3.2.1	Removed
	3.1.1,3.2.3	10% scope added.
	3.1.2.3	Newly added.
	3.2.4	Newly added.
	4.1.9	Monorail trial assembly added. Amendment A1 incorporated
	5.1,5.2&5.3	SR details added.

 Tiruchirappalli		QUALITY ASSURANCE		STANDARD QUALITY PLAN					QP NO. : SQP:NP: 07 REV.: 04 DATE : 23-09-2016 PAGE : Page 3 of 10				
GENERAL STRUCTURALS - Welded Design													
SL. NO.	COMPONENT AND OPERATION	CHARECTERISTICS	CI.	TYPE OF CHECK	Quantum	REF.DOCUMENT/ ACCEPTANCE STD.	TYPE OF RECORD	Agency *			REMARKS		
							D	M	c	n			

1.0	MATERIAL Plates, Sheets & Rolled Sections	Chemical & Mechanical Properties	A	Review of documents	100%	TDC/Matl. Spec. Note 1	TC	P	W		
2.0	INPROCESS CONTROL		(Refer QCP 002 for details)								
2.1	Marking, Cutting, Edge Preparation	Shape, Size, EP, Diagonal Straightness Gas cut edges	B	Measurement	100%	Drawings & Note 2	R	P	V		
				MPI/LPI	Note-3	BHE:NDT:PB:MT 01, latest, BHE:NDT:PB:PT 01, latest	R	P	W		
2.2	Welding	Procedure Qlfn. Personnel Qlfn.	A	Review of Documents	100%	BHEL Procedure	WPS	P	V		
				Review of Documents	100%	SIP:NP:07 latest SIP:NP:07 latest	R	P	V		

LEGEND : CI: Class (A: Critical B: Major , C: Minor) * M : Manufacturer C :BHEL QC/TPI N : CUSTOMER QC :Quality Control ND: NDT Lab., PL: Plant lab, R : Record

 Tiruchirappalli		STANDARD QUALITY PLAN					QP NO. : SQP:NP: 07 REV.: 04				
QUALITY ASSURANCE		GENERAL STRUCTURALS –Welded Design					DATE : 23/09/16 PAGE : Page 4 of 10				
SL. NO.	COMPONENT AND OPERATION	CHARECTERISTICS	CI.	TYPE OF CHECK	Quantum	REF.DOCUMENT/ ACCEPTANCE STD.	TYPE OF RECORD	Agency *			REMARKS
							D	M	c	n	

2.3	Weld Inspection	Weld size & finish	B	Visual/ Measurement	100%	Drawing		-	P	W		*Review of films
	Butt welds	Soundness		RT/UT	Note 3	SIP:NP:06 latest BHE:NDT:SS:RT 05 latest BHE:NDT:PB:MT		R	P	V*		
	T.Butt Joints	Soundness		RT/UT	Note 3	01,latest, BHE:NDT:PB:PT 01,latest		R	P	V*		
	Fillet welds	Soundness		LPI/MPI	Note 3			R	P	W		
2.4	DIMENSIONAL INSPECTION											
2.4.1	Ladder	Length, Step position,Ends	B	Visual & Measurement	100%	Drawing		--	P	W		
2.4.2	Buck stay beams	Corner piece,plate,pin connection,link-arrangements. Dimns. Soundness	A	Visual & Measurement	100%	Drawings		R	P	W		
						NOTE-4						
						BHE:NDT:PB:MT 01,latest,BHE:NDT:PB:PT 01latest BHE:NDT:SS:RT 05 latest		R	P	W		
								R	P	W		
2.4.3	Roof beams: Profile beam / rolled section	Shape,Size,profile Straightness Verticality	B	Visual & Measurement Plumb	Note-3 100%			R	P	W		
2.4.4	Built up beams/bracings & Monorails	Shape,size length, verticality Match mark, Straightness Soundness		measurement visual	100%	Drawing Note 4, BHE:NDT:PB:MT01latest BHE:NDT:PB:PT01latest, BHE:NDT:SS:RT 05,latest		R	P	W		
					Note-3			R	P	W		

 Tiruchirappalli		QUALITY ASSURANCE		STANDARD QUALITY PLAN					QP NO. : SQP:NP: 07 REV.: 04				
GENERAL STRUCTURALS –Welded Design					DATE : 23/09/16 PAGE : Page 5 of 10								
SL. NO.	COMPONENT AND OPERATION	CHARECTERISTICS	CI.	TYPE OF CHECK	Quantum	REF.DOCUMENT/ ACCEPTANCE STD.	TYPE OF RECORD	Agency *			REMARKS		
							D	M	c	n			

2.5	POST WELD HEAT TREATMENT(PWHT)	Temp,soaking Time,ROH/ROC		Review of HT chart	100%	Note 5		R	P	V		
3.0	Final inspection	Alignment, Matching, Orientation, & Inclination		Visual Measurement/	100%	SIP:NP: 09 latest		R	P	W		
3.1	Trial assembly			Water level		Note 4 Drawing						
3.2	Match marking Reference line,	Identification		Visual Measurement	100%			R	P	V		
3.3	Identification	WO.No.,DU No.& S/C code		Visual	100%	Drawings &QCP 002 latest		-	P	V		
3.4	Painting and Preservation	Surface preparation, DFT		Visual	100%	SIP:PP:22 latest		R	P	W		
				Check	Random							
3.5	Packing and Protection	Stability Cover/Shimplates		Visual	100%	Drawings SIP:PP:22 latest& NOTE-6		-	P	V		

Refer SQP:NP:027 rev03 for bolted design structures

NOTE-1

MATERIAL	MATERIAL SPEC.	TDC No.
Rolled sections	IS 2062 E250A/BR, E350 A, BR, BO&C ASTM A36, BSEN10025	0:301. as per specification
Plates and sheets	IS 2062 E250A/BR, ASTMA36, E350A, BR, BO&C	
	DIN 17100 St 52.3	0:302
	SA387 Gr 12	-P4 0:202
	SA387 Gr 22	-P5 0:202
	SA 515 Gr 60&70	-P1 0:202

NOTE-2

2.0 MARKING

- 2.1 Wherever applicable the squareness shall be ensured by checking Diagonals and reference lines shall be marked and punched.
- 2.2 For Rolled Beams dimensional tolerances shall be as given below.

1) Depth of section

- a) Upto 1 M : ± 3 mm
- b) 1M to 2M : ± 4.5 mm
- c) Above 2 M : + 7.5 mm, - 4.5 mm
- 2) Flange width : ± 3 mm
- 3) Web shift : 2 mm
- 4) Length : 1 mm / M. Max.5mm

2.3 CENTER LINE MARKING

- 2.3.1 All I section columns/Beams shall be marked with center lines, one on flange and other on one side of web. Box section columns will be marked on the web side. L section column shall be marked on the middle of leg.
- 2.3.2 Flange center line shall be obtained by joining the center point of web thickness at both ends.
- 2.3.3 Web center line shall be obtained by joining the mid points of the section depth at both ends.
- 2.3.4 After marking, the center line shall be identified by legible center punching to the length of 25mm with 5 dots and of size of dia. 2mm at the interval of 2 meters. The punched portion of center line shall be bordered with white paint.

2.4 MARKING AND PREPARATION OF ATTACHMENT PLATES

- 2.4.1 The length/width variation shall be within ± 2 mm, diagonal difference within 3 mm.
- 2.4.2 The flatness shall be checked and shall not exceed 2mm for plate size 50mm & below and 3mm above 50mm.

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2.4.3 The bolt holes and grout holes shall be marked and drilled as per drawing. Wherever specified in the drawing, match drilling shall be done with the mating part. The tolerance for finished holes are as follows:

1. Hole dia for friction grip bolts :+0.5 /-0 mm
2. Hole dia for other holes :+1 mm /- 0 mm
3. Individual pitches :±1 mm max.
4. Cumulative pitch :±2 mm max.

2.4.4 Where splicing of rolled sections are envisaged, it shall be ensured that the rolled section is straightened and meets the requirements given below:

1. Out of Straightness : 5 mm max.
2. Splicing edge : Square to surface
3. Web centre line offset : 1.5 mm max

2.4.5 Shop joint for rolled sections/plates shall be followed as per **drg No:3-35-110-00686-Latest, Production notes drg. No: 4-35-110-00347/latest, 3-35-110-00995/latest.**

NOTE-3

3.0 TYPE AND EXTENT OF NDE **unless additional NDE is specified in CQPs.**

3.1 BUTT WELDS - MPI

3.1.1 100 % M P I. for thickness above 25 mm upto and Including 32 mm.
10 % MPI **per DU** for thickness less than 25 mm.

3.1.2.0 MPI ON FLAME CUT EDGES

3.1.2.1 100% MPI-P3,P4&P5 - Flame cut edges t>12 mm
10% MPI- P1 - Flame cut edges t>20mm and below 38mm
100% MPI-P1 - For all flame cut edges t>=38mm
100%MPI- All beveled edges for t> 20mm for all materials.

3.1.2.2 100% LPI- Root groove areas after back chipping prior to welding second side for all groove plate butt weld and all spliced joint for rolled section.

3.1.2.3 **Wherever Heat treatment is applicable required MPI/LPI shall be done after HT.**

3.2 BUTT WELDS -RT

3.2.1 100% RT for carbon steel for t>32 mm.
For P3,P4 if t > 16 mm
For P5 if t > 12 mm

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- 3.2.2 100% RT on flange butt joint for mono rail beams of all sizes.
- 3.2.3 10% RT per DU for web butt joint in all built up monorail beams.
- 3.2.4 Wherever RT is not feasible UT shall be carried out with the discretion of BHEL/QC.
- 3.3 FILLET WELDS
 - 3.3.1 100 % MPI, if both plate thickness over 25 mm.
 - 3.3.2 10% MPI/LPI per DU all other fillet welds.
 - 3.3.3 100% MPI/LPI on fillet welds of spliceplates for all thickness built up beams and rolled sections
 - 3.3.4 100% MPI on all fillet welds of mono rail beam.

NOTE-4

4.0 FABRICATION TOLERANCES

- 4.1 The tolerances for fabrication shall be as per the relevant product drawing. However the following tolerances can be adopted, where not specified.
 - 4.1.1 Length:
 - a) For members where ends are free: $\pm 1 \text{ mm/M}$ subject to 5mm max
 - b) Members connecting between : $+0 \text{ mm} - 3\text{mm}$
two structural members
 - 4.1.2 Web shift : 2mm
 - 4.1.3 Out of squareness : 2mm
 - 4.1.4 Combined warpage and tilt of flange of welded beams shall not exceed 1/100 of total width of flange or 6 mm whichever is greater.
 - 4.1.5 The twisting of the beams or members shall not exceed $0.005h / 5\text{M}$ length subject to a maximum of 10 mm.
(where "h" is the height of beam)
 - 4.1.6 Out of Straightness
 - Length upto 15 Mtr. : 1 mm/Mtr and max. 10mm.
 - Length over 15 mtr. : 10mm + 1mm/M for the
length in excess of 15M.
 - 4.1.7 For Frames of General Structures the following tolerances shall apply:
 - Length and width : $\pm 1.5 \text{ mm/M}$ max. 6 mm
 - Difference between diagonals : 2 mm/M max. 8 mm
 - Height : $+ 1.5 \text{ mm/M}$ max. 6 mm
 - Spacing of intermediate members : $\pm 3 \text{ mm}$
 - 4.1.8 For handrails the variation permitted in length is $\pm 3\text{mm}$ and bow is $\pm 2\text{mm}$ per meter subject to a maximum of 10mm.

4.1.9 For monorail beams the following tolerances shall apply
(clause Nos. 1 & 2 applies for all other beams also)

1.Depth of section	:±3 mm
2.Flange width	:+/- 3 mm
3.Flange width	:+2 mm, for monorail (+2, -0mm)
4.Web shift	: 2 mm
5.Length:	
Runways connected in between two structures (Span upto 12m)	: +0 mm, -2 mm
6.Mono rails	: +/-5mm.
7.Combined Warpage and tilt	: 3 mm max.
8.Sweep/Camber	: 5 mm max.

Monorail beams shall be checked for trial assembly as per Clause 7.0 of SIP :NP:02

NOTE:5

PWHT shall be performed for:

5.1 **Butt welds/Groove welds**

P1 All butt welds when t > 50mm and web stiffeners at end bearing locations along with stool plate (except web to flange fillet & groove weld)	600-650°C
P3 All butt welds in tension members and all welds when t>16mm	620-650°C
P4 All butt welds in tension members and all welds when t>16mm	650-680°C
P5 All welds	680-710°C

5.2 **Fillet welds**

P1- Not required	
P3 -if throat thickness>13mm	620-650°C
P4 -if throat thickness>13mm	650-680°C
P5 -All thickness	680-710°C

Where t =plate thickness in case of butt welds and weld thickness in case of groove welds for P1 materials .In case of combination of groove and fillet welds both weld depth and throat thickness are to be considered.

The load carrying members shall be heat treated for flame cut edges prior to welding as per Table -2. Alternatively for flame cut edges, the cut edges shall be ground or machined upto 3mm to remove HAZ.

For Local PWHT, general guidelines shall be as per QCP:002 (latest) and SIP:NP:11 (latest) shall be followed.

Table -2

scope	Material	Thickness	Heat treatment cycle
Flame cut edges	P1	> 50 mm	600°- 650°C for 30 minutes.
	P3	> 16 mm	620°- 650°C for 30 minutes.
	P4	> 16 mm	650°- 680°C for 30 minutes.
	P5	all thickness	680°- 710°C for 30 minutes.
Shear cut edges	P1	> 50 mm	600°- 650°C for 30 minutes.
	P3	> 13 mm	620°- 650°C for 30 minutes.
	P4	> 13 mm	650°- 680°C for 30 minutes.
	P5	>10mm	680°- 710°C for 30 minutes.

For materials other than P5, this heat treatment may be clubbed with the final heat treatment of the product

5.3 The preheat for welding and gas cutting shall be followed as per table -3. Preheat and post heat temperature referred in Table-3 shall be followed unless otherwise specified in WPS

Table:3

Scope	Material	Preheat	Post heat
Welding	P1-IS2062	t>38mm, 150°C	-
	E250	t>63mm, 150°C	-
	P1-IS2062	t>25mm, 150°C	-
	E350		
	P3&P4	allthickness, 150°C	-
	P5	allthickness, 150°C	250°C for 2 hours
Flame cutting	P1	t>50mm, 150°C	-
	P3&P4	t>16mm, 150°C	-
	P5	t<13mm, 120°C	-
		t=13to25mm, 150°C	
		t>25mm, 200°C	

5.4 Refer QCP 002 for process controls and other details

NOTE-6

- 6.1 While stacking of beams, ensure that the flange portion of the beam is kept horizontal and parallel to the firm ground. Adequate supports shall be provided so as to avoid sagging or distortion.
- 6.2 Storage, preservation, shipping shall be as per the relevant packing instruction.



BHARATH HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI-620 014
WELDING TECHNOLOGY CENTRE

WCPI - 208

Revision No.: 07

Date: 10.03.2014

WELDING CONSUMABLE PURCHASE INSTRUCTION (WCPI)
FOR ASME SEC.II.C, SFA-5.1 E7018-A1

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-A1. 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. The brand of SMAW Electrodes to be supplied shall be approved by the concerned IBR Authorities of the state. Every batch to be supplied should have been manufactured during the period when IBR approval for the brand was valid.

2.0 Chemical Composition:

The chemical composition of the undiluted weld metal shall conform to ASME SECII.C SFA-5.1, E7018-A1.

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 as below.

Yield Strength at 0.2% Offset	460 MPa Minimum
Tensile Strength	550 MPa Minimum
Elongation	19% minimum

4.0 RADIOGRAPHIC SOUNDNESS:

The electrode shall be suitable for radiography quality butt Joint welding of boiler pressure parts of SA204GrA, SA299, SA515Gr70 Plate, SA106GrB, SA106GrC, SA335 P1 pipe material. The radiographic test shall meet the requirements of ASME SECII.C SFA-5.1, E7018-A1.

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, IDENTIFICATION:

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

7.0 FILLET WELD TEST:

Fillet weld test done using this electrode shall meet the requirements specified in ASME SEC II C SFA 5.1, E7018-A1.

Prepared:


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Reviewed and Approved:


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SDGM/WTC



**Welding Consumable Purchase Instruction for
ASME SEC.II.C, SFA-5.1 E7018-A1**

WCPI - 208

Revision No.: 07

8.0 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-A1.

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 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 countersigned by IBR giving details of tests done in compliance with this WCPI and ASME Sec II C,SFA-5.1,E7018-A1 shall be sent.

10.5 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-5.1, E7018-A1.

10.6 A copy of the IBR approval certificate for the brand covering the specific batch being supplied shall be sent along with every consignment.

10.7 Every packet supplied shall be duly certified by the concerned IBR Authorities of the state by exhibiting the following through a seal/securely affixed label.

"Certified by -----

(Mention the concerned IBR authority of the state)

Under periodic check test dated: XX-XX-XXXX.

Brand approval valid till : XX-XX-XXXX."

APPROVED SUPPLIER LIST FOR WELDING CONSUMABLES

Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	DRMFL	10081	WELDING FLUX-DRUM	ESAB INDIA LTD	NOT APPLICABLE	TN	43RD MISCC-WC-28.05.11		sukalyan.chakladar@esab.co.in	AS PER BHEL WCPI	WCPI 403	044-4340 4803	90030 77504
TPFB	DRMFL	20047	WELDING FLUX-DRUM	KANEMATSU TRADING CORPORATION	NOT APPLICABLE		SDC/MFG/WC/17DT.29.11.06		koya_okuda@kgt.kanematsu.co.jp	AS PER BHEL WCPI	WCPI 403	81 3 5283 3680	
TPFB	DRMFL	11712	WELDING FLUX-DRUM	TAPADIA ENGINEERS & TRADERS P.LTD.	NOT APPLICABLE	CH	ORIG.VEND		tet_tgirpr@rediffmail.com	AS PER BHEL WCPI	WCPI 403	0770 - 4090636	
TPFB	FINFL	19371	WELDING FLUX-FIN	NDT FLUXES.	NOT APPLICABLE	CH	WC-MISCC 12/14-15,170315			AS PER BHEL WCPI	WCPI 405		
TPFB	FINFL	11712	WELDING FLUX-FIN	TAPADIA ENGINEERS & TRADERS P.LTD.	NOT APPLICABLE	CH	SDC:FB/11712/32D.15.12.08		tet_tgirpr@rediffmail.com	AS PER BHEL WCPI	WCPI 405	0770 - 4090636	
TPFB	FINFL	20516	WELDING FLUX-FIN	LINCOLN ELECTRIC FRANCE S.A.	NOT APPLICABLE.		SDC/WC/13-14/38PDT.020114			AS PER BHEL WCPI	WCPI 405	33232 114040	
TPGW	GVW01	80218	WELDING ELECTRODES	M/s Modi Arc Electrodes Co.	WELD:SAW:SS E410-15		GM/IVP APPROVAL DTD291111	WELDING ELECTRODES E430 410		AS PER BHEL SPEC	WCPI 222, 223		
TPGW	GVW01	11378	WELDING ELECTRODES	MAILAM INDIA LIMITED	WELD:SAW:SS E410-15	PY	GM/IVP APPROVAL DTD291111	WELDING ELECTRODES E430 410	mailam@mailamindia.com	AS PER BHEL SPEC	WCPI 222, 223	0413-2677311	
TPGW	GVW01	80020	WELDING ELECTRODES	HONAVAR ELECTRODES PVT LTD	WELD:SAW:SS E410-15	CG	GM/IVP APPROVAL DTD291111	WELDING ELECTRODES E430 410	honavarelectrodes@gmail.com	AS PER BHEL SPEC	WCPI 222, 223	9820249301	
TPGW	GVW01	80019	WELDING ELECTRODES	ESAB INDIA LTD.	WELD:SAW:SS E410-15	CG	GM/IVP APPROVAL DTD291111	WELDING ELECTRODES E430 410		AS PER BHEL SPEC	WCPI 222, 223		
TPGW	GVW01	80018	WELDING ELECTRODES	D & H INDIA LIMITED	WELD:SAW:SS E410-15	CG	GM/IVP APPROVAL DTD291111	WELDING ELECTRODES E430 410	dnhindiachd@yao.co.in	AS PER BHEL SPEC	WCPI 222, 223	0172- 2653063	
TPGW	GVW01	80126	WELDING ELECTRODES	Ador Welding Limited	WELD:SAW:SS E410-15		GM/IVP APPROVAL DTD291111	WELDING ELECTRODES E430 410	delhi@adorwelding.com	AS PER BHEL SPEC	WCPI 222, 223	01141411049	01141411106
TPGW	GVW01	10774	WELDING ELECTRODES	D&H SECHERON ELECTRODES PVT LTD.	WELD:SAW:SS E410-15	MP	GM/IVP APPROVAL DTD291111	WELDING ELECTRODES E430 410	sales@dnhsecheron.net	AS PER BHEL SPEC	WCPI 222, 223	0731-4229222	0-96850-91106
TPGW	GVW01	80291	WELDING ELECTRODES	Bharat Heavy Electricals Limited ,T		TN	BHEL/IVP/SDC/BHEL/TR Y/01	WELDING ELECTRODES E430 410		AS PER BHEL SPEC	WCPI 222, 223		
TPGW	GVW02	80291	WELDING WIRE	Bharat Heavy Electricals Limited ,T		TN	IVP/SDC/BHELTRY.01DT 15.02			ER430-WCPI013	AS PER BHEL		
TPGW	GVW03	80291	WELDING ELECTRODE OT	Bharat Heavy Electricals Limited ,T		TN	IVP/SDC/BHELTRY.01DT 15.02	WELDING ELECTRODE OTHERS		E7018-1	WCPI 207		
TPGW	GVW04	80291	COBALT POWDER	Bharat Heavy Electricals Limited ,T		TN	IVP/SDC/BHELTRY.01DT 15.02			COBALT BASED POWDER - WCPI 302	AS PER BHEL		
TPGW	GVWFX	10015	WELDING FLUX	ANITA FLUXES ALLOY SPECIALITY		KA	BHEL/IVP/SDC/09/05			WPI 407	AS PER BHEL TDC	080/ 839 4411	
TPGW	GVWFX	10785	WELDING FLUX	ADOR WELDING LIMITED		MH	BHEL/IVP/SDC/09/05		acegasindia@gmail.com	WPI 407	AS PER BHEL TDC		
TPGW	GVWFX	15810	WELDING FLUX	NOUVEAUX INDUSTRIES (P) LTD.,	FULL RANGE	TN	BHEL:IVP:SDC:15-16:04			WPI 407	AS PER BHEL TDC		
TPGW	GVWFX	10774	WELDING FLUX	D&H SECHERON ELECTRODES PVT LTD.	FULL RANGE	MP	BHEL:IVP:SDC:15-16:04		sales@dnhsecheron.net	WPI 407	AS PER BHEL TDC	0731-4229222	0-96850-91106
TPFB	MIGA2	20563	GTAW WIRE FOR T92	VOESTALPINE BOHLER WELDING	DIA.0.8,1.0 & 1.2MM		WC:11-12:50DDT.17.08.2011	GTAW WIRE FOR T92 (AUTOMATIC GTAW PROCESS).	christina.holle@voestalpine.com	GTAW WIRE FOR SA335T92 WELDING	-----	2381271759	
TPFB	MIGA2	21411	GTAW WIRE FOR T92	METRODE PRODUCTS LIMITED,	DIA.0.8,1.9,1.0 & 1.2MM		WC:11-12:45DDT.06.08.2011	GTAW WIRE FOR T92 (AUTOMATIC GTAW PROCESS).	raghvendra.srivastava@metrode.com	GTAW WIRE FOR SA335T92 WELDING	-----		
TPFB	MIGA4	10081	ER80S-B2 BPGMAW WIRE	ESAB INDIA LTD	DIA.1.2MM	TN	WC:11-12:47DDT.23.08.2011	ER80S-B2 BULK PACK GMAW WIRE	sukalyan.chakladar@esab.co.in	ASME.SEC.IIC,SFA-5.28,ER80S-B2	WCPI-169	044-4340 4803	90030 77504
TPFB	MIGA4	20563	ER80S-B2 BPGMAW WIRE	VOESTALPINE BOHLER WELDING	DIA.1.2MM		WC/13-14/26PDT.161213	ER80S-B2 BULK PACK GMAW WIRE	christina.holle@voestalpine.com	ASME.SEC.IIC,SFA-5.28,ER80S-B2	WCPI-169	2381271759	
TPFB	MIGA4	21411	ER80S-B2 BPGMAW WIRE	METRODE PRODUCTS LIMITED,	DIA.1.2MM		WC:11-12:47DDT.23.08.2011	ER80S-B2 BULK PACK GMAW WIRE	raghvendra.srivastava@metrode.com	ASME.SEC.IIC,SFA-5.28,ER80S-B2	WCPI-169		

APPROVED SUPPLIER LIST FOR WELDING CONSUMABLES

Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	MIGA4	20047	ER80S-B2 BPGMAW WIRE	KANEMATSU TRADING CORPORATION	DIA.1.2 MM		SDC/WC/14-15/20P.DT310714	ER80S-B2 BULK PACK GMAW WIRE	koya_okuda@kgt.kanematsu.co.jp	ASME.SEC.II.C.SFA-5.28,ER80S-B2	WCPI-169	81 3 5283 3680	
TPFB	MIGN1	21991	GMAWWIRE ERNiCrFe-7A	SPECIAL METALS WELDING PRODUCTS	DIA.0.8,0.9 & 1.0MM		WTC:NVP/31DT.15.11.10	GMAW WIRE ERNiCrFe-7A	klowman@smwpc.com	ASME.SEC.II.C.SFA-5.14.ERNICRFE-7A	----	828-465-0352	
TPFB	MIGW1	20047	ER 70S-A1 GMAW WIRE	KANEMATSU TRADING CORPORATION	DIA.0.8,0.9,1.0,1.2 & 1.6MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	ER70S-A1	WCPI 152	81 3 5283 3680	
TPFB	MIGW1	13690	ER 70S-A1 GMAW WIRE	GEE LIMITED,	DIA: 0.8 MM (700 GM -1KG SPOOL)	MH	WC-MISCC 08/2017-18		mpdhanuka@geelimited.com	ER70S-A1	WCPI 152	02522 281176	02522 281188
TPFB	MIGW1	20563	ER 70S-A1 GMAW WIRE	VOESTALPINE BOHLER WELDING	DIA.0.8,1.0 & 1.2MM		ORIG.VEND		christina.holle@voestalpine.com	ER70S-A1	WCPI 152	2381271759	
TPFB	MIGW1	21411	ER 70S-A1 GMAW WIRE	METRODE PRODUCTS LIMITED,	DIA:0.8, 0.9, 1.0 & 1.2 MM		WC/13-14/12PDT.101013		raghvendra.srivastava@metrode.com	ER70S-A1	WCPI 152		
TPFB	MIGW1	21461	ER 70S-A1 GMAW WIRE	INDUSTRIA NAZIONALE ELETTRODI S.p.A	DIA. 0.8MM		MAIL FM CHAIRMAN WC-MISCC		doriana.depoli@ine.it	ER70S-A1	WCPI 152		
TPFB	MIGW2	20047	ER 80S-B2 GMAW WIRE	KANEMATSU TRADING CORPORATION	DIA.1.0,1.2 & 1.6MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	ASME SEC II C SFA-5.28 ER80S-B2	WCPI 153	81 3 5283 3680	
TPFB	MIGW2	91875	ER 80S-B2 GMAW WIRE	Arya Engineering	DIA.1.20MM	TN	MISCC/12/15-16/ANX-D PT-2		aryaaengineering@gmail.com	ASME SEC II C SFA-5.28 ER80S-B2	WCPI 153	0431 2511445	0 99400 98077
TPFB	MIGW2	10774	ER 80S-B2 GMAW WIRE	D&H SECHERON ELECTRODES PVT LTD.	DIA.1.2 & 1.6MM	MP	WC:11-12:84PDT.02.02.12		sales@dnhsecheron.net	ASME SEC II C SFA-5.28 ER80S-B2	WCPI 153	0731-4229222	0-96850-91106
TPFB	MIGW2	13690	ER 80S-B2 GMAW WIRE	GEE LIMITED,	DIA.1.2MM	MH	WC:13-14:53PDT.20.01.14		mpdhanuka@geelimited.com	ASME SEC II C SFA-5.28 ER80S-B2	WCPI 153	02522 281176	02522 281188
TPFB	MIGW2	21411	ER 80S-B2 GMAW WIRE	METRODE PRODUCTS LIMITED,	DIA.0.8,0.9,1.0 & 1.2MM		WC-MISCC 12/14-15,170315		raghvendra.srivastava@metrode.com	ASME SEC II C SFA-5.28 ER80S-B2	WCPI 153		
TPFB	MIGW4	20047	WELDG.WIRE-MIG ER347	KANEMATSU TRADING CORPORATION	DIA.0.8,1.0, & 1.2MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	ER347SI	WCPI 160	81 3 5283 3680	
TPFB	MIGW4	14400	WELDG.WIRE-MIG ER347	ADOR FONTECH LIMITED,	DIA.0.8MM	KA	WC MISCC-9/16-17,DT291216		adflenders@adorfon.com	ER347SI	WCPI 160	080-2836 5751	0 93440 04525
TPFB	MIGW4	22391	WELDG.WIRE-MIG ER347	AIR LIQUIDE WELDING FRANCE,	DIA.0.8,1.0 & 1.2MM		WC/10-11/54DT.02.04.11		jean-paul.shmitt@airliquide.com	ER347SI	WCPI 160	1342 13480	607855066
TPFB	MIGW4	21411	WELDG.WIRE-MIG ER347	METRODE PRODUCTS LIMITED,	DIA.0.8,1.0 & 1.2MM		WC:10-11:53DT.21.03.11		raghvendra.srivastava@metrode.com	ER347SI	WCPI 160		
TPFB	MIGW4	11784	WELDG.WIRE-MIG ER347	VENUS WIRE INDUSTRIES PVT LTD	DIA.0.8,0.9,1.0 & 1.2MM	MH	MISCC12/14-15 PTB5,170315		sales@venuswires.com	ER347SI	WCPI 160	022 - 4978840	
TPFB	MIGW5	20067	WELDG.WIRE-MIG ERNiC	VOESTALPINE BOHLER WELDING	DIA.0.8,1.0 & 1.2MM		ORIG.VEND			ERNICR3	WCPI 155	49 07633 40901	
TPFB	MIGW5	20047	WELDG.WIRE-MIG ERNiC	KANEMATSU TRADING CORPORATION	DIA.0.8,1.2 & 1.6MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	ERNICR3	WCPI 155	81 3 5283 3680	
TPFB	MIGW5	21411	WELDG.WIRE-MIG ERNiC	METRODE PRODUCTS LIMITED,	DIA.0.8,1.0 & 1.2MM		WC:10-11:53DT.21.03.11		raghvendra.srivastava@metrode.com	ERNICR3	WCPI 155		
TPFB	MIGW5	22391	WELDG.WIRE-MIG ERNiC	AIR LIQUIDE WELDING FRANCE,	DIA.0.8,1.0,1.2 & 1.6MM		MISCC/12/15-16/ANX-C PT-2		jean-paul.shmitt@airliquide.com	ERNICR3	WCPI 155	1342 13480	607855066
TPFB	MIGW6	20563	WELDG.WIRE-MIG ER90S	VOESTALPINE BOHLER WELDING	DIA.0.8,1.0 & 1.2MM		MAIL FM CHAIRMAN WC-MISCC		christina.holle@voestalpine.com	MIG ER90S-B9	WCPI 161	2381271759	
TPFB	MIGW6	22391	WELDG.WIRE-MIG ER90S	AIR LIQUIDE WELDING FRANCE,	DIA.0.8,1.0,1.2 & 1.6MM		FORM-C-ER80S-B3LD06.11.10		jean-paul.shmitt@airliquide.com	MIG ER90S-B9	WCPI 161	1342 13480	607855066
TPFB	MIGW6	21411	WELDG.WIRE-MIG ER90S	METRODE PRODUCTS LIMITED,	DIA.0.8,1.0 & 1.2MM		MISCC12/14-15 PTB5,170315		raghvendra.srivastava@metrode.com	MIG ER90S-B9	WCPI 161		
TPFB	MIGW7	14455	GMAW WIRE ER70S-6	WIRE AND WIRE PRODUCTS	DAI.0.8,1.0,1.2 & 1.6MM	TN	WC:11-12:54PDT.02.09.2011		wwp@vsnl.net	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	044 26242378	
TPFB	MIGW7	15085	GMAW WIRE ER70S-6	VOLTARC ELECTRODES (P) LTD,	DIA.1.0,1.2 & 1.6MM	AP	WC:11-12:54PDT.02.09.2011		voltarc@rediffmail.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0877 2241462	
TPFB	MIGW7	16575	GMAW WIRE ER70S-6	STANDARD WIRE PRODUCTS	DIA.1.0,1.2 & 1.6MM	TN	WC:11-12:54PDT.02.09.2011			ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	044 26254946	9444044262

APPROVED SUPPLIER LIST FOR WELDING CONSUMABLES

Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	MIGW7	13693	GMAW WIRE ER70S-6	RASI ELECTRODES LTD.,	DIA.1.0,1.2 & 1.6MM	TN	WC:11-12:54PDT.02.09.2011		rele@airtelmail.in	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	044 26424523	0 98411 15819
TPFB	MIGW7	15810	GMAW WIRE ER70S-6	NOUVEAUX INDUSTRIES (P) LTD.,	DIA.1.0,1.2 & 1.6MM	TN	SDC:FB:15810:36DT.20.02.0			ASME.SEC.II.C-5.18.ER70S-6	WCPI-151		
TPFB	MIGW7	14340	GMAW WIRE ER70S-6	NALLI ARC INDUSTRIE,	DIA.1.0,1.2 & 1.6MM	TN	WC:11-12:54PDT.02.09.2011		nalliar@yahoo.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	04257 245185	94433 45439
TPFB	MIGW7	13906	GMAW WIRE ER70S-6	MARUTI WELD PRIVATE LIMITED,	DIA.1.0,1.2 & 1.6MM		SDC:FB:13906:34DT.20.02.0		marutiweld@marutiweld.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	011 6536 3100	0 95600 92718
TPFB	MIGW7	16166	GMAW WIRE ER70S-6	EVERSHINE WIRES	DIA.0.8,1.0,1.2 & 1.6MM	TN	WC:11-12:54PDT.02.09.2011		evershine_wires@yahoo.in	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	04327- 235381	0 98424 23385
TPFB	MIGW7	10081	GMAW WIRE ER70S-6	ESAB INDIA LTD	DIA.0.8,1.0,1.2 & 1.6MM	TN	SDC:FB:10081:35DT.20.02.0		sukalyan.chakladar@esab.co.in	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	044-4340 4803	90030 77504
TPFB	MIGW7	10785	GMAW WIRE ER70S-6	ADOR WELDING LIMITED	DIA.0.8,1.0,1.2 & 1.6MM	MH	SDC:FB:10785:04DT01.04.09		acegasindia@gmail.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151		
TPFB	MIGW7	10774	GMAW WIRE ER70S-6	D&H SECHERON ELECTRODES PVT LTD.	DIA.0.8,1.0,1.2 & 1.6MM	MP	SDC:FB:10774:33DT.20.02.0		sales@dnhsecheron.net	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0731-4229222	0-96850-91106
TPFB	MIGW7	14458	GMAW WIRE ER70S-6	M W WIRETECK PVT. LTD.	DIA.1.0,1.2 & 1.6MM	DL	MISCC /03/15-16, 15.06.15		wire@wireteck.in	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	011 4540 7712	
TPFB	MIGW7	11288	GMAW WIRE ER70S-6	JAGSHAAN INDUSTRIES	DIA.0.8,1.0,1.2 & 1.6MM	MH	WC:11-12:54PDT.02.09.2011		jagshaan@nagpur.dot.net.in	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0712 - 581557	
TPFB	MIGW7	16662	GMAW WIRE ER70S-6	NATIONAL ENGINEERING ENTERPRISES,	DIA.1.0,1.2 & 1.6MM	CH	WC:11-12:54PDT.02.09.2011		nationaljsr@rediffmail.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0657 6539875	
TPFB	MIGW7	11528	GMAW WIRE ER70S-6	RAAJRATNA ELECTRODES LTD	DIA 1,1.2,1.6,2 MM	GJ	EMAIL/VEND/09.11.12		mktg@gnahd-rel.global.net.in	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	079 - 6445258	
TPFB	MIGW7	16661	GMAW WIRE ER70S-6	KLINWELD WIRES PVT. LTD.,	DIA.1.0,1.2 & 1.6MM	MH	WC:11-12:54PDT.02.09.2011		klinweld@gmail.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	022 28504848	022 28507501
TPFB	MIGW7	17842	GMAW WIRE ER70S-6	PRECISION DRAWEL PVT., LTD.,	DIA.1.0,1.2 & 1.6MM	MH	WC:11-12:54PDT.02.09.2011			ASME.SEC.II.C-5.18.ER70S-6	WCPI-151		
TPFB	MIGW7	17841	GMAW WIRE ER70S-6	PRASHANTH CYLINDERS PVT. LTD.,	DIA. 1.0,1.2 & 1.6 MM	KA	WC:11-12:54PDT.02.09.2011			ASME.SEC.II.C-5.18.ER70S-6	WCPI-151		
TPFB	MIGW7	17644	GMAW WIRE ER70S-6	VARUN ELECTRODES PVT. LTD.,	DIA.1.0,1.2 & 1.6MM	HR	WC:11-12:54PDT.02.09.2011		kapoor@varunelectrodes.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0180 2653085	
TPFB	MIGW7	14428	GMAW WIRE ER70S-6	SHAKUNT ENTERPRISES PRIVATE LIMITED	DIA.1.0,1.2 & 1.6MM	PB	WC:11-12:54PDT.02.09.2011		shakunt@satyam.net.in	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	161 2538323	
TPFB	MIGW7	13690	GMAW WIRE ER70S-6	GEE LIMITED,	DIA.0.8,1.0,1.2 & 1.6MM	MH	WC:11-12:54PDT.02.09.2011		mpdhanuka@geelimited.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	02522 281176	02522 281188
TPFB	MIGW7	14575	GMAW WIRE ER70S-6	WELD ALLOY PRODUCTS,	DIA.1.0,1.2 & 1.6MM	UP	WC:11-12:54PDT.02.09.2011		wap2005@airtelmail.in	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0120-2557183	0 98100 81640
TPFB	MIGW7	14791	GMAW WIRE ER70S-6	ANAND ARC LTD.,	DIA.0.8,1.0,1.2 & 1.6MM	TN	WC:11-12:54PDT.02.09.2011		sales@anandarc.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	022 4268 8484	
TPFB	MIGW7	15101	GMAW WIRE ER70S-6	PRECISION WELDARC LTD.	DIA.1.0,1.2 & 1.6MM	WB	WC:11-12:54PDT.02.09.2011		pwires@yahoo.co.in	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	033 25634753	
TPFB	MIGW7	13986	GMAW WIRE ER70S-6	B&H ELECTRODES PVT. LTD.	DIA.1.0,1.2 & 1.6MM	PB	WC:11-12:74PDT.16.12.11			ASME.SEC.II.C-5.18.ER70S-6	WCPI-151		
TPFB	MIGW7	13911	GMAW WIRE ER70S-6	ROYAL ARC ELECTRODES LIMITED	DIA.1.0,1.2 & 1.6MM	MH	WC:11-12:61PDT.25.10.11		tenders@royalarc.in	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	022 28822374	022 28820328
TPFB	MIGW7	13743	GMAW WIRE ER70S-6	UNIQUE WELDING PRODUCTS PVT.LTD.,	DIA.0.8,1.0,1.2 & 1.6MM	GJ	WC:11-12:61PDT.19.09.2011		ump_vvn@rediffmail.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	02692-236 092...	
TPFB	MIGW7	18705	GMAW WIRE ER70S-6	MODI HITECH INDIA LTD.,	DIA.1.0,1.2 & 1.6MM	UP	WC:11-12:54PDT.02.09.2011		gmmelectrode@gmail.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	011 4250 4577	0 97173 92710
TPFB	MIGW7	11378	GMAW WIRE ER70S-6	MAILAM INDIA LIMITED	8	PY	WC:11-12:54PDT.02.09.2011		mailam@mailamindia.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0413-2677311	
TPFB	MIGW7	13763	GMAW WIRE ER70S-6	CLASSIC ELECTRODES (INDIA) LTD.,	DIA.1.0,1.2 & 1.6MM	WB	WC:11-12:54PDT.02.09.2011		classicelectrodes@yahoo.co.in	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	033 22429581	

APPROVED SUPPLIER LIST FOR WELDING CONSUMABLES

Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	MIGW7	17814	GMAW WIRE ER70S-6	CALCUTTA ELECTRODES PVT. LTD.,	DIA.1.0,1.2 & 1.6MM	CH	WC:11-12:54PDT.02.09.2011		calcutta_electrodes2006@yahoo.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0771 4090615	
TPFB	MIGW7	10737	GMAW WIRE ER70S-6	SRI DHARAANI STEEL,	DIA.1.0,1.2 & 1.6MM	TN	WC:11-12:54PDT.02.09.2011		wire@sridharaanisteel.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	98943-88857	
TPFB	MIGW7	17813	GMAW WIRE ER70S-6	K.M.CROWN WELDING CONSUMABLES PVT.,	DIA.1.0,1.2 & 1.6MM	MP	WC:11-12:54PDT.02.09.2011		kmcrownwelding@dataone.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	07272 259384578	
TPFB	MIGW7	10758	GMAW WIRE ER70S-6	ALPHA ARC PVT LTD	DIA.1.0,1.2 & 1.6MM	UP	WC:11-12:54PDT.02.09.2011		alphaarc@yahoo.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0 99114 41441	0120 269 6360
TPFB	MIGW7	13549	GMAW WIRE ER70S-6	ATHARVE WELDING TECHNOLOGIES (INDIA	DIA.1.0,1.2 & 1.6MM	MH	WC:11-12:51PDT.18.08.2011		atharv.wt@hotmail.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0217-273 7029	
TPFB	MIGW7	13487	GMAW WIRE ER70S-6	MAGNARC ELECTRODES PVT.LTD.,	DIA.1.0,1.2 & 1.6MM	AP	WC:11-12:38DT.07.07.11		magnarc@hotmail.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0891-276 4381...	
TPFB	MIGW7	13211	GMAW WIRE ER70S-6	D&H INDIA LIMITED	DIA.1.0,1.2 & 1.6MM	MP	WC:11-12:54PDT.02.09.2011		dhindia@sancharnet.in	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0731-4273501-...	
TPFB	MIGW7	15100	GMAW WIRE ER70S-6	MANTEK WIRES	DIA.1.0,1.2 & 1.6MM	TN	WC:11-12:54PDT.02.09.2011			ASME.SEC.II.C-5.18.ER70S-6	WCPI-151		
TPFB	MIGW7	19305	GMAW WIRE ER70S-6	MURLI ELECTRODE PVT. LTD,	SIZE: DIA. 1.20MM	MH	SDC/WC/14-15/13P DT200514		sudhir_0408@rediffmail.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0712 2769347	0 93723 91340
TPFB	MIGW7	15082	GMAW WIRE ER70S-6	ROYAL WELDING WIRES PVT. LTD.,	SIZE DIA.1.20MM	TN	SDC/WC/14-15/12PDT.200514		admin@theoryalfirm.in	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	044-3741 1610	98410-27867
TPFB	MIGW7	17451	GMAW WIRE ER70S-6	WELDFAST ELECTRODES PVT LTD,	DIA.0.80,1.0,1.20 & 1.60MM	MH	WC/MISCC-11/17-18,170218		weldwellngp@gmail.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	07104 232211/...	0 94228 08860
TPFB	MIGW7	91270	GMAW WIRE ER70S-6	VEEPEES INDIA,	DIA.1.0,1.2 & 1.6MM	TN	WC-12-13:07PDT.15.05.2012		veepeesindia@gmail.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	044-43534354	
TPFB	MIGW7	16548	GMAW WIRE ER70S-6	WELD EXCEL INDIA LTD.,	DIA.0.8,1.0,1.2 & 1.6MM	PB	WC:11-12:54PDT.02.09.2011			ASME.SEC.II.C-5.18.ER70S-6	WCPI-151		
TPFB	MIGW7	15924	GMAW WIRE ER70S-6	DAYACHAND ENGINEERING INDUSTRIES	DIA: 1.20 MM	UP	SDC/WC/13-14/32PDT.060114		info@fairweld.com	ASME.SEC.II.C-5.18.ER70S-6	WCPI-151	0 9997954661	0 98975 01661
TPFB	MIGW8	91820	GMAW WIRE ER80S-G	SATKUL ENTERPRISES LTD.	DIA. 0.8MM	GJ	MISCC/12/15-16/ANX-D PT-8	GMAW WIRE FOR ER80S - G	sales@satkulwelding.com	ASME.SEC.II.C-SFA;5.28 ER80S-G	WCPI-157/00	079 2562 0552	079 2562 6445
TPFB	MIGW8	21411	GMAW WIRE ER80S-G	METRODE PRODUCTS LIMITED,	DIA.0.8,1.2 & 1.6MM		WTC:09-10:05 DT.23.01.10	GMAW WIRE FOR ER80S - G	raghvendra.srivastava@metrode.com	ASME.SEC.II.C-SFA;5.28 ER80S-G	WCPI-157/00		
TPFB	MIGW8	20047	GMAW WIRE ER80S-G	KANEMATSU TRADING CORPORATION	DAI0.8,0.9,1.0 & 1.2,1.4 & 1.6MM		WTC:09-10:05 DT.23.01.10	GMAW WIRE FOR ER80S - G	koya_okuda@kgt.kanematsu.co.jp	ASME.SEC.II.C-SFA;5.28 ER80S-G	WCPI-157/00	81 3 5283 3680	
TPFB	MIGW8	91270	GMAW WIRE ER80S-G	VEEPEES INDIA,	DIA. 0.8MM	TN	WC/MISCC-2/16-17/ANNX-C	GMAW WIRE FOR ER80S - G	veepeesindia@gmail.com	ASME.SEC.II.C-SFA;5.28 ER80S-G	WCPI-157/00	044-43534354	
TPFB	MIGW9	21411	GMAW WIRE ER90S-G	METRODE PRODUCTS LIMITED,	DAI0.8 & 1.2MM		WTC:09-10:04 DT.23.01.10	GMAW WIRE FOR ER90S - G	raghvendra.srivastava@metrode.com	ASME.SEC.II.C-SFA;5.28 ER90S-G	WCPI-156/00		
TPFB	MIGW9	20563	GMAW WIRE ER90S-G	VOESTALPINE BOHLER WELDING	DAI0.8,0.9,1.0 & 1.2,1.4 & 1.6MM		WTC:09-10:04 DT.23.01.10	GMAW WIRE FOR ER90S - G	christina.holle@voestalpine.com	ASME.SEC.II.C-SFA;5.28 ER90S-G	WCPI-156/00	2381271759	
TPFB	MIGW9	20047	GMAW WIRE ER90S-G	KANEMATSU TRADING CORPORATION	DAI0.8,0.9,1.0 & 1.2,1.4 & 1.6MM		WTC:09-10:04 DT.23.01.10	GMAW WIRE FOR ER90S - G	koya_okuda@kgt.kanematsu.co.jp	ASME.SEC.II.C-SFA;5.28 ER90S-G	WCPI-156/00	81 3 5283 3680	
TPFB	MIGWA	20047	GMAW WIRE FOR T23.	KANEMATSU TRADING CORPORATION	DAI0.8,0.9,1.0 & 1.2MM		WC MISCC-8/16-17,DT031216		koya_okuda@kgt.kanematsu.co.jp	GMAWWIRE T23	-----	81 3 5283 3680	
TPFB	MIGWA	20563	GMAW WIRE FOR T23.	VOESTALPINE BOHLER WELDING	DIA. 0.8, 1.0 & 1.2MM		WCMISCC8 16-17,DT031216		christina.holle@voestalpine.com	GMAWWIRE T23	-----	2381271759	
TPFB	MIGWA	21411	GMAW WIRE FOR T23.	METRODE PRODUCTS LIMITED,	DIA.0.8, 1.0 & 1.2MM		WCMISCC8 16-17,DT031216		raghvendra.srivastava@metrode.com	GMAWWIRE T23	-----		
TPFB	MIGWA	23730	GMAW WIRE FOR T23.	NIPPON STEEL & SUMIKIN BUSSAN	DAI0.8,0.9,1.0 & 1.2MM	13	WCMISCC8 16-17,DT031216		yokotakao753@nssb.nssmc.co.jp	GMAWWIRE T23	-----	81 3 6770 9383	
TPFB	P91FL	21411	WELDING FLUX-P91	METRODE PRODUCTS LIMITED,	NOT APPLICABLE		MISCC12/14-15 PTB5,170315		raghvendra.srivastava@metrode.com	ASME SFA 5.23	WCPI-413		

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Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	P91FL	20047	WELDING FLUX-P91	KANEMATSU TRADING CORPORATION	NOT APPLICABLE		WTC:IMP		koya_okuda@kgt.kanematsu.co.jp	ASME SFA 5.23	WCPI-413	81 3 5283 3680	
TPFB	P91FL	10081	WELDING FLUX-P91	ESAB INDIA LTD	NOT APPLICABLE	TN	MISCC12/14-15 PTB5,170315		sukalyan.chakladar@esab.co.in	ASME SFA 5.23	WCPI-413	044-4340 4803	90030 77504
TPFB	P91FL	20563	WELDING FLUX-P91	VOESTALPINE BOHLER WELDING	NOT APPLICABLE		MISCC12/14-15 PTB5,170315		christina.holle@voestalpine.com	ASME SFA 5.23	WCPI-413	2381271759	
TPFB	P91FL	22391	WELDING FLUX-P91	AIR LIQUIDE WELDING FRANCE,	NOT APPLICABLE		FORM-C-ER80S-B3LD06.11.10		jean-paul.shmitt@airliquide.com	ASME SFA 5.23	WCPI-413	1342 13480	607855066
TPFB	P92FL	20563	SAWFLUX FOR SA335P92	VOESTALPINE BOHLER WELDING	NOT APPLICABLE		WTC:NVP:05DT.07.07.10	SAW FLUX FOR SA335P92 WELDING	christina.holle@voestalpine.com	SAW FLUX FOR SA335P92	-----	2381271759	
TPFB	SAWA1	21411	SAWWIRE FOR SA335P92	METRODE PRODUCTS LIMITED,	DIA:3.2 MM		66MISCC/WC/18.04.2013	SAW WIRE FOR SA335P92 WELDING	raghvendra.srivastava@metrode.com	SAW WIRE FOR SA335P92	-----		
TPFB	SAWA1	20563	SAWWIRE FOR SA335P92	VOESTALPINE BOHLER WELDING	NOT APPLICABLE		WTC:NVP:06DT.07.07.10	SAW WIRE FOR SA335P92 WELDING	christina.holle@voestalpine.com	SAW WIRE FOR SA335P92	-----	2381271759	
TPVS	SSOFL	10785	WELD:SS-OVERLAY FLUX	ADOR WELDING LIMITED	FULL RANGE	MH	M/WTC/VE/03-04/DT161203		acegasindia@gmail.com	WCPI 407	AS PER BHEL TDC		
TPVS	SSOFL	10774	WELD:SS-OVERLAY FLUX	D&H SECHERON ELECTRODES PVT LTD.	NOT APPLICABLE	MP	WC:15-16:42P,DT26.11.2015		sales@dnhsecheron.net	WCPI 407	AS PER BHEL TDC	0731-4229222	0-96850-91106
TPVS	SSOFL	15810	WELD:SS-OVERLAY FLUX	NOUVEAUX INDUSTRIES (P) LTD.,	NOT APPLICABLE	TN	WC:15-16:11P,DT26.05.2015			WCPI 407	AS PER BHEL TDC		
TPVS	SSOFL	10015	WELD:SS-OVERLAY FLUX	ANITA FLUXES ALLOY SPECIALITY	FULL RANGE	KA	ORIG.VEND			WCPI 407	AS PER BHEL TDC	080/ 839 4411	
TPFB	STRFL	10081	SAW FLUX STRUCT.WELD	ESAB INDIA LTD	NOT APPLICABLE	TN	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING	sukalyan.chakladar@esab.co.in	F7AZ- EL 8	WCPI-406/00	044-4340 4803	90030 77504
TPFB	STRFL	14791	SAW FLUX STRUCT.WELD	ANAND ARC LTD.,	NOT APPLICABLE	TN	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING	sales@anandarc.com	F7AZ- EL 8	WCPI-406/00	022 4268 8484	
TPFB	STRFL	19735	SAW FLUX STRUCT.WELD	RENUKA FLUXES COMPANY,	NOT APPLICABLE	TN	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING		F7AZ- EL 8	WCPI-406/00	04290 313331	0 94436 33835
TPFB	STRFL	19695	SAW FLUX STRUCT.WELD	SUBMER FLUX TECHNOLOGIES,	NOT APPLICABLE	TN	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING	Submer_flux@yahoo.in	F7AZ- EL 8	WCPI-406/00	0431-4220462	9842415945
TPFB	STRFL	15085	SAW FLUX STRUCT.WELD	VOLTARC ELECTRODES (P) LTD,	NOT APPLICABLE	AP	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING	voltarc@rediffmail.com	F7AZ- EL 8	WCPI-406/00	0877 2241462	
TPFB	STRFL	11288	SAW FLUX STRUCT.WELD	JAGSHAAN INDUSTRIES	NOT APPLICABLE	MH	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING	jagshaan@nagpur.dot.net.in	F7AZ- EL 8	WCPI-406/00	0712 - 581557	
TPFB	STRFL	11712	SAW FLUX STRUCT.WELD	TAPADIA ENGINEERS & TRADERS P.LTD.	NOT APPLICABLE	CH	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING	tet_tgirpr@rediffmail.com	F7AZ- EL 8	WCPI-406/00	0770 - 4090636	
TPFB	STRFL	17381	SAW FLUX STRUCT.WELD	NOUVEOFLUX CHEMICAL COMPANY	NOT APPLICABLE	TN	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING	nouveauxindustries@gmail.com	F7AZ- EL 8	WCPI-406/00		
TPFB	STRFL	15099	SAW FLUX STRUCT.WELD	THERMIT ALLOYS (P) LTD,	NOT APPLICABLE	KA	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING	thermit@vsnl.net	F7AZ- EL 8	WCPI-406/00	08182 250431	
TPFB	STRFL	19114	SAW FLUX STRUCT.WELD	WELMET TECHNOLOGIES PVT. LTD.,	NOT APPLICABLE	MH	MISCC 75. DT.31/01/2014	SAW FLUX STRUCTURAL WELDING		F7AZ- EL 8	WCPI-406/00		
TPFB	STRFL	11701	SAW FLUX STRUCT.WELD	SUPER WELD PRODUCTS	NOT APPLICABLE	TN	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING		F7AZ- EL 8	WCPI-406/00	0431 - 765626	
TPFB	STRFL	14309	SAW FLUX STRUCT.WELD	S.CHEMS & ALLIED PRODUCERS PVT LIM	NOT APPLICABLE	MH	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING	s chems@yahoo.co.in	F7AZ- EL 8	WCPI-406/00	022 26368557	
TPFB	STRFL	14593	SAW FLUX STRUCT.WELD	R.M.H.CHEMICAL INDUSTRIES	NOT APPLICABLE	TN	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING	rmhfbbricators@vsnl.net	F7AZ- EL 8	WCPI-406/00	2500498	
TPFB	STRFL	13211	SAW FLUX STRUCT.WELD	D&H INDIA LIMITED	NOT APPLICABLE	MP	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING	dhindia@sancharnet.in	F7AZ- EL 8	WCPI-406/00	0731-4273501-...	
TPFB	STRFL	13691	SAW FLUX STRUCT.WELD	MANTEK WELDAIDFLUX CO.	NOT APPLICABLE	TN	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING	mantek@eth.net	F7AZ- EL 8	WCPI-406/00	2501540	
TPFB	STRFL	12184	SAW FLUX STRUCT.WELD	LAKSHMI CHEMICAL INDUSTRIES	NOT APPLICABLE	TN	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTURAL WELDING	lakshmi.chem@yahoo.com	F7AZ- EL 8	WCPI-406/00	9842550538	

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Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	STRFL	10785	SAW FLUX STRUCT.WELD	ADOR WELDING LIMITED	NOT APPLICABLE	MH	WC:11-12-82PDT.05.01.12	SAW FLUX STRUCTUAL WELDING	acegasindia@gamail.com	F7AZ- EL 8	WCPI-406/00		
TPFB	STRFL	17813	SAW FLUX STRUCT.WELD	K.M.CROWN WELDING CONSUMABLES PVT.,	NOT APPLICABLE	MP	WC:15-16:28P,DT28.08.2015	SAW FLUX STRUCTUAL WELDING	kmcrownwelding@dataone.com	F7AZ- EL 8	WCPI-406/00	07272 259384578	
TPFB	STRFL	14584	SAW FLUX STRUCT.WELD	SUN ENTERPRISES	NOT APPLICABLE	TN	MISCC 06_15-16 PART-A PT2	SAW FLUX STRUCTUAL WELDING	sunenterprises2011@gmail.com	F7AZ- EL 8	WCPI-406/00	0 88256 36464	
TPFB	STRFL	13486	SAW FLUX STRUCT.WELD	A V WELDTech PVT.LTD.,	NOT APPLICABLE	MH	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTUAL WELDING	products@aveasyweld.com	F7AZ- EL 8	WCPI-406/00	0712-252 1727	
TPFB	STRFL	13484	SAW FLUX STRUCT.WELD	OSCAR AUTO FLUX,	NOT APPLICABLE	TN	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTUAL WELDING	oscarautoflux@gmail.com	F7AZ- EL 8	WCPI-406/00	0431-2914567	
TPFB	STRFL	13534	SAW FLUX STRUCT.WELD	RUPA INDUSTRIES,	NOT APPLICABLE	AP	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTUAL WELDING	rupaent@vsnl.net	F7AZ- EL 8	WCPI-406/00	040-2771 3714	0 9396479987
TPFB	STRFL	11528	SAW FLUX STRUCT.WELD	RAAJRATNA ELECTRODES LTD	NOT APPLICABLE	GJ	SDC/WC:12-13:13P/22.05.12	SAW FLUX STRUCTUAL WELDING	mktg@gnaht-rel.global.net.in	F7AZ- EL 8	WCPI-406/00	079 - 6445258	
TPFB	STRFL	15101	SAW FLUX STRUCT.WELD	PRECISION WELDARC LTD,	NOT APPLICABLE	WB	SDC/WC:12-13:22P/22.05.12	SAW FLUX STRUCTUAL WELDING	pwires@yahoo.co.in	F7AZ- EL 8	WCPI-406/00	033 25634753	
TPFB	STRFL	15082	SAW FLUX STRUCT.WELD	ROYAL WELDING WIRES PVT. LTD.,	NOT APPLICABLE	TN	WC:11-12-82P DT. 05/01/12	SAW FLUX STRUCTUAL WELDING	admin@theoryalfirm.in	F7AZ- EL 8	WCPI-406/00	044-3741 1610	98410-27867
TPFB	TIGA1	21411	GTAW ROD - T92 / P92	METRODE PRODUCTS LIMITED,	DIA. 2.4 & 3.2MM		WTC:NVP:07DT.07.07.10	GTAW ROD FOR T92 / P92 WELDING	raghvendra.srivastava@metrode.com	GTAW ROD - T92/P92	-----		
TPFB	TIGA1	20563	GTAW ROD - T92 / P92	VOESTALPINE BOHLER WELDING	DIA. 1.6,2.0,2.4 & 3.2MM		WTC:NVP:07DT.07.07.10	GTAW ROD FOR T92 / P92 WELDING	christina.holle@voestalpine.com	GTAW ROD - T92/P92	-----	2381271759	
TPFB	TIGS2	22391	GTAW ROD ER309L	AIR LIQUIDE WELDING FRANCE,	DIA. 2.4MM		SDC/WC/13-14/40PDT.030114	GTAW ROD ER309L	jean-paul.shmitt@airliquide.com	ASME.SEC.II.C,SFA-5.9.ER309L	WCPI-124	1342 13480	607855066
TPFB	TIGS2	23730	GTAW ROD ER309L	NIPPON STEEL & SUMIKIN BUSSAN	DIA. 1.6,2.0 & 2.4MM	13	06 MISCC WC/15-16 ANN-X-1	GTAW ROD ER309L	yokotakao753@nssb.nssmc.com	ASME.SEC.II.C,SFA-5.9.ER309L	WCPI-124	81 3 6770 9383	
TPFB	TIGS2	20047	GTAW ROD ER309L	KANEMATSU TRADING CORPORATION	DIA: 2.40 MM		SDC/WC/13-14/39PDT.030114	GTAW ROD ER309L	koya_okuda@kgt.kanematsu.co.jp	ASME.SEC.II.C,SFA-5.9.ER309L	WCPI-124	81 3 5283 3680	
TPFB	TIGW1	15083	ER 70S-A1 GTAW ROD	MARUTHI ELECTRODES (P) LTD.,	DIA.2.4MM	KA	WC-MISCC 01/15-16,270415		meplelec@bgl.vsnl.net.in	ER70S-A1	WCPI 101	080 25275848	
TPFB	TIGW1	20563	ER 70S-A1 GTAW ROD	VOESTALPINE BOHLER WELDING	DIA.1.6,2.0,2.4 & 3.0MM		ORIG.VEND		christina.holle@voestalpine.com	ER70S-A1	WCPI 101	2381271759	
TPFB	TIGW1	10774	ER 70S-A1 GTAW ROD	D&H SECHERON ELECTRODES PVT LTD.	DIA.1.6,2.0,2.4,2.5 & 3.2MM	MP	WC:TIGW1:16DT.29.08.08		sales@dnhsecheron.net	ER70S-A1	WCPI 101	0731-4229222	0-96850-91106
TPFB	TIGW1	13690	ER 70S-A1 GTAW ROD	GEE LIMITED,	DIA.2.40MM	MH	WC MISCC-06/17-18/251017		mpdhanuka@geelimited.com	ER70S-A1	WCPI 101	02522 281176	02522 281188
TPFB	TIGW1	22456	ER 70S-A1 GTAW ROD	I.A.BARNES & CO. LTD,	DIA.2.40 MM		WC/13-14/13PDT.101013		mandy@iabco.co.uk	ER70S-A1	WCPI 101		
TPFB	TIGW1	21411	ER 70S-A1 GTAW ROD	METRODE PRODUCTS LIMITED,	DIA: 2.40 MM		WC/13-14/12PDT.101013		raghvendra.srivastava@metrode.com	ER70S-A1	WCPI 101		
TPFB	TIGW1	10785	ER 70S-A1 GTAW ROD	ADOR WELDING LIMITED	DIA. 2.40 MM	MH	SDC/WC/13-14/41PDT.030114		acegasindia@gamail.com	ER70S-A1	WCPI 101		
TPFB	TIGW1	11227	ER 70S-A1 GTAW ROD	HONAVAR ELECTRODES PVT. LTD.,	SIZE DIA.2.40 MM	MH	WC:14-15:32P,DT19.11.2014		hel@vsnl.com	ER70S-A1	WCPI 101	022-25020317	
TPFB	TIGW1	20047	ER 70S-A1 GTAW ROD	KANEMATSU TRADING CORPORATION	DIA. 0.8,1.0,1.2,1.6,2.0,2.4 & 3.2MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	ER70S-A1	WCPI 101	81 3 5283 3680	
TPFB	TIGW2	21461	ER 80S-B2 GTAW ROD	INDUSTRIA NAZIONALE ELETTRODI S.p.A	DIA.2.0,2.4 & 2.5MM		MISCC12/14-15 PTB5,170315		doriana.depoli@ine.it	ER80SG 1.25CR 1/2MO	WCPI 102		
TPFB	TIGW2	10785	ER 80S-B2 GTAW ROD	ADOR WELDING LIMITED	DIA.2.40 MM	MH	SDC/WC/13-14/30PDT.020114		acegasindia@gamail.com	ER80SG 1.25CR 1/2MO	WCPI 102		
TPFB	TIGW2	20047	ER 80S-B2 GTAW ROD	KANEMATSU TRADING CORPORATION	DIA.1.6,2.0,2.4 & 3.2MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	ER80SG 1.25CR 1/2MO	WCPI 102	81 3 5283 3680	
TPFB	TIGW2	22456	ER 80S-B2 GTAW ROD	I.A.BARNES & CO. LTD,	DIA.2.40MM		WC:15-16:16P/DT12.06.2015		mandy@iabco.co.uk	ER80SG 1.25CR 1/2MO	WCPI 102		

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Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	TIGW2	21411	ER 80S-B2 GTAW ROD	METRODE PRODUCTS LIMITED,	DIA.1.6,2.4 & 3.2MM		MISCC12/14-15 PTB5,170315		raghvendra.srivastava@metrode.com	ER80SG 1.25CR 1/2MO	WCPI 102		
TPFB	TIGW2	13690	ER 80S-B2 GTAW ROD	GEE LIMITED,	SIZE DIA. 2.40 MM	MH	WC:14-15:35P,DT20.11.2014		mpdhanuka@geelimited.com	ER80SG 1.25CR 1/2MO	WCPI 102	02522 281176	02522 281188
TPFB	TIGW2	10774	ER 80S-B2 GTAW ROD	D&H SECHERON ELECTRODES PVT LTD.	DIA.1.6,2.0,2.4,2.5 & 3.2MM	MP	MISCC12/14-15 PTB5,170315		sales@dnhsecheron.net	ER80SG 1.25CR 1/2MO	WCPI 102	0731-4229222	0-96850-91106
TPFB	TIGW2	10081	ER 80S-B2 GTAW ROD	ESAB INDIA LTD	DIA.2.40 MM	TN	MISCC/12/15-16/ANX-D PT-3		sukalyan.chakladar@esab.co.in	ER80SG 1.25CR 1/2MO	WCPI 102	044-4340 4803	90030 77504
TPFB	TIGW2	15083	ER 80S-B2 GTAW ROD	MARUTHI ELECTRODES (P) LTD.,	DIA.2.4MM	KA	SDC/WC/13-14/36PDT.020114		meplelec@bgl.vsnl.net.in	ER80SG 1.25CR 1/2MO	WCPI 102	080 25275848	
TPFB	TIGW3	21411	ER 90S-B3 GTAW ROD	METRODE PRODUCTS LIMITED,	DIA.1.6 & 2.4MM		MISCC12/14-15 PTB5,170315		raghvendra.srivastava@metrode.com	ER90SG-2 1/4CR 1MO	WCPI 103		
TPFB	TIGW3	20047	ER 90S-B3 GTAW ROD	KANEMATSU TRADING CORPORATION	DIA.1.6,2.0,2.4 & 3.2MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	ER90SG-2 1/4CR 1MO	WCPI 103	81 3 5283 3680	
TPFB	TIGW3	21461	ER 90S-B3 GTAW ROD	INDUSTRIA NAZIONALE ELETTRODI S.p.A	DIA.2.0,2.4 & 3.2MM		MISCC12/14-15 PTB5,170315		doriana.depoli@ine.it	ER90SG-2 1/4CR 1MO	WCPI 103		
TPFB	TIGW3	20563	ER 90S-B3 GTAW ROD	VOESTALPINE BOHLER WELDING	DIA.2.0,2.4 & 3.0MM		ORIG.VEND		christina.holle@voestalpine.com	ER90SG-2 1/4CR 1MO	WCPI 103	2381271759	
TPFB	TIGW3	22456	ER 90S-B3 GTAW ROD	I.A.BARNES & CO. LTD,	DIA.2.40MM		WC:15-16:16P/DT12.06.2015		mandy@iabco.co.uk	ER90SG-2 1/4CR 1MO	WCPI 103		
TPFB	TIGW3	10785	ER 90S-B3 GTAW ROD	ADOR WELDING LIMITED	DIA: 2.40 MM	MH	SDC/WC/13-14/30PDT.020114		acegasindia@gmail.com	ER90SG-2 1/4CR 1MO	WCPI 103		
TPFB	TIGW3	15083	ER 90S-B3 GTAW ROD	MARUTHI ELECTRODES (P) LTD.,	DIA.2.4MM	KA	SDC/WC/13-14/48PDT.130114		meplelec@bgl.vsnl.net.in	ER90SG-2 1/4CR 1MO	WCPI 103	080 25275848	
TPFB	TIGW3	10774	ER 90S-B3 GTAW ROD	D&H SECHERON ELECTRODES PVT LTD.	DIA. 2.40MM	MP	WC:15-16:17P/DT12.06.2015		sales@dnhsecheron.net	ER90SG-2 1/4CR 1MO	WCPI 103	0731-4229222	0-96850-91106
TPFB	TIGW4	20047	WELDG.WIRE-TIG ER347	KANEMATSU TRADING CORPORATION	DIA.1.2,1.6,2.0,2.4 & 3.2MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	ER347	WCPI 107	81 3 5283 3680	
TPFB	TIGW4	20563	WELDG.WIRE-TIG ER347	VOESTALPINE BOHLER WELDING	DIA.1.0,1.6,2.0,2.4 & 3.2MM		ORIG.VEND		christina.holle@voestalpine.com	ER347	WCPI 107	2381271759	
TPFB	TIGW4	21411	WELDG.WIRE-TIG ER347	METRODE PRODUCTS LIMITED,	DIA.1.0,1.6,2.0,2.4 & 3.2MM		ORIG.VENDOR		raghvendra.srivastava@metrode.com	ER347	WCPI 107		
TPFB	TIGW4	13690	WELDG.WIRE-TIG ER347	GEE LIMITED,	SIZE DIA.2.40MM	MH	WC:14-15:41D,DT20.11.2014		mpdhanuka@geelimited.com	ER347	WCPI 107	02522 281176	02522 281188
TPFB	TIGW5	20047	WELDG.WIRE-TIG ERNiC	KANEMATSU TRADING CORPORATION	DIA.0.8,0.9,1.0,1.2,1.6,2.0,2.4,3.2 & 4.0MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	ERNICR3	WCPI 108	81 3 5283 3680	
TPFB	TIGW5	14400	WELDG.WIRE-TIG ERNiC	ADOR FONTECH LIMITED,	DIA.2.40MM	KA	WCMISCC11/16-17,DT.230217		adftenders@adorfon.com	ERNICR3	WCPI 108	080-2836 5751	0 93440 04525
TPFB	TIGW5	20563	WELDG.WIRE-TIG ERNiC	VOESTALPINE BOHLER WELDING	DIA.1.6,2.0,2.4 & 3.2MM		ORIG.VEND		christina.holle@voestalpine.com	ERNICR3	WCPI 108	2381271759	
TPFB	TIGW5	21411	WELDG.WIRE-TIG ERNiC	METRODE PRODUCTS LIMITED,	DIA: 2.40 MM		SDC/WC/13-14/31PDT.020114		raghvendra.srivastava@metrode.com	ERNICR3	WCPI 108		
TPFB	TIGW5	15083	WELDG.WIRE-TIG ERNiC	MARUTHI ELECTRODES (P) LTD.,	DIA.2.0 & 2.4MM	KA	MISCC12/14-15 PTB5,170315		meplelec@bgl.vsnl.net.in	ERNICR3	WCPI 108	080 25275848	
TPFB	TIGW7	22391	WELDG.WIRE - TIG ER9	AIR LIQUIDE WELDING FRANCE,	DIA.2.4MM		FORM-C-ER80S-B3LD06.11.10		jean-paul.shmitt@airliquide.com	TIG ER90S-B9	WCPI 114	1342 13480	607855066
TPFB	TIGW7	21411	WELDG.WIRE - TIG ER9	METRODE PRODUCTS LIMITED,	DIA.1.6,2.4 & 3.2MM		MISCC12/14-15 PTB5,170315		raghvendra.srivastava@metrode.com	TIG ER90S-B9	WCPI 114		
TPFB	TIGW7	20563	WELDG.WIRE - TIG ER9	VOESTALPINE BOHLER WELDING	DIA.1.6,2.0,2.4 & 3.2MM		ORIG.VEND		christina.holle@voestalpine.com	TIG ER90S-B9	WCPI 114	2381271759	
TPFB	TIGW7	20047	WELDG.WIRE - TIG ER9	KANEMATSU TRADING CORPORATION	DIA.1.6,2.0 & 2.4MM		SDC/MFG/WC/17DT.29.11.06		koya_okuda@kgt.kanematsu.co.jp	TIG ER90S-B9	WCPI 114	81 3 5283 3680	
TPFB	TIGW9	23730	ER80S - D2 GTAW ROD	NIPPON STEEL & SUMIKIN BUSSAN	DIA.1.6,2.0 & 2.4MM	13	06 MISCC WC/15-16 ANN-X-I	ER80S - D2 GTAW ROD	yokotakao753@nssb.nssmc.co.jp	TIG ER90S-B9	WCPI 114	81 3 6770 9383	

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Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	TIGW9	21411	ER80S - D2 GTAW ROD	METRODE PRODUCTS LIMITED,	DIA.1.6,2.0,2.4 & 3.2MM		WC:11-12:59PDT.28.12.2011	ER80S - D2 GTAW ROD	raghvendra.srivastava@metrode.com	TIG ER90S-B9	WCPI 114		
TPFB	TIGW9	20563	ER80S - D2 GTAW ROD	VOESTALPINE BOHLER WELDING	DIA.2.0,2.4 & 3.0MM		WTC/09-10/01DT.16.09.09	ER80S - D2 GTAW ROD	christina.holle@voestalpine.com	TIG ER90S-B9	WCPI 114	2381271759	
TPFB	TIGWB	23730	GTAW ROD SUPER304H	NIPPON STEEL & SUMIKIN BUSSAN	DIA.0.8MM, 1.0MM & 2.40MM	13	07 MISCC WC/16-17 ANNEX-H	GTAW ROD FOR SUPER 304H WELDING.	yokotakao753@nssb.nssmc.co	GTAW ROD SUPER 304H	-----	81 3 6770 9383	
TPFB	TIGWB	20563	GTAW ROD SUPER304H	VOESTALPINE BOHLER WELDING	DIA.0.8 & 1.0 & 2.40 MM		WC/12-13/37PDT.04.03.13	GTAW ROD FOR SUPER 304H WELDING.	christina.holle@voestalpine.com	GTAW ROD SUPER 304H	-----	2381271759	
TPFB	TIGWB	20047	GTAW ROD SUPER304H	KANEMATSU TRADING CORPORATION	ONLY FOR DIA.2.40MM (DIA.0.8MM STILL UNDER DEVELOPMENT)		WCMISCC0716-17,DT241016	GTAW ROD FOR SUPER 304H WELDING.	koya_okuda@kgt.kanematsu.co.jp	GTAW ROD SUPER 304H	-----	81 3 5283 3680	
TPFB	WCA08	17451	WELDG.ELECTRODES:SMA	WELDFAST ELECTRODES PVT LTD,	DIA; 2.5,3.15,4.0 & 5.0 MM	MH	WC:15-16:20P/DT12.06.2015		weldwellngp@gmail.com	E7018-A1	WCPI 208	07104 232211/...	0 94228 08860
TPFB	WCA08	13911	WELDG.ELECTRODES:SMA	ROYAL ARC ELECTRODES LIMITED	DIA.2.5, 3.15, 4.0,5.0 & 6.3 MM	MH	WC:15-16:41P,DT26.11.2015		tenders@royalarc.in	E7018-A1	WCPI 208	022 28822374	022 28820328
TPFB	WCA08	10774	WELDG.ELECTRODES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.50,3.15,4.00,5.00 & 6.30MM	MP	ORIG.VEND		sales@dnhsecheron.net	E7018-A1	WCPI 208	0731-4229222	0-96850-91106
TPFB	WCA08	11227	WELDG.ELECTRODES:SMA	HONAVAR ELECTRODES PVT. LTD.,	DIA:2.5, 3.15, 4.0, 5.0 & 6.30MM	MH	WC/13-14/23PDT.161213		hel@vsnl.com	E7018-A1	WCPI 208	022-25020317	
TPFB	WCA08	18432	WELDG.ELECTRODES:SMA	VIJEY ELECTRODES AND WIRES PVT.	DIA.2.50,3.15,4.00 & 5.00 MM	TN	ANNX-D/WC/MISCC-12/15-16		vjelect@yahoo.co.in	E7018-A1	WCPI 208	044-2238 1098	0 94440 02433
TPFB	WCA08	15090	WELDG.ELECTRODES:SMA	RAJ KESARI ELECTRODES PVT LTD.	DIA.2.50,4.00,& 5.00 MM	RJ	WC/13-14/17PDT.121013		rajkesari@yahoo.com	E7018-A1	WCPI 208	0294 2490193	
TPFB	WCA10	13906	WELDG.ELECTRODES:SMA	MARUTI WELD PRIVATE LIMITED,	DIA.2.5,3.15,4.0 & 5.0MM		WC:8018-B2:20DT.17.09.08		marutiweld@marutiweld.com	E8018-B2	WCPI 212	011 6536 3100	0 95600 92718
TPFB	WCA10	18432	WELDG.ELECTRODES:SMA	VIJEY ELECTRODES AND WIRES PVT.	DIA.2.5,3.15 & 4.0 MM	TN	WC/13-14/22PDT.161213		vjelect@yahoo.co.in	E8018-B2	WCPI 212	044-2238 1098	0 94440 02433
TPFB	WCA10	18705	WELDG.ELECTRODES:SMA	MODI HITECH INDIA LTD.,	DIA.2.5,3.15, 4.0 & 5.0 MM	UP	WC/13-14/14PDT.121013		gmmelectrode@gmail.com	E8018-B2	WCPI 212	011 4250 4577	0 97173 92710
TPFB	WCA10	14040	WELDG.ELECTRODES:SMA	MANTEK ELECTRODS PRIVATE LTD,	DIA.5.0MM (DIA.2.50,3.15 & 4.0MM-UNDR DEVELOPMENT)	TN	MISCC/12/15-16/ANX-C PT-4		mantek@live.in	E8018-B2	WCPI 212	04312501570	9842921540
TPFB	WCA10	13690	WELDG.ELECTRODES:SMA	GEE LIMITED,	DIA.2.5,3.15, 4 & 5 MM	MH	WC/13-14/16PDT.171013		mpdhanuka@geelimited.com	E8018-B2	WCPI 212	02522 281176	02522 281188
TPFB	WCA10	10774	WELDG.ELECTRODES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.2,4.0 & 5.0MM	MP	MISCC12/14-15 PTB5,170315		sales@dnhsecheron.net	E8018-B2	WCPI 212	0731-4229222	0-96850-91106
TPFB	WCA10	13911	WELDG.ELECTRODES:SMA	ROYAL ARC ELECTRODES LIMITED	DIA.4.0 & 5.0MM ONLY [2.5 & 3.15 MM UNDER DEVELOPMENT]	MH	WC MISCC-9/16-17,DT291216		tenders@royalarc.in	E8018-B2	WCPI 212	022 28822374	022 28820328
TPFB	WCA10	11227	WELDG.ELECTRODES:SMA	HONAVAR ELECTRODES PVT. LTD.,	DIA.2.5,3.2,4.0 & 5.0MM	MH	MISCC12/14-15 PTB5,170315		hel@vsnl.com	E8018-B2	WCPI 212	022-25020317	
TPFB	WCA10	11378	WELDG.ELECTRODES:SMA	MAILAM INDIA LIMITED	DIA.2.5,3.2,4.0 & 5.0MM	PY	MISCC12/14-15 PTB5,170315		mailam@mailamindia.com	E8018-B2	WCPI 212	0413-2677311	
TPFB	WCA10	17451	WELDG.ELECTRODES:SMA	WELDFAST ELECTRODES PVT LTD,	DIA. 2.5MM, 3.15MM, 4.0MM & 5.0MM	MH	WC MISCC-9/16-17,DT291216		weldwellngp@gmail.com	E8018-B2	WCPI 212	07104 232211/...	0 94228 08860
TPFB	WCA10	15090	WELDG.ELECTRODES:SMA	RAJ KESARI ELECTRODES PVT LTD.	DIA.2.5,3.15,4.0 & 5.0MM	RJ	WC:13-14:58P, DT.07.02.14		rajkesari@yahoo.com	E8018-B2	WCPI 212	0294 2490193	
TPFB	WCA12	13211	WELDG.ELECTRODES:SMA	D&H INDIA LIMITED	DIA.2.5,3.15,4.0 & 5.0 MM	MP	SDC/WC/13-14/43PDT.030114		dhindia@sancharnet.in	E9018-B3	WCPI 214	0731-4273501-...	
TPFB	WCA12	17451	WELDG.ELECTRODES:SMA	WELDFAST ELECTRODES PVT LTD,	DIA. 2.5MM, 3.15MM, 4.0MM & 5.0MM	MH	WC MISCC-9/16-17,DT291216		weldwellngp@gmail.com	E9018-B3	WCPI 214	07104 232211/...	0 94228 08860
TPFB	WCA12	18705	WELDG.ELECTRODES:SMA	MODI HITECH INDIA LTD.,	DIA.2.5,3.15 & 4.0 MM	UP	SDC/WC/13-14/37PDT.020114		gmmelectrode@gmail.com	E9018-B3	WCPI 214	011 4250 4577	0 97173 92710

APPROVED SUPPLIER LIST FOR WELDING CONSUMABLES

Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	WCA12	13911	WELDG.ELECTRODES:SMA	ROYAL ARC ELECTRODES LIMITED	DIA.2.5,3.15,4.0 & 5.0MM	MH	WC:14-15:33P,DT19.11.2014		tenders@royalarc.in	E9018-B3	WCPI 214	022 28822374	022 28820328
TPFB	WCA12	11378	WELDG.ELECTRODES:SMA	MAILAM INDIA LIMITED	DIA.2.5,3.15,4.0 & 5.0 MM	PY	WC/13-14/15PDT.121013		mailam@mailamindia.com	E9018-B3	WCPI 214	0413-2677311	
TPFB	WCA12	11227	WELDG.ELECTRODES:SMA	HONAVAR ELECTRODES PVT. LTD.,	DIA.2.5,3.2,4.0 & 5.0MM	MH	MISCC12/14-15 PTB5,170315		hel@vsnl.com	E9018-B3	WCPI 214	022-25020317	
TPFB	WCA12	10774	WELDG.ELECTRODES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.2,4.0 & 5.0MM	MP	MISCC12/14-15 PTB5,170315		sales@dnhsecheron.net	E9018-B3	WCPI 214	0731-4229222	0-96850-91106
TPFB	WCA12	18432	WELDG.ELECTRODES:SMA	VIJEY ELECTRODES AND WIRES PVT.	DIA.2.5,3.15 & 4.0MM	TN	WC:13-14-49P/DT20.01.14		vjelect@yahoo.co.in	E9018-B3	WCPI 214	044-2238 1098	0 94440 02433
TPFB	WCA12	13906	WELDG.ELECTRODES:SMA	MARUTI WELD PRIVATE LIMITED,	DIA.3.15,4.0 & 5.0MM		WC:9018-B3:21DT.17.08.08		marutiweld@marutiweld.com	E9018-B3	WCPI 214	011 6536 3100	0 95600 92718
TPFB	WCA12	13690	WELDG.ELECTRODES:SMA	GEE LIMITED,	DIA.2.5,3.15, 4 & 5 MM	MH	WC/13-14/16PDT.171013		mpdhanuka@geelimited.com	E9018-B3	WCPI 214	02522 281176	02522 281188
TPFB	WCA23	20047	SMAW ELECD E9015-B91	KANEMATSU TRADING CORPORATION	DIA.2.6,3.2,4.0 & 5.0MM		M:WTC:IMP:NEW:01DT.0 50906	SMAW ELECTRODE E9015-B91	koya_okuda@kgt.kanematsu.co.jp	ASME SEC.II.C.SFA-5.5E9015-B91	WCPI-245	81 3 5283 3680	
TPFB	WCA23	21411	SMAW ELECD E9015-B91	METRODE PRODUCTS LIMITED,	DIA.2.5,3.2,4.0 & 5.0MM		MISCC12/14-15 PTB5,170315	SMAW ELECTRODE E9015-B91	raghvendra.srivastava@metrode.com	ASME SEC.II.C.SFA-5.5E9015-B91	WCPI-245		
TPFB	WCA23	20563	SMAW ELECD E9015-B91	VOESTALPINE BOHLER WELDING	DIA.2.5,3.2,4.0 & 5.0MM		MISCC12/14-15 PTB5,170315	SMAW ELECTRODE E9015-B91	christina.holle@voestalpine.com	ASME SEC.II.C.SFA-5.5E9015-B91	WCPI-245	2381271759	
TPFB	WCA23	22391	SMAW ELECD E9015-B91	AIR LIQUIDE WELDING FRANCE,	DIA.2.5,3.2,4.0 & 5.0MM		FORM-C-ER80S-B3LD06.11.10	SMAW ELECTRODE E9015-B91	jean-paul.shmitt@airliquide.com	ASME SEC.II.C.SFA-5.5E9015-B91	WCPI-245	1342 13480	607855066
TPFB	WCA23	11378	SMAW ELECD E9015-B91	MAILAM INDIA LIMITED	DIA.2.50,3.20,4.0 MM	PY	MISCC/WC-06/17-18/ANNX-3	SMAW ELECTRODE E9015-B91	mailam@mailamindia.com	ASME SEC.II.C.SFA-5.5E9015-B91	WCPI-245	0413-2677311	
TPFB	WCA23	10774	SMAW ELECD E9015-B91	D&H SECHERON ELECTRODES PVT LTD.	DIA 3.2 & 4.00 MM ONLY (DEVELOPMENT IN DIA 2.5 MM)	MP	MISCC/WC-09/17-18/ANNX-C	SMAW ELECTRODE E9015-B91	sales@dnhsecheron.net	ASME SEC.II.C.SFA-5.5E9015-B91	WCPI-245	0731-4229222	0-96850-91106
TPFB	WCA25	20563	SMAW ELECD - T92/P92	VOESTALPINE BOHLER WELDING	DIA.2.5,3.2 & 4.0MM		WTC:NVP:08DT.07.07.10	SMAW ELECTRODE FOR T92 / P92 WELDING	christina.holle@voestalpine.com	SMAW ELECTRODE - T92 / P92	-----	2381271759	
TPFB	WCA25	21411	SMAW ELECD - T92/P92	METRODE PRODUCTS LIMITED,	DIA.2.5,3.2 & 4.0MM		SDC/WC/13-14/07P/29.08.13	SMAW ELECTRODE FOR T92 / P92 WELDING	raghvendra.srivastava@metrode.com	SMAW ELECTRODE - T92 / P92	-----		
TPFB	WCC01	13693	WELDG.ELECTRODES:SMA	RASI ELECTRODES LTD.,	DIA 2.50,3.15,4.00 & 5.00	TN	SDC:FB:WCC01:11DT.260 809		rele@airtellmail.in	E6013	WCPI 201	044 26424523	0 98411 15819
TPFB	WCC01	15102	WELDG.ELECTRODES:SMA	SOLARC WELD RODS,	DIA 2.50,3.15,4.00 & 5.00	TN	WC:11-12:53P29.08.2011		solarcweldrods@gmail.com	E6013	WCPI 201	0431 2700 149	0 98421 56790
TPFB	WCC01	13690	WELDG.ELECTRODES:SMA	GEE LIMITED,	DIA 2.50,3.15,4.00 & 5.00	MH	SDC:FB:WCC01:11DT.260 809		mpdhanuka@geelimited.com	E6013	WCPI 201	02522 281176	02522 281188
TPFB	WCC01	10785	WELDG.ELECTRODES:SMA	ADOR WELDING LIMITED	DIA 2.50,3.15,4.00 & 5.00	MH	WC:11-12:60PDT.28.12.2011		acegasindia@gamail.com	E6013	WCPI 201		
TPFB	WCC01	13911	WELDG.ELECTRODES:SMA	ROYAL ARC ELECTRODES LIMITED	DIA 2.50,3.15,4.00 & 5.00	MH	WC:11-12:60PDT.28.12.2011		tenders@royalarc.in	E6013	WCPI 201	022 28822374	022 28820328
TPFB	WCC01	15083	WELDG.ELECTRODES:SMA	MARUTHI ELECTRODES (P) LTD.,	DIA 2.50,3.15,4.00 & 5.00	KA	SDC:FB:WCC01:11DT.260 809		meplelec@bgl.vsnl.net.in	E6013	WCPI 201	080 25275848	
TPFB	WCC01	17644	WELDG.ELECTRODES:SMA	VARUN ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	HR	WC:11-12:26DT.29.06.2011		kapoor@varunelectrodes.com	E6013	WCPI 201	0180 2653085	
TPFB	WCC01	17814	WELDG.ELECTRODES:SMA	CALCUTTA ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	CH	WC-MISCC76,DT.25.02.2014		calcutta_electrodes2006@yahoo.com	E6013	WCPI 201	0771 4090615	
TPFB	WCC01	14584	WELDG.ELECTRODES:SMA	SUN ENTERPRISES	DIA 2.50,3.15,4.00 & 5.00	TN	MISCC 06_15-16 PART-A PT2		sunenterprises2011@gmail.com	E6013	WCPI 201	0 88256 36464	
TPFB	WCC01	14534	WELDG.ELECTRODES:SMA	AARYA ELECTRODES PVT.LTD.	DIA 2.50,3.15,4.00 & 5.00	UP	SDC/WC/12-13/26PDT.200612		vibhor@aaryaelectrodes.com	E6013	WCPI 201	0562 262 2121	
TPFB	WCC01	14448	WELDG.ELECTRODES:SMA	BRIGHT WELD TECHNOLOGIES	DIA 2.50,3.15,4.00 & 5.00	TN	SDC/WC:12-13:19P/22.05.12		brigtweld13@gmail.com	E6013	WCPI 201	0422 257 4756	0 99947 66697

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TPFB	WCC01	12893	WELDG.ELECTRODES:SMA	RUKHMANI ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	WB	SDC/WC:12-13:12P/22.05.12		rukhmanielectrodes@rediffmail.com	E6013	WCPI 201	033-2526 2039	
TPFB	WCC01	14449	WELDG.ELECTRODES:SMA	IDEAL ELECTRODES	DIA 2.50,3.15,4.00 & 5.00	TN	SDC/WC:12-13:20P/22.05.12		idealelectrode@gmail.com	E6013	WCPI 201	0422 262 7710	
TPFB	WCC01	14457	WELDG.ELECTRODES:SMA	BALAJI ELECTRODES	DIA 2.50,3.15,4.00 & 5.00	TN	SDC/WC:12-13:21P/22.05.12		sonyaarc6013@gmail.com	E6013	WCPI 201	0422 438 7817	0 97900 17148
TPFB	WCC01	13986	WELDG.ELECTRODES:SMA	B&H ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	PB	SDC/WC:12-13:17P/22.05.12			E6013	WCPI 201		
TPFB	WCC01	15082	WELDG.ELECTRODES:SMA	ROYAL WELDING WIRES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	TN	WC:11-12:60PDT.28.12.2011		admin@theoralfirm.in	E6013	WCPI 201	044-3741 1610	98410-27867
TPFB	WCC01	15090	WELDG.ELECTRODES:SMA	RAJ KESARI ELECTRODES PVT LTD.	DIA 2.50,3.15,4.00 & 5.00	RJ	SDC:FB:WCC01:11DT.260 809		rajkesari@yahoo.com	E6013	WCPI 201	0294 2490193	
TPFB	WCC01	17664	WELDG.ELECTRODES:SMA	ELMARC ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	TN	WC:11-12:53P29.08.2011			E6013	WCPI 201		
TPFB	WCC01	17643	WELDG.ELECTRODES:SMA	SUNDEEP ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	UP	WC:11-12:11DT.23.04.11		Sun_elec@yahoo.co.in	E6013	WCPI 201	0122 231 3698	0 93582 04162
TPFB	WCC01	17802	WELDG.ELECTRODES:SMA	SRI VARSHA ELECTRODES,	DIA 2.50,3.15,4.00 & 5.00	TN	WC:11-12:24DT.29.06.2011			E6013	WCPI 201	0 98402 60618	
TPFB	WCC01	17820	WELDG.ELECTRODES:SMA	SETH ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	MP	WC:11-12:53P29.08.2011		sept@sethindia.com	E6013	WCPI 201	07581 240704	
TPFB	WCC01	18433	WELDG.ELECTRODES:SMA	NUCOR WELD(INDIA)PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	KA	WC:11-12:27DT.29.06.2011		sales@nucorweldindia.com	E6013	WCPI 201	080-2784 2523	0 94834 45731
TPFB	WCC01	15929	WELDG.ELECTRODES:SMA	WELDALL ELECTRODES (INDIA)	DIA: 2.5,3.15,4.0 & 5.0 MM	MH	SDC/WC/13-14/44PDT.060114		info@weldall.co.in	E6013	WCPI 201	07104 265007	0 95457 51666
TPFB	WCC01	10081	WELDG.ELECTRODES:SMA	ESAB INDIA LTD	DIA 2.50,3.15,4.00 & 5.00	TN	ORIG.VEND		sukalyan.chakladar@esab.co.in	E6013	WCPI 201	044-4340 4803	90030 77504
TPFB	WCC01	19809	WELDG.ELECTRODES:SMA	ANUV RAT INDUSTRIES	DIA 2.5, 3.15, 4.0, & 5.0 MM	MH	WC MISCC-07/17-18 ANN-X-B		info.anuvrat@gmail.com	E6013	WCPI 201	02525240140	0932416160
TPFB	WCC01	19808	WELDG.ELECTRODES:SMA	VAISHALI ELECTRODES	DIA 2.5, 3.15, 4.0 & 5.0 MM	RJ	WC MISCC-07/17-18 ANN-X-B		GOELVAIBHAV695@GMAIL.COM	E6013	WCPI 201	9828789392	9871994767
TPFB	WCC01	18540	WELDG.ELECTRODES:SMA	KOLLIPARA ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	AP	WC:11-12:53P29.08.2011			E6013	WCPI 201		
TPFB	WCC01	15086	WELDG.ELECTRODES:SMA	SRI RENG A ELECTRODES (P) LTD,	DIA 2.50,3.15,4.00 & 5.00	TN	WC:11-12:53P29.08.2011			E6013	WCPI 201	0431-25501173	
TPFB	WCC01	15085	WELDG.ELECTRODES:SMA	VOLTARC ELECTRODES (P) LTD,	DIA 2.50,3.15,4.00 & 5.00	AP	SDC:FB:WCC01:11DT.260 809		voltarc@rediffmail.com	E6013	WCPI 201	0877 2241462	
TPFB	WCC01	13211	WELDG.ELECTRODES:SMA	D&H INDIA LIMITED	DIA 2.50,3.15,4.00 & 5.00	MP	SDC:FB:WCC01:11DT.260 809		dhindia@sancharnet.in	E6013	WCPI 201	0731-4273501-...	
TPFB	WCC01	19684	WELDG.ELECTRODES:SMA	MANOHAR ELECTRODES PVT. LTD	DIA 2.5, 3.15, 4.0 & 5.0 MM	UP	WC MISCC-06/17-18 DT.2510		manohargroup@gmail.com	E6013	WCPI 201	01222333206	0 98370 43180
TPFB	WCC01	10774	WELDG.ELECTRODES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA 2.50,3.15,4.00 & 5.00	MP	ORIG.VEND		sales@dnhsecheron.net	E6013	WCPI 201	0731-4229222	0-96850-91106
TPFB	WCC01	18384	WELDG.ELECTRODES:SMA	ACCURATE WELDARC PVT LTD	DIA.2.50,3.15,4.0 & 5.0MM	CH	MISCC/12/15-16/ANX-C PT-B		md@accuratearc.com	E6013	WCPI 201	0771 257 2623	0 93027 43623
TPFB	WCC01	11378	WELDG.ELECTRODES:SMA	MAILAM INDIA LIMITED	DIA 2.50,3.15,4.00 & 5.00	PY	ORIG.VEND		mailam@mailamindia.com	E6013	WCPI 201	0413-2677311	
TPFB	WCC01	11380	WELDG.ELECTRODES:SMA	MALU ELECTRODES PVT.LIMITED	DIA 2.50,3.15,4.00 & 5.00		SDC:FB:WCC01:11DT.260 809		meploffice@rediffmail.com	E6013	WCPI 201	0712 - 2734895	
TPFB	WCC01	11881	WELDG.ELECTRODES:SMA	FUSION ENGG. PRODUCTS PRIVATE LTD.,	DIA 2.50,3.15,4.00 & 5.00	JH	ORIG.VEND		info@fusionweld.co.in	E6013	WCPI 201	0657-6542444	0-94313-01753
TPFB	WCC01	17778	WELDG.ELECTRODES:SMA	ASOKAA ALLOYS	DIA. 2.50,3.15,4.0 & 5.0MM	TN	WC:15-16:30P,DT28.08.2015		asokaalloys@gmail.com	E6013	WCPI 201	0422 2681138	0 92444 18381
TPFB	WCC01	17518	WELDG.ELECTRODES:SMA	VALENCY COMPOUNDS SERVICES PVT LTD	DIA.2.5,3.15,4.0 & 5.0MM	MH	WC:15-16:21P/DT12.06.2015		valencybrahma@yahoo.co.in	E6013	WCPI 201	0241-6602065	0 97663 18483

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TPFB	WCC01	16344	WELDG.ELECTRODES:SMA	MICRO WELD (INDIA)	DIA 2.50,3.15,4.00 & 5.00	PB	WC:14-15:15P,DT.20.05.14		rajeev@microweldindia.com	E6013	WCPI 201	0 93169 15172	0 98140 91811
TPFB	WCC01	16168	WELDG.ELECTRODES:SMA	P.R.Industries	SIZE DIA. 2.5,3.15,4.0 & 5.0MM	RJ	WC:14-15:06P,DT07.04.2014		prindustries.kota@gmail.com	E6013	WCPI 201	0744 236 0878	0 99296 31013
TPFB	WCC01	17813	WELDG.ELECTRODES:SMA	K.M.CROWN WELDING CONSUMABLES PVT.,	DIA 2.50,3.15,4.00 & 5.00	MP	WC:11-12:70PDT16.12.11		kmcrownwelding@dataone.com	E6013	WCPI 201	07272 259384578	
TPFB	WCC01	11227	WELDG.ELECTRODES:SMA	HONAVAR ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	MH	SDC:FB:WCC01:11DT.260809		hel@vsnl.com	E6013	WCPI 201	022-25020317	
TPFB	WCC01	14575	WELDG.ELECTRODES:SMA	WELD ALLOY PRODUCTS,	DIA 2.50,3.15,4.00 & 5.00	UP	SDC:FB:WCC01:11DT.260809		wap2005@airtelmail.in	E6013	WCPI 201	0120-2557183	0 98100 81640
TPFB	WCC01	14429	WELDG.ELECTRODES:SMA	ALPHA FLUX & ELETRODES,	DIA 2.50,3.15,4.00 & 5.00	TN	WC:11-12:53P29.08.2011		t.vasanthan@sify.com	E6013	WCPI 201	04327 294169	98424 23385
TPFB	WCC01	14040	WELDG.ELECTRODES:SMA	MANTEK ELECTRODS PRIVATE LTD,	DIA 2.50,3.15,4.00 & 5.00	TN	SDC:FB:WCC01:11DT.260809		mantek@live.in	E6013	WCPI 201	04312501570	9842921540
TPFB	WCC01	13906	WELDG.ELECTRODES:SMA	MARUTI WELD PRIVATE LIMITED,	DIA 2.50,3.15,4.00 & 5.00		SDC:FB:WCC01:11DT.260809		marutiweld@marutiweld.com	E6013	WCPI 201	011 6536 3100	0 95600 92718
TPFB	WCC01	16003	WELDG.ELECTRODES:SMA	MIGLANI ENGINEERS	DIA. 2.5,3.15,4.0 & 5.0MM	UT	WC:13-14:57P,DT.07.02.14		miglani6013_engineers@yahoo.com	E6013	WCPI 201	01332 235172	0 98977 80030
TPFB	WCC01	13763	WELDG.ELECTRODES:SMA	CLASSIC ELECTRODES (INDIA) LTD.,	DIA 2.50,3.15,4.00 & 5.00	WB	SDC:FB:WCC01:11DT.260809		classicelectrodes@yahoo.co.in	E6013	WCPI 201	033 22429581	
TPFB	WCC01	15088	WELDG.ELECTRODES:SMA	NIVETHA ELECTRODES,	DIA 2.50,3.15,4.00 & 5.00	TN	WC:11-12:53P29.08.2011			E6013	WCPI 201	0431 2341377	0 94421 45400
TPFB	WCC01	15087	WELDG.ELECTRODES:SMA	V.N.C.ELECTRODEES,	DIA 2.50,3.15,4.00 & 5.00	TN	SDC:FB:WCC01:11DT.260809		kru_vnc@sancharnet.in	E6013	WCPI 201	04324 242774	
TPFB	WCC01	19111	WELDG.ELECTRODES:SMA	SPECTRA SUPER ALLOYS LTD,	DIA 2.50,3.15,4.00 & 5.00	JH	WC:11-12:53P29.08.2011		ss_alloys@yahoo.co.in	E6013	WCPI 201	0657 6577148	0 94490 76969
TPFB	WCC01	11528	WELDG.ELECTRODES:SMA	RAAJRATNA ELECTRODES LTD	DIA 2.50,3.15,4.00 & 5.00	GJ	WC:11-12:76P05.02.12		mktg@gnahd-rel.global.net.in	E6013	WCPI 201	079 - 6445258	
TPFB	WCC01	17451	WELDG.ELECTRODES:SMA	WELDFAST ELECTRODES PVT LTD,	DIA 2.50,3.15,4.00 & 5.00	MH	MISCC 03/14-15 PART A PT1		weldwellngp@gmail.com	E6013	WCPI 201	07104 232211/...	0 94228 08860
TPFB	WCC01	13549	WELDG.ELECTRODES:SMA	ATHARVE WELDING TECHNOLOGIES (INDIA	DIA 2.50,3.15,4.00 & 5.00	MH	WC:11-12:70CPDT16.12.11		atharv.wt@hotmail.com	E6013	WCPI 201	0217-273 7029	
TPFB	WCC01	13487	WELDG.ELECTRODES:SMA	MAGNARC ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	AP	WC:11-12:70APDT16.12.11		magnarc@hotmail.com	E6013	WCPI 201	0891-276 4381...	
TPFB	WCC01	19745	WELDG.ELECTRODES:SMA	MEGA WELD TECHNOLOGIES,	DIA 2.50,3.15,4.00 & 5.00	TN	WC:11-12:53P29.08.2011		megaweldcbe@yahoo.com	E6013	WCPI 201	0422-658 1989	98422 57842
TPFB	WCC01	13729	WELDG.ELECTRODES:SMA	ORANGE ELECTRODES INDUSTRIES,	DIA 2.50,3.15,4.00 & 5.00	MH	WC:11-12:58PDT.19.09.2011		orangeelectrodes@gmail.com	E6013	WCPI 201	02527-271 995	98202 84637
TPFB	WCC01	19875	WELDG.ELECTRODES:SMA	ABIRAMI ELECTRODES,	DIA 2.50,3.15,4.00 & 5.00	TN	WC:11-12:53P29.08.2011		sun_weld@yahoo.com	E6013	WCPI 201	0422 3232724	98422 36401
TPFB	WCC01	19906	WELDG.ELECTRODES:SMA	BAGHERWAL ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	MP	WC:11-12:53P29.08.2011		bagherwal13@yahoo.com	E6013	WCPI 201	0731-2905067	
TPFB	WCC01	13663	WELDG.ELECTRODES:SMA	ORION WIRE MANUFACTURING CO.,	DIA 2.50,3.15,4.00 & 5.00	GJ	WC:11-12:55PDT.02.09.2011		info@sunarcindia.com	E6013	WCPI 201	02462-246419	
TPFB	WCC01	10667	WELDG.ELECTRODES:SMA	EUREKA SYSTEMS AND ELECTRODES P.LTD	DIA 2.50,3.15,4.00 & 5.00	TN	WC:11-12:53P29.08.2011		info@eurekaelectrodes@gmail.com	E6013	WCPI 201	0422-268 7199...	
TPFB	WCC01	13538	WELDG.ELECTRODES:SMA	WELDCOM ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	MH	WC:11-12:44PDT.05.08.2011			E6013	WCPI 201	0261-305 4555	
TPFB	WCC01	10758	WELDG.ELECTRODES:SMA	ALPHA ARC PVT LTD	DIA 2.50,3.15,4.00 & 5.00	UP	WC:11-12:53P29.08.2011		alphaarc@yahoo.com	E6013	WCPI 201	0 99114 41441	0120 269 6360
TPFB	WCC01	18597	WELDG.ELECTRODES:SMA	SHIELDARC EQUIPMENTS PVT. LTD,	DIA 2.50,3.15,4.00 & 5.00	WB	WC:11-12:25DT.29.06.2011			E6013	WCPI 201		
TPFB	WCC01	15089	WELDG.ELECTRODES:SMA	WELDCRAFT PRIVATE LIMITED,	DIA 2.50,3.15,4.00 & 5.00	KA	WC:11-12:53P29.08.2011		weldcraft@vsnl.net	E6013	WCPI 201	080 3373351	

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Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	WCC01	18300	WELDG.ELECTRODES:SMA	SUPERON SCHWEISSTECHNIK INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	HR	WC:11-12:23DT.29.06.2011			E6013	WCPI 201	011-24647199	94443-33711
TPFB	WCC01	18846	WELDG.ELECTRODES:SMA	COSMOS ELECTRODES PVT., LTD.	DIA 2.50,3.15,4.00 & 5.00	MP	WC:11-12:13DT.23.04.11		cosmoselectrodes@yahoo.com	E6013	WCPI 201	0731 2707946	0 98270 30208
TPFB	WCC01	18705	WELDG.ELECTRODES:SMA	MODI HITECH INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	UP	WC:38DT.07.02.11		gmmelectrode@gmail.com	E6013	WCPI 201	011 4250 4577	0 97173 92710
TPFB	WCC05	13986	WELDG.ELECTRODES:SMA	B&H ELECTRODES PVT. LTD.	DIA 2.50 & 3.15 MM	PB	WCMISCC0316-17.DT.29.6.16			E7018	WCPI 206		
TPFB	WCC05	11378	WELDG.ELECTRODES:SMA	MAILAM INDIA LIMITED	DIA 2.50,3.15,4.00 & 5.00	PY	SDC/FB/WCC05/22DT.07.1009		mailam@mailamindia.com	E7018	WCPI 206	0413-2677311	
TPFB	WCC05	14534	WELDG.ELECTRODES:SMA	AARYA ELECTRODES PVT.LTD.	DIA: 2.5, 3.15 & 4.0 MM	UP	WCMISCC0316-17.DT.29.6.16		vibhor@aaryaelectrodes.com	E7018	WCPI 206	0562 262 2121	
TPFB	WCC05	13211	WELDG.ELECTRODES:SMA	D&H INDIA LIMITED	DIA 2.50,3.15,4.00 & 5.00	MP	SDC/FB/WCC05/22DT.07.1009		dhindia@sancharnet.in	E7018	WCPI 206	0731-4273501-...	
TPFB	WCC05	14791	WELDG.ELECTRODES:SMA	ANAND ARC LTD.,	DIA 2.50,3.15,4.00 & 5.00	TN	SDC/FB/WCC05/22DT.07.1009		sales@anandarc.com	E7018	WCPI 206	022 4268 8484	
TPFB	WCC05	13542	WELDG.ELECTRODES:SMA	SAITRON ENGINEERS PVT. LTD.	DIA. 2.50,3.15,4.00 & 5.0MM	MH	WC:14-15:53P.DT17.03.2015		sepl.welding@yahoo.com	E7018	WCPI 206	07104265587	
TPFB	WCC05	17451	WELDG.ELECTRODES:SMA	WELDFAST ELECTRODES PVT LTD.	DIA 2.50,3.15,4.00 & 5.00 MM	MH	WC:41DT.07.02.11		weldwellngp@gmail.com	E7018	WCPI 206	07104 232211/...	0 94228 08860
TPFB	WCC05	15085	WELDG.ELECTRODES:SMA	VOLTARC ELECTRODES (P) LTD.	DIA 2.50,3.15,4.00 & 5.00	AP	SDC/FB/WCC05/22DT.07.1009		voltarc@rediffmail.com	E7018	WCPI 206	0877 2241462	
TPFB	WCC05	13911	WELDG.ELECTRODES:SMA	ROYAL ARC ELECTRODES LIMITED	DIA 2.50,3.15,4.00 & 5.00	MH	WC:11-12:60PDT.28.12.2011		tenders@royalarc.in	E7018	WCPI 206	022 28822374	022 28820328
TPFB	WCC05	13906	WELDG.ELECTRODES:SMA	MARUTI WELD PRIVATE LIMITED,	DIA 2.50,3.15,4.00 & 5.00		SDC/FB/WCC05/22DT.07.1009		marutiweld@marutiweld.com	E7018	WCPI 206	011 6536 3100	0 95600 92718
TPFB	WCC05	17643	WELDG.ELECTRODES:SMA	SUNDEEP ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	UP	WC:11-12:06DT.23.04.11		Sun_elec@yahoo.co.in	E7018	WCPI 206	0122 231 3698	0 93582 04162
TPFB	WCC05	15929	WELDG.ELECTRODES:SMA	WELDALL ELECTRODES (INDIA)	DIA: 2.50, 3.15,4.0 & 5.0 MM	MH	WCMISCC0816-17.DT031216		info@weldall.co.in	E7018	WCPI 206	07104 265007	0 95457 51666
TPFB	WCC05	14040	WELDG.ELECTRODES:SMA	MANTEK ELECTRODS PRIVATE LTD,	DIA 2.50,3.15,4.00 & 5.00	TN	WC:11-12:29DT.29.06.2011		mantek@live.in	E7018	WCPI 206	04312501570	9842921540
TPFB	WCC05	15083	WELDG.ELECTRODES:SMA	MARUTHI ELECTRODES (P) LTD.,	DIA 2.50,3.15,4.00 & 5.00	KA	SDC/FB/WCC05/22DT.07.1009		meplelec@bgl.vsnl.net.in	E7018	WCPI 206	080 25275848	
TPFB	WCC05	14575	WELDG.ELECTRODES:SMA	WELD ALLOY PRODUCTS,	DIA 2.50,3.15,4.00 & 5.00	UP	SDC:WC:79PDT.05.01.12		wap2005@airtelmail.in	E7018	WCPI 206	0120-2557183	0 98100 81640
TPFB	WCC05	15082	WELDG.ELECTRODES:SMA	ROYAL WELDING WIRES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	TN	SDC:WC:79PDT.05.01.12		admin@theoryalfirm.in	E7018	WCPI 206	044-3741 1610	98410-27867
TPFB	WCC05	17813	WELDG.ELECTRODES:SMA	K.M.CROWN WELDING CONSUMABLES PVT.,	DIA 2.50,3.15,4.00 & 5.00	MP	WC:11-12:32DT.29.06.2011		kmcrownwelding@dataone.com	E7018	WCPI 206	07272 259384578	
TPFB	WCC05	15833	WELDG.ELECTRODES:SMA	THIRUMALA ELECTRODES CO.,	DIA 2.50,3.15,4.00 & 5.00	TN	WC:40DT.07.02.11		tec_sevenarcs@yahoo.co.in	E7018	WCPI 206	0431-6573566	94437 44305
TPFB	WCC05	15090	WELDG.ELECTRODES:SMA	RAJ KESARI ELECTRODES PVT LTD.	DIA 2.50,3.15,4.00 & 5.00	RJ	SDC/FB/WCC05/22DT.07.1009		rajkesari@yahoo.com	E7018	WCPI 206	0294 2490193	
TPFB	WCC05	13693	WELDG.ELECTRODES:SMA	RASI ELECTRODES LTD.,	DIA 2.50,3.15,4.00 & 5.00	TN	WC:11-12:14DT.23.04.11		rele@airtellmail.in	E7018	WCPI 206	044 26424523	0 98411 15819
TPFB	WCC05	18433	WELDG.ELECTRODES:SMA	NUCOR WELD(INDIA)PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	KA	WC:11-12:31DT.29.06.2011		sales@nucorweldindia.com	E7018	WCPI 206	080-2784 2523	0 94834 45731
TPFB	WCC05	13690	WELDG.ELECTRODES:SMA	GEE LIMITED,	DIA 2.50,3.15,4.00 & 5.00	MH	SDC/FB/WCC05/22DT.07.1009		mpdhanuka@geelimited.com	E7018	WCPI 206	02522 281176	02522 281188
TPFB	WCC05	18846	WELDG.ELECTRODES:SMA	COSMOS ELECTRODES PVT., LTD,	DIA 2.50,3.15,4.00 & 5.00	MP	WC:11-12:15DT.23.04.11		cosmoselectrodes@yahoo.com	E7018	WCPI 206	0731 2707946	0 98270 30208

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Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	WCC05	18432	WELDG.ELECTRODES:SMA	VIJEY ELECTRODES AND WIRES PVT.	DIA 2.50,3.15,4.00 & 5.00 MM	TN	WC MISCC-9/16-17,DT291216		vjelect@yahoo.co.in	E7018	WCPI 206	044-2238 1098	0 94440 02433
TPFB	WCC05	11227	WELDG.ELECTRODES:SMA	HONAVAR ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	MH	SDC/FB/WCC05/22DT.07.1009		hel@vsnl.com	E7018	WCPI 206	022-25020317	
TPFB	WCC05	15086	WELDG.ELECTRODES:SMA	SRI RENGIA ELECTRODES (P) LTD,	DIA 2.50,3.15,4.00 & 5.00	TN	WC:11-12:60PDT.28.12.2011			E7018	WCPI 206	0431-25501173	
TPFB	WCC05	18705	WELDG.ELECTRODES:SMA	MODI HITECH INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	UP	WC:39DT.07.02.11		gmmelectrode@gmail.com	E7018	WCPI 206	011 4250 4577	0 97173 92710
TPFB	WCC05	10785	WELDG.ELECTRODES:SMA	ADOR WELDING LIMITED	DIA 2.50,3.15,4.00 & 5.00MM	MH	WC:15-16:43P,DT26.11.2015		acegasindia@gmail.com	E7018	WCPI 206		
TPFB	WCC05	18300	WELDG.ELECTRODES:SMA	SUPERON SCHWEISSTECHNIK INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	HR	WC:11-12:30DT.29.06.2011			E7018	WCPI 206	011-24647199	94443-33711
TPFB	WCC05	17644	WELDG.ELECTRODES:SMA	VARUN ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	HR	SDC/FB/WCC05/22DT07.10.09		kapoor@varunelectrodes.com	E7018	WCPI 206	0180 2653085	
TPFB	WCC05	16548	WELDG.ELECTRODES:SMA	WELD EXCEL INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	PB	SDC/FB/WCC05/22DT.07.1009			E7018	WCPI 206		
TPFB	WCC05	11881	WELDG.ELECTRODES:SMA	FUSION ENGG. PRODUCTS PRIVATE LTD.,	DIA 2.50,3.15,4.00 & 5.00	JH	SDC/FB/WCC05/22DT.07.1009		info@fusionweld.co.in	E7018	WCPI 206	0657-6542444	0-94313-01753
TPFB	WCC05	18540	WELDG.ELECTRODES:SMA	KOLLIPARA ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	AP	WC:11-12:60PDT.28.12.2011			E7018	WCPI 206		
TPFB	WCC05	10081	WELDG.ELECTRODES:SMA	ESAB INDIA LTD	DIA 2.50,3.15,4.00 & 5.00	TN	ORIG.VEND		sukalyan.chakladar@esab.co.in	E7018	WCPI 206	044-4340 4803	90030 77504
TPFB	WCC05	10774	WELDG.ELECTRODES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA 2.50,3.15,4.00 & 5.00	MP	CHAIRMAN MISCC MAIL060315		sales@dnhsecheron.net	E7018	WCPI 206	0731-4229222	0-96850-91106
TPFB	WCC06	13211	WELDG.ELECTRODES:SMA	D&H INDIA LIMITED	DIA 2.50,3.15 & 4.00MM	MP	WC:14-15:27P,DT22.09.2014		dhindia@sancharnet.in	E7018-1	WCPI 207	0731-4273501-...	
TPFB	WCC06	11378	WELDG.ELECTRODES:SMA	MAILAM INDIA LIMITED	DIA 2.50,3.15 & 4.00 MM	PY	WC/13-14/15PDT.121013		mailam@mailamindia.com	E7018-1	WCPI 207	0413-2677311	
TPFB	WCC06	10774	WELDG.ELECTRODES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA 2.50,3.15,4.00 & 5.00 & 6.30MM	MP	ORIG.VEND		sales@dnhsecheron.net	E7018-1	WCPI 207	0731-4229222	0-96850-91106
TPFB	WCC06	10785	WELDG.ELECTRODES:SMA	ADOR WELDING LIMITED	DIA 2.5MM,3.15MM & 4.0MM	MH	WC MISCC-9/16-17,DT291216		acegasindia@gmail.com	E7018-1	WCPI 207		
TPFB	WCC06	11227	WELDG.ELECTRODES:SMA	HONAVAR ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00 & 6.30MM	MH	ORIG.VEND		hel@vsnl.com	E7018-1	WCPI 207	022-25020317	
TPFB	WCC06	18432	WELDG.ELECTRODES:SMA	VIJEY ELECTRODES AND WIRES PVT.	DIA 2.50, 3.15, 4.00 & 5.00 MM	TN	WC/13-14/18PDT.241013		vjelect@yahoo.co.in	E7018-1	WCPI 207	044-2238 1098	0 94440 02433
TPFB	WCC06	13911	WELDG.ELECTRODES:SMA	ROYAL ARC ELECTRODES LIMITED	DIA 2.5MM,3.15MM & 4.0MM	MH	WC MISCC-9/16-17,DT291216		tenders@royalarc.in	E7018-1	WCPI 207	022 28822374	022 28820328
TPFB	WCC06	13690	WELDG.ELECTRODES:SMA	GEE LIMITED,	DIA 2.50,3.15,4.00,5.00 & 6.30 MM	MH	MISCC06/14-15 PTA2,300914		mpdhanuka@geelimited.com	E7018-1	WCPI 207	02522 281176	02522 281188
TPFB	WCC10	18705	E7018 SMAW Electrode	MODI HITECH INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	UP	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	gmmelectrode@gmail.com	E7018	WCPI-204	011 4250 4577	0 97173 92710
TPFB	WCC10	18846	E7018 SMAW Electrode	COSMOS ELECTRODES PVT., LTD,	DIA 2.50,3.15,4.00 & 5.00	MP	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	cosmoselectrodes@yahoo.com	E7018	WCPI-204	0731 2707946	0 98270 30208
TPFB	WCC10	18540	E7018 SMAW Electrode	KOLLIPARA ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	AP	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018		E7018	WCPI-204		
TPFB	WCC10	18433	E7018 SMAW Electrode	NUCOR WELD(INDIA)PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	KA	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	sales@nucorweldindia.com	E7018	WCPI-204	080-2784 2523	0 94834 45731

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Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	WCC10	18300	E7018 SMAW Electrode	SUPERON SCHWEISSTECHNIK INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	HR	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018		E7018	WCPI-204	011-24647199	94443-33711
TPFB	WCC10	17813	E7018 SMAW Electrode	K.M.CROWN WELDING CONSUMABLES PVT.,	DIA 2.50,3.15,4.00 & 5.00	MP	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	kmcrownwelding@dataone.com	E7018	WCPI-204	07272 259384578	
TPFB	WCC10	17644	E7018 SMAW Electrode	VARUN ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	HR	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	kapoor@varunelectrodes.com	E7018	WCPI-204	0180 2653085	
TPFB	WCC10	17643	E7018 SMAW Electrode	SUNDEEP ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	UP	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	Sun_elec@yahoo.co.in	E7018	WCPI-204	0122 231 3698	0 93582 04162
TPFB	WCC10	17451	E7018 SMAW Electrode	WELDFAST ELECTRODES PVT LTD,	DIA 2.50,3.15,4.00 & 5.00 MM	MH	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	weldwellngp@gmail.com	E7018	WCPI-204	07104 232211/...	0 94228 08860
TPFB	WCC10	16548	E7018 SMAW Electrode	WELD EXCEL INDIA LTD.,	DIA 2.50,3.15,4.00 & 5.00	PB	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018		E7018	WCPI-204		
TPFB	WCC10	15833	E7018 SMAW Electrode	THIRUMALA ELECTRODES CO.,	DIA 2.50,3.15,4.00 & 5.00	TN	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	tec_sevenarcs@yahoo.co.in	E7018	WCPI-204	0431-6573566	94437 44305
TPFB	WCC10	15090	E7018 SMAW Electrode	RAJ KESARI ELECTRODES PVT LTD.	DIA 2.50,3.15,4.00 & 5.00	RJ	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	rajkesari@yahoo.com	E7018	WCPI-204	0294 2490193	
TPFB	WCC10	15086	E7018 SMAW Electrode	SRI RENGIA ELECTRODES (P) LTD,	DIA 2.50,3.15,4.00 & 5.00MM	TN	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018		E7018	WCPI-204	0431-25501173	
TPFB	WCC10	15085	E7018 SMAW Electrode	VOLTARC ELECTRODES (P) LTD,	DIA 2.50,3.15,4.00 & 5.00 MM	AP	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	voltarc@rediffmail.com	E7018	WCPI-204	0877 2241462	
TPFB	WCC10	15083	E7018 SMAW Electrode	MARUTHI ELECTRODES (P) LTD.,	DIA 2.50,3.15,4.00 & 5.00	KA	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	meplelec@bgl.vsnl.net.in	E7018	WCPI-204	080 25275848	
TPFB	WCC10	13542	E7018 SMAW Electrode	SAITRON ENGINEERS PVT. LTD,	DIA. 2.50,3.15,4.00 & 5.0MM	MH	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	sepl.welding@yahoo.com	E7018	WCPI-204	07104265587	
TPFB	WCC10	14429	E7018 SMAW Electrode	ALPHA FLUX & ELETRODES,	DIA 2.50,3.15,4.00 & 5.00	TN	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	t.vasanthan@sify.com	E7018	WCPI-204	04327 294169	98424 23385
TPFB	WCC10	13763	E7018 SMAW Electrode	CLASSIC ELECTRODES (INDIA) LTD.,	DIA 2.50,3.15,4.00 & 5.00	WB	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	classicelectrodes@yahoo.co.in	E7018	WCPI-204	033 22429581	
TPFB	WCC10	13487	E7018 SMAW Electrode	MAGNARC ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	AP	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	magnarc@hotmail.com	E7018	WCPI-204	0891-276 4381...	
TPFB	WCC10	13388	E7018 SMAW Electrode	THE INDIAN SEEL & WIRE PRODUCTS LTD	DIA 2.50,3.15,4.00 & 5.00	JH	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	upshar@tatasteel.com	E7018	WCPI-204	0657- 6512744	
TPFB	WCC10	12893	E7018 SMAW Electrode	RUHKMANI ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	WB	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	rukhmanielectrodes@rediffmail.com	E7018	WCPI-204	033-2526 2039	
TPFB	WCC10	11528	E7018 SMAW Electrode	RAAJRATNA ELECTRODES LTD	DIA 2.50,3.15,4.00 & 5.00	GJ	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	mktg@gnahd-rel.global.net.in	E7018	WCPI-204	079 - 6445258	

APPROVED SUPPLIER LIST FOR WELDING CONSUMABLES

Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	WCC10	11380	E7018 SMAW Electrode	MALU ELECTRODES PVT.LIMITED	DIA 2.50,3.15,4.00 & 5.00		NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	meploffice@rediffmail.com	E7018	WCPI-204	0712 - 2734895	
TPFB	WCC10	10785	E7018 SMAW Electrode	ADOR WELDING LIMITED	DIA 2.50,3.15,4.00 & 5.00	MH	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	acegasindia@gmail.com	E7018	WCPI-204		
TPFB	WCC10	10758	E7018 SMAW Electrode	ALPHA ARC PVT LTD	DIA 2.50,3.15,4.00 & 5.00	UP	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	alphaarc@yahoo.com	E7018	WCPI-204	0 99114 41441	0120 269 6360
TPFB	WCC10	10667	E7018 SMAW Electrode	EUREKA SYSTEMS AND ELECTRODES P.LTD	DIA 2.50,3.15,4.00 & 5.00	TN	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	info@eurekaelectrodes@gmail.com	E7018	WCPI-204	0422-268 7199...	
TPFB	WCC10	19906	E7018 SMAW Electrode	BAGHERWAL ELECTRODES PVT.LTD.,	DIA 2.50,3.15,4.00 & 5.00	MP	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	bagherwal13@yahoo.com	E7018	WCPI-204	0731-2905067	
TPFB	WCC10	19305	E7018 SMAW Electrode	MURLI ELECTRODE PVT. LTD,	DIA 2.50,3.15,4.00 & 5.00	MH	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	sudhir_0408@rediffmail.com	E7018	WCPI-204	0712 2769347	0 93723 91340
TPFB	WCC10	19111	E7018 SMAW Electrode	SPECTRA SUPER ALLOYS LTD,	DIA 2.50,3.15,4.00 & 5.00	JH	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	ss_alloys@yahoo.co.in	E7018	WCPI-204	0657 6577148	0 94490 76969
TPFB	WCC10	18432	E7018 SMAW Electrode	VIJEY ELECTRODES AND WIRES PVT.	DIA 2.50,3.15,4.00 & 5.00	TN	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	vjelect@yahoo.co.in	E7018	WCPI-204	044-2238 1098	0 94440 02433
TPFB	WCC10	17814	E7018 SMAW Electrode	CALCUTTA ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	CH	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	calcutta_electrodes2006@yahoo.com	E7018	WCPI-204	0771 4090615	
TPFB	WCC10	15102	E7018 SMAW Electrode	SOLARC WELD RODS,	DIA 2.50,3.15,4.00 & 5.00	TN	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	solarcweldrods@gmail.com	E7018	WCPI-204	0431 2700 149	0 98421 56790
TPFB	WCC10	15091	E7018 SMAW Electrode	MAGNA ENGINEERING	DIA 2.50,3.15,4.00 & 5.00	AP	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018		E7018	WCPI-204	08676 252181	
TPFB	WCC10	15089	E7018 SMAW Electrode	WELDCRAFT PRIVATE LIMITED,	DIA 2.50,3.15,4.00 & 5.00	KA	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	weldcraft@vsnl.net	E7018	WCPI-204	080 3373351	
TPFB	WCC10	15087	E7018 SMAW Electrode	V.N.C.ELECTRODEES,	DIA 2.50,3.15,4.00 & 5.00	TN	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	kru_vnc@sancharnet.in	E7018	WCPI-204	04324 242774	
TPFB	WCC10	15082	E7018 SMAW Electrode	ROYAL WELDING WIRES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	TN	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	admin@theoralfirm.in	E7018	WCPI-204	044-3741 1610	98410-27867
TPFB	WCC10	14791	E7018 SMAW Electrode	ANAND ARC LTD.,	DIA 2.50,3.15,4.00 & 5.00	TN	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	sales@anandarc.com	E7018	WCPI-204	022 4268 8484	
TPFB	WCC10	14575	E7018 SMAW Electrode	WELD ALLOY PRODUCTS,	DIA 2.50,3.15,4.00 & 5.00	UP	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	wap2005@airtelmail.in	E7018	WCPI-204	0120-2557183	0 98100 81640
TPFB	WCC10	14040	E7018 SMAW Electrode	MANTEK ELECTRODS PRIVATE LTD,	DIA 2.50,3.15,4.00 & 5.00	TN	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	mantek@live.in	E7018	WCPI-204	04312501570	9842921540
TPFB	WCC10	13911	E7018 SMAW Electrode	ROYAL ARC ELECTRODES LIMITED	DIA 2.50,3.15,4.00 & 5.00	MH	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	tenders@royalarc.in	E7018	WCPI-204	022 28822374	022 28820328

APPROVED SUPPLIER LIST FOR WELDING CONSUMABLES

Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	WCC10	13906	E7018 SMAW Electrode	MARUTI WELD PRIVATE LIMITED,	DIA 2.50,3.15,4.00 & 5.00		NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	marutiweld@marutiweld.com	E7018	WCPI-204	011 6536 3100	0 95600 92718
TPFB	WCC10	13693	E7018 SMAW Electrode	RASI ELECTRODES LTD.,	DIA 2.50,3.15,4.00 & 5.00	TN	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	rele@airtellmail.in	E7018	WCPI-204	044 26424523	0 98411 15819
TPFB	WCC10	13690	E7018 SMAW Electrode	GEE LIMITED,	DIA 2.50,3.15,4.00 & 5.00	MH	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	mpdhanuka@geelimited.com	E7018	WCPI-204	02522 281176	02522 281188
TPFB	WCC10	13211	E7018 SMAW Electrode	D&H INDIA LIMITED	DIA 2.50,3.15,4.00 & 5.00	MP	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	dhindia@sancharnet.in	E7018	WCPI-204	0731-4273501-...	
TPFB	WCC10	11881	E7018 SMAW Electrode	FUSION ENGG. PRODUCTS PRIVATE LTD.,	DIA 2.50,3.15,4.00 & 5.00	JH	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	info@fusionweld.co.in	E7018	WCPI-204	0657-6542444	0-94313-01753
TPFB	WCC10	11378	E7018 SMAW Electrode	MAILAM INDIA LIMITED	DIA 2.50,3.15,4.00 & 5.00	PY	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	mailam@mailamindia.com	E7018	WCPI-204	0413-2677311	
TPFB	WCC10	11227	E7018 SMAW Electrode	HONAVAR ELECTRODES PVT. LTD.,	DIA 2.50,3.15,4.00 & 5.00	MH	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	hel@vsnl.com	E7018	WCPI-204	022-25020317	
TPFB	WCC10	10774	E7018 SMAW Electrode	D&H SECHERON ELECTRODES PVT LTD.	DIA 2.50,3.15,4.00 & 5.00	MP	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	sales@dnhsecheron.net	E7018	WCPI-204	0731-4229222	0-96850-91106
TPFB	WCC10	10081	E7018 SMAW Electrode	ESAB INDIA LTD	DIA 2.50,3.15,4.00 & 5.00	TN	NEW/SDC/WC:14-15/54P	E7018 SMAW Electrode (Structurals) - TDC: WCPI204 - E7018	sukalyan.chakladar@esab.co.in	E7018	WCPI-204	044-4340 4803	90030 77504
TPFB	WCF01	21180	WELDG.WIRE:FLUX CORE	TIEN TAI ELECTRODE CO., LTD,	DIA 1.2 & 1.6 MM		FORM-C:DT.29.12.10		TwTrad@itwweld.com	E71T-1	WCPI 502 / 02	88662663721-215	
TPFB	WCF01	20970	WELDG.WIRE:FLUX CORE	THE SHANGHAI LINCOLN ELECTRIC	DIA.1.2 & 1.6MM		MISCC12/14-15 PTB5,170315			E71T-1	WCPI 502 / 02	86 21 560 26664	
TPFB	WCF01	20047	WELDG.WIRE:FLUX CORE	KANEMATSU TRADING CORPORATION	DIA.1.2,1.4 & 1.6MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	E71T-1	WCPI 502 / 02	81 3 5283 3680	
TPFB	WCF01	91820	WELDG.WIRE:FLUX CORE	SATKUL ENTERPRISES LTD.	DIA.1.20MM	GJ	MISCC 03/16-17,DT.29.6.16		sales@satkulwelding.com	E71T-1	WCPI 502 / 02	079 2562 0552	079 2562 6445
TPFB	WCF01	13911	WELDG.WIRE:FLUX CORE	ROYAL ARC ELECTRODES LIMITED	DIA.1.2 MM	MH	WC/MISCC-2/16-17/ANNX-C		tenders@royalarc.in	E71T-1	WCPI 502 / 02	022 28822374	022 28820328
TPFB	WCF01	91270	WELDG.WIRE:FLUX CORE	VEEPEES INDIA,	DIA.1.2 & 1.6MM	TN	SDC:WE:KISWEL:PER04 DT2266		veepeesindia@gmail.com	E71T-1	WCPI 502 / 02	044-43534354	
TPFB	WCF01	21065	WELDG.WIRE:FLUX CORE	HYUNDAI WELDING CO. LTD.,	DIA.1.2 & 1.6MM		MISCC12/14-15 PTB5,170315		alex@hdweld.co.kr	E71T-1	WCPI 502 / 02	82-02 6230-6077	
TPFB	WCF02	20047	WELDG.WIRE:FLUX CORE	KANEMATSU TRADING CORPORATION	DIA.1.2 & 1.6MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	E309T0-1	WCPI 507	81 3 5283 3680	
TPFB	WCF02	91820	WELDG.WIRE:FLUX CORE	SATKUL ENTERPRISES LTD.	DIA.1.20MM	GJ	MAIL MISCC CHAIRMAN250616		sales@satkulwelding.com	E309T0-1	WCPI 507	079 2562 0552	079 2562 6445
TPFB	WCF02	91875	WELDG.WIRE:FLUX CORE	Arya Engineering	DIA. 1.20 MM	TN	WC MISCC-9/16-17,DT291216		aryaengineering@gmail.com	E309T0-1	WCPI 507	0431 2511445	0 99400 98077
TPVS	WCF03	91820	WG:WIRE.FC.E309 LMoTO	SATKUL ENTERPRISES LTD.	DIA.1.60MM X 12.5 KG SPOOL	GJ	WC MISCC-8/16-17,DT031216		sales@satkulwelding.com	E309LMOT0-1 WCPI 508	AS PER BHEL TDC	079 2562 0552	079 2562 6445
TPVS	WCF03	20047	WG:WIRE.FC.E309 LMoTO	KANEMATSU TRADING CORPORATION	FULL RANGE		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	E309LMOT0-1 WCPI 508	AS PER BHEL TDC	81 3 5283 3680	
TPVS	WCF03	20033	WG:WIRE.FC.E309 LMoTO	KISWEL LTD.,	FULL RANGE		SDC:VAL007		export@kiswel.com	E309LMOT0-1 WCPI 508	AS PER BHEL TDC	82-2-2270-9400	

APPROVED SUPPLIER LIST FOR WELDING CONSUMABLES

Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPVS	WCF03	21180	WG:WIRE.FC.E309 LMoTO	TIEN TAI ELECTRODE CO., LTD,	SIZE: DIA.1.60MM		MISCC/12/15-16/ANX-D PT-9		TwTrad@itwweld.com	E309LMOT0-1 WCPI 508	AS PER BHEL TDC	88662663721-215	
TPVS	WCF03	20563	WG:WIRE.FC.E309 LMoTO	VOESTALPINE BOHLER WELDING	FULL RANGE		SDC/MFG/WC/17DT.29.11 .06		christina.holle@voestalpine.com	E309LMOT0-1 WCPI 508	AS PER BHEL TDC	2381271759	
TPFB	WCF04	10081	WELDG: WIRE: FLUX CO	ESAB INDIA LTD	SIZE DIA.1.20MM	TN	MISCC 08/15-16,DT.5.12.15		sukalyan.chakladar@esab.co.in	E551T1-B2C	WCPI 505	044-4340 4803	90030 77504
TPFB	WCF04	21411	WELDG: WIRE: FLUX CO	METRODE PRODUCTS LIMITED,	SIZE DIA.1.20MM		WC:14-15:07P,DT07.04.2014		raghvendra.srivastava@metrode.com	E551T1-B2C	WCPI 505		
TPFB	WCF04	20047	WELDG: WIRE: FLUX CO	KANEMATSU TRADING CORPORATION	DIA.1.2,1.4 & 1.6MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	E551T1-B2C	WCPI 505	81 3 5283 3680	
TPFB	WCF04	21065	WELDG: WIRE: FLUX CO	HYUNDAI WELDING CO. LTD.,	DIA.1.2 & 1.6MM		MISCC12/14-15 PTB5,170315		alex@hdweld.co.kr	E551T1-B2C	WCPI 505	82-02 6230-6077	
TPFB	WCF04	91270	WELDG: WIRE: FLUX CO	VEEPEES INDIA,	DIA.1.2 & 1.6MM	TN	ORIG.VEND		veepeesindia@gmail.com	E551T1-B2C	WCPI 505	044-43534354	
TPFB	WCF05	91820	WELDG: WIRE: FLUX CO	SATKUL ENTERPRISES LTD.	DIA.1.20MM	GJ	MISCC 03/16-17,DT.29.6.16		sales@satkulwelding.com	E91T1-B3	WCPI 506	079 2562 0552	079 2562 6445
TPFB	WCF05	21180	WELDG: WIRE: FLUX CO	TIEN TAI ELECTRODE CO., LTD,	DIA. 1.20MM & 1.60MM		WCMISCC0316-17,DT.29.6.16		TwTrad@itwweld.com	E91T1-B3	WCPI 506	88662663721-215	
TPFB	WCFA1	21180	BULKPACK :E551T1-B2C	TIEN TAI ELECTRODE CO., LTD,	DIA:1.6 MM		MAIL/CHAIRMAN/250616	BULK PACK :E551T1-B2C PRESSURE PARTS	TwTrad@itwweld.com	ASME.SEC.II.C SFA-5.29 E551T1-B2C	WCPI-511	88662663721-215	
TPFB	WCFA1	91270	BULKPACK :E551T1-B2C	VEEPEES INDIA,	DIA.1.6MM	TN	SDC/WC/12-13/02DDT.190612	BULK PACK :E551T1-B2C PRESSURE PARTS	veepeesindia@gmail.com	ASME.SEC.II.C SFA-5.29 E551T1-B2C	WCPI-511	044-43534354	
TPFB	WCFA1	20047	BULKPACK :E551T1-B2C	KANEMATSU TRADING CORPORATION	DIA.1.6 MM		SDC/WC/14-15/19P,DT310714	BULK PACK :E551T1-B2C PRESSURE PARTS	koya_okuda@kgt.kanematsu.co.jp	ASME.SEC.II.C SFA-5.29 E551T1-B2C	WCPI-511	81 3 5283 3680	
TPVS	WCH03	20130	WELD:SMAW:HF-ECrA	ALCONIX CORPORATION	FULL RANGE		WCMISCC11/16-17,DT.230217		inamori.kohei@alconix.com	ECOCRA - WCPI 236	AS PER BHEL TDC		
TPVS	WCH03	20018	WELD:SMAW:HF-ECrA	KENNAMETAL STELLITE	FULL RANGE		WCMISCC11/16-17,DT.230217		asiasales@stellitesales.com	ECOCRA - WCPI 236	AS PER BHEL TDC	44-0-1793 498...	
TPFB	WCH05	13690	SMAW ELECTRO ECoCr-E	GEE LIMITED,	SIZE: DIA.3.2MM	MH	WCMISCC0316-17,DT.29.6.16	SMAW ELECTRODE ECoCr - E	mpdhanuka@geelimited.com	ECOCR-E	-	02522 281176	02522 281188
TPFB	WCH05	20073	SMAW ELECTRO ECoCr-E	WEARTECH INTL INC	DIA.2.5,3,2,4,0 & 5.0MM		WC-12-13:06PDT.15.05.2012	SMAW ELECTRODE ECoCr - E	Ruckie_Balendran@weartech.net	ECOCR-E	-	714 683 2430	
TPFB	WCH05	20018	SMAW ELECTRO ECoCr-E	KENNAMETAL STELLITE	DIA: 3.20 & 4.0 MM		WC/13-14/25PDT.161213	SMAW ELECTRODE ECoCr - E	asiasales@stellitesales.com	ECOCR-E	-	44-0-1793 498...	
TPFB	WCL07	21991	WELDG.ELECTRO DES:SMA	SPECIAL METALS WELDING PRODUCTS	DIA.2.5,3,2,4,0 & 5.0MM		ORIG.VEND		klowman@smwpc.com	ENICRFE3	WCPI 225	828-465-0352	
TPFB	WCL07	13690	WELDG.ELECTRO DES:SMA	GEE LIMITED,	DIA 2.50,3.15 & 4.00 MM	MH	WC/MISCC/11/15-16/ANX-D/1		mpdhanuka@geelimited.com	ENICRFE3	WCPI 225	02522 281176	02522 281188
TPFB	WCL07	10774	WELDG.ELECTRO DES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.5,3,2,4,0 & 5.0MM	MP	ORIG.VEND		sales@dnhsecheron.net	ENICRFE3	WCPI 225	0731-4229222	0-96850-91106
TPFB	WCL07	11227	WELDG.ELECTRO DES:SMA	HONAVAR ELECTRODES PVT. LTD.,	DIA. 2.50,3.15 & 4.0MM	MH	WC:15-16:12P,DT26.05.2015		hel@vsnl.com	ENICRFE3	WCPI 225	022-25020317	
TPFB	WCL07	20563	WELDG.ELECTRO DES:SMA	VOESTALPINE BOHLER WELDING	DIA. 2.5, 3.2 & 4.0 MM		ORIG.VEND		christina.holle@voestalpine.com	ENICRFE3	WCPI 225	2381271759	
TPFB	WCL07	91875	WELDG.ELECTRO DES:SMA	Arya Engineering	ONLY FOR DIA 2.5 MM (COUNTER OFFERED PRICE NOT ACCEPTED BY VENDOR FOR DIA 3.5 & 4 MM)	TN	MISCC/12/16-17/ANX-C&E		aryaaengineering@gmail.com	ENICRFE3	WCPI 225	0431 2511445	0 99400 98077
TPFB	WCL08	21991	SMAW ELECTRODE	SPECIAL METALS WELDING PRODUCTS	DIA.2.4,3,2,4,0 & 4.8		MAIL FM MISCC/WC CHAIRMAN		klowman@smwpc.com	ASME:SEC.II.C.SFA-5.14,ENICRFE-7	-----	828-465-0352	
TPFB	WCS20	11378	WELDG.ELECTRO DES:SMA	MAILAM INDIA LIMITED	DIA.2.5,3,15,4,0 & 5.0	PY	ORIG.VEND		mailam@mailamindia.com	E308-16	WCPI 217	0413-2677311	

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Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	WCS20	10081	WELDG.ELECTRODES:SMA	ESAB INDIA LTD	DIA.2.5,3.15,4.0 & 5.0MM	TN	ORIG.VEND		sukalyan.chakladar@esab.co.in	E308-16	WCPI 217	044-4340 4803	90030 77504
TPFB	WCS20	10774	WELDG.ELECTRODES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.15,4.0 & 5.0MM	MP	ORIG.VEND		sales@dnhsecheron.net	E308-16	WCPI 217	0731-4229222	0-96850-91106
TPFB	WCS21	10081	WELDG.ELECTRODES:SMA	ESAB INDIA LTD	DIA.2.50, 3.15 & 4.0MM	TN	MISCC/04/16-17/ANX-B PT-1		sukalyan.chakladar@esab.co.in	E308L-16	WCPI 244	044-4340 4803	90030 77504
TPFB	WCS21	10774	WELDG.ELECTRODES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.50, 3.15 AND 4.0MM	MP	MISCC/04/16-17/ANX-B PT-1		sales@dnhsecheron.net	E308L-16	WCPI 244	0731-4229222	0-96850-91106
TPFB	WCS22	10774	WELDG.ELECTRODES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.15,4.0 & 5.0MM	MP	ORIG.VEND		sales@dnhsecheron.net	E309-16	WCPI 218	0731-4229222	0-96850-91106
TPFB	WCS22	11378	WELDG.ELECTRODES:SMA	MAILAM INDIA LIMITED	DIA.2.5,3.15,4.0 & 5.0MM	PY	MISCC 08/15-16,DT.5.12.15		mailam@mailamindia.com	E309-16	WCPI 218	0413-2677311	
TPFB	WCS22	10081	WELDG.ELECTRODES:SMA	ESAB INDIA LTD	DIA.2.5,3.15,4.0 & 5.0MM	TN	ORIG.VEND		sukalyan.chakladar@esab.co.in	E309-16	WCPI 218	044-4340 4803	90030 77504
TPFB	WCS22	13911	WELDG.ELECTRODES:SMA	ROYAL ARC ELECTRODES LIMITED	DIA 4.0 MM ONLY.(DIA.2.5,3.15 & 5.0 MM AS DEVELOPMENT)	MH	MISCC/08/16-17/ANX-C		tenders@royalarc.in	E309-16	WCPI 218	022 28822374	022 28820328
TPFB	WCS22	11227	WELDG.ELECTRODES:SMA	HONAVAR ELECTRODES PVT. LTD.,	DIA.2.5,3.15 & 4.0MM	MH	WC:15-16:02P,DT15.04.2015		hel@vsnl.com	E309-16	WCPI 218	022-25020317	
TPFB	WCS27	10081	WELDG.ELECTRODES:SMA	ESAB INDIA LTD	DIA.2.5,3.15,4.0 & 5.0MM	TN	ORIG.VEND		sukalyan.chakladar@esab.co.in	E310-16	WCPI 219	044-4340 4803	90030 77504
TPFB	WCS27	10774	WELDG.ELECTRODES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.15,4.0 & 5.0MM	MP	ORIG.VEND		sales@dnhsecheron.net	E310-16	WCPI 219	0731-4229222	0-96850-91106
TPFB	WCS28	10774	WELDG.ELECTRODES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.15,4.0 & 5.0MM	MP	ORIG.VEND		sales@dnhsecheron.net	E316-16	WCPI 220	0731-4229222	0-96850-91106
TPFB	WCS28	10081	WELDG.ELECTRODES:SMA	ESAB INDIA LTD	DIA.2.5,3.15,4.0 & 5.0MM	TN	ORIG.VEND		sukalyan.chakladar@esab.co.in	E316-16	WCPI 220	044-4340 4803	90030 77504
TPFB	WCS28	13911	WELDG.ELECTRODES:SMA	ROYAL ARC ELECTRODES LIMITED	DIA.3.15 & 4.0MM	MH	WC:15-16:19P/DT12.06.2015		tenders@royalarc.in	E316-16	WCPI 220	022 28822374	022 28820328
TPFB	WCS29	10081	WELDG.ELECTRODES:SMA	ESAB INDIA LTD	DIA.2.5,3.15,4.0 & 5.0MM	TN	ORIG.VEND		sukalyan.chakladar@esab.co.in	E316L-16	WCPI 243	044-4340 4803	90030 77504
TPFB	WCS29	10774	WELDG.ELECTRODES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.15,4.0 & 5.0MM	MP	ORIG.VEND		sales@dnhsecheron.net	E316L-16	WCPI 243	0731-4229222	0-96850-91106
TPFB	WCS30	11227	WELDG.ELECTRODES:SMA	HONAVAR ELECTRODES PVT. LTD.,	DIA.2.5,3.15,4.0 & 5.0MM	MH	WC:15-16:02P,DT15.04.2015		hel@vsnl.com	E347-16	WCPI 221	022-25020317	
TPFB	WCS30	10774	WELDG.ELECTRODES:SMA	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0,2.5,3.15,4.0 & 5.0MM	MP	CHAIRMAN MAIL,DT.07.06.17		sales@dnhsecheron.net	E347-16	WCPI 221	0731-4229222	0-96850-91106
TPFB	WCS30	13911	WELDG.ELECTRODES:SMA	ROYAL ARC ELECTRODES LIMITED	DIA.2.5 & 4 MM (3.15 MM UNDER DEVELOPMENT)	MH	MISCC/01/17-18/ANX-C		tenders@royalarc.in	E347-16	WCPI 221	022 28822374	022 28820328
TPFB	WCS30	11378	WELDG.ELECTRODES:SMA	MAILAM INDIA LIMITED	DIA.2.5,3.15,4.0 & 5.0MM	PY	ORIG.VEND		mailam@mailamindia.com	E347-16	WCPI 221	0413-2677311	
TPFB	WCS30	10081	WELDG.ELECTRODES:SMA	ESAB INDIA LTD	DIA.2.5,3.15,4.0 & 5.0MM	TN	ORIG.VEND		sukalyan.chakladar@esab.co.in	E347-16	WCPI 221	044-4340 4803	90030 77504
TPFB	WCS30	18705	WELDG.ELECTRODES:SMA	MODI HITECH INDIA LTD.,	DIA.2.5,3.15 & 4.0MM	UP	WC:15-16:13P,DT26.05.2015		gmmelectrode@gmail.com	E347-16	WCPI 221	011 4250 4577	0 97173 92710
TPFB	WCS30	13690	WELDG.ELECTRODES:SMA	GEE LIMITED,	DIA.2.50, 3.15 & 4.0MM	MH	MISCC 08/15-16,DT.5.12.15		mpdhanuka@geelimited.com	E347-16	WCPI 221	02522 281176	02522 281188
TPFB	WCS30	13906	WELDG.ELECTRODES:SMA	MARUTI WELD PRIVATE LIMITED,	DIA.2.5,3.15 & 4.0MM		WC:15-16:14P,DT26.05.2015		marutiweld@marutiweld.com	E347-16	WCPI 221	011 6536 3100	0 95600 92718
TPVS	WCT01	10313	WELD:HF-HAY.ALLY 25	ZIRCAST LTD	FULL RANGE	KA	ORIG.VEND		jsuresh@zircast.com	HAYNESS ALLOY 25 - WCPI113	AS PER BHEL TDC	08110 /26238	
TPVS	WCT01	13690	WELD:HF-HAY.ALLY 25	GEE LIMITED,	FULL RANGE	MH	WC-MISCC 75 PART-A/05		mpdhanuka@geelimited.com	HAYNESS ALLOY 25 - WCPI113	AS PER BHEL TDC	02522 281176	02522 281188

APPROVED SUPPLIER LIST FOR WELDING CONSUMABLES

Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPVS	WCT02	20073	WELD:HF-HAY.ALLY 21	WEARTECH INTL INC	FULL RANGE		ORIG.VEND		Ruckie_Balendran@weartech.net	HAYNESS ALLOY 21 - WCPI-112	AS PER BHEL TDC	714 683 2430	
TPVS	WCT02	13690	WELD:HF-HAY.ALLY 21	GEE LIMITED,	FULL RANGE	MH	WC-MISCC 75 PART-A/05		mpdhanuka@geelimited.com	HAYNESS ALLOY 21 - WCPI-112	AS PER BHEL TDC	02522 281176	02522 281188
TPVS	WCT03	10313	WELD:HF-RCO CRA	ZIRCAST LTD	FULL RANGE	KA	ORIG.VEND		jsuresh@zircast.com	RCOCRA - WCPI 111	AS PER BHEL TDC	08110 /26238	
TPVS	WCT03	20018	WELD:HF-RCO CRA	KENNAMETAL STELLITE	FULL RANGE		ORIG.VEND		asiasales@stellitesales.com	RCOCRA - WCPI 111	AS PER BHEL TDC	44-0-1793 498...	
TPVS	WCT03	13690	WELD:HF-RCO CRA	GEE LIMITED,	FULL RANGE	MH	WC-MISCC 75 PART-A/05		mpdhanuka@geelimited.com	RCOCRA - WCPI 111	AS PER BHEL TDC	02522 281176	02522 281188
TPVS	WCT03	20073	WELD:HF-RCO CRA	WEARTECH INTL INC	FULL RANGE		ORIG.VEND		Ruckie_Balendran@weartech.net	RCOCRA - WCPI 111	AS PER BHEL TDC	714 683 2430	
TPVS	WCT04	20067	WG.PWD:HF:TYP COCRA	VOESTALPINE BOHLER WELDING	FULL RANGE		ORIG.VEND			COBALT BASED POWDER - WCPI 302	AS PER BHEL TDC	49 07633 40901	
TPVS	WCT04	20018	WG.PWD:HF:TYP COCRA	KENNAMETAL STELLITE	FULL RANGE		ORIG.VEND		asiasales@stellitesales.com	COBALT BASED POWDER - WCPI 302	AS PER BHEL TDC	44-0-1793 498...	
TPVS	WCT04	20130	WG.PWD:HF:TYP COCRA	ALCONIX CORPORATION	FULL RANGE		MISCC12/14-15 PTB5,170315		inamori.kohei@alconix.com	COBALT BASED POWDER - WCPI 302	AS PER BHEL TDC		
TPVS	WCT04	20073	WG.PWD:HF:TYP COCRA	WEARTECH INTL INC	NOT APPLICABLE		SDC/WC/13-14/06P/29.08.13		Ruckie_Balendran@weartech.net	COBALT BASED POWDER - WCPI 302	AS PER BHEL TDC	714 683 2430	
TPVS	WCT04	16554	WG.PWD:HF:TYP COCRA	SANWA DIAMOND TOOLS PVT LTD,	NOT APPLICABLE	KA	WC:15-16:18P/DT12.06.2015		mkrishna@sanwa.in	COBALT BASED POWDER - WCPI 302	AS PER BHEL TDC	080 22234891	0 99862 24477
TPVS	WCT04	20321	WG.PWD:HF:TYP COCRA	HOGANAS BELGIUM SA	NOT APPLICABLE		USRC051202			COBALT BASED POWDER - WCPI 302	AS PER BHEL TDC		
TPVS	WCT05	20321	CoCre Powder	HOGANAS BELGIUM SA	N.A		MISCC 08/15-16,DT.5.12.15	CoCre Powder		COCRE POWDER FOR PTA WELDING	WCPI-306		
TPVS	WCT05	20073	CoCre Powder	WEARTECH INTL INC	N.A		MISCC 08/15-16,DT.5.12.15	CoCre Powder	Ruckie_Balendran@weartech.net	COCRE POWDER FOR PTA WELDING	WCPI-306	714 683 2430	
TPVS	WCT05	20018	CoCre Powder	KENNAMETAL STELLITE	N.A		WC:15-16:34P,DT28.10.2015	CoCre Powder	asiasales@stellitesales.com	COCRE POWDER FOR PTA WELDING	WCPI-306	44-0-1793 498...	
TPFB	WCW01	14340	EL-8 SAW WIRE	NALLI ARC INDUSTRIE,	DIA.2.4,3.2 & 4.0MM	TN	WC:11-12-83P DT. 05/01/12		nalliar@yaho.com	AWS A5.17 EL-8	WCPI-015/01	04257 245185	94433 45439
TPFB	WCW01	10785	EL-8 SAW WIRE	ADOR WELDING LIMITED	DIA.2.4,3.2 & 4.0MM	MH	WC:11-12-83P DT. 05/01/12		acegasindia@gmail.com	AWS A5.17 EL-8	WCPI-015/01		
TPFB	WCW01	14791	EL-8 SAW WIRE	ANAND ARC LTD.,	DIA.2.0 TO 5.0MM	TN	WC:11-12-83P DT. 05/01/12		sales@anandarc.com	AWS A5.17 EL-8	WCPI-015/01	022 4268 8484	
TPFB	WCW01	19905	EL-8 SAW WIRE	T.M.INDUSTRIES,	DIA.2.0 TO 5.0MM	CH	WC:11-12-83P DT. 05/01/12		tmtapadia@rediffmail.com	AWS A5.17 EL-8	WCPI-015/01	0771-2100524	
TPFB	WCW01	10774	EL-8 SAW WIRE	D&H SECHERON ELECTRODES PVT LTD.	DIA.2.0 TO 5.0MM	MP	WC:11-12-83P DT. 05/01/12		sales@dnhsecheron.net	AWS A5.17 EL-8	WCPI-015/01	0731-4229222	0-96850-91106
TPFB	WCW01	13486	EL-8 SAW WIRE	A V WELDTech PVT.LTD.,	DIA: 4.0 MM	MH	SDC/WC/13-14/45PDT.060114		products@aveasyweld.com	AWS A5.17 EL-8	WCPI-015/01	0712-252 1727	
TPFB	WCW01	19114	EL-8 SAW WIRE	WELMET TECHNOLOGIES PVT. LTD.,	DIA.2.0 TO 5.0MM	MH	MISCC 75. DT.31/01/2014			AWS A5.17 EL-8	WCPI-015/01		
TPFB	WCW01	10081	EL-8 SAW WIRE	ESAB INDIA LTD	DIA.2.4,3.2 & 4.0MM	TN	WC:11-12-83P DT. 05/01/12		sukalyan.chakladar@esab.co.in	AWS A5.17 EL-8	WCPI-015/01	044-4340 4803	90030 77504
TPFB	WCW01	11288	EL-8 SAW WIRE	JAGSHAAN INDUSTRIES	DIA.2.4,3.2 & 4.0MM	MH	WC:11-12-83P DT. 05/01/12		jagshaan@nagpur.dot.net.in	AWS A5.17 EL-8	WCPI-015/01	0712 - 581557	
TPFB	WCW01	15100	EL-8 SAW WIRE	MANTEK WIRES	DIA.2.4,3.2 & 4.0MM	TN	WC:11-12-83P DT. 05/01/12			AWS A5.17 EL-8	WCPI-015/01		
TPFB	WCW01	11378	EL-8 SAW WIRE	MAILAM INDIA LIMITED	DIA.2.0 TO 5.0MM	PY	WC:11-12-83P DT. 05/01/12		mailam@mailamindia.com	AWS A5.17 EL-8	WCPI-015/01	0413-2677311	
TPFB	WCW01	15085	EL-8 SAW WIRE	VOLTARC ELECTRODES (P) LTD,	DIA.2.4,3.2 & 4.0MM	AP	WC:11-12-83P DT. 05/01/12		voltarc@rediffmail.com	AWS A5.17 EL-8	WCPI-015/01	0877 2241462	

APPROVED SUPPLIER LIST FOR WELDING CONSUMABLES

Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	WCW01	15101	EL-8 SAW WIRE	PRECISION WELDARC LTD,	DIA.2.4,3.2 & 4.0MM	WB	WC:11-12-83P DT. 05/01/12		pwires@yahoo.co.in	AWS A5.17 EL-8	WCPI-015/01	033 25634753	
TPFB	WCW01	16166	EL-8 SAW WIRE	EVERSHINE WIRES	DIA.2.0 TO 5.0MM	TN	WC:11-12-83P DT. 05/01/12		evershine_wires@yahoo.in	AWS A5.17 EL-8	WCPI-015/01	04327- 235381	0 98424 23385
TPFB	WCW01	14455	EL-8 SAW WIRE	WIRE AND WIRE PRODUCTS	DIA.2.4,3.2 & 4.0MM	TN	WC:11-12-83P DT. 05/01/12		wwp@vsnl.net	AWS A5.17 EL-8	WCPI-015/01	044 26242378	
TPFB	WCW01	14584	EL-8 SAW WIRE	SUN ENTERPRISES	DIA.2.4,3.2 & 4.0MM	TN	MISCC 06_15-16 PART-A PT2		sunenterprises2011@gmail.com	AWS A5.17 EL-8	WCPI-015/01	0 88256 36464	
TPFB	WCW01	13211	EL-8 SAW WIRE	D&H INDIA LIMITED	DIA.2.0 TO 5.0MM	MP	WC:11-12-83P DT. 05/01/12		dhindia@sancharnet.in	AWS A5.17 EL-8	WCPI-015/01	0731-4273501-...	
TPFB	WCW01	15810	EL-8 SAW WIRE	NOUVEAUX INDUSTRIES (P) LTD.,	DIA.2.4,3.2 & 4.0MM	TN	WC:11-12-83P DT. 05/01/12			AWS A5.17 EL-8	WCPI-015/01		
TPFB	WCW01	16314	EL-8 SAW WIRE	SUN WIRES,	DIA.2.50MM TO 5.0MM	TN	MISCC01/A/01,15.05.14		sunwires@gmail.com	AWS A5.17 EL-8	WCPI-015/01	0431 2577448	0 96009 12492
TPFB	WCW01	13693	EL-8 SAW WIRE	RASI ELECTRODES LTD.,	DIA.2.4,3.2 & 4.0MM	TN	WC:11-12-83P DT. 05/01/12		rele@airtelmail.in	AWS A5.17 EL-8	WCPI-015/01	044 26424523	0 98411 15819
TPFB	WCW01	17813	EL-8 SAW WIRE	K.M.CROWN WELDING CONSUMABLES PVT.,	DIA.2.0 TO 5.0MM	MP	WC:11-12-83P DT. 05/01/12		kmcrownwelding@dataone.com	AWS A5.17 EL-8	WCPI-015/01	07272 259384578	
TPFB	WCW01	13534	EL-8 SAW WIRE	RUPA INDUSTRIES,	DIA.2.0 TO 5.0MM	AP	WC:11-12-83P DT. 05/01/12		rupaent@vsnl.net	AWS A5.17 EL-8	WCPI-015/01	040-2771 3714	0 9396479987
TPFB	WCW01	11528	EL-8 SAW WIRE	RAAJRATNA ELECTRODES LTD	DIA.2.0 TO 5.0MM	GJ	WC:11-12-83P DT. 05/01/12		mktg@gnahd-rel.global.net.in	AWS A5.17 EL-8	WCPI-015/01	079 - 6445258	
TPFB	WCW02	91270	WELDING WIRE:SAW EB3	VEEPEES INDIA,	DIA.4.0MM	TN	MISCC/04/16-17/ANX-C PT-2		veepeesindia@gmail.com	EB3	WCPI 007	044-43534354	
TPFB	WCW02	20047	WELDING WIRE:SAW EB3	KANEMATSU TRADING CORPORATION	DIA 3.2,4.0 & 4.8 MM		REVRT/DGM/CP,SP&WC/091012		koya_okuda@kgt.kanematsu.co.jp	EB3	WCPI 007	81 3 5283 3680	
TPFB	WCW02	20563	WELDING WIRE:SAW EB3	VOESTALPINE BOHLER WELDING	DIA.3.2,4.0 & 4.8MM		MISCC12/14-15 PTB5,170315		christina.holle@voestalpine.com	EB3	WCPI 007	2381271759	
TPVS	WCW04	10081	WG:WIRE:SAW ER430	ESAB INDIA LTD	FULL RANGE	TN	ORIG.VEND		sukalyan.chakladar@esab.co.in	ER430-WCPI013	AS PER BHEL TDC	044-4340 4803	90030 77504
TPVS	WCW04	20047	WG:WIRE:SAW ER430	KANEMATSU TRADING CORPORATION	FULL RANGE		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	ER430-WCPI013	AS PER BHEL TDC	81 3 5283 3680	
TPVS	WCW04	20033	WG:WIRE:SAW ER430	KISWEL LTD.,	FULL RANGE		ORIG.VEND		export@kiswel.com	ER430-WCPI013	AS PER BHEL TDC	82-2-2270-9400	
TPVS	WCW04	14400	WG:WIRE:SAW ER430	ADOR FONTECH LIMITED,	DIA 2.40 MM	KA	WC:15-16:10P,DT26.05.2015		adflenders@adorfon.com	ER430-WCPI013	AS PER BHEL TDC	080-2836 5751	0 93440 04525
TPGW	WCW05	20033	WG:WIRE:SAW ER410	KISWEL LTD.,	FULL RANGE		ORIG.VEND		export@kiswel.com	ER410 - WCPI012	AS PER BHEL TDC	82-2-2270-9400	
TPGW	WCW05	20047	WG:WIRE:SAW ER410	KANEMATSU TRADING CORPORATION	FULL RANGE		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	ER410 - WCPI012	AS PER BHEL TDC	81 3 5283 3680	
TPGW	WCW05	14400	WG:WIRE:SAW ER410	ADOR FONTECH LIMITED,	DIA 2.40 MM	KA	WC:15-16:10P,DT26.05.2015		adflenders@adorfon.com	ER410 - WCPI012	AS PER BHEL TDC	080-2836 5751	0 93440 04525
TPFB	WCW06	20047	WELDING WIRE:SAW EB2	KANEMATSU TRADING CORPORATION	DIA 2.0,3.2,4.0 & 4.8 MM		MISCC/WC/5/16-17		koya_okuda@kgt.kanematsu.co.jp	EB2	WCPI 006	81 3 5283 3680	
TPFB	WCW06	20516	WELDING WIRE:SAW EB2	LINCOLN ELECTRIC FRANCE S.A.	DIA:2.0MM AND 4.0MM		SDC/WC/14-15/08DDT.200514			EB2	WCPI 006	33232 114040	
TPFB	WCW06	20563	WELDING WIRE:SAW EB2	VOESTALPINE BOHLER WELDING	DIA.3.2,4.0 & 4.8MM		MISCC12/14-15 PTB5,170315		christina.holle@voestalpine.com	EB2	WCPI 006	2381271759	
TPFB	WCW06	22456	WELDING WIRE:SAW EB2	I.A.BARNES & CO. LTD,	DIA. 4.0MM		WC:15-16:35P,DT28.10.2015		mandy@iabco.co.uk	EB2	WCPI 006		
TPFB	WCW06	91270	WELDING WIRE:SAW EB2	VEEPEES INDIA,	DIA. 2.0MM & 4.0MM	TN	MISCC/04/16-17/ANX-C PT-1		veepeesindia@gmail.com	EB2	WCPI 006	044-43534354	
TPFB	WCW06	21461	WELDING WIRE:SAW EB2	INDUSTRIA NAZIONALE ELETTRODI S.p.A	DIA.2.0MM		WCMISCC0516-17,DT.26.8.16		doriana.depoli@ine.it	EB2	WCPI 006		

APPROVED SUPPLIER LIST FOR WELDING CONSUMABLES

Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	WCW08	20047	WELDING WIRE:SAW EA4	KANEMATSU TRADING CORPORATION	DIA.2.0,2.4,3.2,4.0 & 4.8MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	EG	WCPI 009	81 3 5283 3680	
TPFB	WCW08	20563	WELDING WIRE:SAW EA4	VOESTALPINE BOHLER WELDING	DIA.2.0,2.4,3.2,4.0 & 4.8MM		MISCC12/14-15 PTB5,170315		christina.holle@voestalpine.com	EG	WCPI 009	2381271759	
TPFB	WCW09	20563	WELDING WIRE:SAW EM1	VOESTALPINE BOHLER WELDING	DIA.1.6,2.0,2.4 & 3.2MM		ORIG.VEND		christina.holle@voestalpine.com	EM12K	WCPI 003	2381271759	
TPFB	WCW09	14455	WELDING WIRE:SAW EM1	WIRE AND WIRE PRODUCTS	DIA.1.6,2.0,2.4 & 3.2MM	TN	WC:14-15: 09P DT.20.05.14		wwp@vsnl.net	EM12K	WCPI 003	044 26242378	
TPFB	WCW09	10785	WELDING WIRE:SAW EM1	ADOR WELDING LIMITED	DIA.1.6,2.0,2.4 & 3.2MM	MH	WC:13-14:50PDT.20.01.14		acegasindia@gamail.com	EM12K	WCPI 003		
TPFB	WCW09	10774	WELDING WIRE:SAW EM1	D&H SECHERON ELECTRODES PVT LTD.	DIA.1.6,2.0,2.4 & 3.2MM	MP	WC:13-14:51PDT.20.01.2014		sales@dnhsecheron.net	EM12K	WCPI 003	0731-4229222	0-96850-91106
TPFB	WCW09	20047	WELDING WIRE:SAW EM1	KANEMATSU TRADING CORPORATION	DIA.1.6,2.0,2.4 & 3.2MM		ORIG.VEND		koya_okuda@kgt.kanematsu.co.jp	EM12K	WCPI 003	81 3 5283 3680	
TPFB	WCW09	10081	WELDING WIRE:SAW EM1	ESAB INDIA LTD	DIA.1.6,2.0,2.4 & 3.2MM	TN	ORIG.VEND		sukalyan.chakladar@esab.co.in	EM12K	WCPI 003	044-4340 4803	90030 77504
TPFB	WCW09	11378	WELDING WIRE:SAW EM1	MAILAM INDIA LIMITED	DIA.1.6,2.0,2.4 & 3.2MM	PY	WC:13-14:52P DT.20.01.14		mailam@mailamindia.com	EM12K	WCPI 003	0413-2677311	
TPFB	WCW09	15810	WELDING WIRE:SAW EM1	NOUVEAUX INDUSTRIES (P) LTD.,	DIA.1.6,2.0,2.4 & 3.2MM	TN	SDC/WC/13-14/11P/03.09.13			EM12K	WCPI 003		
TPFB	WCW12	10081	WELDING WIRE:SAW 3 B	ESAB INDIA LTD	DIA.2.5 & 3.2MM	TN	MISCC12/14-15 PTB5,170315		sukalyan.chakladar@esab.co.in	SFA 5.23 EB9	WCPI-010	044-4340 4803	90030 77504
TPFB	WCW12	22391	WELDING WIRE:SAW 3 B	AIR LIQUIDE WELDING FRANCE,	DIA.2.4 & 3.2MM		FORM-C-ER80S-B3LD06.11.10		jean-paul.shmitt@airliquide.com	SFA 5.23 EB9	WCPI-010	1342 13480	607855066
TPFB	WCW12	21411	WELDING WIRE:SAW 3 B	METRODE PRODUCTS LIMITED,	DIA.2.4 & 3.2MM		MISCC12/14-15 PTB5,170315		raghvendra.srivastava@metrode.com	SFA 5.23 EB9	WCPI-010		
TPFB	WCW12	20047	WELDING WIRE:SAW 3 B	KANEMATSU TRADING CORPORATION	DIA.1.6,2.4 & 3.2 & 4.00MM		M:WTC:IMP		koya_okuda@kgt.kanematsu.co.jp	SFA 5.23 EB9	WCPI-010	81 3 5283 3680	
TPFB	WCW12	20563	WELDING WIRE:SAW 3 B	VOESTALPINE BOHLER WELDING	DIA. 1.6, 2.5 & 3.2 MM		MAIL MISCC CHAIRMAN141015		christina.holle@voestalpine.com	SFA 5.23 EB9	WCPI-010	2381271759	
TPVS	WCW13	13690	ER 309 SAW Wire	GEE LIMITED,	DIA: 3.20 MM	MH	WC:15-16:36P,DT28.10.2015	ER 309 SAW Wire Size 2.4MM	mpdhanuka@geelimited.com	ER 309 SAW WIRE	WCPI-016	02522 281176	02522 281188
TPVS	WCW13	10774	ER 309 SAW Wire	D&H SECHERON ELECTRODES PVT LTD.	DIA: 3.20 MM	MP	WC:15-16:31P,DT28.10.2015	ER 309 SAW Wire Size 2.4MM	sales@dnhsecheron.net	ER 309 SAW WIRE	WCPI-016	0731-4229222	0-96850-91106
TPVS	WCW14	13690	ER 347 SAW Wire	GEE LIMITED,	DIA: 3.20 MM	MH	WC:15-16:36P,DT28.10.2015	ER 347 SAW Wire Size 2.4MM	mpdhanuka@geelimited.com	ER 347 SAW WIRE	WCPI-017	02522 281176	02522 281188
TPVS	WCW14	10774	ER 347 SAW Wire	D&H SECHERON ELECTRODES PVT LTD.	DIA: 3.20 MM	MP	WC:15-16:42P,DT26.11.2015	ER 347 SAW Wire Size 2.4MM	sales@dnhsecheron.net	ER 347 SAW WIRE	WCPI-017	0731-4229222	0-96850-91106
TPFB	WCW15	16166	WeldWire SAW EM12K	EVERSHINE WIRES	DIA 2.0, 2.4, 3.2 & 4.0 MM	TN	WC MISCC-06/17-18/251017	Welding Wire SAW EM12K TDC:WCPI-003	evershine_wires@yahoo.in	EM12K	WCPI-003	04327- 235381	0 98424 23385
TPFB	WCW15	17813	WeldWire SAW EM12K	K.M.CROWN WELDING CONSUMABLES PVT.,	DIA.2.0,3.20 & 4.0MM	MP	WC:15-16:28P,DT28.08.2015	Welding Wire SAW EM12K TDC:WCPI-003	kmcrownwelding@dataone.com	EM12K	WCPI-003	07272 259384578	
TPFB	WCW15	20563	WeldWire SAW EM12K	VOESTALPINE BOHLER WELDING	DIA.1.6,2.0,2.4 & 3.2MM		MISCC/12/15-16/ANX-C PT-6	Welding Wire SAW EM12K TDC:WCPI-003	christina.holle@voestalpine.com	EM12K	WCPI-003	2381271759	
TPFB	WCW15	14455	WeldWire SAW EM12K	WIRE AND WIRE PRODUCTS	DIA.1.6,2.0,2.4 & 3.2MM	TN	NEW/SDC/WC:13-14/03P20114	Welding Wire SAW EM12K TDC:WCPI-003	wwp@vsnl.net	EM12K	WCPI-003	044 26242378	
TPFB	WCW15	14340	WeldWire SAW EM12K	NALLI ARC INDUSTRIE,	DIA.1.6,2.0,2.4 & 3.2MM	TN	NEW/SDC/WC:13-14/03P20114	Welding Wire SAW EM12K TDC:WCPI-003	nalliar@ yahoo.com	EM12K	WCPI-003	04257 245185	94433 45439
TPFB	WCW15	11288	WeldWire SAW EM12K	JAGSHAAN INDUSTRIES	DIA.1.6,2.0,2.4 & 3.2MM	MH	NEW/SDC/WC:13-14/03P20114	Welding Wire SAW EM12K TDC:WCPI-003	jagshaan@nagpur.dot.net.in	EM12K	WCPI-003	0712 - 581557	
TPFB	WCW15	13486	WeldWire SAW EM12K	A V WELDTech PVT.LTD.,	DIA:4 MM ONLY	MH	MAIL CHAIRMAN/MISCC/WC	Welding Wire SAW EM12K TDC:WCPI-003	products@aveasyweld.com	EM12K	WCPI-003	0712-252 1727	

APPROVED SUPPLIER LIST FOR WELDING CONSUMABLES

Product Group	Mat Group	Vendor No	Material Group Description	Vendor Name	Size Detail	CITY	Document No	Material Group Long Description	EMAIL	Specification	TDC	PHONE1	PHONE2
TPFB	WCW15	19114	WeldWire SAW EM12K	WELMET TECHNOLOGIES PVT. LTD.,	DIA. 1.6,2.0,2.4 & 3.2MM	MH	YET TO BE GIVEN AFTER MIS	Welding Wire SAW EM12K TDC:WCPI-003		EM12K	WCPI-003		
TPFB	WCW15	15101	WeldWire SAW EM12K	PRECISION WELDARC LTD,	DIA. 1.6,2.0,2.4 & 3.2MM	WB	WCMISCC8A 16-17,DT101216	Welding Wire SAW EM12K TDC:WCPI-003	pwires@yahoo.co.in	EM12K	WCPI-003	033 25634753	
TPFB	WCW15	10081	WeldWire SAW EM12K	ESAB INDIA LTD	DIA. 1.6,2.0,2.4 & 3.2MM	TN	MISCC/12/15-16/ANX-C PT-6	Welding Wire SAW EM12K TDC:WCPI-003	sukalyan.chakladar@esab.co.in	EM12K	WCPI-003	044-4340 4803	90030 77504
TPFB	WCW15	14040	WeldWire SAW EM12K	MANTEK ELECTRODS PRIVATE LTD,	DIA.4.0MM	TN	WC:16-17:01P, DT.28.07.16	Welding Wire SAW EM12K TDC:WCPI-003	mantek@live.in	EM12K	WCPI-003	04312501570	9842921540
TPFB	WCW15	10774	WeldWire SAW EM12K	D&H SECHERON ELECTRODES PVT LTD.	DIA. 1.6,2.0,2.4 & 3.2MM	MP	MISCC/12/15-16/ANX-C PT-6	Welding Wire SAW EM12K TDC:WCPI-003	sales@dnhsecheron.net	EM12K	WCPI-003	0731-4229222	0-96850-91106
TPFB	WCW15	10785	WeldWire SAW EM12K	ADOR WELDING LIMITED	DIA. 1.6,2.0,2.4 & 3.2MM	MH	MISCC/12/15-16/ANX-C PT-6	Welding Wire SAW EM12K TDC:WCPI-003	acegasindia@gamail.com	EM12K	WCPI-003		
TPFB	WCW15	11378	WeldWire SAW EM12K	MAILAM INDIA LIMITED	DIA. 1.6,2.0,2.4 & 3.2MM	PY	MISCC/12/15-16/ANX-C PT-6	Welding Wire SAW EM12K TDC:WCPI-003	mailam@mailamindia.com	EM12K	WCPI-003	0413-2677311	
TPFB	WCW15	15810	WeldWire SAW EM12K	NOUVEAUX INDUSTRIES (P) LTD.,	DIA. 1.6,2.0,2.4 & 3.2MM	TN	MISCC/12/15-16/ANX-C PT-6	Welding Wire SAW EM12K TDC:WCPI-003		EM12K	WCPI-003		
TPFB	WCW15	20047	WeldWire SAW EM12K	KANEMATSU TRADING CORPORATION	DIA. 1.6,2.0,2.4 & 3.2MM		MISCC/12/15-16/ANX-C PT-6	Welding Wire SAW EM12K TDC:WCPI-003	koya_okuda@kgt.kanematsu.co.jp	EM12K	WCPI-003	81 3 5283 3680	

**BHEL, TRICHY
OUTSOURCING**

- LIST OF APPROVED VENDORS FOR HEAT TREATMENT

S.No	SAP Code	SUB-CONTRACTOR NAME	ADDRESS	EMAIL-ID	PHONE NO
1	13761	JMS ENGINEERING	P.B.NO.4442 12-D/1, MADUKKARAI ROAD, SIDCO, COIMBATORE COIMBATORE 641021	jmsengineering5@yahoo.com	9894029930
2	30045	SRI BALAJI ENTERPRISE	12/1, Avoor Road, Mathur Pudukkottai 622515	sribalaji30045@gmail.com	98429 50615
3	30056	BHARAKATH METAL BUILDERS	E-31,SIDCO INDUSTRIAL ESTATE PHASE - II, VALAVANTHAN KOTTAI THUVAKUDI-TRICHY 620015	bharakathmetal@yahoo.co.in	8012590949
4	30061	G.K SONS ENGG ENTERPRISES PVT.LTD.,	NO 30, CHENNAI BYPASS ROAD MANNARPURAM TIRUCHIRAPALLI 620020	mail@gksons.com	98424 14262
5	30084	NIRMAL ENTERPRISES	NO 3/989 1 ST STREET PUGAZH NAGAR (OPP.OIL MILL BUS STOP) TIRUCHIRAPALLI KATTUR 620019	try.nent@gmail.com	0431-2533998
6	30086	PIONEER ENGG INDS	NO2,CHENNAI BYPASS ROAD SUBARAMANİYABURAM TIRUCHIRAPALLI TRICHY-TOWN 620020	pioneereng_ind@yahoo.co.in	0431 - 2419101

**BHEL, TRICHY
OUTSOURCING**

- LIST OF APPROVED VENDORS FOR HEAT TREATMENT

7	30087	PUNITHA ENGG WORKS	SF No.286/2-A, TRICHYRAPPALLI THIRUNEDUNGULAM 620015	punithaenggtry@gmail.com	04731-2731212
8	30090	R.K METAL INDUSTRIES	32/4, III STREET, NEHRU NAGAR KAJAMALAI MAIN TIRUCHIRAPALLI TRICHY-TOWN 620023	rkmatal2003@yahoo.com	0431-2556564
9	30114	VANGUARD INDUSTRIES	D2-B, INDL ESTATE THIRUVERUMBUR TIRUCHIRAPALLI THIRVERAMBUR 620014	van30114@yahoo.co.in	9842412672
10	30175	KATTHIRMALAI ENGINEERING WORKS	G1 ANCILLARY INDUSTRIAL ESTATE THIRUVERUMBUR TIRUCHIRAPALLI	katthirmalai@hotmail.com	0431-2552423
11	30195	AMBIGAI ENGINEERING WORKS	PLOT NO I -1,2,9&10 ELECTRICAL & ELECTRONIC INDUSTRIAL ESTATE THUVAKUDI, REC(PO) TRICHY	ambigai_engg@hotmail.com	9345986491
12	30236	VIJJAAY COY INDUSTRIES	SF44/2, SUGAR CANE ROAD MELAKALKANDAR KOTTAI TIRUCHIRAPPALLI 620011	vcitry@yahoo.com	9952411461

**BHEL, TRICHY
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- LIST OF APPROVED VENDORS FOR HEAT TREATMENT

13	30255	DEVI STRUCTURALS	NO 7 SIDCO ANCY INDUSTRIAL ESTATE BOILER PLANT PO, THIRUVERUMBUR	devistrl@yahoo.co.in	0431 - 2556898
14	30265	JAYARAM ENGINEERING WORKS,	E-15 & 16, DEVELOPED PLOTS ESTATE, THUVAKUDI, TRICHY 620015	cmrao@jayaramengg.com	98424-55045

15	30332	RAMAN STRLS & ALLIED INDS.	No:F-1, Ancy. Indl. Estate Thiruverumbur TIRUCHIRAPALLI 620014	ramanstructurals@yahoo.com	2513149
16	30426	RAJNI FAB	3, Kumaramangalam Indl. Estate Mathur, MATHUR 622515	rajinifab@yahoo.co.in	99422 05050
17	30528	SOMIAH INDUSTRIES	D-30, DEVELOPED PLOTS ESTATE, TIRUCHIRAPALLI	somiahindustries170@gmail.com	0431-2500240
18	30825	AANBAR INDUSTRIES,	PLOT NO.22, SIDCO INDL. ESTATE THIRUVERUMBUR, TRICHY. 620014	aanbarindustries@yahoo.com	9865677577

**BHEL, TRICHY
OUTSOURCING**

- LIST OF APPROVED VENDORS FOR HEAT TREATMENT

19	32400	QUALITY INDUSTRIAL SERVICES	PLOT W111, SIDCO WOMEN'S INDL ESTATE VALAVANTHANKOTTAI THUVAKUDI, TRICHY 620015		
20	30861	MARIA ENGINEERING ENTERPRISES,	SF.NO.22/1, TRICHY-TANJORE MAIN ROAD, ASSUR POST ,TRICHY- 620 015	mariaenggenterprises@gmail.com	9865370000
21	30885	K.R.MURTHE WELDING WORKS,	NO.175,WOMEN INDUSTRIAL ESTATE, TRICHYRAPPALLI VALAVANTHANKOTTAI 620015	kr_murthe@yahoo.co.in	0431 - 2731177
22	31025	MANI NAGGAPPA MOTORS MADURAI P LTD.	MANI NAGGAPPA MOTORS MADURAI P LTD SL.NO.90/3 MADURAI-MELUR MAIN ROAD, NARASINGAMPATTI, MADURAI 625122	nagauto@gmail.com	9442257004
23	31203	M.Se INDUSTRIES	57B, ANAMALAI AMMAN KOVIL STREET L&T BYE PASS ROAD, VELLALORE COIMBATORE 641111	msemovers@yahoo.co.in	9843347004

**BHEL, TRICHY
OUTSOURCING**

- LIST OF APPROVED VENDORS FOR HEAT TREATMENT

24	31321	WIRE AND WIRE PRODUCTS	No:21, SIDCO Industrial Estate, Phase II, Valavanthankottai TIRUCHY 620007	wwp620007@yahoo.co.in	9942622144
25	31490	DREAMZ INDUSTRY	NO.23, SIDCO INDL ESTATE TIRUVERAMBUR TIRUCHIRAPALLI 620014	dreamzindustry2012@yahoo.com	0431-2670021
26	31841	SREE SIVA SAKTHI ENGINEERING WORKS	PLOT No.11,12 & 13, SF.No.18/1 - C AVOOR MAIN ROAD MATHUR, PUDUKKOTTAI 622515	ssshangers@gmail.com	0431 - 3255561
27	31941	SOUTHERN METAL PROCESS	C-15/A DP ESTATE THUVAKUDI TRICHY 620015		9445701314
28	18979	ICE STEEL 1 PVT LTD	S3 TO S10 PHASE III, SIPCOT INDUSTRIAL COMPLEX, Ranipet – 632405	mohit.more@steel1.india.com	9047005945

BHARAT HEAVY ELECTRICALS LTD: TIRUCHIRAPPALLI 14
NON-DESTRUCTIVE TESTING / QUALITY

BHE:NDT:SC:APPROVALS

31-07-2018

List of Approved NDT Agencies

Sl.No	Name of the Firm and Address	Approved Methods	Valid upto
1	M/s G.B. NDT Engg. Services, E-52,Industrial Estate,Thuvakudi, Tiruchy-620015 Phone:(0431)2501112,2500891 email:gbndt.xrayengg@yahoo.com	RT, UT, MT, PT	31-05-2020
2	M/s C Premier NDE Services, CP-17, Electrical and Electronics Industrial Estate, Thuvakudi, Tiruchy 620015 Phone (0431)2500878 , 9842455733 email:premierndt@yahoo.com, venu.raj_1954@yahoo.com	RT	31-05-2020
3	M/s Super Quality Services, 95,SQS Building, Near Police Station, Palakkarai Main Road, Trichy-620001Phone (0431)2415087,2414218, Fax-0431- 2464218 E-Mail:sqsndt@yahoo.co.in	RT, UT, MT, PT	31-05-2020
4	M/s Metal Care Engg. Services Plot 13,14, B-1 Kether Manor,3rd Cross, North Extension, Thillai nagar,Trichy 620018 Phone (0431) 2762190, 2481593 9942904651(Selvaraj) mces_try@yahoo.co.in	RT, MT	31-05-2020
5	M/s Scaanray Metallurgical Services, C-12, Industrial Estate,Mogappair (West) Chennai 600 037 Phone: 044-26250651, 23762613 Fax 26358741 e-mail: scaanray@vsnl.com	RT, UT, MT,PT	31-05-2020
6	M/s Industrial Radiographic Inspection Company SP-111, South Avenue, Ambattur Industrial Estate,Chennai 600 058 Phone: 044-26253235,26250790,26255602, Fax-044-26255838 e-mail : info@iricondt.com	RT,UT	31-05-2020
7	M/s Everest Industrial Radiographer, "GREEN LAND", 1/25, Arisipalayam, Coimbatore-641032 Phone:0422-2638148,2638348, Cell:9843011031 (A.Rathinam) email: everestndt@gmail.com	RT	31-05-2020
8	M/s KGB Inspection Services, P-16, Electrical & Electronics Industrial Estate, Thuvakudi, Tiruchirappalli 620015 Phone (0431)2500164, 9842453258(Kumaran) email:kgbist2002@yahoo.co.in	RT, UT, MT, PT	31-05-2020
9	M/s Supreme Excel NDT Services, II Floor, Vairam Memorial Complex 24-A/B, Jeeva Street, Subramaniapuram, Tiruchirappalli - 620020 Phone:(0431)2333528, 2501241 e-mail:ndtsrvcs2008@yahoo.co.in	RT, UT, MT, PT	31-05-2020
10	M/s.NDE Inspections, 50,Raja Colony, 4th Cross,Collector Office Road, Trichy-620001. Phone (0431)2416388 , 9345499916 e-mail:ndeinspections@gmail.com, www.rla-ndeinspections.com	RT,UT, MT,PT	31-05-2020
11	M/s Sri Vinayaga NDT Inspection Services, SF 303, Peria Thottam, Kadathur Road, Coimbatore- 641 107. Phone 0422-2653640, 9443027274(Shanmugam) email:svndt@yahoo.co.in	RT	31-05-2020


R. RAGHAVENDRIEN
DEPUTY MANAGER
NDTL, BHEL, TRICHY-14

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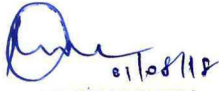

R. ARUL PRABHU
Dy. General Manager / NDTL
BHEL, TRICHY-620 014

12	M/s.Sri Shanmuka NDT & Inspection Services, 701, Avoor Road, Mathur, Pudukottai Dist-622515. email:shanmukandt@gmail.com Mobile:9486675664	RT	19-08-2018
13	M/s Engineering Quality Inspection Services, 2 / 166 A, Mettukuppam Road, Vanagaram, Chennai- 600 095. Phone:044-24764770, Fax:044-24764773, E-mail: jstephenraj.eqis@gmail.com	RT,UT,MT	31-05-2020
14	M/s United Inspection and Engineering Services, New No 9, Old No 22, Parthasarathypuram, North Usman Road, T.Nagar, Chennai 600 017. Phone:044-42123180, Fax: 044-28142268, Cell:Leeladhar 9444062268, E-mail:uies@sify.com.	RT	31-05-2020
15	M/s Jai Inspection Agencies, Plot No 21, Natesan Nagar, Ayanampakkam, Chennai- 600 095, Phone: 044-26533028, Fax: 044-26531770 email: engineerndt@gmail.com, jai_inspection@yahoo.com	RT.MT,PT,UT	05/17/2019
16	M/s.Naveen NDT Services, Plot No:54, Mariammal Nagar, Near SIDCO, Industrial Estate, Mathur-622515 email:naveenndt@yahoo.co.in Phone:0431-2203637,Mobile:9940743989,9842954850	RT	16-10-2018
17	M/s.SaiSrushti Technical Services, C-113,Punit Industrial Premises Co.Op.Soc.Ltd., Plot No:D11/11A, Turbhe,Navi Mumbai-400705 email:saisrushti2009@gmail.com Phone:022-27681150/51 Mobile:9820191617.	RT	31-12-2018
18	M/s.A-Star Testing & Inspection Pvt.Ltd, No- 1A,Umapathy Street, West Mambalam, Chennai, India.Pin- 600 033. Tel:044 4851 4533, Cell:9840919166.Email:admin@astartesting.co.in	RT,UT,PT,MT	03-08-2019
19	M/s.SEA HUB Inspection Services, 1st Floor, Deepam Complex, Thiruverumbu,Trichy-620013	RT& UT,MT,PT	31-05-2020
20	M/s SAKTHI RADIOGRAPHIC INSPECTION COMPANY, No 1 / 1-14, Rajiv Gandhi Nagar, Walajapet 632 513 Phone 04172-230344, 245264 Cell:9443246128 email:srico.ndt@gmail.com	RT	31-05-2020
21	M/s HITEC NDT SYSTEMS S.F.No 350 / 2C, Near M/s Rosver Steels Ltd,) KATTAMPATTI Villaage, Ganesapuram P.O S.S.Kulam (Via) Coimbatore-614 107 Phone:0422-2653446 Mobile:9655558905(Ravikumar) hitecndt1@yahoo.com	RT	31-05-2020
22	M/s.GLOBAL ENGINEERING&NDT SERVICES HASIMPUR, PATULIGRAM P.O, HOOGLY DISTRICT, WEST BENGAL-712 501 Cell 09831609926(S.Das),9831626059(S.Sarkar) email:globalenggndt@gmail.com	RT UT,MT,PT	17.02.2020 31.07.2018


R. RAGHAVENDRIEN
DEPUTY MANAGER
NDTL, BHEL, TRICHY-14


R. ARUL PRABHU
Dy. General Manager / NDTL
BHEL, TRICHY-620 014

23	M/s VISVESVARAYA INDUSTRIAL ENGINEERING WORKS, SF 238 / 2B & 2C MASAGOUNDAN CHETTIPALAYAM VILLAGE TELUNGUPALAYAM ROAD, ANNUR, AVINASI TALUK, COIMBATORE-641 653 Mobile:9444418051: 9444954613(N.S.Ravi) e-mail: view_ndt@yahoo.com	RT	23-02-2019
24	M/s SCIENTECH INSPECTION SERVICES No 64-B, Panchaliamman Koil Street, Arumbakkam, CHENNAI-600 106 Ph:044 24751626 98840228619500015616, 9840208795 e-mail:scientechninspection@gmail.com	Cell: MT ,PT &UT	19-07-2018
25	M/s PERFECT INSPECTION SERVICES, Regd.Office:265, Light Industrial Area,Bhilai, Dist: Durg,Pin-490026, Ph:0788-4033857/4039576/2221729,Fax: 0788 4062759 e- mail:pishhilai@sify.com dkdutta7@yahoo.com- 09755985599	RT,UT,MT,PT	14-06-2019
26	SEAM(SUNIL HITECH ENGINEERS & MANUFACTURERS P LTD,) 97, East High Court Road, Ramdaspath, NAGPUR, Maharashtra State-440010 Works-K-43 / 2, Five Star Industrial Zone, MIDC Butibori, NAGPUR, Maharashtra State-441122 E- mail:seamngp@gmail.com, info@seamlimited.com H.O Phone: 0712-2562087 / 88 Works: 07104-265468, 321968 :Fax:07104265467 Mobile-Devarajan-09923755592	RT, UT	27-01-2019
27	ASCENT NDT Services, W-111 Women Industrial Estate sidco Valavanthan Kottai, Trichy-620015 Ph:0431-2731298 Mobile:09500912988-K.Ramaraj E-Mail: ascentndt@gmail.com	RT	31-12-2019
28	M/s Sri Amman NDT System, 76/ 2A,2B,Thirumalayampalayam village, Madukkarai P.O. COIMBATORE-641105 Phone:0422-2402456, 2656290 Mobile:9865270800(Devaraj), 9944413388(Sivamurugan) email:sriammanndt@yahoo.in	RT	12-02-2020
29	M/s SIEVERT India Pvt.Ltd, Plot No.B3/B4, TTC Industrial Area, Opp. to Thane Belapur Road, MIDC, Digha, Navi Mumbai, Thane, Maharashtra - 400708. Office:+91 22 67859141 E-Mail : tkrudra@sievert.in	RT,UT	30-04-2020
30	M/s Test Ray's Inspection Services, S.F 413 / 3B, Mopperi Palayam,Palladam Taluk, Coimbatore-642654 Ph:0421-3269845, Mobile9600944001, 02,03 Email:tiesndt@gmail.com	RT	30-04-2020
31	M/s Curie Best Services, 359 / 1, 2 Kanthampalayam, Sembiyanallur(Village),Avinashi- 641654Mobile:9486774627(Balakrishnan) 9942984241(Murugappan) email:curiebestservices@gmail.com	RT	30-04-2020


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32	M/s. J K Inspection services, Plot.No:47, SIDCO-BHEL ANCILLARY ESTATE, BHEL POST, RANIPET-632406, TAMILNADU Phone:04172-244101, Mobil.No:9443224101-Miichael Fax:04127-244141 E-mail:qualitest@hotmail.com	RT,UT,MT,PT	31-05-2020
33	M/s.BECQUEREL industries Pvt Ltd.33,Rushikesh,Ingole Nagar,Modern Co-op.Hsg.Society,Wardha Road, Nagpur.440 005.Cell +91-9822565879.E- mail:info@bipindt.com	RT,UT,MT,PT	10-02-2020
34	M/s.Shabri Enterprises 143-D Light Industrial Area, Bhilai (C.G)-490026 E-Mail: bhilaitest@gmail.com Tel: 07882292628 Mob: 09584606296	RT & PT	10-02-2019
35	M/s METALFAB HIGHTECH (P) LTD E 21-25, MIDC, INDUSTRIAL AREA, HINGNA NAGAR, NAGPUR-440 028 Ph:07104-234240 e-mail:mfhpl@hotmail.com planning@metalfabhightech.com A.K.GHOSH-09922900206	RT,UT,MT,PT	21-12-2018
36	M/s Evergreen NDT Engineers, No. 7, I Floor, Vairam Memorial Complex 24-A/B, Jeeva Street, Subramaniapuram, Tiruchirappalli 20- 620020 Phone(0431) 2333095, Cell-9842425765(Chockalingam), 9842435765(Ravichandran) email:enetry20@eth.net	RT,UT, MT	31-05-2020
37	MAG Integrity Resources plot.No-1-3, Electrical & Electronic Industrial Estate, SIDCO, Thuvakudi, Trichy-620015, Ph.No: 0431-2500215,0431-4060209, Contact Person:K.Thangaiyan,MD,9443495215 E-Mail:carrier@magintegrity.com	UT,MT,PT	25-03-2019
38	M/s.Madras Radiography Engineers, 705,3rd Cross,HRBR I Block, Kalyan Nagar,Bangalore-560043 Contact Person: Damodharan.S-9944033446,09448040882 E-Mail: mre.ndt@gmail.com	RT	05-02-2020
39	M/s. Gama Industrial Services Pvt.Ltd, 301,Suprabath, Bejai Kapikad, Mangalore-575004 Phone: 0824 2223901 E-Mail: mlr@gamaind.com Mr.V.Sankaran ,Mobile: 09844044901.	RT	30-06-2019
40	M/s. National Radiographic Inspection Co Pvt Ltd, A22,F/1,Brindavanam Flats,5h Avenue, Banu Nagar, Pudur, Chennai-600053 E-Mail:info@nricndt.co.in, snmoorthy@nricndt.co.in 0461-6540529,09246643275	RT	07-05-2019
41	M/s Testrade Technical Services, Vishnu Vihar,217, Dr. Ambedkar Road, P.O. Velandipalayam, Coimbatore 641 025. Phone: 0422-2450440 ,09363242722(Muruganandam) email:testradexray@yahoo.in Site Office:165, SIDCO INDL. ESTATE, Malumichampatti,	RT	31-10-2019


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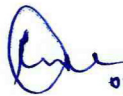
42	M/s RAIPUR WELDING AND NDT SERVICES PVT LTD, MD 559 Housing Board colony, Industrial Estate, Bhilai-490026, Mr. Santosh Sahu Tel: +91 9165444863, +91 9669363073 E-Mail: rwns_ndt@outlook.com	RT	30-11-2019
43	M/s INSTITUTE OF INSPECTION TECHNOLOGY AND NDT RESOURCES, No: 2, Navaladiyan Arcade, Pugal Nagar, (opp: oil mill check post), Thanjavur Main Road, Pappakurchi, Kattur, Trichy 620 019. Ph: +91 431 253 4269, Shareef Mob: +91 9865407475/ Email: info@iitndt.com	RT, MT, PT, UT	16-01-2020
44	M/s. INTEGRATED ENGINEERS, PLOT: 63/54, 55, 1st FLOOR, OPP DHAMU NAGAR, P.N. PALAYAM ROAD, PULIAKULAM, COIMBATORE-641045, Ph: 0422- 2312242, S. VINOTH KUMAR, MOBILE: 9786896769	MT, PT, UT	08-08-2018
45	M/s. Integrity and Reliability Service, No: 5/8c, Thiruvengada Nagar, Thiruverumbur, Trichy-620013. E-Mail: iris.ndte@gmail.com, irinspectionsservice@gmail.com, Ph. No: +91-8526666028, 9944674608.	UT	15-01-2019
46	M/s Castech NDT Services, SF No. 440/1, Othakkamandalam Road, Chettipalam- Post, Coimbatore. Pin-641201, Tamil Nadu. E Mail- castechndt@gmail.com, Phone No-0422- 2930340/9698232360.	RT	03-02-2019
47	M/s. UNIK NDT Inspection and Engineers Pvt Ltd, Regd. Office: 23, Trikone Park, North Balia, Garia, Kolkata-700084. E-Mail: unikndt@gmail.com, info@unikndt.com Pradeep Mondal: 07890009619, 07059691066	RT	07-02-2019
48	M/s. Asian Supreme Excel NDT, SF 125, Kainangarai, Mathur, Pudukottai-622515 E-Mail: rsexcel@gmail.com Contact: A. Subramanian-09842452076	RT, UT, MT, PT	11-08-2019
49	M/s. A TO Z NDT SOLUTIONS (P) LTD, Sco-36, 2nd Floor, Veer Complex, Spring Field Market, Sector-31, Faridabad-121003 (Haryana) India. E-Mail: HOD@atozndt.com Contact: Haider Ali-08469769160, 0129-4103532	RT, UT, MT, PT	11-08-2019
50	M/s. VMAX Engineers, No: 107, Lokamanya Thilakar Street, Kumarannagar, Padi, Chennai-vmxengineers@gmail.com Contact: Meganathan-07397788741.	UT, MT, PT	11-08-2019
51	M/s. Arcelor Mittal Dhamm Processing Pvt Ltd, S3-S10, Phase-3, Sipcot, Industrial Complex, Mukundarayapuram Post, Ranipet. Vellore District, Tamilnadu-632405, India. T-+91(4172)278100 F +91(4172)278114, E-Mail: siva.kumar@steel1india.com, Contact: SivaKumar/AGM/QC-9047015918	UT, MT, PT	23/11/2019


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52	M/s.COSMIC INSPECTION SERVICES Works:SF.No:475/2D,Sellappampalayam Road, Near LRT Foundry, Ponnadampalayam, Kanniur Post, Coimbatore-641659, E-Mail: cosmicinspectionsservices@gmail.com Mob:+91-9894670567-Mr.S.Esakki.	RT	19/07/2018
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