



Ranipet

Standard Quality Plan for Heating Element (Hopper, Support and Shaft).

REF. NO.	REVISION NO.	EFFECTIVE DATE
QP:E :837	00	15.11.2014

TITLE : Quality Plan for Heating Element (Hopper, Support and Shaft).

SIGNATURE

PREPARED BY : CH ANIL SINGH/AE/QA

REVIEWED BY : P YASODAKRISHNA / ENGG/QA

APPROVED BY : C SRINIVASAN/DGM/QA

ISSUED & CONTROLLED BY : QUALITY ASSURANCE
BHEL, RANIPET - 632 406.

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ISSUED TO:

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Standard Quality Plan for Heating Element (Hopper, Support and Shaft).

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RECORD OF REVISION

REV. NO	EFFECTIVE DATE	REMARKS
00	15 11 2014	Original Issue

				BHARAT HEAVY ELECTRICALS LTD BOILER AUXILIARIES PLANT, RANIPET – 632 406. QUALITY ASSURANCE				STANDARD QUALITY PLAN FOR HEATING ELEMENT (SUPPORT,SHAFT AND HOPPER)				QP Ref : QP:E:837 REV. NO: 00 DATE: 15 11 2014 Page 3 of 4													
Ranipet				Sl. No.		COMPONENT / ASSEMBLY / OPERATION/TESTS		CHARACTE - RISTICS		CLASS		TYPE OF CHECK		QUANTUM OF CHECK		REFERENCE DOCUMENT		ACCEPTANCE STANDARD		FORMAT OF REC		AGENCY		REMARKS	
				1.		2.		3.		4.		5.		6.		7.		8.		9.		10.		11.	
																						M		B	

1	RAW MATERIAL	Verification of Sheath material (SS 321)	Minor	Verification	-	SS 321	SS 321	Raw Material TC	V	V
		Verification of Heating coil (Kanthal-D)	Minor	Verification	-	DRG/BOM	DRG/BOM	Raw Material TC	V	V
		Verification of all BOM items	Minor	Verification	10%	DRG/BOM	DRG/BOM		V	V
		Verification of Cable glands and lugs	Minor	Verification	100%	DRG/BOM	DRG/BOM	IR	V	V
		Verification of 2 no's earthing screw	Minor	Verification	10%	BHEL APPD DRG	BHEL APPD DRG	IR	P	V
2	Final Inspection	Dimensional check including tube length and tube diameter	Major	Dimension	10 per lot	BHEL APPD DRG	BHEL APPD DRG	TC	P	V
		Verification of terminal stud fixing accessories (porcelain base and flexible heat resistance connecting cable etc)	Major	Verification	10%	BHEL APPD DRG	BHEL APPD DRG	TC	P	W
		Measurement of creepage distance (clearance) from terminal box and live terminal	Major	Verification	10%	BHEL APPD DRG	BHEL APPD DRG	TC	P	W
		HV TEST (1 KV AC)	Major	Electrical	100%	BHEL Tech Specification	BHEL Tech Specification	TC	P	W

Legends:

MQCD= Manufacture Quality Control Department : TC = Test Certificates : Drng = Drawing : IR = Insulation Resistance : BOM = Bill of Material : HV = High Voltage M= Manufacturer, B = Bharat Heavy Electricals limited Or BHEL authorized Inspection agency.

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									M	B

		IR TEST (500V DC Megger) before and after HV	Major	Electrical	100%	BHEL Tech Specification	BHEL Tech Specification	TC	P	W
		Measurement of resistance coil	Major	Electrical	100%	BHEL Tech Specification	BHEL Tech Specification	TC	P	W
		Measurement of power consumption with variable frequency at rated voltage	Major	Electrical	10%	BHEL Tech Specification	Shall not be more than 10% of rated power	TC	P	W
		Measurement of Leakage Current	Major	Electrical	10%	IS 302	IS 302	TC	P	W
		Verification of paint shade (For NTPC projects and Non NTPC projects)	Minor	Verification	10%	NTPC Appd specification for NTPC projects or BHEL Tech specification for Non NTPC projects	NTPC Appd specification for NTPC projects or BHEL Tech specification for Non NTPC projects	TC	V	V
		Verification paint shade thickness by Eleco meter	Minor	Electrical	10%	BHEL Tech Specification	60-120 microns	TC	P	W
		Adhesion test for painting	Minor	Electrical	10%		No peel off	TC	P	W
		Verification of Galvanization Thickness	Minor	Electrical	10%		More than 60 microns	TC	P	W

Note : Supplier has to submit valid IP 55 degree protection certificate for heating element, the validity of Type test certificate is 10 years from the date of PO placement for identical model and same design.

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