

 Ranipet		MANUFACTURER'S NAME & ADDRESS BHEL/ BHEL APPROVED SOURCE		STANDARD QUALITY PLAN				PROJECT: AS PER PO.						
				ITEM: RUBBER EXPANSION JOINT	QP. NO.: EXPANSION JOINT :392 Rev No. :00 Date: 12.03.2020 Page 1 of 3									
SL NO	COMPONENT & OPERATION	CHARACTERISTICS	CLASS OF CHECK	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD		Agency			REMARKS
1	2	3	4	5	M	B/C	7	8	9	D	10	11		

1.0 RAW MATERIALS													
1.1	Polymer Identification Chlorobutyl Rubber	Physical Properties	Major	Qualitative Analysis /Testing	1 Sample/ Lot /Melt / Heat	1 Sample/ Lot /Melt /Heat	BHEL Spec. / Approved Drawing	Presence of Butyl Rubber	Test Certificate.	√	P	V	-
1.2	Chlorobutyl Rubber	a) Tensile Strength	Major	Testing	1 Sample/ Lot /Melt / Heat	1 Sample/ Lot /Melt /Heat	Approved Drawing / Data sheet	Approved Drawing/ Data sheet	Test Report	√	P	V	-
		b) Elongation at Break	Major	Testing	1 Sample/ Lot /Melt / Heat	1 Sample/ Lot /Melt / Heat	Approved Drawing / Data sheet	Approved Drawing / Data sheet	Test Report	√	P	V	-
		c) Shore Hardness	Major	Test	1 Sample/Lot /Melt / Heat		ASTM D-2240	65±5° Sh.A (As per Relevant Std)	Test Report	√	P	V	-
1.3	EPDM Rubber	a) Tensile Strength	Major	Testing	1 Sample/ Lot /Melt / Heat	1 Sample/ Lot /Melt / Heat	ASTM D-412	Minimum 80Kg/cm2	Test Report	√	P	V	-
		b) Elongation at Break	Major	Testing	1 Sample/ Lot /Melt / Heat	1 Sample/ Lot /Melt / Heat	DO	Minimum 250%	Test Report	√	P	V	-
		c) Shore Hardness	Major	Measurement	1 Sample/Lot /Melt / Heat		ASTM D-2240	65±5° Sh.A	Test Report	√	P	V	-

M – Manufacturer / Subcontractor, B - BHEL /BHEL Authorized Inspection Agency, C - Customer, P - perform, V - Verification of reports W - Witness, TC - Test certificate "D" – Record, identified with tick (√) shall be essentially included by Supplier in QA documentation. RT- Radiographic Test, UT- Ultrasonic test.	Prepared by	Reviewed by	Approved by
	 Sanjib Pandit (AE/QA)	 Rakesh Kumar Madhu (Dy Manager / QA)	 K C Gandhiparimalam (DGM/QA)

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1.4	Metal Flange & Stretcher Olate	Chem. & Mech. Test (Tensile, Elongation, at Break and Yield strength)	Major	Testing	1 Sample for Entire Supply	ASTM A36	ASTM A36	Test Certificates	√	P	V	-	
1.5	Control Rods	DO	Major	Testing	1 Sample/Lot /Melt / Heat	ASTM A 307 Gr.-B	ASTM A307 Gr.-B	Test Certificates	√	P	V	-	
1.6	Nut & Lock Nut	Chem. & Mech. Properties (Hardness & Proof Load)	Major	Profile Inspection (Reduced Scope)	1 Sample/Lot /Melt / Heat	ASTM A307B + GAL+50μ / BHEL Spec. / Drawing		Test Certificates	√	P	V	-	
1.7	Final Product	Rubber Bellows Visual & Dimensional Conformity	Major	Measurement	1 Sample/Lot /Melt / Heat	As per Approved Drawing	As per Approved Drawing	Report	√	P	V	-	
2.0	FINAL INSPECTION												
2.1	Hydrostatic Test	Hydro test	Major	Testing	1 Sample/Lot /Melt / Heat	As per Approved Spec./ Drawing/Data sheet	No Leakage	Test Report	√	P	W	-	Duration of Hydro test shall be 10 Minutes
2.2	Deflection Check	Deflection Test	Major	Testing in Axial Compression by 10 mm.	1 Sample/Lot /Melt / Heat			Test Report	√	P	W		Duration of all the Deflection Test shall be 2 minutes
				In Axial Elongation by 10 mm.				Test Report	√	P	W		
				Lateral Deflection by 10 mm				Test Report	√	P	W		

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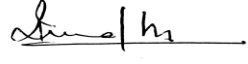
3.0 PACKING & PRESERVATION													
3.1	Packing	Verification	Major	Verification of packing	100%	100%	Plant procedure and Packing	PO/Specification/ Drawing	Paint and packing Report	√	P	V	-

Notes:

1. Latest version of standards & Specification shall be applied.
2. Materials shall be procured in compliance to Functional Technical Specification.
3. Gauges and measuring instruments with valid calibration only shall be used.
4. Inspection / Inspection waiver / approval by BHEL does not absolve Supplier's responsibility for conformity of the specification as per the terms of PO.
5. BHEL /BHEL Authorized representatives shall have the right to witness the necessary inspection and testing of goods mentioned in the PO.
6. In case of Vendor Drawing & Datasheet, it needs approval by BHEL Engineering.
7. This QP Shall be read along with relevant PO, BHEL Specification/Drawing.

RECORD OF REVISION

REV NO	DATE	DESCRIPTION
01	12.03.2020	Revised based on feedback from QC-proc.

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