

Manufacturer's logo		Manufacturer's name and Address				MANUFACTURING QUALITY PLAN (I-QAP)				Project: Main supplier: BHEL BHEL P.O NO:			
ITEM : Vibration isolation system Equipment: Spring Unit: Module name as per Vendor		QP No: Rev : Date : Page :		REFERENCE DOCUMENT		ACCEPTANCE NORMS		FORMAT OF RECORD		AGENCY		REMARKS	
Sl. No.	COMPONENT AND OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS	
1	2	3	4	5	6	7	8	9	D	M	C	B	11
1	Materials												
1.1	For boxes	Chemical/Mechanical	Minor	Verify	One / Heat	IS 2062/DIN EN 10025/JVHT 02/JVHHT 01/B00/SAILMA 350 HI/SAILMA 350 or equivalent	Same as column "7"	Certificate	✓	P	V	V	
		a) Chemical	Major	Verify	One / Lot	50 Cr V 4 As per DIN 17221 or 51 Cr V 4 As per EN10089 or Equivalent	Same as column "7"	Certificate	✓	P	V	V	
1.2	For Springs	b) Grain Size	Major	Verify	One / Lot	ASTM E 112	ASTM 5 or finer	Certificate	✓	P	V	V	
		c) NMI	Major	Verify	One / Lot	IS 4163	ASTM series T/H-2.0/1.5	Certificate	✓	P	V	V	
		d) Micro structure	Major	Verify	One / Lot	--	DIN 17221 or equivalent	Certificate	✓	P	V	V	
1.3	Springs at Manufacturer's end	Hardness	Major	Test	One/Lot	IS 1500	415-460 BHN	Certificate	✓	P	V	V	
1.4	Springs at Manufacturer's end	Decarburization	Major	Test	One / Lot	IS 6396	Max. depth 0.5% of bar dia - partial	Certificate	✓	P	V	V	
1.5	Springs at Manufacturer's end	NDE after compression	Major	Test	100%	IS 3703	No cracks	Certificate	✓	P	V	V	
1.6	Adhesive pads (jute), 4mm thick, Steel shims	Spring Rate	Major	Test	AQL 4.0	DIN 2096	Same as column "7"	Lab Register	✓	P	V	V	
1.7		Dimensions (mm)	Minor	Measure / Visual	5 %	Drawing	DIN 7168 Sg	Internal Record	✓	P	V	V	
1.8	Viscoliquid	Penetration speed (mm/sec)	Major	Test	Sample	DIN 53019 or equivalent	Same as column "7"	Certificate	✓	P	V	V	
1.9	Studs & Nuts	Chemical Dimensions (mm)	Minor	Verify Measure	One / Lot 5%	IS 1367 (Grade 6.8 & Class 6) IS 4218 (Tolerance Class 6g & 6H)	Same as column "7"	Lab Test Report	✓	P	V	V	
2						In Process Inspection							
2.1	Welding	Visual / Surface exam (mm)	Major	Visual / Measure	10% on welds	Annexure-1 (attached)	Same as column "7"	Certificate	✓	P	V	V	
		NDE	Major	DPT	10% Random	ASTM / E 165	Same as column "7"	Certificate	✓	P	V	V	
2.2	Boxes	Dimensions (mm)	Major	Measure	10%	Drawing & data sheet	EN ISO 13920 C	Internal record	✓	P	V	V	
3						Final Inspection							
3.1	Shot Blasting	Picture	Major	Compare	10%	EN ISO12944-4	SA - 2 ½	Certificate	✓	P	V	V	
3.2	Painting	Thickness (180 microns)	Major	Measure / Visual	10%	Annexure-2 (attached)	Same as column "7"	Certificate	✓	P	V	V	
3.3	Spring Unit	Dimensions (Except HF&HV)	Minor	Measure	10%	Drawing / Datasheet	EN ISO 13920 C	Internal Record	✓	P	W	V	
3.4	Constant of Spring Units (Vertical: Kv)	Load Vs Displacement (kN/mm)	Critical	Test	10%	DIN 2096 & DIN 2089	Data Sheet	Certificate	✓	P	W	V	
3.5	Document Control	Verification of above documents (TC/IR)	Major	Compare	All	MQP	Same as column "7"	Certificate	✓	P	V	V	
3.6	Packing / Marking	Visual	Major	Visual / Compare	100%	As per vendor's standard	Same as column "7"	Certificate	✓	P			
MANUFACTURER/ SUB-CONTRACTOR		CONTRACTOR		LEGEND: # RECORDS, IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY MANUFACTURER IN QA DOCUMENTATION M: MANUFACTURER/ SUB-CONTRACTOR C: : MAIN SUPPLIER, B: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS AND 'V' VERIFICATION									
SIGNATURE				NAME & SIGNATURE OF APPROVING AUTHORITY WITH SEAL									