

Laboratory **VSP Testing & Calibration Laboratory, H-112/9, Shree Ashta Vinayak Indl. Premises CO-OP Society, MIDC Ambad, Nashik, Maharashtra**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-6205** Page 1 of 4

Validity **04.09.2017 to 03.09.2019** Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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**CHEMICAL TESTING**

I.	METALS & ALLOYS			
1.		Carbon	IS 8811:1998 (RA 2012)	0.030 % to 1.50 %
		Manganese		0.10 % to 2.0 %
		Silicon		0.10 % to 2.0 %
		Sulphur		0.009 % to 0.10 %
		Phosphorus		0.008 % to 0.10 %
		Chromium		0.05 % to 5.0 %
		Nickel		0.005 % to 3.00 %
		Molybdenum		0.01 % to 1.50 %
		Vanadium		0.01 % to 1.00 %
		Copper		0.01 % to 0.30 %
		Aluminium		0.02 % to 0.10 %
		Cobalt		0.01 % to 0.20 %
		2.	Stainless Steel	Carbon
Manganese				0.10 % to 2.0 %
Silicon				0.10 % to 1.5 %
Sulphur				0.002 % to 0.10 %
Phosphorus				0.002 % to 0.10 %
Chromium				8.0 % to 24.00 %
Nickel				2.00 % to 20.00 %
Molybdenum				0.01 % to 3.15 %
Copper				0.10 % to 0.50 %
3.				Silicon
		Iron		0.10 % to 0.50 %
		Manganese		0.05 % to 1.0 %
		Magnesium		0.10 % to 4.0%
		Copper		0.05 % to 4.0 %
		Zinc		0.02 % to 2.0 %
		Nickel		0.02 % to 0.5 %
	Lead		0.04 % to 0.20 %	

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4.		Tin		0.05 % to 0.10 %
		Chromium		0.015 % to 0.20 %
		Titanium		0.020 % to 0.20 %
		Zinc	BS EN 15079 :2015	0.005 % to 36.00 %
		Lead		0.005 % to 10.00 %
		Tin		0.005 % to 11.00 %
		Manganese		0.006 % to 0.20 %
		Iron		0.040 % to 0.35 %
		Nickel		0.020 % to 2.0 %
		Aluminium		0.04 % to 0.25 %
		Silicon		0.004 % to 0.15 %
		Phosphorous		0.005 % to 0.20 %
	Arsenic		0.007 % to 0.10 %	

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**Mallika Gope**  
Convenor

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**N. Venkateswaran**  
Program Director

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**MECHANICAL TESTING**

I.	<b>MECHANICAL PROPERTIES OF METALS</b>			
1.	<b>Ferrous and Non Ferrous Materials</b>	<b>Tensile Test</b>	IS 1608 : 2005 (RA 2017) ASTM A 370- 2017	10 kN to 350 kN
		Tensile Strength		10 kN to 350 kN
		Yield Strength		10 kN to 350 kN
		% Elongation		1.0 % to 60 %
		% Reduction Area		1.0 % to 80 %
		Bend Test (90 & 180°)	IS 1599 : 2012 (RA 2017) ASTM A 370:2017	Qualitative (Mandrel Dia - 2, 4, 6, 8, 10, 12, 14, 16, 20, 24, 28, 32, 36, 40 and 50 mm)
		Flattening	IS 2328: 2005 (RA 2017) ASTM A 370:2017	Qualitative (Dia 10 mm to 600 mm)
		Flaring	IS 2335: 2005(RA 2017) ASTM A 370:2017	Qualitative (Dia 10 mm to 60 mm)
		Proof load Test for Bolts , Screw, studs Nuts	IS 1367 (Part 3): 2017 IS 1367 (Part 6): 1994 (RA 2015)	Qualitative (10 kN to 350 kN)
		Rockwell Hardness	IS 1586:2012 (RA 2017) ASTM A 370-2017	50 HRA to 85 HRA 50 HRBW to 100 HRBW 20 HRC to 70 HRC 40 HR 30N to 90 HR 30N 40 HR30TW to 90 HR30TW
2.	<b>Welded Materials</b>	<b>Tensile Test</b>	ASME Sec IX:2015	10 kN to 350 kN
		Tensile Strength		
		Bend (Root/Face/Side)	ASME Sec IX:2015 (RA 2012)	Qualitative (Mandrel Dia - 2, 4, 6, 8, 10, 12, 14, 16, 20, 24, 28, 32, 36, 40 and 50 mm)

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		Macro Examination	IS 11371-1985(RA 2012) ASME (Sec IX) 2015	Qualitative

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