

Laboratory	Alpha Laboratory Services, NH-27, Shapar (Veraval) Dist. Rajkot, Gujarat		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Mechanical Testing	Issue Date	05.08.2016
Certificate Number	T-3065	Valid Until	04.08.2018
Last Amended on	07.11.2016	Page	1 of 3

S. No.	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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I. MECHANICAL TESTING

		Tensile testing		
1.	Ferrous & Non Ferrous Materials & Alloys	Tensile strength 0.2 %Proof stress 1 % Proof stress Yield Strength % Elongation % Reduction Area	ASTM A-370:2016 IS 1608: 2005 ASME Sec-IX:2013 DIN EN ISO15614-1:2004 BS EN 10002-1:2001 ASTM E8:2015	4 KN to 400 KN
		Bend Test	ASTM A370:2016 DIN EN ISO15614-1:2004 ASME Sec-IX:2013	Mandril dia: 8mm to 32mm Qualitative
		HardnessTesting (Rockwell)	ASTM A-370:2016 ASTM E-18:2016	HRBW : 30 to 100 HRC : 20 to 70
		Charpy 'V' notch Impact Test	ASTM A370:2016 ASTM E23:2016 ISO 148-1:2009	2 to 300 Joules R.T to -196°C
		Vickers Hardness	IS 1501-2013 ASTM E384:2016	HV10: 50 to 800
		Brinell Hardness	ASTM E10:2015 IS: 1500:2013	HBW: 100 to 600 (10/3000)
		Microstructure Testing:		
		ASTM Grain Size Measurement	ASTM E 112:2013 Comparison Method & Planimetric procedure	ASTM GS No.1 -14 Qualitative

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2.	Ferrous & Non Ferrous Materials & Alloys	Inclusion Rating	ASTM E-45-2013 IS:4163:2004(RA2010)	Type A,B,C,D 0.5-3.0 Qualitative
		Microstructure Examination	ASM Handbook Vol-9:2004	Qualitative
		Volume Fraction	ASTM E562:2011	0.01 % to 80 %
		Bearing Material Analysis	DIN SEP-1520:1998	Qualitative
		Microstructure rating of flake graphite in C.I & Nodule in S.G Iron	ASTM A247:2016	Qualitative
		Decarburization Depth Measurement	IS 6396:2000 (Clause:6) (RA 2012)	0.010 to 0.8 mm
		Case Depth	IS:6416:1988 (Clause : 8) (RA 2012)	0.010 to 5.00 mm
		Classification of Structure	ASTM A923:2014,Method A	Qualitative
		Macro Examination	ASTM E381:2001(RA2012) ASM Handbook Vol-9	Qualitative
II. Corrosion Test				
1.	Ferritic ,austenitic and duplex stainless steel	IGC Test	EN ISO 3651-2:1998, Method- A	Qualitative

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2.	Austenitic Stainless steel	IGC Test IGC Test IGC Test IGC Test	ASTM A262:2015-Test A ASTM A262:2015-Test B ASTM A262:2015-Test C ASTM A262:2015-Test E	Qualitative 2 mpy to 100 mpy 2 mpy to 100 mpy Qualitative
3.	Stainless steels & Nickel Base Alloys	Pitting Corrosion test Crevice Corrosion test Critical Pitting Temp.Test	ASTM G-48:2011 Method A ASTM G-48:2011 Method B ASTM G-48:2011 Method E	Qualitative Qualitative Qualitative
4.	Nickel Base Alloys	IGC Test	ASTM G-28-02(2015) Method-A	2 mpy to 800 mpy
5.	Duplex & austenitic Steel	Pitting Corrosion Test	ASTM A923:2014 Method C	Qualitative

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