



**National Accreditation Board for
Testing and Calibration Laboratories**

(A Constituent Board of Quality Council of India)



CERTIFICATE OF ACCREDITATION

ADVANCE METAL TESTING LABORATORY

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2005

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

Chandan Complex 490/A-1, Shop No. 12, 13, GIDC Estate,
Makarpura, Vadodara, Gujarat

in the field of

TESTING

Certificate Number TC-7367

Issue Date 06/06/2018

Valid Until 05/06/2020

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Signed for and on behalf of NABL



89076970100030001747

Anil Relia

Anil Relia
Chief Executive Officer



National Accreditation Board for Testing and Calibration Laboratories

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SCOPE OF ACCREDITATION

Laboratory Advance Metal Testing Laboratory, Chandan Complex 490/A-1,
Shop No. 12, 13, GIDC Estate, Makarpura, Vadodra, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7367

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Validity 06.06.2018 to 05.06.2020

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.	Low Alloy Steel (By Optical Emission spectrometer)	C	AMTL Method (AMTL /WI / 01)	0.01 to 4.00%
		Si	Based up on	0.01 to 1.6%
		Mn	ASTM E 415 .15	0.01 to 2.30%
		P	& IS 8811 . 1998	0.005 to 0.13%
		S		0.001 to 0.30%
		Cr		0.001 to 4.00%
		Mo		0.01 to 2.40%
		Ni		0.001 to 5.50%
		Al		0.0005 to 2.00%
		Cu		0.001 to 0.5%
		N		0.001 to 0.016%
		V		0.001 to 0.5%
		Co		0.001 to 0.2%
		Ti		0.0005 to 0.82%
		Nb		0.001 to 1.0%
		W		0.007 to 20.5%
		B		0.0002 to 0.014%
2.	Stainless Steel & Alloys (By Optical Emission spectrometer)	C	AMTL Method (AMTL /WI / 02)	0.01 to 2.50%
		Si	Based on	0.005 to 2.0%
		Mn	ASTM E 1086 . 08	0.05 to 15.20%
		P	& IS 9879 - 1998	0.005 to 0.10%
		S		0.0005 to 0.350%
		Cr		0.01 to 32.10%
		Ni		0.01 to 25.00%
		Mo		0.005 to 6.10%
		Ti		0.0005 to 1.00%
		Co		0.002 to 0.20%
		V		0.001 to 0.40%
		B		0.0005 to 0.01%

Venugopal C
Convenor

N. Venkateswaran
Program Manager



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		Cu		0.01 to 1.00%
		N		0.002 to 0.41%
		W		0.007 to 0.5%
3.	Copper base Alloy (By Optical Emission spectrometer)	Zn	AMTL Method (AMTL /WI / 03)	0.01 to 44.50%
		Pb		0.01 to 17.80%
		Sn		0.01 to 14.75%
		P		0.01 to 1.00%
		Mn		0.01 to 3.00%
		Fe		0.01 to 3.00%
		Ni		0.10 to 10.00%
		Si		0.01 to 3.00%
		Al		0.01 to 11.10%
		Cu		10.00 to 100.00%
		As		0.01 to 0.40%
		Sb		0.01 to 1.70%
		S		0.01 to 0.16%
		Bi		0.01 to 3.00%
		Mg		0.01 to 0.20%
		Cr		0.01 to 2.40%
4.	Nickel base metals & Alloys (By Optical Emission spectrometer)	Si	AMTL Method (AMTL /WI / 04)	0.01-24.0%
		Fe		0.01-7.0%
		Cu		0.01-10.0%
		Mn		0.01-10.00%
		Mg		0.01-5.00%
		Cr		0.025-0.50%
		Zn		0.01-7.00%
		Ti		0.01-2.50%
		Pb		0.01-1.50%
		Sn		0.01-10.00%
		Bi		0.01-0.70%
5.	Al base Alloy (By Optical Emission spectrometer)	Si	AMTL Method (AMTL /WI / 05)	0.01 to 20.0%
		Fe		0.01 to 7.0%
		Cu		0.01 to 10.0%
		Mn		0.01 to 10.00%

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		Mg		0.01 to 5.0%
		Cr		0.025 to 0.50%
		Ni		0.01 to 2.50%
		Zn		0.01 to 7.00%
		Ti		0.01 to 2.50%
		Pb		0.01 to 1.50%
		Sn		0.01 to 10.00%
		Bi		0.01 to 0.70%


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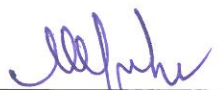
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MECHANICAL TESTING

I.	MECHANICAL PROPERTIES OF METALS			
1.	Metallic Materials	Tensile Test Tensile Strength Yield / Proof Stress %Elongation %Reduction Of Area	AWS D1.1:2010 IS 1608: 2005 SA-370:2010 A-370:2010 BS:EN:10002-1:2001 API 1104:2008 API 5L:2007 ASME-Sex IX : 2010 ASTM B 557:2004 IBR REG 1950 AND:2011 IS2825:1998 (RA 2002) IS-3600 (Part1)1985 (RA 2003) IS 3600 (Part 3):2009 IS 3600 (Part 4):1984 BS:288-3:1992 EN 876:1995 EN 895:1999 JIS-Z-2201:1990	0.1 KN to 400 KN
		Bend Test	IS 1599:1985 (RA 2006) AWS D1.1:2008 SA-370-2007 IBR REG 1950 AND 2011 ASME-Sex IX : 2010 IS 2329:2005 ASTM-A-370-2010	4, 5, 6, 8, 12, 14, 16, 15, 18, 20, 23, 32, 38, 50, 60, 63, 90 mm Dia.


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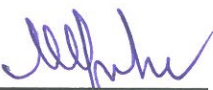
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			EN 910:1996 ASTM E 190-1992 (RA 2008) ASTM E 290-09	
2.	TMT Bar	Tensile, Bend-Re-Bend Test of Reinforced Bar	IS 1786:2008	4mm to 25mm Dia
3.	Spring Washer	Permanent Set Test/ Permanent Load test	IS-3063:1994 (RA 2004)	0.1 KN to 400 KN
4.	Metallic Materials Bolts / Nuts / Studs	Proof Load. Wedge Load Full Size Breaking	SA 370:2007 SA-194:2007 IS 1367(Part 6)1994 (RA 2002) IS 1367(Part 3)1994 (RA 2002) SA193-2010 ASTM A193-2011 ISO-898 (Part 1) ISO-898(Part 2)	0.1 KN to 400 KN
5.	Fillet Weld Joint	Macro Test Fracture Test	ASME Sec IX-2010 IS-7307:1974(RA 2003) IS 3600 (Part 1): 1985 (RA 2003) IS 3600 (Part 8): 1985 (RA 1997) IS 3600 (Part 9): 1985 (RA 1997)	Qualitative


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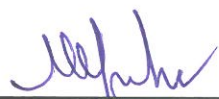
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			IBR REG.1950&2011. EN-1321-1996 BS 288-3:1992 BS EN 25867-1992 ISO 5817-1992 EN-1320-1996	
6.	Washer	Twist test	IS 3063-1994 (RA 2004)	
7.	Metallic Materials	Rockwell Hardness test	ASTM E-18b-2008 IS 1586-2000(RA 2006) IS 5652(Part 1)-1993 (RA 1998)	HRB 50 to 100 HRC 20 to 68
		Brinell Hardness	IS 1500:2005 ASTM E10:2007	HBW 50 to 300
		Charpy 'V' Notch Impact Test Up to -196°C (Minus)	IS 1757:1998(RA 2003) BS EN-10045-1:1990 IS 3600 (Part 2) : 1985 SA 370-2010.(E-23)	2 to 300 J
8.	Welded test Piece	Nick break Test	API-1104-2005 IBR(CODE)-2011	Qualitative
9.	Tube to tube Sheet mock up	Pull out/Push Out test	ASME SEC-VIII- DIV.1 (2017)	0.1KN to 400KN
II.	METALLOGRAPHY			
1.	Austenitic Stainless Steels	IGC Practice 'A' IGC Practice 'B' IGC Practice 'C' IGC Practice 'E' IGC Practice 'F'	ASTM A: 262:2002a (2008) ASTM A: 262:2002a (2008) ASTM A: 262:2002a (2008) ASTM A: 262:2002a	Qualitative


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			(2008) ASTM A: 262:002a (2008) ISO-3651-2-1998 IS-10461-(Part 2)-1994 (RA 2002) & DIN-50914	
2.	Metallic Materials	A. Macro Examination	ASTM E381-01: 2006 ASTM E 340-2000: 2006 AWS DN: 2008 DIN EN-1321: 1996 ASM Handbook, Vol-9-2004	Qualitative Mag. 20X
3.		B Microstructure	IS-7739:1975 Part I, II (RA 2003) ASTM E-407:2007 ASTM E-1558-99:2004 ASTM E-3-01:2007 ASTM E-1351-01:2006 ASM Handbook Vol-9-2004	50X, 100X, 200X, 400X, 1000X


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