

Laboratory **Autoshell Casts Private Limited, 10, SIDCO Industrial Estate, Coimbatore, Tamil Nadu**

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

Certificate Number **TC-6404**

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Validity **12.10.2017 to 11.10.2019**

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.	<b>METALS &amp; ALLOYS</b>			
<b>1.</b>	<b>Carbon Steel &amp; Low Alloy steel</b>	Carbon	ASTM/E415: 2017 LAB/WI/028, Rev.04, dt:10.04.13	0.10 % to 0.45 %
		Silicon		0.10 % to 1.00 %
		Manganese		0.15 % to 0.85 %
		Sulphur		0.007 % to 0.060 %
		Phosphorus		0.007 % to 0.080 %
		Chromium		0.40 % to 5.00 %
		Nickel		0.07 % to 5.00 %
		Molybdenum		0.05 % to 1.00 %
		Copper		0.08 % to 0.75 %
		Vanadium		0.002 % to 0.45 %
		Nitrogen		0.005 % to 0.030 %
		Oxygen		0.001 % to 0.006 %
		Titanium		0.001 % to 0.01 %
		Aluminum		0.010 % to 0.03 %
		Cobalt		0.005 % to 0.015 %
<b>2.</b>	<b>Stainless Steel</b>	Carbon	ASTM/E1086: 2014 LAB/WI/028, Rev.04, dt:10.04.13	0.010 % to 0.20 %
		Silicon		0.15 % to 0.80 %
		Manganese		0.20 % to 2.00 %
		Sulphur		0.003 % to 0.030 %
		Phosphorus		0.005 % to 0.040 %
		Chromium		7.90 % to 30.00 %
		Nickel		0.10 % to 25.00 %
		Molybdenum		0.08 % to 7.00 %
		Copper		0.01 % to 3.80 %
		Vanadium		0.01 % to 0.30 %
		Tungsten		0.005 % to 0.15 %
		Niobium		0.01 % to 1.10 %

**Mallika Gope**  
Convenor

**N. Venkateswaran**  
Program Director

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		Nitrogen		0.03 % to 0.35 %
		Titanium		0.001 % to 0.005 %
		Aluminum		0.001 % to 0.05 %
		Cobalt		0.01 % to 0.23 %
		Tin		0.001 % to 0.01 %
<b>3.</b>	<b>Nickel Alloy</b>	Carbon	ASTM/E3047: 2016 LAB/WI/028, Rev.04, dt:10.04.13	0.0010 % to 0.08 %
		Silicon		0.01 % to 0.30 %
		Manganese		0.05 % to 0.60 %
		Sulphur		0.0003 % to 0.002 %
		Phosphorus		0.001 % to 0.020 %
		Chromium		15.00 % to 25.00 %
		Nickel		35.00 % to 70.00 %
		Molybdenum		2.5 % to 17.00 %
		Copper		0.01 % to 2.0 %
		Vanadium		0.01 % to 0.06 %
		Niobium		0.01 % to 4.00 %
		Iron		3.5 % to 35.00 %
		Titanium		0.01 % to 1.00 %
		Aluminum		0.060 % to 0.25 %
		Cobalt	0.02 % to 0.30 %	

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**MECHANICAL TESTING**

<b>I. MECHANICAL PROPERTIES OF METALS</b>				
1.	<b>Ferrous &amp; Non-Ferrous Alloy Materials and Products</b>	Tensile strength Yield strength 0.2%Proof stress %Elongation % Reduction Area	ASTM A 370: 2017 IS 1608: 2017 ASTM E8/E8M: 2016a IBR 1950	100 Mpa to 1200 MPa 100 MPa to 900 MPa 100 MPa to 900 MPa 1 % to 80 % 1 % to 80 %
2.	<b>Ferrous &amp; Non-Ferrous Alloy-Welds</b>	Tensile strength	ASME Sec.IX: 2015	100 MPa -1200 MPa (Flat: 3 mm to 25 mm, Round Diameter: 3 mm to 30 mm)
3.	<b>Ferrous &amp; Non-Ferrous Alloy-Steel Plates, Bar , Rods and Welds</b>	<b>Bend</b> Root Bend Face Bend Side Bend	ASTM A 370: 2017 IS 1599 - 2012 ASME Sec.IX: 2015 IBR 1950 EN ISO 15614: 2004	Qualitative (Mandrel diameter 12, 24, 32 & 60 mm Flat: 1 mm to 25 mm Round Diameter: 3 mm to 25 mm )
4.	<b>Ferrous Alloy products Steel Plates, Bar, Rods &amp; Welds</b>	Impact Test Charpy 'V' notch at Ambient temperature to (-) 196 °C	ASTM A 370: 2017 ASTM E23: 2016b	1 Joule to 300 Joule
5.	<b>Ferrous and Non Ferrous Alloy Materials and Products</b>	Brinell Hardness	IS 1500(Part 1): 2013 ASTM A 370: 2017 ASTM E10: 2015	50 HBW to 550 HBW (10 mm / 3000 kgf 5 mm /750 kgf )