

Laboratory Testing Laboratory of Steelcast Limited, Ruvapari Road, Bhavnagar, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6863

Page 1 of 2

Validity 07.02.2018 to 06.02.2020

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.	Carbon Steel and Low Alloy Steel	Carbon	ASTM E 415: 2017	0.032% to 1.2%
		Silicon	IS 8811:1998	0.10% to 1.71%
		Manganese	(RA 2012)	0.16% to 1.546%
		Phosphorus	JIS 1253: 2002	0.005% to 0.0611%
		Sulfur	(RA 2013)	0.005% to 0.070%
		Chromium		0.064% to 3.00%
		Nickel		0.050% to 1.60%
		Molybdenum		0.010% to 1.30%
		Vanadium		0.010% to 0.30%
		Copper		0.010% to 0.50%
		Tin		0.003% to 0.060%
		Aluminum		0.012% to 0.100%
		Titanium		0.010% to 0.100%
		Nitrogen		0.0020% to 0.0150%
2.	High chromium Cast Iron, High Alloy Steel and Stainless Steel	Carbon	IS 15338: 2003	0.080% to 3.000%
		Silicon	(RA 2013)	0.50% to 1.10%
		Manganese	ASTM E 1086: 2014	0.60% to 1.70%
		Phosphorus	IS 9879:1998	0.010% to 0.050%
		Sulfur	(RA 2015)	0.020% to 0.040%
		Chromium	JIS 1253: 2002	17.00% to 25.00%
		Nickel	(RA 2013)	1.00% to 15.00%
		Molybdenum		0.10% to 3.00%
		Vanadium		0.01% to 1.00%
		Copper		0.050% to 0.50%
3.	High Manganese Steel	Carbon	ASTM E 2209: 2013	1.00% to 1.20%
		Silicon	JIS 1253: 2002	0.30% to 1.10%
		Manganese	(RA 2013)	9.00% to 17.00%
		Phosphorus		0.040% to 0.050%
		Sulfur		0.004% to 0.010%
		Chromium		1.00% to 1.50%
		Molybdenum		0.60% to 1.30%

K. Siri Babu
Convenor

N. Venkateswaran
Program Director

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MECHANICAL TESTING

I.	MECHANICAL PROPERTIES OF METALS			
1.	Ferrous materials, alloys and products	0.2% Proof stress	ISO 6892 1: 2016	200 MPa to 1050 MPa
		Yield Stress	ASTM A370: 2017	200 MPa to 1050 MPa
		Ultimate Tensile Strength		350 MPa to 1250 MPa
		Elongation		1% to 60%
		Reduction in Area		1% to 70%
		Charpy "V" Notch ((-)40°C to 27°C)	ISO 148 1: 2016	2 J to 300 J
		Izod "V" Notch (Room Temperature)	IS 1598:1977 (RA 2015)	2 J to 168 J
		Brinell Hardness	ISO 6506 1:2014 ASTM E10: 2017	90 HBW to 560 HBW (3000kgf/10mm)
		Bend Test	IS 1599: 2012 (RA 2017)	Qualitative (Mandrel Diameter 10, 20, 24, 30, 36, 40, 48, 50, 60, 84, 100 mm)

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