

**Laboratory** Vivekananda Technical Institute, Foundry Cluster Development Association, Foundry Park, Haulibagan, Ranihati-Amta Road, Howrah, West Bengal

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

**Certificate Number** TC-7831

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**Validity** 11.09.2018 to 10.09.2020

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.	Cast Iron and Ductile Iron	Carbon	IS 15338	0.50 % to 4.15 %
		Silicon		0.10 % to 2.50 %
		Manganese		0.20 % to 2.70 %
		Phosphorus		0.005 % to 0.20 %
		Sulfur		0.005 % to 0.15 %
		Chromium		0.015 % to 3.0 %
		Nickel		0.10 % to 4.0 %
2.	Cast Iron, Pig Iron and Ductile Iron	Magnesium		0.002 % to 0.10 %
		Total Carbon	IS 12308 (Part 11)	1.50 % to 4.50 %
		Silicon	IS 12308 (Part 6)	0.50 % to 3.00 %
		Manganese	IS 12308 (Part 10)	0.10 % to 1.0 %
		Phosphorus	IS 12308 (Part 5)	0.05 % to 0.25 %
		Sulfur	IS 12308 (Part 2)	0.01 % to 0.20 %

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**MECHANICAL TESTING**

<b>I.</b>	<b>BUILDING MATERIALS</b>				
<b>1.</b>	<b>Foundry Moulding Sand</b>	Moisture Content	IS 1918 (Sec-2, Clause 6)	3 % to 4.5 %	
		Clay Content	IS 1918 (Sec-2, Clause 7)	0.5 % to 15 %	
		Grain Fineness	IS 1918 (Sec-2, Clause 8)	20 No. to 60 No.	
		Grain Shape	IS 1918 (Sec-2, Clause 9)	Qualitative	
		Green Permeability	IS 1918 (Sec-2, Clause 10.2)	150 to 300	
		Green Compressive Strength	IS 1918:1966 (RA 2017) Section 2, Clause 12	4 g/mm <sup>2</sup> to 12 g/mm <sup>2</sup>	
		Green Mould Surface Hardness	IS 1918 (Sec-2, Clause 15)	65 to 95	
	Flowability	IS 1918 (Sec-2, Clause 16)	80 % to 95 %		
<b>II.</b>	<b>MECHANICAL PROPERTIES OF METALS</b>				
<b>1.</b>	<b>Ferrous material &amp; Products</b>	Tensile Test	IS 1608	50 N/mm <sup>2</sup> to 1500 N/mm <sup>2</sup> 50 N/mm <sup>2</sup> to 1700 N/mm <sup>2</sup>	
		Yield Strength			
		Ultimate Tensile Strength			
		% of Elongation			2 % to 65 %
		% Reduction in Area			2 % to 70 %
	Izod Impact	IS 1598	2 J to 168 J		
	Brinell Hardness	IS 1500 (Part 1)	50 HBW to 550 HBW (10/3000)		