

**Laboratory** Mineral Laboratory, SGS India Pvt. Ltd., SGS House, Plot No. R-12, L-16, Industrial Estate, Dam Road, Hospet, Karnataka

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

**Certificate Number** TC-6359 (in lieu of T-1318)

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**Validity** 21.12.2017 to 20.12.2019

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.	ORES AND MINERALS			
1.	Iron Ore	Fe	IS 1493	20.0 % to 70.0%
		SiO <sub>2</sub>	IS 1493 (Part-1)	0.5 % to 15.0%
		Al <sub>2</sub> O <sub>3</sub>	IS 1493 (Part-1)	0.5 % to 15.0%
		P	IS 1493 (Part-1)	0.020 % to 0.100%
		S	IS 1493	0.012 % to 0.020%
		CaO	IS 1493	0.15 % to 5.0%
		MgO	IS 1493	0.15 % to 5.0%
		TiO <sub>2</sub>	IS 1493	0.50 % to 2.00%
		Mn	IS 1493	0.05 % to 1.00%
		FeO	IS 1493	0.13 % to 10.0%
		Total Moisture	IS 1493 (Part-1)	1.0% to 20.0%
		Loss On Ignition	ISO 11536	0.5 % to 10%
		Specific Gravity	API 13A	2.00 % to 5.30%
		Apparent Specific gravity	IS 11896	2.00 % to 5.30%
		True specific gravity	IS 11896	2.00 % to 5.30%
		Fe	IHM 01 / WI 01 Ver 1.3 / 01.01.2013	20.0 % to 70.0%
		SiO <sub>2</sub>	IHM 01 / WI 02 Ver 1.3 / 01.01.2013	0.5% to 15.0%
		Al <sub>2</sub> O <sub>3</sub>	IHM 01 / WI 03 Ver 1.3 / 01.01.2013	0.5% to 15.0%
		CaO	IHM 01 / WI 09 Ver 1.2 / 01.01.2013	0.15% to 5.0%
		MgO	IHM 01 / WI 10 Ver 1.2 / 01.01.2013	0.15% to 5.0%
		P	IHM 01 / WI 04 Ver 1.1 / 01.01.2013	0.020% to 0.100%

**Ashutosh D. Tatwawadi**  
Convenor

**N. Venkateswaran**  
Program Director

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		TiO <sub>2</sub>	IHM 01 / WI 11 Ver 1.1 / 01.01.2013	0.50% to 2.00%
		Mn	IHM 01 / WI 05 Ver 1.2 / 01.01.2013	0.05% to 1.00%
		FeO	IHM 01 / WI 08 Ver 1.2 / 01.01.2013	0.13% to 10.0%
		LOI	IHM 01 / WI 17 Ver 1.0 / 23.12.2013	0.5% to 10%
<b>2.</b>	<b>Limestone</b>	CaO	IS 1760 (Part 3)	5.0% to 56.0%
		MgO	IS 1760 (Part 3)	0.5% to 10.0%
		SiO <sub>2</sub>	S 1760 (Part 2)	0.5% to 15.0%
		Fe <sub>2</sub> O <sub>3</sub>	S 1760 (Part 3)	0.1% to 10.0%
		Al <sub>2</sub> O <sub>3</sub>	S 1760 (Part 3)	0.5% to 5.0%
		LOI	IS 1760 (Part 1)	1.0% to 50.0%
<b>3.</b>	<b>Dolomite</b>	CaO	IS 1760 (Part 3)	15.0% to 56.0%
		MgO	IS 1760 (Part 3)	5.0% to 30.0%
		SiO <sub>2</sub>	S 1760 (Part 2)	0.50% to 5.00%
		Fe <sub>2</sub> O <sub>3</sub>	S 1760 (Part 3)	0.35% to 5.0%
		Al <sub>2</sub> O <sub>3</sub>	S 1760 (Part 3)	0.5% to 5.0%
		LOI	IS 1760 (Part 1)	0.5% to 50.0%
<b>4.</b>	<b>Manganese Ore</b>	Mn	IS 1473	5.0% to 60.0%
		Fe	IS 1473	1.0% to 40.0%
		SiO <sub>2</sub>	IS 1473	0.5% to 15.0%
		Al <sub>2</sub> O <sub>3</sub>	IHM 01 / WI 18 Ver 1.0 / 01.06.2015	0.5% to 10.0%
		P	IS 1473	0.010% to 0.100%
		S	IS 1473	0.012% to 0.020%
		MnO <sub>2</sub>	IS 1473	5.0% to 50.0%
		Moisture	IS 1493	1.0 % to 20.0%
<b>5.</b>	<b>Quartzite</b>	Major SiO <sub>2</sub>	IS 1917 (Part 3)	80.0% to 99.5%
		LOI	IS 1917 (Part 1)	0.20% to 2.00%

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		SiO <sub>2</sub>	IHM 02 / WI 13 Ver 1.0 / 01.06.2015	80.0% to 99.5%
		Fe <sub>2</sub> O <sub>3</sub>	IHM 02 / WI 14 Ver 1.1 / 01.01.2013	0.2% to 1.0%
		Al <sub>2</sub> O <sub>3</sub>	IHM 02 / WI 14 Ver 1.1 / 01.01.2013	0.2% to 1.0%

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