

Laboratory	Central Laboratory, Uttam Galva Metallica Limited, Bhugaon Link Road, Wardha, Maharashtra		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	17.12.2015
Certificate Number	T-2764	Valid Until	16.12.2017
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	ORES & MINERALS			
1.	Iron Ore	Fe (T)	IS 1493 (Part I): 1981 (RA 2001) & SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	42.43 % to 62.22 %
		SiO ₂	IS 1493 (Part 1): 1981 (RA 2001) & SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	4.43 % to 12.71 %
		Al ₂ O ₃	IS 1493 (Part 1): 1981 (RA 2001) & SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	1.22 % to 5.67 %
		CaO	SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	0.200 % to 5.00 %
		MgO	SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	0.200 % to 5.00 %
		MnO	SOP/CL, UGML/01-01-XRF	0.100 % to 10.00 %
		TiO ₂	SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	0.200 % to 5.00 %
		K ₂ O	IS 1493 (Part 6): 1990 SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	0.05 % to 1.00 %

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	Iron Ore	Na ₂ O	IS 1493 (Part 6): 1990 SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	0.05 % to 1.00 %
		P	IS 1493 (Part 1): 1981 (RA 2001) SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	0.020 % to 0.500 %
		LOI	SOP/CL, UGML/01-01 issue no 01, issue date 22.11.2011	0.50 % to 15.00 %
2.	Limestone & Dolomite	CaO	IS 1760 (Part 3): 1992 (RA 2001) SOP/CL, UGML/01-02-XRF issue no 01, issue date 22.11.2011	5.00 % to 56.00 %
		MgO	IS 1760 (Part 3): 1992 (RA 2001) SOP/CL, UGML/01-02-XRF issue no 01, issue date 22.11.2011	0.20 % to 30.00 %
		SiO ₂	IS 1760 (Part 2): 1992 (RA 2001) SOP/CL, UGML/01-02-XRF issue no 01, issue date 22.11.2011	0.50 % to 20.00 %

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	Limestone & Dolomite	Al ₂ O ₃	IS 1760 (Part 3): 1992 (RA 2001) SOP/CL, UGML/01-02-XRF issue no 01, issue date 22.11.2011	0.20 % to 5.00 %
		Fe ₂ O ₃	IS 1760 (Part 3): 1992 (RA 2001) SOP/CL, UGML/01-02-XRF issue no 01, issue date 22.11.2011	0.20 % to 10.00 %
		LOI	IS 1760 (Part 1): 1992 (RA 2001) SOP/CL, UGML/01-02 issue no 01, issue date 22.11.2011	0.50 % to 50.00 %
3.	Quartz	SiO ₂	IS 1917 (Part 3): 1992 (RA 2005) SOP/CL, UGML/01-05-XRF issue no 01, issue date 22.11.2011	75.00 % to 99.50 %
4.	Iron Ore Sinter	Fe(T)	IS 1493 (Part 1): 1981 (RA 2001) SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	42.43 % to 62.22 %
		SiO ₂	IS 1493 (Part 1): 1981 (RA 2001) SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	4.43 % to 12.71 %

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	Iron Ore Sinter	Al ₂ O ₃	IS 1493 (Part 1): 1981 (RA 2001) SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	1.22 % to 5.67 %
		CaO	SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	3.99 % to 16.88 %
		MgO	SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	0.53 % to 3.45 %
		MnO	SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	0.18 % to 1.97 %
		TiO ₂	SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	0.041 % to 0.252 %
		K ₂ O	IS 1493 (Part 6): 1990 SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	0.100 % to 0.324 %
		Na ₂ O	IS 1493 (Part 6): 1990 SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	0.024 % to 0.093 %
		FeO	IS 1493 (Part 6): 1990 SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	1.00 % to 20.00 %

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	Iron Ore Sinter	P	IS 1493 (Part 6): 1990 SOP/CL, UGML/01-01-XRF issue no 01, issue date 22.11.2011	0.026 % to 0.885 %
5.	Slag	CaO	SOP/CL, UGML/01-04-XRF issue no 01, issue date 22.11.2011	31.20 % to 43.30 %
		MgO	SOP/CL, UGML/01-04-XRF issue no 01, issue date 22.11.2011	4.03 % to 18.90 %
		SiO ₂	SOP/CL, UGML/01-04-XRF issue no 01, issue date 22.11.2011	32.44 % to 39.00 %
		Al ₂ O ₃	SOP/CL, UGML/01-04-XRF issue no 01, issue date 22.11.2011	6.20 % to 16.12 %
		FeO	SOP/CL, UGML/01-04-XRF issue no 01, issue date 22.11.2011	0.55 % to 0.88 %
		MnO	SOP/CL, UGML/01-04-XRF issue no 01, issue date 22.11.2011	0.46 % to 0.78 %
		TiO ₂	SOP/CL, UGML/01-04-XRF issue no 01, issue date 22.11.2011	0.39 % to 0.61 %

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6.	Slag	K ₂ O	SOP/CL, UGML/01-04-XRF issue no 01, issue date 22.11.2011	0.020 % to 3.00 %
		S	SOP/CL, UGML/01-04-XRF issue no 01, issue date 22.11.2011	0.714 % to 0.767 %
	Pig Iron / Cast Iron	C	IS 12308 (Part 1): 1987 SOP/CL, UGML/01-06-XRF issue no 01, issue date 22.11.2011	1.00 % to 4.50 %
		S	IS 12308 (Part 2): 1987 SOP/CL, UGML/01-06-X issue no 01, issue date 22.11.2011RF	0.020 % to 0.029 %
		Mn	SOP/CL, UGML/01-06-XRF issue no 01, issue date 22.11.2011	0.094 % to 0.20 %
		P	IS 12308 (Part 5): 1991 SOP/CL, UGML/01-06-XRF issue no 01, issue date 22.11.2011	0.038 % to 0.120 %
		Si	IS 12308 (Part 6): 1991 SOP/CL, UGML/01-06-XRF issue no 01, issue date 22.11.2011	0.16 % to 0.73 %
		Ti	SOP/CL, UGML/01-06-XRF issue no 01, issue date 22.11.2011	0.020 % to 0.026 %

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7.	Iron Ore & Iron Ore Sinter	Tumbler Test, Tumbler Index (%TI)	IS 6495: 1984 (RA 2009) SOP/CL, UGML/01-01 issue no 01, issue date 22.11.2011	58 % to 98 %
		Tumbler Test, Abrasion Index (%AI)	IS 6495: 1984 (RA 2009) SOP/CL, UGML/01-01 issue no 01, issue date 22.11.2011	0.5 % to 20 %
		Shatter Index (SI), %SI (+10)	IS 9963: 1981 (RA 2003) SOP/CL, UGML/01-01 issue no 01, issue date 22.11.2011	70 % to 95 %
		Shatter Index (SI), %SI (+05)	IS 9963: 1981 (RA 2003) & SOP/CL, UGML/01-01 issue no 01, issue date 22.11.2011	02 % to 15 %
		Reduction Degradation Index (%RDI)	JIS M 8713: 2009 SOP/CL, UGML/01-01 issue no 01, issue date 22.11.2011	10 % to 50 %
		Reducibility Index (%RI)	JIS M 8713: 2009 SOP/CL, UGML/01-01 issue no 01, issue date 22.11.2011	40 % to 90 %
II. COAL, COAL & OTHER SOLID FUELS				
1.	Coal & Coke	Ash	IS 1350 (Part 1): 1984 (RA 2001) SOP/CL, UGML/01-03 issue no 01, issue date 22.11.2011	8.04 % to 12.53 %

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	Coal & Coke	Volatile Matter	IS 1350 (Part 1): 1984 (RA 2001) SOP/CL, UGML/01-03 issue no 01, issue date 22.11.2011	0.85 % to 38.96 %
		P	IS 1350 (Part 5): 1979 (RA 2001) SOP/CL, UGML/01-03 issue no 01, issue date 22.11.2011	0.030 % - 0.25 %
		S	IS 1350 (Part 3): 1984 (RA 2001) SOP/CL, UGML/01-03 issue no 01, issue date 22.11.2011	0.031 % to 6.18 %
		Gross Calorific Value	IS 1350 (Part 2): 1970 (RA 2005) SOP/CL, UGML/01-03	1000 Kcal to 8000 Kcal
		Total Moisture	IS 1350 (Part 1): 1984 (RA 2001) SOP/CL, UGML/01-03 issue no 01, issue date 22.11.2011	0.10 % to 25.00 %
2.	Coke	Micum Index, %M40	IS 1354: 1992 (RA 2000) SOP/CL, UGML/01-03 issue no 01, issue date 22.11.2011	75 % to 95 %

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	Coke	Miccum Index, %M10	IS 1354: 1992 (RA 2000) SOP/CL, UGML/01-03 issue no 01, issue date 22.11.2011	04 % to 15 %
		Coke Reactivity Index (%CRI)	IS 4023: 1991 (RA 2007) & (Method B) SOP/CL, UGML/01-03 issue no 01, issue date 22.11.2011	10 % to 65 %
		Coke Strength after Reaction (%CSR)	IS 4023: 1991 (RA 2007) (Method B) SOP/CL, UGML/01-03 issue no 01, issue date 22.11.2011	20 % to 90 %
-X-X-X-X-X-X-X-X-X-X-X-X-				