

Laboratory **SGS India Pvt. Ltd., Plot No. 160 & 95, Mouza No. 169, Khata No. 12  
At- Tilakraydih, P.O. Govindpur, Dhanbad, Jharkhand**

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

Certificate Number **TC-6001**

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Validity **04.05.2018 to 03.05.2020**

Last Amended on **18.05.2018**

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>SOLID FUELS</b>			
1.	<b>Coal</b>	Total Moisture% (TM) (ARB)	IS 1350 P-1,1984 RA 2013, ISO 589-2008(E) ASTM D3302-17	1% to 50%
		Analysis Sample Moisture (IM) (ADB)	IS 1350 P-1,1984 RA 2013, ISO 11722;2013 ASTM D 3173-17	1% to 40%
		Moisture in Equilibrated Sample (60% RH & 40° C)	IS 1350 P-1,1984 RA 2013	1% to 40%
		Ash( ADB, DB, ARB,Equalibrated Basis)	IS 1350 P-1,1984 RA 2013 ASTM D3174-12, ISO1171-2010	3% to 70%
		Volatile Matter(VM) (ADB,DB ,ARB, Equilibrated Basis)	IS 1350 P-1,1984 RA 2013, ISO 562;2010	1% to 60%
		Fixed Carbon(FC) (ADB,DB,ARB, Equilibrated Basis)	IS 1350 P-1,1984 RA 2013	By Calculation
		Gross Calorific Value(GCV) (ADB,DB,ARB, Equilibrated Basis)	ASTM D 5865-13 & IS 1350;2017(P-2) ISO 1928-2009	1500 kcal/kg to 8500 kcal/kg
		Net Calorific Value(ADB,DB,ARB)	ASTM D5865-13	1500 kcal/kg to 8500 kcal/kg
		Caking Index(CI)	IS 1353:1993 RA 2010	0 to 30 units
		Crucible Swelling Number(CSN)	IS 1353:1993 RA 2010	1 to 9 units
		Low Temp.Gray King(LTGK)	IS 1353:1993 RA 2010	A to G12

**Venugopal C  
Convenor**

**N. Venkateswaran  
Program Manager**

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		Phosphorus	BS 1016 (Part-9):1977 / ISO 622:1981(E)	0.01% to 0.3%
		Carbon(ADB,DB,ARB)	ASTM D5373- 16	35% to 90%
		Hydrogen(ADB,DB,ARB)	ISO 29541;2010(E)	1% to 8%
		Nitrogen(ADB,DB,ARB)		0.2% to 3%
		Sulfur (ADB,DB,ARB)	ASTM D4239-17 ISO 19579;2006(E)	0.1 % to 8%
		Oxygen(ADB,DB,ARB)	ASTM D 3180-15 / ASTM D 3176-15 / ISO 17247:2013(E)	By calculation
		Hardgrove Index	ASTMD 409/D409-16	30 units to 90 units
		Size Analysis	IS 437:1979 RA 2007	0.5% to 100%
		Float & sink Test	ISO 7936-1992	1.2 RD to 2.0 RD
<b>2.</b>	<b>Coke</b>	Total Moisture (TM) (ARB)	IS 1350 P-1,1984 RA 2013, ISO 579;2013	1 %to 35%
		Analysis Sample Moisture (IM)(ADB)	IS 1350 P-1,1984 RA 2013 ISO 11722;2013 ASTM D 3173-17	0.2% to 10%
		Ash(ADB,DB,ARB)	IS 1350 P-1,1984 RA 2013 ISO1171-2010, ASTM D 3174-12	1 % to 60%
		Volatile Matter (VM)(ADB,DB,ARB)	IS 1350 P-1,1984 RA 2013 ISO 562;2010	0.2% to 10%
		Fixed Carbon(FC) (ADB,DB,ARB)	IS 1350 P-1,1984 RA 2013	By calculation
		Gross Calorific Value(GCV) (ADB,DB,ARB)	ASTM D 5865-13 & IS 1350:2017(P-2): RA 2010 ISO 1928-2009	3000 kcal/kg to 8500 kcal/kg
		Net Calorific Value(ADB,DB,ARB)	ASTM D5865-13	3000 kcal/kg to 8500 kcal/kg
		Phosphorus	BS 1016 (Part-9):1977 / ISO 622:1981(E)	0.01% to 0.3%

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		Carbon(ADB,DB,ARB)	ASTM D5373- 16	55 % to 95%
		Hydrogen(ADB,DB,ARB)	ISO 29541;2010(E)	0.2% to8%
		Nitrogen(ADB,DB,ARB)		0.2% to 3%
		Sulfur (ADB,DB,ARB)	ASTM D4239-17 ISO 19579;2006(E)	0.1% to 8%
		Oxygen(ADB,DB,ARB)	ASTM D 3180-15 / ASTM D 3176-15 / ISO 17247;2013(E)	By calculation
		Micum Index as M40	IS 1354:1992 RA 2010	65 % to 95%
		Micum Index as M10		2 % to 20%
		Size Analysis	IS 437:1979 RA 2007	0.5% to 100%

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