

**Laboratory** **Stewart Surveyors & Assayers Pvt. Ltd. (Quality Assurance Laboratory),  
Office No. 8 & 9, 2nd Floor, Plot No. 588, Ward No. 12 C, Gandhidham,  
Gujarat**

Location 1: Office No. 8 & 9, 2nd Floor, Plot No. 588, Ward No. 12 C, Gandhidham, Gujarat

Location 2: Plot No. 195, Ward No. DC-2, Gandhidham, Gujarat

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

**Discipline** **Chemical Testing** **Issue Date** **03.02.2014**

**Certificate Number** **T-2133** **Valid Until** **02.02.2016**

**Last Amended on** **23.02.2015** **Page** **1 of 5**

S.No.	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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**Location 1:**

**I. COAL, COKE & OTHER SOLID FUELS**

<b>1.</b>	<b>Coal</b>	Total Moisture	IS 1350 (Part 1): 1984 (RA 2007) ASTM D 3302/ D3302M-12 ASTM D 2961-11	1 % to 50 % 1 % to 50 % 1 % to 15 %
		Inherent Moisture	IS 1350 (Part 1): 1984 (RA 2007) ASTM D3173-11	0.5 % to 25 %
		Volatile Matter	IS 1350 (Part 1): 1984 (RA 2007) ASTM D3175-11	10 % to 50 %
		Ash	IS 1350 (Part 1): 1984 (RA 2007) ASTM D 3174-12	1 % to 60 %
		Fixed Carbon	IS 1350 (Part 1): 1984 (RA 2007) ASTM D 3172-13	Calculated Value (By Difference)
		Gross Calorific Value	IS 1350 (Part 2): 1970 (RA 2009) ASTM D 5865-13	1000 to 9000 kcal/kg
		Total Sulphur	IS 1350 (Part 3): 1969 (RA 2010) SSAPL/GDM/IHM/CC-01 (In-house Validated Method)	0.05 % to 5 %
		Phosphorus	IS 1350 (Part 5): 1979 (RA 2009)	0.005 % to 0.5 %
		Hardgrove Grindability Index	IS 4433 : 1979 (RA 2010) ASTM D 409/ D 409M-12	35 to 75 unit
		Chlorine	IS 1350 (Part 5): 1979 (RA 2009) ISO 587 : 1997	0.005 % to 0.5 %

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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
<b>Location 1:</b>				
2.	Coke	Total Moisture	IS 1350 (Part 1): 1984 (RA 2007) ISO 579 : 2013	0.5 % to 25 %
		Inherent Moisture	IS 1350 (Part 1): 1984 (RA 2007) ISO 687 : 2010 ASTM D3173-11	0.1 % to 10 %
		Volatile Matter	IS 1350 (Part 1): 1984 (RA 2007) ISO 562 : 2010 ASTM D3175-11	0.1 % to 10 %
		Ash	IS 1350 (Part 1): 1984 (RA 2007) ISO 1171 : 2010 ASTM D 3174-12	0.1 % to 50 %
		Fixed Carbon	IS 1350 (Part 1): 1984 (RA 2007) ISO 17246 : 2010 ASTM D 3172-13	Calculated Value (By Difference)
		Gross Calorific Value	ISO 1928 : 2009 ASTM D 5865-13	1000 to 9000 kcal/kg
		Total Sulphur	IS 1350 (Part 3): 1969 (RA 2010) ISO 334 : 2013	0.05 % to 5 %
		Phosphorus	IS 1350 (Part 5): 1979 (RA 2009)	0.005 % to 0.5 %

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<b>Location 1:</b>				
<b>3.</b>	<b>Coal &amp; Coke (Ash Composition)</b>	Silica	IS 1355 : 1984 (RA 2007)	15.0 % to 65.0 %
		Ferric Oxide	SSAPL/GDM/IHM/CC-04 (In-house Validated Method)	3.0 % to 30.0 %
		Alumina	IS 1355 : 1984 (RA 2007)	5.0 % to 40.0 %
		Calcium Oxide	IS 1355 : 1984 (RA 2007)	0.5 % to 15 %
		Magnesium Oxide	IS 1355 : 1984 (RA 2007)	0.5 % to 10 %
		Sodium Oxide	IS 1355 : 1984 (RA 2007) IS 9497 : 1980 (RA 2010)	0.1 % to 10 %
		Potassium Oxide	IS 1355 : 1984 (RA 2007) IS 9497 : 1980 (RA 2010)	0.1 % to 10 %
		Titania	IS 1355 : 1984 (RA 2007) & SSAPL/GDM/IHM/CC-02 (In-house Validated Method)	0.5 % to 5 %
		Manganese Oxide	IS 1355 : 1984 (RA 2007) & SSAPL/GDM/IHM/CC-03 (In-house Validated Method)	0.01 % to 2.5 %
		Phosphorus Pentoxide	IS 1355 : 1984 (RA 2007)	0.1 % to 5 %
Sulphur Trioxide	IS 1355 : 1984 (RA 2007)	0.5 % to 20 %		

**Ruchi Guntuku**  
**Convenor**

**N. Venkateswaran**  
**Program Manager**

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<b>Location 1:</b>				
<b>4.</b>	<b>Petroleum Coke</b>	Moisture	IS 1448 (Part 132): 1989 (RA 2012) (Method A-1)	1 % to 20 %
		Gross Moisture	ASTM D 4931-06 (2011)	1 % to 20 %
		Moisture	IS 1448 (Part 132): 1989 (RA 2012) (Method A-2)	0.1 % to 2 %
		Volatile Matter	IS 1448 (Part 134): 1989 (RA 2012)	5 % to 15 %
		Ash	IS 1448 (Part 126): 1988 (RA 2011) ASTM D4422-03 (2008)	0.1 % to 2 %
		Fixed Carbon	IS 1350 (Part 1): 1984 (RA 2007)	Calculated Value (By Difference)
		Sulphur	IS 1448 (Part 33): 1991(RA 2008)	1 % to 7 %
		Gross Calorific Value	IS 1350 (Part 2): 1970 (RA 2009) ASTM D 5865-13	5000 to 9000 kcal/kg

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<b>Location 2:</b>				
<b>I. COAL, COKE &amp; OTHER SOLID FUELS</b>				
1.	Coke	MICUM (M40) Test	IS 1354 : 1992(RA 2010) ISO 556 : 1980	60 % to 95 %
		MICUM (M10) Test	IS 1354 : 1992 (RA 2010) ISO 556 : 1980	1 % to 15 %

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