

Laboratory Technology Laboratory of Birla Carbon India Private Limited,
Aditya Birla Fundamental Research Institute, Block- NA1, Plot No. 1
& 1- A/1 MIDC Taloja, Taluka- Panvel, District- Raigad, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6401 **Page 1 of 3**

Validity 03.12.2018 to 11.10.2019 **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.	RUBBER AND RUBBER PRODUCTS			
1.	Carbon Black	Iodine Adsorption Number	ASTM D 1510 - 2016, Method A	30 g/kg to 170 g/kg
		Total and External Surface Area by Nitrogen Adsorption	ASTM D 6556 - 2016	30 m ² /g to 150 m ² /g
		Oil Adsorption Number (OAN)	ASTM D 2414 - 2016	60 to 180 cc/100g
		Oil Adsorption Number of Compressed Sample (COAN)	ASTM D 3493 - 2016	60 to 180 cc/100g
		Tint strength	ASTM D 3265 -2015a	50 Unit to 130 Unit
		pH Value	ASTM D1512 – 2015b, Method A	2 Unit to 12 Unit
		Transmittance of Toluene Extract	ASTM D1618 – 1991 (Reapproved 2011)	0 to 100%Transmittance
		Ash Content	ASTM D 1506 - 2015, Method A	0.1 % to 1.0 %
		Heating loss	ASTM D 1509 - 2015, Method A & B	0.1 % to 10 %
		Sieve Residue	ASTM D 1514 – 2015	0.0001 % to 0.1000 %
2.	Carbon Black Feedstock Oil	Density, Relative Density, and API Gravity of Liquids by Digital Density Meter	ASTM D 4052 - 2015	0 to 3 g/ml
		Saybolt Viscosity	ASTM D 88 – 2017 (Reapproved 2013)	32 SUS to 200 SUS
		Carbon Residue (Micro Method)	ASTM D 4530 -2015	0.3 %(m/m) to 26.0 %(m/m)

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Convenor

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		Pour Point	ASTM D 97 - 2016	-38 °C to +50 °C
		Ash from Petroleum Products	ASTM D 482 - 2013	0.010 mass% to 0.180 mass%

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<u>MECHANICAL TESTING</u>				
I.	RUBBER AND RUBBER PRODUCTS			
1.	Vulcanized Rubber	Tensile Properties i) Tensile Stress at 100% Elongation ii) Tensile Stress at 300% elongation iii) Tensile Strength iv) Ultimate Elongation Tear Strength	ASTM D412-16 Test Method A: Dumbell & Straight Specimen	1 MPa to 50 MPa 1 MPa to 50 MPa 1 MPa to 50 MPa 50 % to 750 %
		Durometer Hardness (Shore A)	ASTM D2240-15 Type A	30 to 90 Shore A
		International Hardness (IRHD)	ASTM D1415-06 Type S1	30 to 90 IRHD
		Rebound Resilience	ASTM D7121-05	20 % to 80 %
2.	Gum and Filled Elastomeric Compound	Vulcanization Characteristics using Rotorless Cure Meters i) Minimum S' - ML ii) Highest S' - MH iii) Scorch time – ts2 iv) Time to a 90% of full cure-TC90	ASTM D5289-12	1 to 200 dN.m 1 to 200 dN.m 1 to 60 minutes 1 to 60 minutes
		Mooney Viscosity Minimum viscosity -ML	ASTM D1646-15 Part A	20 MU to 200 MU
		Pre-Vulcanization Characteristic Mooney Scorch (t5)	ASTM D1646-15 Part C	1 minutes to 50 minutes