

**HARI SHANKAR SINGHANIA ELASTOMER AND TYRE RESEARCH INSTITUTE**

(HASETRI)

[An NABL (ISO / IEC 17025 : 2005) Accredited Laboratory]

(Promoted by JK TYRE)

Method No.	TEST PARAMETER	Method No.	TEST PARAMETER
SPECIAL TEST FOR ANALYTICAL			
HA - 1	TGA at 40 Deg. C/MIN	HV - 2 A	Hardness (IRHD)
HA - 2 A	DSC at 10 Deg. C/MIN	HV - 2 B	Hardness (Shore - A)
HA - 2 B	DSC at 10 Deg. C/MIN Low Temp.	HV - 3	DIN Abrasion
HA - 3 A	FTIR (Fourier Transformed Infrared)	HV - 4	Goodrich Heat Buildup
HA - 3 B	FTIR (Fourier Transformed Infrared), Pyrolysis	HV - 5 A	Monsanto FTFT at Room Temperature (RT)
HA - 4 A	Optical Microscopy	HV - 5 B	Monsanto FTFT at High Temperature (HT)
HA - 4 B	Optical Microscopy, Hot Stage Analysis	HV - 6 A	DeMattia Flex-Cut Initiation
HA - 5	Sulfur (Total)	HV - 6 B	DeMattia Flex-Cut Growth
HA - 6	Molecular weight (GPC) only in Toluene	HV - 7 A	Tension/Permanent Set at RT Using Zwick UTS
HA - 7	Metal Content by AAS (10% extra for additional sample)	HV - 7 B	Tension/Permanent Set at HT
HA - 8	Extraction	HV - 8	Swell Index
HA - 9	TLC	HV - 8 A	Change in Volume
HA - 10	Volume fraction of rubber	HV - 9 A	Ageing at one Temp. (1 Day)
ANALYSIS OF RUBBER PRODUCT			
HA - 11	Polymer Identification	HV - 9 B	Ageing at one Temp. (3 Day)
HA - 12	% Rubber Hydrocarbon	HV - 9 C	Ageing at one Temp. (7 Day)
HA - 13	% Carbon Black	HV - 10	Ozone Resistance test (at Specified Temp. for 24 Hrs.)
HA - 14	% Volatiles	HV - 11 A	Analysis of Tube (Dimension & Physicals) - V
HA - 15	% Ash	HV - 11 B	Analysis of Tube (Dimension & Physicals) - C
HA - 16	Semi Quantitative Ash Analysis	HV - 11 C	Tube Valve Adhesion
HA - 17	Plasticiser Identification	HV - 11 D	Tube splice strength by Demattia Flexometer
HA - 18	Qualitative Antioxidant Analysis	HV - 11 E	Details analysis of Tube valves
HA - 19	Carbon Chain Distribution of Wax by GC	HV - 12 A	Analysis of Flap (Dimension & Phy)-V
HA - 20	Purity of Rubber Chemicals by GC	HV - 12 B	Analysis of Flap (Dimension & Phy)-C
HA - 21	Benzene & Aromatic Content by GC	HV - 13 A	Sample Preparation by Splitting, M/C
HA - 22	Quantitative estimation of BR:SBR Blend by GC	HV - 13 B	Sample Preparation by Crushing
HA - 23	Assay by HPLC (Method to be supplied by customer)	HV - 13 C	Sample Preparation by Drilling/Grinding
HA - 24	Characterisation by UV-Vis	HV - 14 A	Rebound Resilience - Room Temp.
HA - 25	Toluene Discoloration of C-Black	HV - 14 B	Rebound Resilience - High Temp.
HA - 26	Surface Area of Materials (powder)	HV - 15 A	Dynamic Properties - Room Temp.
HA - 27	Determination of S & N by NCS Analyser	HV - 15 B	Dynamic Properties - High Temp.
HA - 28	Material Identification by GCMS	HV - 15 C	Dynamic Properties - Low Temp.
HA - 29	Determination of Metal (in PPBM) by FIAS	FABRIC TESTING	
HA - 30	Scanning Electron Microscope (SEM)	HRF - 1	Strength Properties
HA - 31	SEM-EDS (Energy Dispersive X-ray Spectro Photometer)	HRF - 2	Liner density & Moisture
TESTING OF UNVULCANISED RAW RUBBER			
HRF - 3		HRF - 3	Shrinkage
HRF - 4		HRF - 4	Twist
HRF - 5		HRF - 5	Gauge
HRF - 6		HRF - 6	H-Adhesion or Peel Adhesion
HRF - 7		HRF - 7	Heat durability (only ageing)
HRF - 8 A		HRF - 8 A	Dip pick up of Nylon cord
HRF - 8 B		HRF - 8 B	Dip pick up of Polyester cord
HRF - 8 C		HRF - 8 C	Dip pick up of Rayon Cord
HRF - 8 D		HRF - 8 D	Dip pick up of Glass Fibre
HRF - 9		HRF - 9	Relative dip pickup for aramid
HRF - 10		HRF - 10	Spin finish content
HRF - 11		HRF - 11	Crystallinity of Fabric
HRF - 12		HRF - 12	Melting Point of Fabric
HRF - 13		HRF - 13	Identification of Fabric
HRF - 14		LATEX TESTING	
HU - 1 A	Mooney Viscosity by MV 2000 E	HRL - 1	% Total Solid Content
HU - 1 B	Delta Mooney by MV 2000 E	HRL - 2	% Dry rubber Content
HU - 1 C	Mooney Scorch by MV 2000 E	HRL - 3	pH
HU - 2	Rheometry study by MDR 2000 E	HRL - 4	Brookfield Viscosity
HU - 3	Dispersion by Electroscanner	HRL - 5	Mooney Viscosity of Contained Polymer
HU - 4	Dispersion by Disperse Grader (*)	HRL - 6	Total Alkalinity
HU - 5	Extrusion/Die swell property (by Brabender Plasticorder)	HRL - 7	Metal Content (Cu, Mn, Mg, Fe, Ni, Co, Cr)
HU - 10 A	Analysis by RPA : Strain Sweep	HRL - 8	Surface Tension
HU - 10 B	Analysis by RPA : Frequency Sweep	HRL - 9	Coagulum Content
HU - 10 C	Analysis by RPA : Temperature Sweep	HRL - 10	Chemical Stability
HU - 10 D	Analysis by RPA : Matrix Sweep	HRL - 11	Specific Gravity
HU - 10 E	Analysis by RPA : Cure Study	HRL - 12	Bound Styrene of SBR Latex
HU - 10 F	Analysis by RPA : Cure Simulation	HRL - 13	KOH Number of NR Latex
HU - 11	Tack Study	HRL - 14	Volatile Fatty Acid Number of NR Latex
HU - 12	P.R.I.		
MIXING			
HU - 6	In Banbury		
HU - 7	Mill Mixing		
HU - 8	Moulding		
HU - 9	Mixing in Brabender		
VULCANISED RUBBER			
HV - 1 A	Tensile Properties at RT		
HV - 1 B	Tensile Properties at HT		
HV - 1 C	Tear Properties at RT		
HV - 1 D	Tear Properties at HT		

w Rates are for per sample per Test. Minimum Test Charge billing amount is Rs. 500.00, excluding Taxes.

w Please add 12.36% as Service Tax, on Total Amount calculated.

w 100% Test Charge as advance should be sent alongwith the sample.

w The Test charge should be sent as DD in favour of HASETRI, payable at Kankroli (Rajasthan), at SBBJ, Kankroli Branch (Bank Code -1211) or alternately on Bank of Baroda (Bank Code - KANUDA), Punjab National Bank (Code - 4091), Oriental Bank of Commerce (Bank Code - 695), State Bank of Indore (Bank Code - 3397) or IDBI.

w Test Charge from outside India is to be paid in US\$ through a PAY ORDER, favouring HASETRI, payable at any Scheduled Bank in New Delhi.

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Method No.	TEST PARAMETER	Method No.	TEST PARAMETER
HC - 1	Brookfield Viscosity	HC - 36	Softening pt.
HC - 2	Identification of S-Bloom	HC - 37	Melting pt.
HC - 3	A/O by TLC	HC - 38	Distillation range
HC - 4	Doctor Test of Solvent	HC - 39	Congeaing pt. of Wax
HC - 5	Acid insoluble	HC - 40	Bulk attrition of C-black
HC - 6	Total Solid	HC - 41	Sieve residue of C-black
HC - 7	Solubility	HC - 42	Pour density of C-black
HC - 8	pH	HC - 43	Defects in Bead wire coating
HC - 9	Solvent Extraction	HC - 44	Freezing point
HC - 10	Ash	HC - 45	UV Analysis of Rubber Chemicals
HC - 11	Det. of Zn (Chem)	HC - 46	Sp.gravity by sp.gr.bottle
HC - 12	Sulphur content by CS2	HC - 47	Sp.gravity by Hydrometer
HC - 13	Plating weight Wire cords	HC - 48	Sp.gravity by liquid displacement
HC - 14	Ignition loss	HC - 49	DBP absorption of C-black
HC - 15	Chemical Digestion	HC - 50	Water settling Characteristics of Clay
HC - 16	Moisture Content by IR Moisture Analyser	HC - 51	Flash & Fire pt.
HC - 17	VP Content of VP latex	HC - 52	CA,CP,CN of Processing Oil
HC - 18	Silica Content of Silicon Dioxide	HC - 53	Iodine no.
HC - 19	Dirt in NR	HC - 54	Acid No.
HC - 20	Nitrogen content of NR	HC - 55	Oil content of oiled sulphur
HC - 21	Cobalt content (Chemical)	HC - 56	Organic acid & soap
HC - 22	Cyclohexane Insoluble	HC - 57	Methylol content
HC - 23	Moisture (K.F.)	HC - 58	Acidity as % Free acid
HC - 24	High Temperature Stab. of insoluble Sulphur	HC - 59	Oil content of oil extended polymer
HC - 25	Moisture by Azeotrop	HC - 60	Bound Styrene by GC Analysis
HC - 26	Saponification No.	HC - 61	Iodine Adsorption No. of C-black
HC - 27	Aniline Point	HC - 62	Clay/gel Analysis of Processing Oil
HC - 28	Assay of MBT	HC - 63	Drop melting pt. of wax
HC - 29	Assay of DPG	HC - 64	RI of Liquid Sample
HC - 30	Assay of TBBS	HC - 65	Bound Styrene
HC - 31	Free MBT	HC - 66	Micro Structure of Polybutadiene Rubber
HC - 32	Assay of MBTS	HC - 67	Pour point of oil
HC - 33	Saybolt Viscosity	HC - 68	Volatile matter in NR
HC - 34	Sieve Residue of powdery material	HC - 69	Pellet Hardness of C-black
HC - 35	Heat loss	HC - 70	Titer Value of Stearic Acid

Contact address :

Director (Research)

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