



**Standard Functions:**

<b>Viscosity Test</b>
<ul style="list-style-type: none"> <li>a) Mooney initial (MI)</li> <li>b) Minimum viscosity (ML)</li> <li>c) Maximum viscosity (MF)</li> <li>d) Testing temperature curve</li> </ul>
<b>Scorch Test</b>
<ul style="list-style-type: none"> <li>a) Scorch time at T5 and T35 for large rotor ; or at T3 and T18 for small rotor or others</li> <li>b) Scorch v's time curve</li> <li>c) Minimum viscosity (MC)</li> <li>d) Viscosity value at T5 and T35 ; or T3 and T18 or others</li> <li>e) Softening rate and scorching rate curves</li> <li>f) Testing temperature curve</li> </ul>
<b>Stress Relaxation Test</b>
<ul style="list-style-type: none"> <li>a) Relaxation time (Tx) to decay X% of Mooney viscosity</li> <li>b) % of decay (Xy%) of Mooney viscosity at y sec from rotor stop</li> <li>c) Power Law Decay Model Analysis: a-slope ; k-intercept ; A-area ; r-regression coefficient</li> <li>d) Plot of Log Mooney Unit v's Log Time</li> </ul>



**Test Reports:**

**Test Report of Mooney Viscosity**

Data/Time	No.	MI	ML	MF	t80	X30	ML1+4	CHK
20120426\13:10	7	40.08	0.58	27.05	2.1(S)	92.4(%)	0.58	0

**Test Report of Mooney Scorch**

Data/Time	No.	TS5	TS35	TS35-5	MS5	MS35	MS35-5	ML	MF	CHK
20120426\13:10	18	3:56	4:57	1:01	19,68	49,68	30,00	14,68	49,81	0

**Rotors for Mooney Viscometer:**

**Large Rotor**



**Small Rotor**





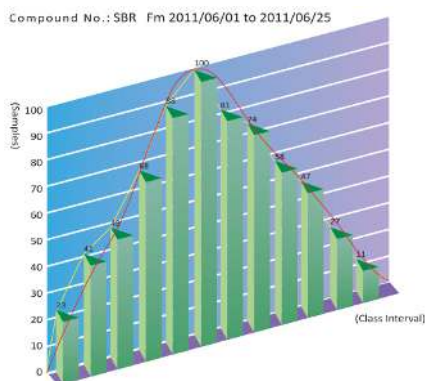
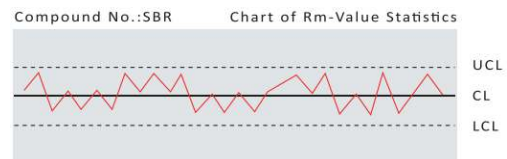
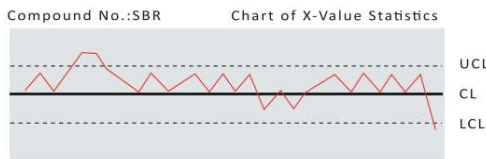
**Optional Functions:**

**Variable speed option available for:**

- Super high viscosity materials
- Pseudoplasticity index reckoning
- Apparent viscosity calculation
- Processability assessment

**Statistical Process Control Software (SPC):**

- Data Storage: ML and MF, or any other two Mooney values
- Scorch time at T5 and T35 ; T3 and T18 or any other scorch time or relaxation time and its values
- With statistical analysis of the above stored data by X-Rm Chart, X-R Chart, Normal Distribution Chart and Histogram Chart.
- Evaluation and classification of the testing in grade A or B or off categories



Item	Value
Number of Sampling	667
Average value of examination	50.48
Standard Deviation	1.02
UCL	53.54
LCL	47.42
Skewness	1.95
Kurtosis	5.72
Process Capability	91.11
Index of Process ability	0.82

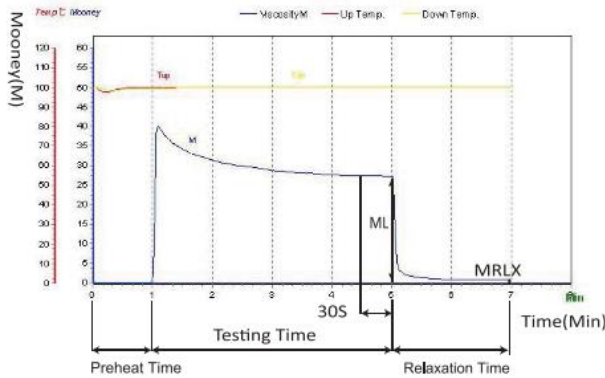
**Features:**

- Auto-zeroed before each test
- Auto-calibration of viscosity
- Not exceeding 2 mins and 50 secs when heating up from room temperature to the equilibrium of  $100^{\circ}\text{C} \pm 30^{\circ}\text{C}$
- During testing, die chamber temperature will be stabilized at the tolerance of  $\pm 0.3\text{C}$  within one minute from die closure

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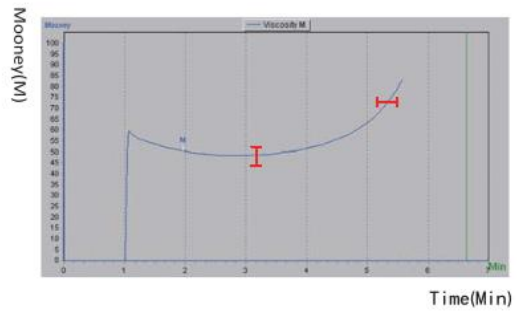


**Mooney Viscosity Test :**



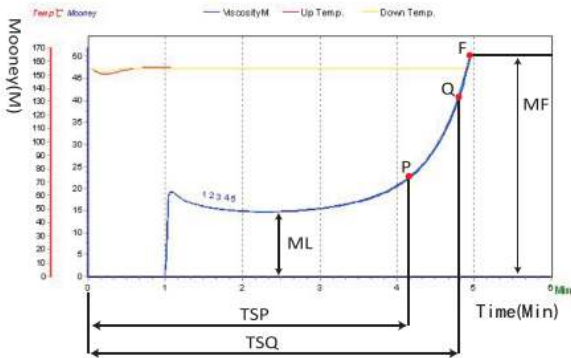
ML:ML1+X testing, the lowest value in the last 30 seconds.  
MRLX: Relaxation value.

**Double control by viscosity and scorch time :**



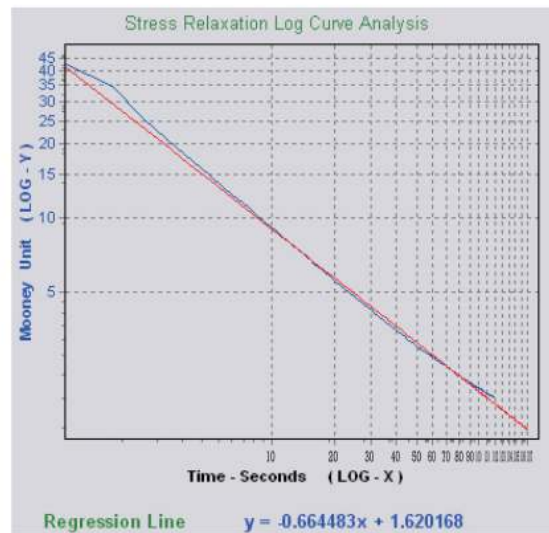
" I " : Controlling viscosity.  
" H " : Controlling scorch time.

**Scorch Test :**



ML:The lowest value in the testing.  
MF:The maximum viscosity in the testing.  
TSP:The 1st scorch time at point "P".  
TSQ:The 2nd scorch time at point "Q".

**Relaxation value – Time Curves**





**Specifications:**

<b>Temperature</b>	Working Range	From room temperature to 200°C	
	Accuracy	Within ±0.3°C	
	Display Resolution	0.1°C	
<b>Rotor Speed</b>	2rpm (variable speed upon request)		
<b>Measurement Unit</b>	MU (1MU = 0.735 lbf-in)		
<b>Mooney Display Resolution</b>	0.01M		
<b>Viscosity Measurement Range</b>	0 – 200MU (or higher upon request)		
<b>Scorch Time</b>	0 – 99.9min		
<b>Rotor Type</b>	L & S size		
<b>Pneumatic Pressure</b>	65Psi or 4.5kg/cm <sup>2</sup> or 0.45Mpa (Air compressor is not included)		
<b>Electrical Supply</b>	220VAC±10% 50/60Hz 7A, Single Phase		
<b>Net Weight &amp; Dimensions</b>	Main Machine @250kg	L: 700 x W: 590 x H: 1240mm	
	Sub Units @ 40kg	L: 600 x W: 500 x H: 640mm	
<b>Packaged Weight &amp; Dimensions</b>	Main Machine (Packaged) @330kg	L: 880 x W: 880 x H: 1540mm	
	Sub Units (Packaged) @90kg	L: 820 x W: 700 x H: 800mm	
<b>Accessories Included</b>	1 x Large Rotor	1 x Small Rotor	2 x Die Cutter
	2 x 2kg Calibrator	1 x Copper Bar	1 x Copper Brush
	5 x Fuse	10 x Rubber Seal	

**Applicable Standards:**

- ASTM D1646
- ISO 289
- JIS K6300

The standard model UM-2050 consists of:

- Main testing unit
- Sub-unit of control
- PC, Monitor
- Printer

