

## SBR-1500 STYRENE BUTADIENE RUBBER

### 1) Description:

SBR-1500 is a high molecular weight Styrene butadiene rubber combining good extrusion behavior and superior compound properties. It has relatively wide molecular weight distribution and the butadiene component has an average about 9% Cis-1,4 , 54.5% trans and 13% 1,2 vinyl structure.

SBR 1500 contains antioxidant to avoid product degradation. The high strength and great toughness of rubber permit the use of its elastic qualities. The properties of rubber show excellent resistance to cutting, tearing and abrasion. It has a relatively long, useful life under a wide variety of conditions.

### 2) Applications:

SBR-1500 is well suited for wide range of applications due to its unique properties. Some examples are :Tires, tread rubber and molded and extruded mechanical goods.

### 3) Typical data

Property	Unit	Value	Test Method
Volatile matter	wt %	0.75 max	ASTM D 1416
Ash	wt %	1.5 max	ASTM D 1416
Organic acid	wt %	6.125	ASTM D 1416
Soap	wt %	0.5 max	ASTM D 1416
Bound styrene	wt %	23.5	ASTM D 1416
Raw viscosity (ML 1+4 @ 100 °C)	-	52	ASTM D 1646
Compound viscosity (ML 1+4 @ 100 °C)	-	84 max	ASTM D 1646
Tensile strength ( 35 min cured )	kg/cm <sup>2</sup>	250 min	ASTM D 412
Ultimate elongation( 35 min cured )	%	470 min	ASTM D 412
300 % Modulus( 35 min cured )	kg/cm <sup>2</sup>	139	ASTM D 412

The above data are typical laboratory average . They are intended to serve as guides only.

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**Compounding formula :(ASTM D-3182 & D-3185):**

SBR-1502	300 (gr)
Carbon black IRB = 6. Conforming to NBS – SRM No. 378	150 (gr)
Zincoxide: NBS – SRM No. 370	9.0 (gr)
Stearic acid: NBS – SRM No. 372	3.0 (gr)
Sulfur: NBS – SRM No. 371	5.25 (gr)
Accelerator (TBBS): NBS – SRM No.384	3.0 (gr)
Temperature: 150 ± 5 °C Cure time: 35 min	

**Processibility & Compression Set:**

SBR 1500 bend more easily on mills and incorporate fillers and oil more readily ,shows less heat generation during mixing.SBR-1500 is easily calendered ,shrinkless often give a higher extrusion rate than its hot rubber and superior apperance of extrudate.

Compression set of the vulcanizate which is important for many application depend in great measure on the compound formulation.The cured conditions and specific test methode through proper compounding and the optimum cure ,it is however possible to obtain very low values of compression set for rubber vulcanizate.