

Styrene-butadiene rubber: HIPREN EM 1502 T

DESCRIPTION:

HIPREN[®]EM 1502T is non staining styrene butadiene rubber produced by a cold emulsion polymerization with mixture of soaps of rosin and fatty acids, bound styrene content of 23,5%, without nitrosoamine. These materials have good abrasion resistance and good aging stability.

PROCESSING RECOMMENDATIONS

HIPREN[®]EM 1502T is used in mechanical processes which involve: Compounding (mixing and milling), Extrusion, Calendering, Vulcanisation (Compression moulding, Transfer moulding, Injection molding, Tyre curing presses).

PRODUCT PROPERTIES:

SPECIFIED PROPERTIES (see Table 1.)

These specified technical properties provide values for the product acceptance tolerances. The product shall meet all the specified values.

TABLE 1. SPECIFIED PROPERTIES

PROPERTY	TEST METHOD	UNIT	NOMINAL VALUE	TOLERANCES
Mooney viscosity ML(1 + 4) / 100°C	ASTM D 1646	MU	51	46– 56
Bound styrene	ASTM D 5775	wt %	23,5	22,0 – 25,0
Ash	ASTM D 5667	wt %	0,40	max 0,75
Soap	ASTM D 5774	wt %	0,50	max 0,75
Organic acid	ASTM D 5774	wt %	6,0	5,0 – 7,0
Volatile matter	ASTM D 5668	wt %	0,5	max 0,75
Stabilizer	internal 10.4.2.2C/D	wt %	0,1 - 1,0	value depend of antioxidant
Curing characteristics of rubber , Rheometer MDR 2000				
Measurement conditions: 160 °C, deformation of 0.5°				
Min. torque (M _L)	ASTM D 5289	dNm	2,5	2,0 – 3,0
Max. torque (M _H)	ASTM D 5289	dNm	21,5	19,5 – 23,5
Scorch time (t _{s1})	ASTM D 5289	min	4,0	3,0 – 5,0
50% Cure time (t _{50%})	ASTM D 5289	min	10,0	8,0 – 12,0
90% Cure time (t _{90%})	ASTM D 5289	min	17,5	15,0 – 20,0
Vulcanizate Testing				
Conditions: Vulcanization temperature 145 °C; Vulcanization time 35 min; Test specimen S1				
Tensile strenght at break	ASTM D 412	MPa	25,0	min 22,0
Elongation at break	ASTM D 412	%	410	min. 350
Modulus 300%	ASTM D 412	MPa	17,0	14,5 – 19,5

TYPICAL PROPERTIES (see Table 2.)

The values listed in Table 2. are nominal and represents only the values one could expect if the product is tested from time to time. Consequently this values cannot be guaranteed.

TABLE 2. TYPICAL PROPERTIES

PROPERTY	TEST METHOD	UNIT	NOMINAL VALUE
Vulcanizate Testing			
Conditions: Vulcanization temperature 145 °C; Vulcanization time 35 min; Test specimen S1			
Rebound resilience	ASTM D 7121	%	45
Hardness	ASTM D 2240	°ShA	70

Standard test recepies – ASTM D 3185, Mixing procedure – ASTM D 3182, Carbon black **IRB9**

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APPLICATION

Applicable for rubber compounds used in the production of tyres, inner tubes, footwear, cable insulation, floor coverings, toys, food container sealants and various technical rubber articles.

STORAGE

HIPREN[®] EM 1502T is produced in the form of bales 30.0±0.5kg each. The bales are wrapped in a PE film foil and they can be processed together with it. The bales are laid into wooden boxes, covered inside with cardboard and polyethylene sack, which protect bales in the box. One box contains 30 bales with total polymer weight of 900 kg. Packaging of bales in metal boxes is also available. The bales are wrapped in a PE film foil and they can be processed together with it. The bales are laid into metal box - pallets which are covered inside polyethylene bag, which protect bales in the box. One box contains 33 or 40 bales with total polymer weight of 990 or 1200kg. The packed rubber is protected against contamination and atmospheric moisture. It is supposed to be stored in a dry place on temperatures below 30°C and not exposed to direct sunlight. The product shall retain its properties for not longer than one year period provided these conditions are fulfilled at any time during this period. The manufacturer shall not be held responsible for any damage resulting from inappropriate storage of the product.