

SPRINTAN™ SLR 3402-SCHKOPAU

SOLUTION-STYRENE BUTADIENE RUBBER (S-SBR)

Composition

SPRINTAN™ SLR 3402-Schkopau is manufactured by anionic solution polymerization using an organo-lithium initiator. The product has a low styrene/medium vinyl micro structure and a typical glass transition temperature of -62 °C.

SPRINTAN™ SLR 3402-Schkopau is partially coupled and bears a generation 2 functionalization for improved polymer/filler interaction with carbon black as well as with silica.

A non-staining stabilizer is added in the production.

Application

SPRINTAN™ SLR 3402-Schkopau provides outstanding winter performance/rolling resistance balance for fuel efficient tire treads based on silica and/or carbon black. The medium vinyl microstructure makes SPRINTAN™ SLR 3402-Schkopau applicable in winter tires as well as low Tg blend component in summer and all-season tires. The material can also be used in high-quality technical rubber articles.

Packaging

- SPRINTAN™ SLR 3402-Schkopau is supplied in bales of 30 kg nominal weight.
- Bales are wrapped in 50 micron polyethylene film (Vicat softening temperature: 92 °C).
- One box contains thirty two bales (nominal 960 kg)

Specification sheet

Raw material specification sheets are available from Trinseo or your local supplier on request.

Handling precautions

- SPRINTAN™ SLR 3402-Schkopau has to be kept away from sources of ignition.
- Reference must be made to the Safety Data Sheet for this product.
- The precautions advised in the Safety Data Sheet should be strictly observed.

Storage

SPRINTAN™ SLR 3402-Schkopau should be stored in an adequately ventilated area where it will not be subjected to direct sunlight or temperatures in excess of 30 °C. Under these conditions SPRINTAN™ SLR 3402-Schkopau has a shelf life of at least 12 months.

CHARACTERISTIC PROPERTIES OF SPRINTAN™ SLR 3402-SCHKOPAU

Chemical and Physical Data

Property	Test Method	Unit	Value
Mooney viscosity⁽¹⁾	ASTM D 1646	MU	70.0
Styrene content	SM ⁽²⁾ , (FTIR)	%	15.0
Vinyl content	SM ⁽²⁾ , (FTIR)	%	30.0
Glas transition temperature	DSC (HR 10 K/min, half height)	°C	-62.0
Volatile matter⁽³⁾	ASTM D 5668	%	0.20
Ash	ASTM D 5667	%	0.05
Specific gravity	SM ⁽²⁾	g/cm ³	0.93

(1) ML 1+4 (100 °C) unmassed sample (2) Supplier Method (3) 1 h at 105 °C in a hot air oven, 5 g sample

Test Formulation (based on IRB8 black)

	Parts by Mass
Polymer	100.0
Stearic acid	1.0
Zinc oxide	3.0
Carbon black IRB8	52.5
Aromatic oil	5.0
Sulphur	1.75
Accelerator (TBBS)	1.05

Rheometer^{a) b)}

Property	Test Method	Unit	Value
t_{s2}	ASTM D5289 ⁽⁴⁾	min	6.3
t_c(50)	ASTM D5289	min	9.8
t_c(90)	ASTM D5289	min	13.7
ML	ASTM D5289	dNm	3.7
MH	ASTM D5289	dNm	26.3

Vulcanisate Data^{a) b)}

Property	Test Method	Unit	Value
Hardness ShA	ASTM D 2240	-	65.6
Rebound resilience	ISO 4662	%	64.7
Tensile strength	ASTM D 412 ⁽⁵⁾	MPa	21.7
Elongation at break	ASTM D 412	%	340.0
Modulus 300%	ASTM D 412	MPa	17.7

(4) Test temperature 160 °C (5) Cure: 45 minutes at 145 °C (a) Material properties are typical properties and do not constitute a sales specification.
 (b) All figures are based on the test procedures of the Schkopau test lab.

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