SPRINTAN™ SLR 4602-SCHKOPAU

SOLUTION-STYRENE BUTADIENE RUBBER (S-SBR)

Composition

SPRINTAN™ SLR 4602-Schkopau is manufactured by anionic solution polymerization using an organo-lithium initiator. The product has a medium styrene/high vinyl micro structure and a typical glass transition temperature of -25°C.

SPRINTAN™ SLR 4602–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 4602–Schkopau provides outstanding wet grip/rolling resistance for fuel efficient tire treads based on silica and/or carbon black. The high-vinyl micro structure makes SPRINTAN™ SLR 4602–Schkopau applicable in summer-, all-season-, as well as in winter tires.

Packaging

- SPRINTAN™ SLR 4602-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 4602–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 4602– 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 4602–Schkopau has a shelf life of at least 12 months.

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CHARACTERISTIC PROPERTIES OF SPRINTAN™ SLR 4602-SCHKOPAU

Chemical and Physical Data

Property	Test Method	Unit	Value
Mooney viscosity(1)	ASTM D 1646	MU	63.4
Styrene content	SM(2), (FTIR)	%	21.1
Vinyl content	SM(2), (FTIR)	%	62.1
Glas transition temperature	DSC (HR 10 K/min, half height)	°C	-25.0
Volatile matter(3)	ASTM D 5668	%	0.2
Ash	ASTM D 5667	%	0.03
Specific gravity	SM(2)	g/cm³	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 D 5289(4)	min	7.6
$t_c(50)$	ASTM D 5289	min	12.6
$t_c(90)$	ASTM D 5289	min	19.1
ML	ASTM D 5289	dNm	2.5
MH	ASTM D 5289	dNm	21.6

Vulcanisate Data[a) b)]

Property	Test Method	Unit	Value
Hardness shA	ASTM D 2240	-	63.5
Rebound resilience	ISO 4662	%	26.0
Tensile strength	ASTM D 412(5)	MPa	21.6
Elongation at break	ASTM D 412	%	360.0
Modulus 300%	ASTM D 412	MPa	17.4

(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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