

SPRINTAN™ SLR 4601-SCHKOPAU

SOLUTION-STYRENE BUTADIENE RUBBER (S-SBR)

Composition

SPRINTAN™ SLR 4601-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 4601-Schkopau is partially coupled and bears a generation 1 functionalization for improved polymer/filler interaction especially with carbon black. A non-staining stabilizer is added in the production.

Application

SPRINTAN™ SLR 4601-Schkopau provides excellent balance between wet grip and rolling resistance for low fuel consumption tire treads based on carbon black. The high-vinyl micro structure makes SPRINTAN™ SLR 4601-Schkopau applicable in summer-, all-season-, as well as in winter tires.

Packaging

- SPRINTAN™ SLR 4601-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 4601-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 4601-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 4601-Schkopau has a shelf life of at least 12 months.

CHARACTERISTIC PROPERTIES OF SPRINTAN™ SLR 4601-SCHKOPAU

Chemical and Physical Data

Property	Test Method	Unit	Value
Mooney viscosity⁽¹⁾	ASTM D 1646	MU	49.1
Styrene content	SM ⁽²⁾ , (FTIR)	%	21.0
Vinyl content	SM ⁽²⁾ , (FTIR)	%	62.2
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	%	0.01
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 D 5289 ⁽⁴⁾	min	7.1
t_c(50)	ASTM D 5289	min	10.0
t_c(90)	ASTM D 5289	min	16.0
ML	ASTM D 5289	dNm	2.1
MH	ASTM D 5289	dNm	19.9

Vulcanisate Data^{a) b)}

Property	Test Method	Unit	Value
Hardness ShA	ASTM D 2240	-	62.5
Rebound resilience	ISO 4662	%	27.5
Tensile strength	ASTM D 412 ⁽⁵⁾	MPa	21.8
Elongation at break	ASTM D 412	%	355.0
Modulus 300%	ASTM D 412	MPa	17.9

(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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North America

U.S.	+1-855-TRINSEO (+1-855-874-6736)
U.S. & Canada	+1-989-633-1718

Latin America

Brazil	+55-11-5184-8722
Argentina, Chile, South Region of LAA	+54-11-4319-0100
Mexico, Colombia, North Region of LAA	+52-55-5201-4700

Europe/Middle East/Africa

+800-444-11-444
+31-11567-2601

Asia Pacific

	+603-7965-53-19
China	+86-21-3851-1017

Email	CIG@trinseo.com
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Internet	trinseo.com
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