SPRINTAN™ SLR 4602 - Schkopau
Solution Styrene Butadiene Rubber (S-SBR)

Composition

SPRINTAN™ SLR-4602 – Schkopau is manufactured by anionic solution polymerisation 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 functionalisation for improved polymer/filler interaction with carbon black as well as with silica.
A non-staining stabiliser is added in the production.

Application

SPRINTAN™ SLR-4602 – Schkopau provides outstanding wet grip/rolling resistance for fuel efficient tyre 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 tyres.
The material can also be used in high-quality technical rubber articles.

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 Styron 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.

Characteristic Properties of SPRINTAN™ SLR 4602 - Schkopau

Chemical and Physical Data

Property	Test method	Unit	Value
Mooney viscosity(1)	ASTM D 1646	MU	65.0
Styrene content	SM(2), FTIR	%	21.0
Vinyl content	SM(2), FTIR	%	63.0
Glas transition temperature	DSC (HR 10 K/min, half height)	°C	-25.0
Volatile Matter(3)	ASTM D 5668	%	0.3
Ash	ASTM D 5667	%	0.05
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 IRB7 black)

	Parts by Mass
Polymer	100.0
Stearic Acid	1.50
Zinc Oxide	3.00
Carbon Black IRB 7	50.0
Aromatic Oil	5.00
Sulphur	1.75
Accelerator (CBS)	1.00

Rheometer[a) b)]

Property	Test method	Unit	Value
t_s2	ASTM D5289(4)	min	6.4
$t_c(50)$	ASTM D5289	min	8.3
$t_c(90)$	ASTM D5289	min	14.9
ML	ASTM D5289	dNm	2.5
MH	ASTM D5289	dNm	19.5

Vulcanisate Data[a) b)]

Property	Test method	Unit	Value
Hardness shA	ASTM D 2240	-	63
Rebound Resilience	ISO 4662	%	26.4
Tensile Strength	ASTM D 412(5)	MPa	21.0
Elongation at Break	ASTM D 412	%	390
Modulus 300%	ASTM D 412	MPa	15.2

4. Test temperature 160 °C
5. Cure: 35 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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