

SPRINTAN™ SLR 6430 - Schkopau Solution Styrene Butadiene Rubber (S-SBR)

Composition

SPRINTAN™ SLR-6430 – Schkopau is manufactured by anionic solution polymerisation using an organo-lithium initiator. In relation to solid rubber the grade is extended with 37.5 parts of TDAE oil which complies with the EU Directive 2005/69/EC for use in tyre application. The product has a high styrene/medium vinyl micro structure and a typical glass transition temperature of -36°C. SPRINTAN™ SLR-6430 – Schkopau is partially Si-coupled and contains a non-staining stabiliser.

Application

SPRINTAN™ SLR-6430 – Schkopau provides high wet grip, improved wear & handling properties combined with excellent low rolling resistance for high performance tyre treads. The product can also be used in high-quality technical rubber articles.

Packaging

- SPRINTAN™ SLR-6430 – 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-6430 – 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-6430 – 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-6430 – Schkopau has a shelf life of at least 12 months.

Characteristic Properties of SPRINTAN™ SLR 6430 - Schkopau

Chemical and Physical Data

Property	Test method	Unit	Value
Mooney viscosity ⁽¹⁾	ASTM D 1646	MU	67.0
Styrene content	SM ⁽²⁾ , FTIR	%	40.0
Vinyl content	SM ⁽²⁾ , FTIR	%	24.0
Glas transition temperature	DSC (HR 10 K/min, half height)	°C	-36.0
Total Extractables	ASTM D 5774	%	28.2
Volatile Matter ⁽³⁾	ASTM D 5668	%	0.4
Ash	ASTM D 5667	%	0.05
Specific gravity	SM ⁽²⁾	g/cm ³	0.95

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	137.5
Stearic Acid	1.00
Zinc Oxide	3.00
Carbon Black IRB 7	68.75
Sulphur	1.75
Accelerator (TBBS)	1.38
Stearic Acid	1.00

Rheometer^{a) b)}

Property	Test method	Unit	Value
t _{s2}	ASTM D5289 ⁽⁴⁾	min	7.9
t _{c(50)}	ASTM D5289	min	10.1
t _{c(90)}	ASTM D5289	min	15.1
ML	ASTM D5289	dNm	4.0
MH	ASTM D5289	dNm	16.1

Vulcanisate Data^{a) b)}

Property	Test method	Unit	Value
Hardness shA	ASTM D 2240	-	57
Rebound Resilience	ISO 4662	%	27
Tensile Strength	ASTM D 412 ⁽⁵⁾	MPa	21.3
Elongation at Break	ASTM D 412	%	520
Modulus 300%	ASTM D 412	MPa	11.3

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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Additional Information

North America		Europe/Middle East	+800 444 11 444
U.S. & Canada:	1-888-STYRON1		+32 3 450 2967
	1-989-633-1718	Germany:	+8001811361
Mexico:	+1-800-441-4369		
Latin America		South Africa	+800-99-5078
Argentina:	+54-11-4319-0100		
Brazil:	+55-11-5188-9000		
Colombia:	+57-1-219-6000	Asia Pacific	+800-7776-7776
Mexico:	+52-55-5201-4700		+603-7965-5392

www.styron.com

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