

SPRINTAN™ SLR 4633-SCHKOPAU

Solution-styrene butadiene rubber (S-SBR)

COMPOSITION

SPRINTAN™ SLR 4633-Schkopau is manufactured by anionic solution polymerization using an organo-lithium initiator. In relation to solid rubber the grade is extended with 30.0 parts of TDAE oil which complies with the EU Directive 2005/69/EC for use in tire application. The product has a medium styrene/high vinyl microstructure and a typical glass transition temperature of -28°C. SPRINTAN™ SLR 4633-Schkopau is partially coupled and bears a generation 3 functionalization for improved polymer/filler interaction with carbon black as well as with silica. A non-staining stabilizer is added during production.

APPLICATION

SPRINTAN™ SLR 4633-Schkopau provides an excellent balance between good wet traction and low rolling resistance for silica- and/or carbon black-filled tire tread compounds for summer, winter, and all-season tires.

PACKAGING

- SPRINTAN™ SLR 4633-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 4633-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 4633-Schkopau should be stored in an adequately ventilated area where it will not be subject to direct sunlight or temperatures in excess of 30°C. Under these conditions SPRINTAN™ SLR 4633-Schkopau has a shelf life of at least 12 months.

CHARACTERISTIC PROPERTIES OF SPRINTAN™ SLR 4633-SCHKOPAU

Chemical and physical data

Property	Test Method	Unit	Value
Mooney viscosity ⁽¹⁾	ASTM D 1646	MU	81.5
Styrene content	SM ⁽²⁾ , (FTIR)	%	21.2
Vinyl content	SM ⁽²⁾ , (FTIR)	%	62.1
Glas transition temperature	DSC (HR 10 K/min, half height)	°C	-28.0
Total extractables	ASTM D 5774	%	23.3
Volatile matter ⁽³⁾	ASTM D 5668	%	0.1
Ash	ASTM D 5667	%	0.02
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 (ASTM D 3185-1A based on IRB9 black)

Property	Parts by Mass
Polymer	100.0
Stearic acid	1.0
Zinc oxide	3.0
Carbon black IRB9	50.0
Sulphur	1.75
Accelerator (TBBS)	1.0

Rheometer^{a) b)}

Property	Test Method	Unit	Value
t _{s2}	ASTM D 5289 ⁽⁴⁾	min	8.0
t _c (50)	ASTM D 5289	min	11.5
t _c (90)	ASTM D 5289	min	18.7
ML	ASTM D 5289	dNm	3.3
MH	ASTM D 5289	dNm	19.0

Vulcanisate data^{a) b)}

Property	Test Method	Unit	Value
Tensile strength	ASTM D 412 ⁽⁵⁾	MPa	19.8
Elongation at break	ASTM D 412	%	442.0
Modulus 300%	ASTM D 412	MPa	12.9

(4) Test temperature 160°C (5) Cure: 50 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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