

SPRINTAN™ SLR 3402-SCHKOPAU

Solution-styrene butadiene rubber (S-SBR)

COMPOSITION

SPRINTAN™ SLR 3402-Schkopau is manufactured by anionic solution polymerization using an organo-lithium initiator. The product has a low styrene/medium vinyl micro structure and a typical glass transition temperature of -62°C.

SPRINTAN™ SLR 3402-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 3402-Schkopau provides outstanding winter performance/rolling resistance balance for fuel efficient tire treads based on silica and/or carbon black. The medium vinyl microstructure makes SPRINTAN™ SLR 3402-Schkopau applicable in winter tires as well as low Tg blend component in summer and all-season tires. The material can also be used in high-quality technical rubber articles.

PACKAGING

- SPRINTAN™ SLR 3402-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 3402-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 3402-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 3402-Schkopau has a shelf life of at least 12 months.

TECHNICAL DATA SHEET

SYNTHETIC RUBBER

CHARACTERISTIC PROPERTIES OF SPRINTAN™ SLR 3402-SCHKOPAU

Chemical and physical data

| Property | Test Method | Unit | Value |
|---------------------------------|--------------------------------|-------------------|-------|
| Mooney viscosity ⁽¹⁾ | ASTM D 1646 | MU | 70.0 |
| Styrene content | SM ⁽²⁾ , (FTIR) | % | 15.0 |
| Vinyl content | SM ⁽²⁾ , (FTIR) | % | 30.0 |
| Glas transition temperature | DSC (HR 10 K/min, half height) | °C | -62.0 |
| Volatile matter ⁽³⁾ | ASTM D 5668 | % | 0.20 |
| Ash | ASTM D 5667 | % | 0.05 |
| 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 3185-6B based on IRB9 black)

| Property | Parts by Mass |
|--------------------|---------------|
| Polymer | 100.0 |
| Stearic acid | 1.0 |
| Zinc oxide | 3.0 |
| Carbon black IRB9 | 52.5 |
| TDAE 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 | 6.3 |
| t _c (50) | ASTM D 5289 | min | 9.0 |
| t _c (90) | ASTM D 5289 | min | 13.0 |
| ML | ASTM D 5289 | dNm | 3.5 |
| MH | ASTM D 5289 | dNm | 24.0 |

Vulcanisate data^{a) b)}

| Property | Test Method | Unit | Value |
|---------------------|---------------------------|------|-------|
| Tensile strength | ASTM D 412 ⁽⁵⁾ | MPa | 20.8 |
| Elongation at break | ASTM D 412 | % | 338.0 |
| Modulus 300% | ASTM D 412 | MPa | 17.7 |

(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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