BUNA™ cis 132 - Schkopau
High-cis Polybutadiene Rubber (PBR)

Composition

BUNA™ cis 132 – Schkopau is a stereospecific polybutadiene with a high 1,4-cis content. It is manufactured by a solution process using an organo-metallic nickel catalyst which produces a consistent light coloured polymer with low ash content.
BUNA™ cis 132 – Schkopau contains a non-staining stabiliser.

Application

BUNA™ cis 132 – Schkopau is widely used in the tyre industry but also in the production of conveyor belts and other rubber articles which are exposed to high cyclical stress. It offers good abrasion resistance, high resilience, low hysteresis, and a low glass transition temperature.
BUNA™ cis 132 – Schkopau offers excellent processability and may be blended with natural rubber and styrene butadiene (SBR), isoprene (IR), nitrile (NBR), or polychloroprene (CR) synthetic rubbers. Due to its non-staining stabiliser BUNA™ cis 132 – Schkopau is suitable for light-coloured rubber articles also when compounded with selected thermoplastics.

Packaging

- BUNA™ cis 132 – 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

- BUNA™ cis 132 – 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

BUNA™ cis 132 – 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 BUNA™ cis 132 – Schkopau has a shelf life of at least 12 months.

Characteristic Properties of BUNA™ cis 132 - Schkopau

Chemical and Physical Data

Property	Test method	Unit	Value
Mooney viscosity(1)	ASTM D 1646	MU	45
Cis-1,4 content	SM(2) (FTIR)	%	95
Volatile matter(3)	ASTM D 5668	% mass	0.25
Total ash	ASTM D 5667	% mass	0.05
Gel content	SM(2)	%	0.1
Specific gravity	SM(2)	g/cm³	0.91

1. ML 1+4 (100°C)
2. Supplier Method
3. 1 h at 105 °C in a hot air oven, 5 g sample

Test Formulation (ASTM D 3189 based on IRB7 black)

	Parts by Mass
Polymer	100.0
IRB7 industry reference oil furnace carbon black	60.0
Plasticiser	15.0
Zinc oxide	3.0
Sulphur	1.5
Stearic acid	2.0
N-tert-butyl-2-benzothiazole sulphenamide (TBBS)	0.9

Rheometer[a) b)]

Property	Test method	Unit	Value
t_s2	ASTM D5289(4)	min	5.2
$t_c(50)$	ASTM D5289	min	7.0
$t_c(90)$	ASTM D5289	min	10.4
ML	ASTM D5289	dNm	2.9
MH	ASTM D5289	dNm	17.4

Vulcanisate Data[a) b)]

Property	Test method	Unit	Value
Tensile strength	ASTM D412(5)	MPa	17.6
Elongation at break	ASTM D412	%	503
Modulus 300%	ASTM D412	MPa	9.2

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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