

SKI-3 CIS-ISOPRENE SYNTHETIC RUBBER SPECIFICATION



No.: 13-002

SKI-3 cis-isoprene synthetic rubber is cis-1.4-polyisoprene produced by polymerization in solution using stereospecific catalyst with titanium. The rubber is stabilized by staining antioxidant.

Content of cis-1,4-units, min: 96%.

CAS No.: 104389-31-3. The monomers are registered under EU REACH.

Last revision date: 07.06.2013.

Application: manufacture of automobile, bicycle and motorcycle tyres, industrial rubber goods.

TECHNICAL SPECIFICATION

No.	INDICATORS NAMES	STANDARD	TEST METHOD	NOTE
1.	Mooney viscosity ML 1+4 (100°C):	65-74	ASTM D 1646	☑
2.	Viscosity scattering in batch, units, max.:	5		☑
3.	Volatile matter, %, max (1 hour)*:	0.8	ASTM D 5668	☑
4.	Mass fraction of stearic acid, wt %:	0.6-1.4	Method used in the Russian Federation	☑
5.	Mass fraction of ash, %, max.:	0.5	ASTM D 5667	☑
6.	Mass fraction of antioxidant C-789 (N-alkyl-N ¹ -phenyl-n phenylenediamine), min, %:	0.15	Method used in the Russian Federation	☑
RHEOMETRIC PROPERTIES				
7.	MH, dNm:	11-15	ASTM D 5289	◇
8.	ML, dNm:	1.0-2.0	ASTM D 5289	◇
9.	t ₅₀ , min:	3.2-4.8	ASTM D 5289	◇
10.	t ₉₀ , min:	5.5-7.5	ASTM D 5289	◇
11.	tsl, min:	1.4-2.6	ASTM D 5289	◇

☑ - specified in certificate of quality.

◇ - non-rejectable.

* - by agreement with the customer.

Preparation of rubber mixes is carried out in accordance with ASTM D 3403-07, mixing - according to method C (on the roller mill). Mixing mills are prepared according to ASTM D 3182-07.

Rubber mix recipe:

Rubber	100.00;
Zinc oxide	5.00;
Carbon black IRB-7	35.00;
Sulphur	2.25;
Stearic acid	2.00;
TBBS (N-tert-Butyl-2-Benzothiazolesulfenamide)	0.70.

Vulcanization characteristics are determined according to ASTM D 5289 using an MDR 2000 reometer (flow meter).

Wait time for rubber mix before testing is 2-6 hours.

Test conditions:

Temperature, °C	160
Duration, min	30
Oscillation amplitude, deg	± 0.5
Oscillation frequency, Hz	1.7

Appearance:

Form: briquettes, weight: 30±1.0 kg

Color: from brown to bluish-green.

Specific gravity: 0.915±0.01 kg/cm³.

Packing, transportation and storage:

Rubber briquettes are packaged in double-layer polyethylene film (thickness 0.05 ± 0.01 mm, melting temperature 108-112°C) then in four-layer paper bags or put in wooden or plastic box by 450/540 kg. The rubber is transported by all form of transport in covered transporting means in accordance to all rules of cargos transportation applicable to that kind of transport. The storage temperature, maximum +30°C, guaranteed shelf life – 2 (two) years from the date of production.