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# SKI-3S

**#13-001**
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## PRODUCT SPECIFICATION
## CIS-ISOPRENE SYNTHETIC RUBBER

Synthetic rubber SKI-3S is cis-1.4-polyisoprene produced by polymerization in solution in the presence of stereospecific catalyst based on titanium. The rubber is stabilized with a mixture of two non-staining antioxidants.
CAS No.: 104389-31-3. The monomers are registered under EU REACH.

**APPLICATION:** used in manufacture of automobile, bicycle and motorcycle tyres, for lining of side-frames as well as for production of colored rubber goods, technical rubber products for different application purposes (gaskets, hoses, white colored shoe soles).

Rubber shouldn't contain any foreign impurities and must meet the following requirements:

| | | | |
|---|---|---|---|
| **Appearance:** | briquettes | **Specific gravity:** | 0.915±0.01 kg/cm$^3$ |
| **Weight:** | 30±0.7kg | **Content of cis-1,4-units:** | min 96% |
| **Colour:** | from white to light milky | **Shelf life:** | two (2) years from the date of manufacture |

| PROPERTY | STANDARD | TEST METHOD | NOTE |
|---|---|---|---|
| Mooney viscosity ML 1+4 (100$^0$C) | 80±8 | ASTM D 1646 | ☑ |
| Viscosity scattering in a batch, max | 5 | | ☑ |
| Volatile matter, % max (1 hour)* | 0.7 | ASTM D 5668-99 | ☑ |
| Total ash content, % max | 0.35 | ASTM D 5667 | ☑ |
| Stearic acid, Wt.% | 0.5-1.5 | Method used in the Russian Federation | ☑ |
| Mixture of non-staining antioxidants, Wt.% : | | | |
| Agidol-1 (BHT) | 0.15-0.4 | Method used in | ☑ |
| tris(2,4-di-tert-butylphenyl)phosphite | 0.04-0.2 | the Russian Federation | |
| **RHEOMETRIC PROPERTIES** | | | |
| MH dN×m | 11-15 | ASTM D 5289 | Δ |
| ML dN×m | 1.0-2.0 | ASTM D 5289 | Δ |
| ts1 min | 2.3-3.5 | ASTM D 5289 | Δ |
| t'50 min | 3.9-5.2 | ASTM D 5289 | Δ |
| t'90 min | 6.8-8.4 | ASTM D 5289 | Δ |

☑ specified in the certificate of quality
Δ 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.

Vulcanization characteristics are determined according to ASTM D 5289 using an MDR 2000 reometer. Wait time for rubber mix before testing is 2-6 hours.

**COMPOUNDING FORMULA acc. to ASTM D 3403-07**
(***in parts by weight)***

| | |
|---|---|
| Rubber | 100 |
| Zinc oxide | 5.0 |
| Carbon black IRB-7 | 35.00 |
| Sulphur | 2.25 |
| Stearic acid | 2.0 |
| TBBS (N-tert-butyl-2-benzothiazole sulfenamide) | 0.7 |

**TEST CONDITIONS on MDR 2000:**

| | |
|---|---|
| Temperature, $^0$C | 160 |
| Duration, min | 30 |
| Oscillation amplitude, deg. | ±0.5 |
| Oscillation frequency, Hz | 1.7 |

**Packaging:** Rubber briquettes are packaged in polyethylene film (thickness - 0.05±0.01mm, melting temperature - 108-112$^0$C), then put in wooden, plastic or metal containers (450/540/1080kg).

**Transportation:** The rubber is transported by all forms of transport in covered transporting means in accordance to all rules of cargo's transportation standing at transport of this form.

**Storage:** Store at a max temperature 30$^0$C.

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