



UFAGEOSINTEZ PJSC

450037, Russian Federation, Republic of Bashkortostan, Ufa city, Quality Management Division
Laboratory of quality control of ethylene-propylene rubber production



CERTIFICATE No. 108-2021
Ethylene propylene diene rubber EPDM-E
TS 20.17.10-100-05766563-2021

| | | | |
|-----------------------------|----------------------|----------------------------|--------------|
| Grade | EPDM-E-60 group 1, 3 | OKPD 2 Code: | 20.17.10.173 |
| Batch No. | 100 | NET weight: | 2,375 kg |
| Date of manufacture: | 04.08.2021 | Number of packages: | 95 |
| Date of sampling: | 05.08.2021 | Briquette numbers | 21336-21430 |
| Test date: | 06.08.2021 | | |

Designation of the RD according to which the sample was taken GOST 27109

| Item No. | Name of the indicator | RD for test method | Norm according to TS | The actual value |
|----------|---|--|----------------------|------------------|
| 1 | Mooney viscosity MB (1+4) 125 °C*, within, Mooney units | GOST 10722-76, TS 20.17.10-100-05766563-2021 item 5.3 | 56-65 | 62 |
| 2 | The spread of the Mooney Viscosity indicator within the batch, Mooney units | TS 20.17.10-100-05766563-2021 item 5.3 | maximum 5 | 5 |
| 3 | Mass fraction of ethylene units, % | ASTM D 3900 Method A, TS 20.17.10-100-05766563-2021 item 5.4 | 50-59 | 59 |
| | Group 2 | | 60-69 | - |
| | Group 3 | | 70-79 | - |
| 4 | Mass fraction of ethylidennorbornene, % | ASTM D 6047, TS 20.17.10-100-05766563-2021 item 5.5 | 2.0-3.0 | - |
| | Group 2 | | 3.1-5.0 | - |
| | Group 3 | | 5.1-7.0 | 5.2 |
| | Group 4 | | 7.1-9.0 | - |
| 5 | Weight loss during drying, % | GOST 19338-90, TS 20.17.10-100-05766563-2021 item 5.6 | maximum 0.7 | OA |
| 6 | Mass fraction of ash, % | GOST 19816.4-91 method A, TS 20.17.10-100-05766563-2021 item 5.7, ISO 247-1 Method A | maximum 0.2 | guarantee |
| 7 | Mass fraction of vanadium, % | MI-08-5-103-2019 YUL-313 | maximum 0.008 | 0.002 |
| 8 | Mass fraction of alcohol-toluene extract, % | GOST 19920.6-74, TS 20.17.10-100-05766563-2021 item 5.9 | maximum 4.0 | guarantee |
| 9 | The mass fraction of the antioxidant Irganox-1520L, % | MI-08-5-104-2019 YUL-313 | minimum 0.10 | 0.25 |
| 10 | Conditional tensile strength with carbon grade P-324 or P-234, MPa | GOST 270-75, TS 20.17.10-100-05766563-2021 item 5.11 | minimum 10.0 | 12.3 |
| | | | minimum 350 | 400 |
| 11 | Elongation at break, % | | | |

Note: *Sample preparation at t=60.0 ±5.0°C

Conclusion: The product complies with TS 20.17.10-100-05766563-2021

Not subject to mandatory certification.

The products are manufactured in accordance with the Management systems certified for compliance with the specifications of: ISO 9001:2015 Certificate No. 31100600 QM15, ISO 14001:2015 Certificate No. 31100600 UM15, ISO 45001:2018 Certificate No.31100600 OHS 18.

Scope of application: designed for the manufacture of rubber products.

Characteristics of fire and explosion hazard: According to GOST 12.1.044, rubber belongs to the group of solid combustible materials with a high smoke-forming ability. In the process of production and processing, when rubber is heated above 230 °C, it is possible to release volatile products, including marginal (ethane, propane) and unsaturated (ethylene, propylene) hydrocarbons, carbon oxides. Upon contact with an open fire, it ignites without explosion and burns with a smoky flame with the formation of a melt and the release of the above-mentioned thermal degradation products.

Transportation rules: All types of transport are covered.

Type of shipment via railroad: carload. When transporting rubber packed in various types of bags in railway wagons, it is loaded into the wagon to full capacity without packaging.

When transporting rubber packed in box pallets in railway wagons, pallets are installed in 2-3 rows in height in accordance with the requirements of GOST 21650.

Storage rules: Store the material in paper bags with a polyethylene liner in a dry storage room at a temperature not exceeding 30 °C:

- rubber packed in bags - in stacks no more than 1.2 m high;
- rubber packed in box pallets in stacks by 3-4 pallets in height.

Neutralization, disposal, and burial of wastes: Waste unsuitable for recycling does not require neutralization, is subject to removal to places agreed with the bodies of the Ministry of Emergency Situations and Environmental Safety and the Federal Service for Supervision of Consumer Rights Protection and Human Welfare (Department of Rospotrebnadzor).

Warranty period of storage: 1 year from the date of manufacture.

5th grade Laboratory Analyst
(power of attorney No. 36/21 dated 01.01.2021)

signature _____ O.S. Maslennikova

Date of certificate registration: 07.08.2021

Stamp here

Stamp: Quality department