

Public Joint-Stock Company UFAORGSINTEZ

450037, Russian Federation, Republic of Bashkortostan, Ufa city
 Laboratory for the Quality Control of the Products Obtained During the Production of
 Ethylene Propylene Rubber

CERTIFICATE No. 29-2021

Grade designation 90507

Synthetic ethylene propylene diene rubber EPDM-E
 TS 20.17.10-100-05766563-2019

Grade	EPDM-E-90 group 1, 3	OKPD 2 Code:	20.17.10.173
Batch No.	149	Date of issue/re-selection, analysis	04.12.2019/06.01.2021
Briquette quantity	31	NET weight:	775 kg
Briquette numbers	25620-25650	The designation of the RD according to which the sample was taken GOST 27109	

Item No.	Indicators name	RD for test method	Norm according to TS	The actual value
1.	Mooney viscosity MB 1+4 (125 °C), Mooney units, within (*)	GOST 10722	86-95	94
2.	Viscosity spread within the batch, Mooney units, maximum	TS 20.17.10-100-05766563-2019 item 5.1.6	5	5
3.	Mass fraction of ethylene units, %, within	ASTM D 3900, TS 20.17.10-100-05766563-2019 item 5.2	50-58	57
			59-68	-
			69-78	-
4.	The mass fraction of ethyldennorbornene, %, within	TS 20.17.10-100-05766563-2019 Appendix A	1.0-3.0	-
			3.1-5.0	-
			5.1-7.0	5.1
			7.1-9.0	-
5.	Loss of mass on drying, %, maximum	GOST 19338, TS 20.17.10-100-05766563-2019 item 5.4	0.7	0.1
6.	Mass fraction of ash, %, maximum	GOST-19816.4, TS 20.17.10-100-05766563-2019 item 5.5	0.2	0.05
7.	Mass fraction of vanadium, %, maximum	TS 20.17.10-100-05766563-2019 Appendix B	0.008	0.002
8.	Mass fraction of alcohol - toluene extract, %, maximum	GOST 19920.6, TS 20.17.10-100-05766563-2019 item 5.7	4.0	0.7
9.	The mass fraction of the antioxidant Irganox-1520L, %, minimum	TS 20.17.10-100-05766563-2019 Appendix C	0.10	0.19
10.	Conditional tensile strength with carbon grade P-324, MPa, minimum	GOST 270, TS 20.17.10-100-05766563-2019 item 5.9	Not standardized, Definition required	12.0
11.	Elongation at break, %, minimum	Recipe No. 2		370

* - sample preparation at $t = 60.0 \pm 5.0$ °C**Conclusion: the product corresponds to TS 20.17.10-100-05766563-2019. Warranty period of storage is until 04.06.2021**

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 OHS18.

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.

Storage rules:

Store the material in paper bags with a polyethylene liner in a dry, ventilated room, excluding direct sunlight, at a distance of at least 1m from heating devices and at a temperature not higher than 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.

Engineer of the laboratory for quality control of ethylene-propylene-rubber products of the Quality Management:

(Power of attorney No. 82/21 dated 11.01.2021)Certificate issue date: February 15, 2021**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, its. they are loaded into the car 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.

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).

Signature E.F. Dmitrieva

Stamp here

Stamp: Quality department