



UFAORGSINTEZ PJSC

450037, Russian Federation, Republic of Bashkortostan, Ufa city  
Quality Division, Testing Center for Petrochemical Products, Raw Materials and Environmental Facilities  
Unique entry number in the Register of Accredited Entities No. RA.RU.21УФ03  
Laboratory of Quality Control of polypropylene production



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**CERTIFICATE No. 500-2021**  
**BALEEN**  
**(POLYPROPYLENE AND PROPYLENE COPOLYMERS)**  
**TS 2211-074-05766563-2015 as amended 1-3**

Grade 01030 Code OK11D2 20.16.51.110  
Batch No. 500 Net weight 239.075 t  
Date of manufacture 31.12.2021  
Date of sampling 31.12.2021  
Test date 31.12.2021  
Designation of the regulatory documentation (RD), according to which the sample was taken TS 2211-074-05766563-2015 with amend. 1-3

Item No.	Name of the indicator	RD for test method	TU Standard	Analysis result
1	Melt flow rate (230 °C / 2.16 kg), g/10min	ASTM D 1238	from 2.4 to 4.0	3.3
2	The spread of the melt flow rate within the batch <sup>1</sup> , %	TS 2211-074-05766563-2015, cl. 5.5	no more than 10	2
3	Mass fraction of granules with a size of more than 5 to 8 mm and less than 2 mm, as well as stuck together, provided that no more than three granules stick together, %	TS 2211-074-05766563-2015, cl. 1.2	no more than 3	0.6
4	Mass fraction of volatile substances, %	TS 2211-074-05766563-2015, cl. 5.6	not more than 0.09	0.02
5	Resistance to thermo-oxidative aging at 150 °C as to formulation 205, hour	TS 2211-074-05766563-2015, cl. 5.9	minimum 360	guarantee
6	Tensile yield point, MPa	ASTM D 638	minimum 33	34.2
7	Elongation at yield strength, %		at least 10	13.2
8	Modulus of flexibility, mPa	ASTM D 790	minimum 1,200	1,420

Note: 1) The indicator is determined by the calculation method.

**Conclusion: the product meets TS 2211-074-05766563-2015, as amended 1-3.**

**Not subject to mandatory certification**

The products are manufactured under the guidance of the Management Systems certified for compliance with the requirements: ISO 9001:2015 certificate No. 31100600 QM15, ISO 50001:2018 certificate No. 31100600 EMS18, ISO 14001:2015 certificate No. 31100600 UM15, ISO 45001:2018 certificate No. 31100600 OHS18.

**Scope of application:** for technical and household products, products in contact with food, toys.

**Characteristics of fire and explosion hazard:** pelletized baleen as per GOST 12.1.044 is related to the group of solid combustible materials with high smoke-producing capacity. When baleen heating, during the processing up to temperature up to 150 °C, the formation of products of volatile thermal destruction, which contain as to GOST 12.3.030 acetic acid, formaldehyde, acetaldehyde, carbon oxide. Upon contact with an open fire, the baleen burns with a smoky flame without an explosion with the formation of a melt and the release of carbon dioxide, water vapor, unsaturated hydrocarbons and the above thermal destruction products. Air-borne dry dust of baleen is explosive; the particle friction results in accumulating the charge of static electricity.

**Transportation rules:** baleen is transported by all types of transport in covered vehicles in accordance with the rules of cargo transportation applicable to this type of transport. Baleen packed in bags, when loaded into containers according to GOST 15102 or GOST 20435, is transported in any means of transport. It is allowed, upon agreement with the consumer, to transport in bulk in railway cars and road pneumatic tanks.

**Storage rules:** baleen is stored in closed dry room while avoiding the exposure of direct sunlight at a distance of not less than 1 m from heating devices at a temperature not more than 30 °C and relative humidity not more than 80 %. Before opening, bags with baleen must be kept in the production room for at least 12 hours. It is allowed to store the baleen at the consumer's for up to 30 days in the metallic storage drums installed on outdoor sites, which exclude moisture ingress and product contamination.

**Neutralization, disposal, and burial of wastes:** waste unsuitable for recycling does not require neutralization, and is subject to removal to places agreed with the bodies of the Ministry of Civil Defense, Emergencies and Disaster Relief and the Federal Service for Supervision of Consumer Rights Protection and Human Welfare (Division of the Federal Service for Supervision of Consumers Protection and Welfare (Rosspotrebnadzor)).

**Warranty period of storage:** 3 years from the date of manufacture.

Chemical Analysis Laboratory Assistant of the 5th grade – production team leader \_\_\_\_\_ Davletgareeva E.F.  
(Power of attorney No. 28/22 dated 01.01.2022)

**Stamp:**  
Public Joint Stock Company  
UFAORGSINTEZ  
Quality Division 0/1

Date of passport registration: 02.01.2022