

TECHNICAL INFORMATION (TDS)

EKOPRODUR PM4032

POLYURETHANE SYSTEM

Date of preparation: 30.05.2006

Update date: 15.10.2015

Version: 5.0

SECTION 1: PRODUCT DESCRIPTION

EKOPRODUR PM4032 is a two-component (A+B) system for the production of rigid polyurethane foams having the self-extinguishing properties.

COMPONENT A (polyol mixture): EKOPRODUR PM4032

COMPONENT B (isocyanate): EKOPRODUR B

EKOPRODUR PM4032 does not contain any foaming agents that deplete the ozone layer. This is in accordance with the provisions of the European Union (EU) Regulation on Ozone Depleting Substances (ODS Regulation) - No. 1005/2009 dated September, 16th 2009.

SECTION 2: APPLICATION

EKOPRODUR PM4032 is designed to be used for the production of insulation boards and panels of large size. Additionally it can be used for mould casting and filling

It can be processed with the help of both: low- and high-pressure foaming machine.

Polish Hygienic Certificate PZH: HK/B/0511/01/2014.

SECTION 3: COMPONENTS CHARACTERISTICS

COMPONENT A

Formulated polyols mixture in the form of oily liquid, colour straw to yellow, no suspended particles.

Density at 20°C $1.12 \pm 0.02 \text{ g/cm}^3$

Viscosity at 20°C $600 \pm 100 \text{ mPa}\cdot\text{s}$

COMPONENT B

Mixture of aromatic polyisocyanates, especially diphenylmethane diisocyanate. Brown liquid without suspension.

Density at 20°C $1.22 \pm 0.02 \text{ g/cm}^3$

Viscosity at 20°C $350 \pm 100 \text{ mPa}\cdot\text{s}$



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SECTION 4: FOAMING CHARACTERISTICS IN LABORATORY CONDITIONS

Reaction time¹ as well as apparent core density² were measured under the laboratory conditions (at the temperature between 20-24°C) by manually foaming – stirrer approx. 2500 rpm (mixing time of about 8 sec.), sample weight 100 g Component A and 110 g Component B.

Cream time ¹	36 ± 2 sec.
Gel time ¹	180 ± 20 sec.
Tack Free Time ¹	300 ± 40 sec.
Apparent core density	32 ± 2 kg/m ³

SECTION 5: EXEMPLARY FOAM PROPERTIES IN THE FINISHED PRODUCTS

Moulder received by casting in the mould in the laboratory.

Overall density of moulder (weight/mould volume):	42 kg/m ³	
Apparent core density:	36 kg/m ³	EN 1602:2013-07
Water absorption (after 24h):	1.1% v/v	
Dimensional stability:		
+100°C, 24h	+0.5%	EN 1604:2013-07
-24°C, 48h	-0.3%	EN 1604:2013-07
Compression strength:	190 kPa	EN 826:2013-07
Thermal conductivity at 10°C (declared value)	0.024 W/(m·K)	EN ISO 8301:1998

Moulding time depends on the size of the moulder and the mould temperature. After moulding the ready products should be seasoned at room temperature **for about 24 hours**.

During processing the system please keep in mind all tips and information included in the MSDS sheets for both components.

¹Reaction times are measured from the beginning of mixing. *Cream time* – until the moment of rising the reaction mixture's volume. *Gel time* – until the moment of drawing out the gelled fibres from the foam. *Tack free time* – until the moment when the surface of the foam is not sticky. (The procedure according to the internal instructions **IJ 11 02**).

²Apparent core density - foam weight divided by the cup's volume (according to EN 1602:2013-07).

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SECTION 6: RECOMMENDED PROCESSING CONDITIONS

Weight ratio of components A : B	100 : 110
Optimal components temperature:	18-22°C
Ambient temperature:	15-25°C
Optimal mould temperature:	30-40°C

IMPORTANT: In the case of the mould made of aluminium or stainless steel it can be necessary to prepare the surface mechanically or chemically, to improve adhesion.

Density of the rigid foam in the finished product should be not less than 40 kg/m³ (counted as a proportion of system weight in kilograms to total volume of the mould in cubic meters). A method of mixing and pouring into the mould of the system should provide a uniform filling, so that the core density of the cut fragment in the finished product is not less than 36 kg/m³.

SECTION 7: PACKAGING

Metal drums capacity of 200 dm³ or IBC with a capacity of 1000 dm³.

SECTION 8: RECOMMENDED STORAGE CONDITIONS

Dry place at a temperature above 5-25°C. Protect from moisture and direct sunlight.

Both components of the system should be stored in tightly closed containers.

The shelf life in original manufacturer's packaging, should be stored under the recommended conditions for **3 MONTHS** from date of manufacture.

SECTION 9: ADDITIONAL INFORMATION

Data included in this technical information are based on the results from the tests performed in our laboratory as well as on the practical experience. These data do not guarantee the properties of the final product. The results obtained may differ from those listed above especially in the case when the use of the product is under the conditions other than originally intended.

IMPORTANT: We are happy to provide technical and substantive assistance in implementing and applying polyurethane system EKOPRODUR PM4032. At the same time when it is necessary and possible we help in adjusting relevant parameters. In all matters related to the purchase and use of polyurethane system EKOPRODUR PM4032 we encourage you to use a direct contact to our technical and commercial representative or by writing to prodex@pcc.eu.

