TECHNICAL INFORMATION (TDS)

EKOPRODUR PM2032

POLYURETHANE SYSTEM

Date of preparation: 01.01.2017
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Version: 7.3

SECTION 1: PRODUCT DESCRIPTION

EKOPRODUR PM2032 is a two-component (A+B) system for the production of rigid polyurethane foams having the self-extinguishing properties.

COMPONENT A (polyol mixture):	EKOPRODUR PM2032
COMPONENT B (isocyanate):	EKOPRODUR B

EKOPRODUR PM2032 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 PM2032 is designed to be used in cavity filling especially as an wall insulation. Additionally it can be used for mould casting.

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

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	1.13 ± 0.02 g/cm^3
Viscosity at 20°C	500 ± 100 mPa·s

COMPONENT B

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

Density at 20°C	1.22 ± 0.02 g/cm^3
Viscosity at 20°C	350 ± 100 mPa·s

PCC PRODEX Sp. z o.o.
Ul. Henryka Sienkiewicza 4, 56-120 Brzeg Dolny
http://www.pcc-prodex.eu prodex-bok@pcc.eu

Zakład Poliuretanów nr 1
Ul. Południowa 14, Żółwin k/Podkowy Leśnej 05-807
tel.: +48 (22) 729 14 80

SECTION 4: FOAMING CHARACTERISTICS IN LABOLATORY CONDITIONS

Reaction time[1] as well as apparent core density[2] were measured under the laboratory conditions by manual foaming.

Cream time[1]	20 ± 3 sec.
Gel time[1]	120 ± 15 sec.
Tack Free Time[1]	220 ± 20 sec.
Apparent core density[2]	32 ± 2 kg/m^3

SECTION 5: RECOMMENDED PROCESSING CONDITIONS

The volumetric ratio of components A : B **100 : 100**

Temperature settings on the machine:

Heating temperature A and B:	30-35°C
Heating the hoses:	30-35°C
Components pressure:	80-100 bar (1160-1450 psi)
Components temperature (in barrels):	15-25°C
Ambient temperature:	15-35°C
Recommended surface temperature:	15-35°C
Relative ambient humidity:	below 70%
Humidity of porous base:	below 15%
Humidity of non-porous base:	0%

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.*

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 40 kg/m^3.

Insulated surfaces should be prepared before, should not contain dust, water, oil, loose particles and other substances that could reduce the adhesion of the foam.

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

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Pressure setting for Component A and the Component B should be the same.

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

SECTION 6: EXEMPLARY FOAM PROPERTIES IN THE FINISHED PRODUCTS

Received by casting in the mould in the laboratory.

Apparent core density:	36 kg/m^3	EN 1602:2013-07
Fire classification	self-extinguishing	PN-C-89297:19883
Short-term water absorption by partial immersion, $\mathbf{W_P}$	≤ 0.11 kg/m^2	EN 1609:2013
Thermal conductivity:		EN 12667:2002
$\boldsymbol{\lambda_{mean,\ i}}$	0.023 W/(m·K)	
Compressive stress at 10% relative deformation, $\boldsymbol{\sigma_{10}}$	≥ 290 kPa	EN 826:2013-07
Temperature stability:		EN 1604:2013-07
70°C, 90% RH, after 48 h	d ≤ 4% sz ≤ 4% g ≤ 1%	
-30°C, after 48 h	d ≤ 2% sz ≤ 2% g ≤ 0.5	
Closed-cell content:	≥ 90%	EN ISO 4590:20054
Working temperature	-40 - 110°C	

Moulding time depends on the size of the mould 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.

SECTION 7: PACKAGING

Metal drums capacity of 200 dm^3 or IBC with a capacity of 1000 dm^3.

SECTION 8: RECOMMENDED STORAGE CONDITIONS

Dry place at a temperature above 15-25°C. Protect from moisture and direct sunlight.

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

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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 PM2032. 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 PM2032 we encourage you to use a direct contact to our technical and commercial representative or by writing to prodex@pcc.eu .*

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