

SECTION 1: PRODUCT DESCRIPTION

EKOPRODUR 3530B2 is a two-component system (A+B) designed for the production of closed-cell self-extinguishing rigid polyurethane foam.

COMPONENT A (polyol mixture): EKOPRODUR 3530B2

COMPONENT B (isocyanate): EKOPRODUR B

EKOPRODUR 3530B2 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 3530B2 is used as insulation material for refrigeration plants on ships, buoyancy chambers on boats and yachts. It can be used also in discontinuous production of insulating boards and panels with self-extinguished properties. Insulation is suitable to use in temperature range of -40°C do +120°C.

Certified to marine use by BUREA VERITAS : 12502/C0 BV as an refrigeration insulation.

It may be processed with low and high pressure foaming machines.

SECTION 3: COMPONENTS CHARACTERISTICS

COMPONENT A

Formulated polyols mixture in the form of oily liquid, dark colour, without suspension.

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

Viscosity at 20°C $500 \pm 100 \text{ mPa}\cdot\text{s}$

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 $350 \pm 100 \text{ mPa}\cdot\text{s}$

SECTION 4: FOAMING CHARACTERISTICS IN LABORATORY CONDITIONS

Reaction times¹ as well as apparent core density² were measured under the laboratory conditions (at 20°C)

Cream time ¹	34 ± 4 sec.
Gel time ¹	165 ± 20 sec.
Tack Free time ¹	300 ± 30 sec.
Apparent core density	32 ± 2 kg/m ³

SECTION 5: RECOMMENDED PROCESSING CONDITIONS

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

The weight ratio of components A : B **100 : 110**

Temperature settings on the machine:

Heating temperature A and B:	18 - 22°C
Ambient temperature:	5 - 30°C
Recommended surface temperature:	30 - 40°C

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.

Foam density in the final product should be not less than 40 kg/m³ (overall foam weight [kg] / mould volume [m³]). Components mixing and pouring into the mould should ensure the uniform fulfilment of the mould – the core density in all points should be no less than 35 kg/m³.

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

The measurements were carried out on foam cut from samples made using a high pressure machine.

Apparent core density: ≥ 36 kg/m³ EN 1602:2013-07

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).

Fire classification:	E	EN 13501-1+A1:2010
Short-term water absorption by partial immersion, W_p	$\leq 1,8 \%$	
Thermal conductivity: $\lambda_{\text{mean, i}}$	0.023 W/(m·K)	EN 12667:2002
Compressive stress at 10% relative deformation, σ_{10}	≥ 180 kPa	EN 826:2013-07
Temperature stability:		EN 1604:2013-07
80°C, after 24 h	$d \leq 1,5\%$ $sz \leq 1,5\%$ $g \leq 1\%$	
-30°C, after 48 h	$d \leq 2\%$ $sz \leq 2\%$ $g \leq 0.5$	
Closed-cell content:	$\geq 90\%$	EN ISO 4590:2005
Usage conditions	-40 - 120°C	

SECTION 7: PACKAGING

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

SECTION 8: RECOMMENDED STORAGE CONDITIONS

Dry place at 15 - 25°C. Protect from moisture and direct sunlight. Both components should be stored in tightly closed containers. Shelf life in original manufacturer's packaging and stored under normal conditions is **3 MONTHS** from the 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 3530B2. 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 3530B2 we encourage you to use a direct contact to our technical and commercial representative or by writing to prodex@pcc.eu.