Ekoprodur® 1814W

POLYURETHANE SYSTEM

TECHNICAL INFORMATION (TDS)

Date of preparation: 02.08.2011
Update date: 19.02.2025
Version: 16.0/EN

1. PRODUCT DESCRIPTION

EKOPRODUR 1814W is a two-component polyurethane system for the production of semi-rigid foam.

COMPONENT POLY (polyol mixture)	EKOPRODUR 1814W POLY
COMPONENT ISO (isocyanate)	ISO KOMPONENT B

2. APPLICATION

EKOPRODUR 1814W is designed for the production of insulating materials with a partially open cellular structure, especially boards and linings in cladding and insulation of tanks and boilers. It can also be injected into the voids in the walls of buildings.

3. COMPONENTS CHARACTERISTIC

COMPONENT POLY – a polyol mixture in the form of an oily liquid without suspensions, with a straw to yellow color, depending on from the production batch.

COMPONENT ISO – a mixture of aromatic polyisocyanates, mainly diphenylmethane diisocyanate. Liquid of brown color, without suspensions.

Parameter	POLY	ISO	Unit
Density at 20°C	1,04 ± 0,02	1,22 ± 0,02	g/cm³
Viscosity at 20°C	430 ± 200	350 ± 100	mPa·s

4. FOAMING CHARACTERISTICS UNDER LABORATORY CONDITIONS

Reaction times and apparent density of the core were measured in laboratory conditions (at 20°C) with manual foaming in a laboratory vessel – stirrer about 5000 rpm.

Parameter	Value	Unit
Weight ratio of POLY:ISO components	**100 : 118**	
Cream time	17 ± 4	s
Gel time	78 ± 8	s
Tack free time	135 ± 15	s
Apparent core density	14,5 ± 1	kg/m³

5. RECOMMENDED PROCESSING CONDITIONS

EKOPRODUR 1814W can be processed with low-pressure and high-pressure foaming machines.

Parameter	Value	Unit
Weight ratio of POLY:ISO components	**100 : 118**	
Volumetric ratio of POLY:ISO components	**100 : 100**	
Raw material temperature	18 – 22	°C
Ambient temperature	18 – 25	°C
Lining/mold temperature	30 – 40	°C

Before starting work with the EKOPRODUR 1814W system, you should familiarize yourself with the Safety Data Sheets of both components.

IMPORTANT: The POLY component tends to separate. Before use, mix the POLY component (about 15 minutes).

The ISO component does not require mixing before use.

When processing with spraying machines follow the recommendations below, which are based on experience in dosing with the Graco Reactor H-XP3 with the PROBLER P2 ELITE pistol (mixing chamber 01 and flooding nozzle).

Volumetric ratio of POLY:ISO components	**100 : 100**	
Recommended machine settings		
Parameter	**Value**	**Unit**
Heating temperature ISO and POLY	30 – 40	°C
Heating hoses	30 – 40	°C
Ingredient pressure	90 – 100 (1305 – 1450)	Bar (psi)
Temperature of ingredients in barrels	20 – 30	°C
Ambient temperature	10 – 35	°C
Optimal processing conditions		
Recommended substrate temperature	10 – 35	°C
Relative ambient humidity	< 70	%
Porous substrate humidity	< 15	%
Moisture content of non-porous substrate	0	%

Insulated surfaces should be prepared in advance. They should not contain dust, water, oil, loose fragments and other agents that may reduce the adhesion of the foam. Before performing the application, carefully protect the surfaces of adjacent objects to avoid accidental dirt during dosing – please note that the applied foam has a very good adhesion and may be difficult to remove later from undesirable places. Pressure settings for the POLY component and for the ISO component should be the same.

Full mechanical properties of the foam are achieved after 48 hours of seasoning.

6. FOAM PROPERTIES

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

Parameter	Value	Unit	Standard
Apparent density of the core	≥ 14	kg/m³	EN 1602
Fire classification	F	-	EN 13501-1
Thermal conductivity coefficient $\lambda_{mean,i}$	0,037	W/(m·K)	EN 12667
Temperature stability: 70°C, 90% RH, after 48 h	DS(70,90) 3*	%	EN 1604
Temperature stability: -20°C, after 48 h	DS(-20,-) 3*	%	EN 1604
Contents of closed cells	≤ 20%	%	EN ISO 4590

*Classification in accordance with the harmonized standard PN-EN 14318

7. PACKAGING

Metal drums with a capacity of 216 dm^3, IBC container with a capacity of 1000 dm^3.

8. RECOMMENDED STORAGE CONDITIONS

Both components of the system should be stored in tightly closed containers in dry place at a temperature of 10 - 25°C. Protect against moisture and direct sunlight. Shelf life of the component POLY stored in original sealed manufacturer's packaging, under recommended conditions, is **6 MONTHS.**

9. REGULATORY AFFAIRS AND CERTIFICATS

- EKOPRODUR 1814W does not contain foaming agents that deplete the ozone layer, in accordance with European Union regulations on the trade and use of controlled substances - Regulation (EU) No. 2024/590 of 7 February 2024.
- EKOPRODUR 1814W polyurethane system has been placed on the market in accordance with European Union Regulation No. 305/2011, together with an assessment of performance in accordance with the European harmonised standard PN-EN 14315-1:2013
- The product has a CE marking and a Declaration of Performance No. 37DOP-2024-EN has been issued.
- Transport regulations apply in accordance with section 14 of the Product Safety Data Sheet.

10. ADDITIONAL INFORMATION

Data included in this technical information are based on the results of our laboratory tests and practical experience as well. This data does not guarantee the properties of the final product. The results obtained may differ from those listed above especially when the use of the product under the conditions other than originally intended. Hence, we recommend testing performance of the product for specific application at own degree. Foam application and conditions of use are beyond manufacturer control and contractor is responsible for correct selection. Guidelines for use are included in technical Information sheets (TDS) and safety date sheets (SDS). Failing to meet the recommended conditions can have negative impact on the foam application process and its parameters.

IMPORTANT: We are happy to provide technical and substantive assistance in the implementation and use of the EKOPRODUR 1814W polyurethane system. At the same time, when necessary, we help in adjusting and selecting important parameters. In all matters related to the purchase and use of polyurethane system EKOPRODUR 1814W, we encourage you to contact our technical and commercial representative directly or by writing to prodex@pcc.eu.