

## TECHNICAL DATA SHEET

<b>SYSTEM:</b> Polyol (component A): Isocyanate (component B): Application:	<b>ULTRAPOL RG 03/35</b> ULTRAPOL RG 03/35 ULTRAMER B Polyurethane system for manufacturing of thermal and acoustic insulation on industrial and residential buildings by in-situ spray forming..		
<b>PROPERTIES:</b>  viscosity at 20°C density at 20°C colour storage temperature storage time	comp. A (polyol) ULTRAPOL RG 03/35 comp. A 430 ± 100 1,14 ± 0,02 yellow 5 – 30 3	comp. B (iso) ULTRAMER B 350 ± 100 1,22 ± 0,02 brown 5 – 30 6	[mPas] [g/cm <sup>3</sup> ]  [°C] [months]
<b>REACTIVITY IN LAB CONDITIONS</b> <small>(samples foamed by hand mixing with mechanical stirrer at the speed 2500 ±500 rpm )</small>	Samples weight (ratio A:B by weight) Components' temperatures Mixing time Start time Gel time Tack free time Core density	20 + 22 (100:110) 18 - 22 2 -3 3 ± 1 7 ± 3 9 ± 4 35 ± 2	[g] [°C] [sec] [sec] [sec] [sec] [kg/m <sup>3</sup> ]
<b>SUGGESTED PROCESSING CONDITIONS</b>	Mixing ratio A : B (by volume) Components temperature Machine heaters temperature Hoses temperature Ambient temperature Components pressure Number of layers Thickness of one layer	100:100 15 - 30 30 - 40 30 - 40 10 - 35 80 – 110 2 – 3 max 35	[°C] [°C] [°C] [°C] [bar] [mm]
<p>             Sprayed surfaces should be dry, free from oil, dust and dirt that can cause deterioration of the adhesion of the foam. If in doubt about the cleanliness of the surface, it is a good thing to perform the trial spray on a limited area the day before, and if the adhesion is poor, wash and dry the surface before the final spraying.              Before spraying adjacent areas should be protected to prevent from deposition of foam's dust.              If the foam is exposed to direct sunlight it should be covered with a protective layer (eg. protective paint or gypsum board or chipboard).           </p>			

## PROPERTIES OF THE SPRAYED FOAM

Test samples cut from the sprayed insulation.

Foam core density (PN-EN 1602:1999):	$\geq 32 \text{ kg/m}^3$
Reaction to fire classification (PN-EN 13501-1+A1:2010):	E
Thermal conductivity (PN-EN 12667:2002):	$\lambda_{\text{mean},i} = 0,021 \text{ W/mK}$ $\lambda_{90,90} = 0,022 \text{ W/mK}$

Aged thermal conductivity  $\lambda_D$  and thermal resistance  $R_D$  of sprayed insulation, depending on its thickness  $d_N$  (PN-EN 14315-1:2013)

Thickness $d_N$ [mm]	One diffusion open face and one diffusion tight face		Diffusion open faces	
	Declared aged thermal conductivity, $\lambda_D$ [W/m K]	Thermal resistance level, $R_D$ [m <sup>2</sup> K/W]	Declared aged thermal conductivity, $\lambda_D$ [W/m K]	Thermal resistance level, $R_D$ [m <sup>2</sup> K/W]
40	0,027	1,45	0,028	1,40
45	0,027	1,65	0,028	1,60
50	0,027	1,85	0,028	1,75
55	0,027	2,00	0,028	1,95
60	0,026	2,30	0,028	2,10
65	0,026	2,50	0,028	2,30
70	0,026	2,65	0,028	2,50
75	0,026	2,85	0,028	2,65
80	0,026	3,05	0,027	2,95
85	0,026	3,25	0,027	3,10
90	0,026	3,45	0,027	3,30
95	0,026	3,65	0,027	3,50
100	0,026	3,80	0,027	3,70

Short term water absorption by partial immersion (PN-EN 1609:20130)	$\leq 0,23 \text{ kg/m}^2$
Water vapour transmission, $\mu$ (PN-EN 12086:2013)	$\geq 38$
Dimension stability (PN-EN 1604:2013-07)	
70°C, 90% RH, 48h	l. $\leq +7 \%$ w. $\leq +7\%$ th. $\leq +3\%$
-20°C, 48h	l. $\leq -0,5 \%$ w. $\leq -0,5\%$ th. $\leq -0,5\%$

Compressive strength at 10% deformation, $\sigma_{10}$ (PN-EN 826:1998)	$\geq 290\text{kPa}$
Tensile strength perpendicular to faces (PN-EN 1607:2013)	$\geq 350\text{kPa}$
Substrate adhesion strength perpendicular to faces (PN-EN 1607:2013)	$\geq 300\text{kPa}$
Content of closed cells (PN-ISO 4590:2005)	$\geq 90\%$

The information given in this technical data sheet bases on our laboratory tests and practical knowledge and cannot be use as warranty of purchaser/user final products' parameters. Our data does not release the user from the obligation to verify the information provided and test our product according to his own application, technological conditions and final purposes.

This data sheet is distributed with the corresponding Safety Data Sheet which contains current information about classification, labeling, handling and safety relevant data.

Version 1

30.03.2015