

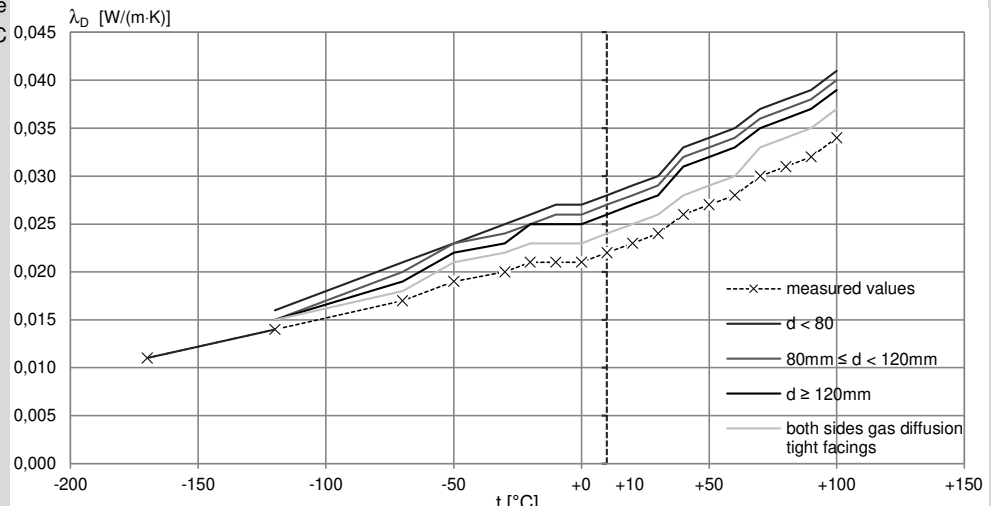
**thermoset high-performance insulating material**

application	for universal use in the insulation and construction area and thermal insulation of technical facilities
assembly	unlaminated blocks, boards or pre-cut parts dimensions at customer's option upon request dimensional tolerances acc. to puren factory standard



**puren-PIR NE 50** **Technical data PU rigid foam**

Characteristic	Standard/test procedure	Unit	Indicator
Material	Polyurethane rigid foam (PU) acc. to EN 13165 and EN 14308, quality-certified, harmless from a biological and building ecology point of view, recyclable, rotproof, resistant to mildew and decay.		
Bulk density	EN 1602	kg/m <sup>3</sup>	47 - 52
Thermal conductivity			
Monitored limit value (fresh value) at 10°C mean temperature	EN 12667	W/(m·K)	0,022
Nominal value ( EU ) $\lambda_D$			at thickness d < 80 mm    80 ≤ d < 120 mm    d ≥ 120 mm
	EN 13165		
at 10°C application temperature	EN 14308	W/(m·K)	0,028    0,027    0,026
in the application temperature range -170 °C to +50 °C			



Thermal insulation resistance for thickness	mm	20	40	60	80	100	120	140	160	180	200
$R_D$	m <sup>2</sup> ·K/W	0,70	1,40	2,10	2,95	3,70	4,60	5,35	6,15	6,90	7,65

Compressive strength		measured values <sup>2)</sup>	
Compressive stress at 10% compression	EN 826	kPa	350    350 - 400
E-modulus (compressive stress) <sup>2)</sup>		MPa	10,0 - 13,0
Tensile strength perpendicular to panel plane			
Transverse tensile strength		kPa	150    350 - 450
E-modulus (transverse tensile stress) <sup>2)</sup>	EN 1607	MPa	15,0 - 17,5
Bending strength <sup>2)</sup>	EN 12089	kPa	450 - 600
Transverse strength <sup>2)</sup>	EN 12090 (in compliance with DIN 53427)	kPa	200 - 250
Shear strength <sup>2)</sup>	EN 12090 (in compliance with DIN 53294)	kPa	240 - 300

Designation ( EU )	EN 13165	PU-EN 13165-T2-DS(70,90)3-DS(-20,-)2-CS(10/Y)350-TR150
	EN 14308	PU-EN 14308-DS(TH)3-CS(10/Y)350

Fire behaviour	non-smouldering, non-melting, non-dripping	
Reaction to Fire Class / RtF ( EU )	EN 13501-1	E
Water-soluble chlorides	EN 13468	ppm ≤ 90 (100°C / 30 min)

1) Literature value, not part of the factory production control and external supervision.  
 2) Average values calculated on a regular basis under production conditions as part of factory production control. It is ensured that mechanical characteristic values do not fall below their minimum level by more than 10%..



Declaration of performance  
 20132.CPR.2020.10  
 puren-PIR NE 50  
[www.puren.com/download](http://www.puren.com/download)

**CE** EN 13165:2012+A2:2016  
 EN 14308:2015  
 Verification authority: 0751 FIW München

controlled by  
 0751 FIW München

## thermoset high-performance insulating material

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Closed cell content <sup>2)</sup>		ISO 4590	%	90 - 95
Temperature resistance			°C	-30 bis +120, short-term to 250 °C
Moisture absorption <sup>2)</sup>		EN 12087	Vol.-%	≤ 3
Specific heat capacity <sup>1)</sup>	C	EN 12524	J/(kg·K)	1400
Water vapour diffusion resistance factor <sup>1)</sup>	μ	EN 12086		40 - 200
Linear expansion coefficient <sup>1)</sup>		EN 1604	1/K	5 - 8 · 10 <sup>-5</sup>