

**Appendix 1 to Declaration of Performance NO. 02/1/14509**

 Manufacturer: **Balex Metal sp. z o.o.**

Declared performance		Product						Unit	Norm	
		PU-PIR-R								
Intended use		Self-supporting sandwich panels with rigid polyisocyanurate (PIR) foam core as cladding for roofing and roof covering.								
Harmonised norm		PN-EN 14509:2013 „Self-supporting double skin metal faced insulating panels – Factory made products - Specification”								
Year of CE marking		11								
Panel thickness		40	60	80	100	120	160	mm	EN 14509	
Cladding steel grade		S250GD, 1.4301						-	EN 10346	
Type of coating	metallic	Z100, Z185, Z225, Z275, AZ70, AZ150, AZ185, ZA130, ZA255, ZM140						-	EN 10346	
	organic	SP, HDP, PVD(F), PVC(P), PVC(F), PUR						-	EN 10169	
Cladding thickness	external	0,5; 0,6; 0,7						mm	EN 10143	
	internal	0,4; 0,5; 0,6; 0,7						mm	EN 10143	
Type of profile	external	T (trapezoidal)						-		
	internal	L (lining), G (flat)						-		
Core material		PIR								
Core density		40						kg/m <sup>3</sup>		
Mass of panel		10,84	11,65	12,45	13,26	14,07	15,69	kg/m <sup>2</sup>		
Reaction to fire		-						-	EN 13501	
Fire resistance		NPD		REI30 (cladding with org. coating)				-	EN 13501	
Odporność na działanie ognia zewnętrznego		Broof(t1)						-	EN 13501	
Tensile strenght f <sub>ct</sub>		0,08						MPa	EN 14509	
Shear strenght f <sub>cv</sub>		0,14	0,13	0,12	0,12	0,12	0,09	MPa	EN 14509	
Reduced long-term shear strenght f <sub>cv</sub>		0,07	0,06	0,06	0,06	0,06	0,05	MPa	EN 14509	
Shear modulus. G <sub>c</sub>		3,5				3,0		MPa	EN 14509	
Compressive strenght f <sub>cc</sub>		0,13						MPa	EN 14509	
Creep coefficient Φ		Φ <sub>2000</sub> =1,4; Φ <sub>100.000</sub> =2,1								
Wrinkling strenght	In span:	external cladding	250	250	250	250	250	250	MPa	EN 14509
		external cladding at increased temp	250	250	250	250	250	250	MPa	EN 14509
		internal cladding	L: 139 G: 83	L: 136 G: 85	L: 134 G: 87	L: 131 G: 87	L: 128 G: 87	L: 128 G: 78	MPa	EN 14509
	Over support:	external cladding	250	250	250	250	250	250	MPa	EN 14509
		external cladding at increased temp	250	250	250	250	250	250	MPa	EN 14509
		internal cladding	L: 125 G: 75	L: 116 G: 72	L: 107 G: 70	L: 99 G: 70	L: 90 G: 70	L: 90 G: 55	MPa	EN 14509
Resistance to point/access loads		No damage of cladding or core. Occasional foot traffic on BTH PU-PIR-R allowed.						-	EN 14509	
Heat conductivity coefficient λ <sub>D</sub>		0,022						W/mK	EN 14509	
Heat transfer coefficient U <sub>d,s</sub>		0,54	0,35	0,27	0,21	0,18	0,14	W/m <sup>2</sup> K	EN 14509	
Water permeability		Class A						m <sup>3</sup> /hm <sup>2</sup>	EN 12865	
Air permeability		NPD						m <sup>3</sup> /hm <sup>2</sup>	EN 12114	
Water vapour permeability		Impermeable						-	EN 14509	
Sound insulation		R <sub>w</sub> ≥25, R <sub>A1</sub> ≥23, R <sub>A2</sub> ≥21						dB	EN ISO 717-1	
Durability		Pass DUR 1						-	EN 14509	

 Signed in the name of  
 manufacturer:  
 Elżbieta Mehring  
 Quality Manager



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