

I. GENERAL CHARACTERISTICS

a. Application

PolTherma TS is a wall sandwich panel with a core made of rigid polyurethane foam PU and it is installed onto the support structure with the use of self-drilling screws (so called visible fastening). It is allowed to install the panels onto the steel, reinforced concrete and wooden structures in both horizontal and vertical layout. PolTherma TS is dedicated as a universal outside wall material in buildings of versatile purposes ranging from agricultural buildings, through warehouses to industrial buildings as well as partition walls and suspended ceilings.

PolTherma TS panels should be used in accordance to a technical design prepared for a particular building, taking into consideration technical parameters of the panels declared by the producer. Application of PolTherma TS must be in compliance with binding regulations and norms, including the guidelines from the legal authorities.

b. Characteristics

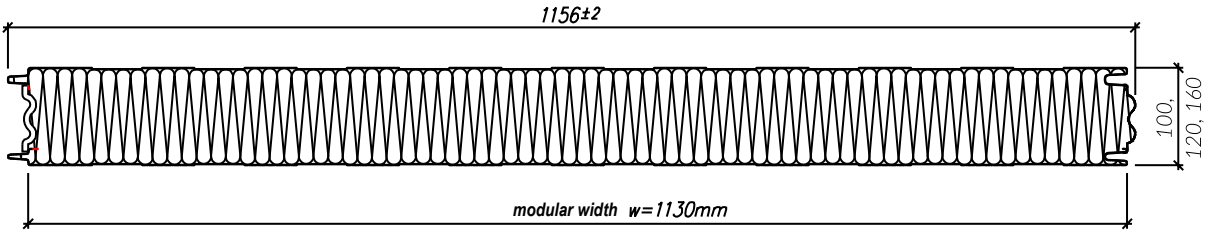
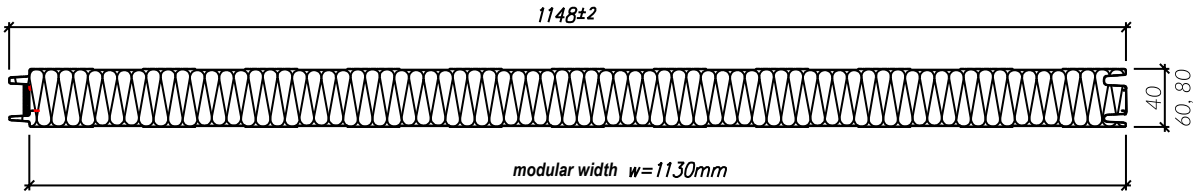
PolTherma TS panels are characterized by very advantageous durability and acoustic parameters, very good thermal insulation and air and water tightness, and easiness in installation in both vertical and horizontal layout. Depending on the thickness of the panel, there are two options regarding the shape of the joint:

- Flat for thicknesses:	40, 60 and 80 mm (TS40, TS60, TS80)
- Double bulge for thicknesses:	100, 120, 160 and 200 mm (TS100, TS120, TS 160, TS200)

II. PHYSICAL PROPERTIES, TECHNICAL DATA

a. Dimensions

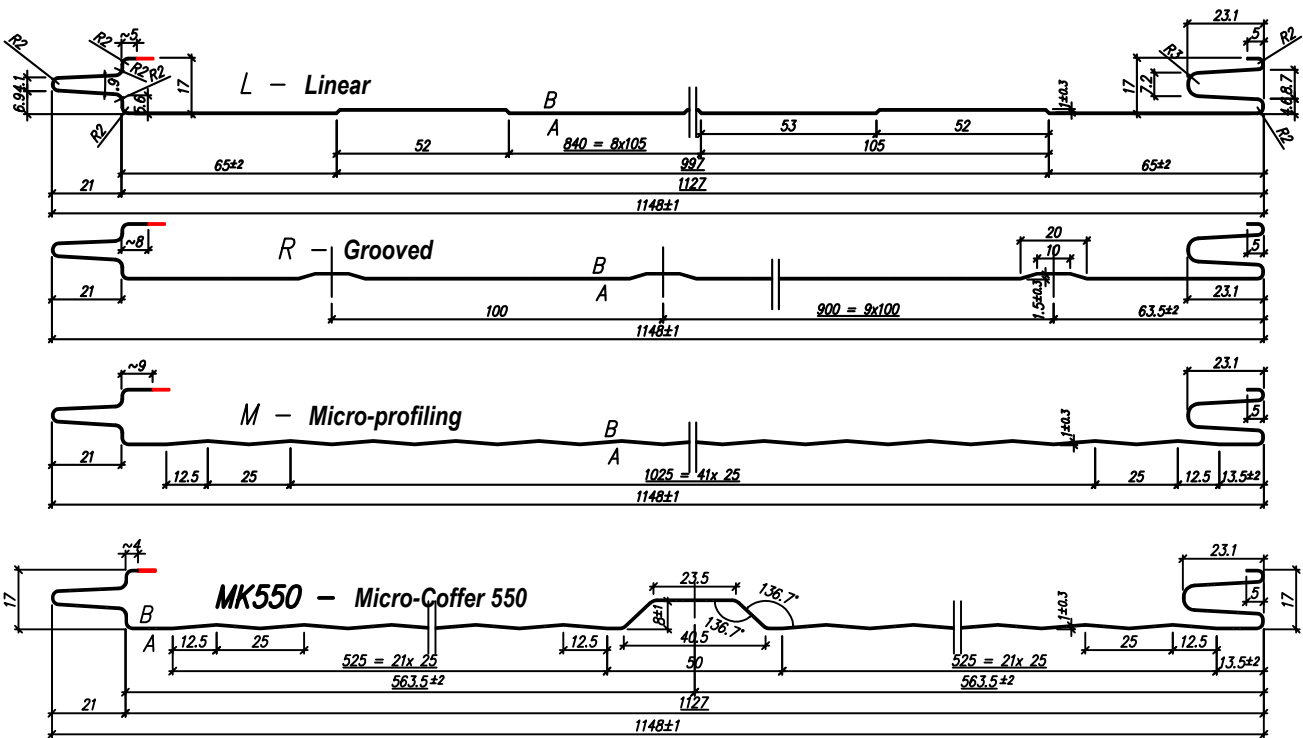
MODULAR WIDTH (COVERING AREA) [mm]:	1130
TOTAL WIDTH [mm]:	1148 (TS40); 1156 (TS60, TS80, TS100, TS120, TS160, TS200)
AVAILABLE LENGTHS [mm]:	Minimum: standard 2800, shorter sections may be cut for an extra fee Maximum: 12000 (for TS40 panel) and 18000 for the remaining thicknesses
AVAILABLE THICKNESSES (CORE) [mm]:	40; 60; 80; 100; 120; 160; 200



b. Outer facing profiling

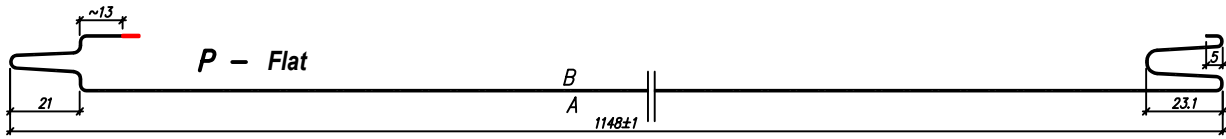
Standard:

- Micro-profiling (M), Linear (L), Grooved (R), Micro-Coffer 550 (MK550)



Option:

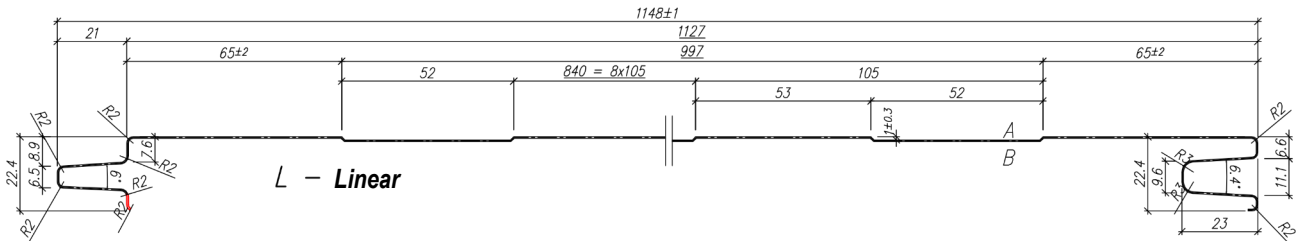
- Flat (P)



c. Inner facing profiling

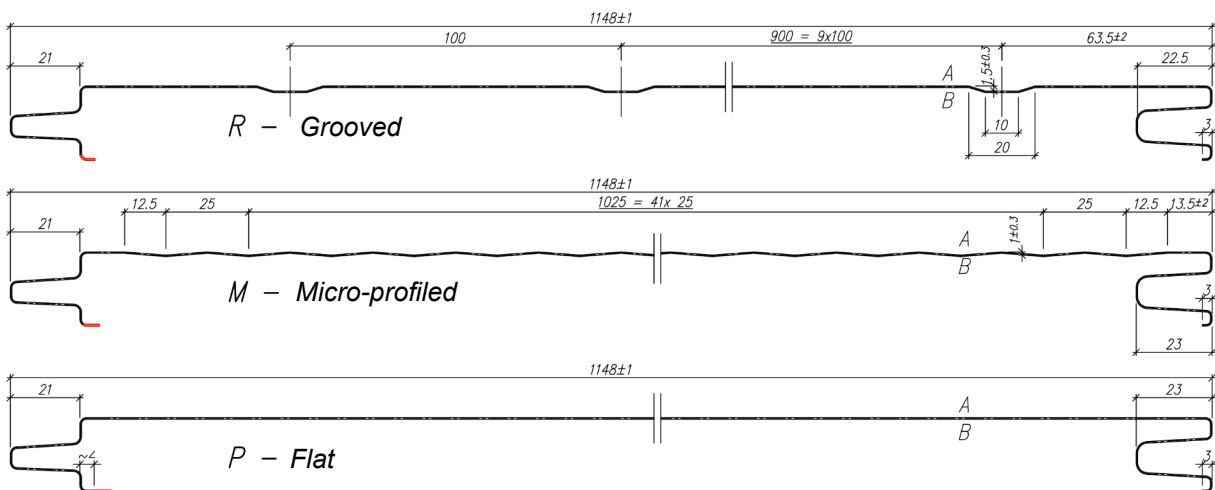
Standard:

- Linear (L)



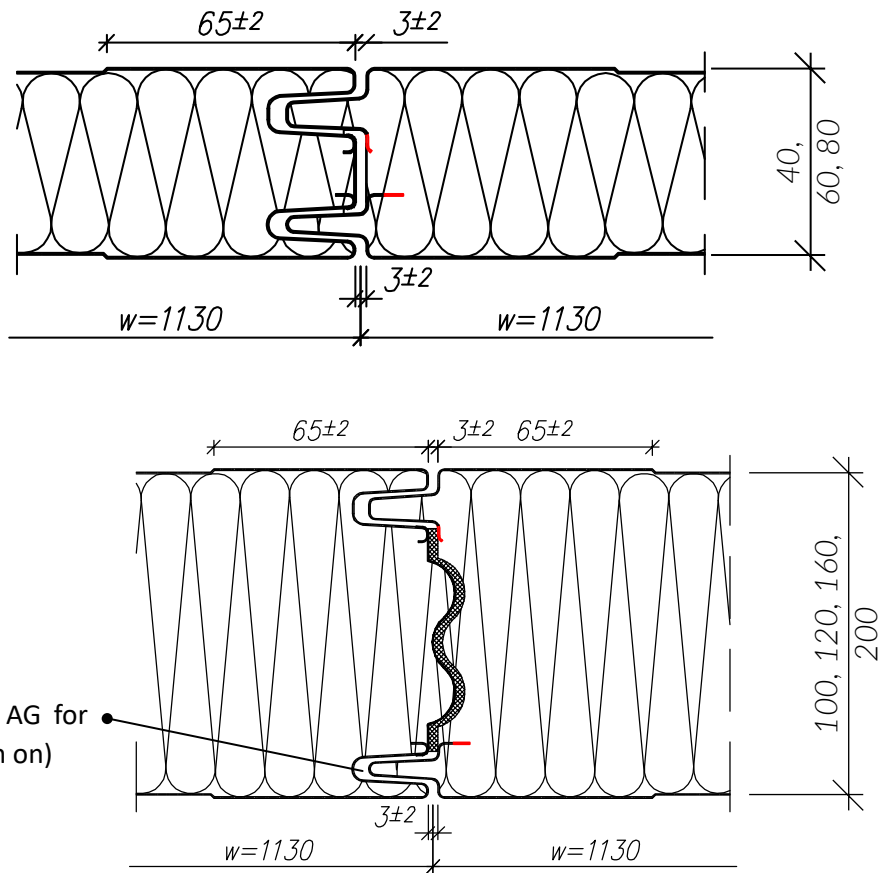
Option:

- Grooved (R), Micro-profiled (M), Flat (P)



d. The panel joint

An aluminum film is applied along one edge of the panel, along the second edge of the panel a polyurethane seal reinforced with an aluminum film is applied.



e. Mass

PANEL THICKNESS [mm]	MASS 1 m ² [kg]
40	9,5
50	9,9
60	10,3
80	11
100	11,8
120	12,6
160	14,1
200	15,6

f. Facings

Steel sheet 0,5 mm thick (inner and outer facing)

g. Core

Rigid PIR foam with declared density $38 \pm 3 \text{ kg/m}^3$ and thermal conductivity coefficient $\lambda_D = 0,022 \text{ W/(m}\cdot\text{K)}$ at $+10^\circ\text{C}$ including aging, according to EN 14509:2013-12

h. Thermo insulation

PANEL THICKNESS [mm]	Thermal transmittance coefficient $U_{d,s} [\text{W}/(\text{m}^2\cdot\text{K})]$ for profiling: M, R, L, P	Thermal transmittance coefficient $U_{d,s} [\text{W}/(\text{m}^2\cdot\text{K})]$ for profiling: K, MK550
40	0,58	0,71
60	0,37	0,42
80	0,28	0,3
100	0,22	0,24
120	0,18	0,20
160	0,14	0,14
200	0,11	0,11

i. Acoustic parameters

REAL ACOUSTIC INSULATION:	$R_w(C; C_{tr}) 26 (-3; -4) \text{ dB}$
SOUND ABSORPTION:	$\alpha_w = 0,15$

j. Tightness

AIR TRANSMITTANCE:	$\leq 0,10 \text{ m}^3/\text{m}^2/\text{h}$
WATERPROOFNESS:	Class A
VAPOR TRANSMITTANCE:	Not transmitted

k. Fire resistance

Partitions built with PolTherma TS panels from 100 mm on received the following classification regarding the fire resistance:

- external walls: EI 30 (i ↔ o) / EW 30 (i ↔ o) max span 7,5 m (horizontal layout)
- partition walls: EI 45-ef (o → i) / EW 30-ef (o → i) max span 7,5 m (horizontal layout)

l. Reaction to fire

B-s2, d0 (40 - 80 mm)

B-s1, d0 (from 100 mm on)

m. Fire spreading rate / Fire resistance of the roof to outside fire

n. Durability

Met for all color groups

o. Corrosive tests

Possible to use in environments A1, A2, A3 inside a building and C1, C2, C3 inside and outside of a building

p. Loads

Load charts have been prepared for all PolTherma TS panels fastened directly onto a support construction with the use of self-drilling screws that go throughout the panel. The self-drilling screws' characteristic load capacity is 2,2 kN/pc. The charts are available on our website www.europanel.pl.

q. Dimension tolerance

THICKNESS:	± 2 mm for thickness up to 100 mm and $\pm 2\%$ for thickness >100 mm
FLATNESS:	$L=0,6/1,0/1,5$ mm for $L=200/400/>700$ mm
LENGTH:	$L=\pm 5/10$ mm for lengths $\leq 3000 / > 3000$ mm
MODULAR WIDTH:	$W3 = \pm 2$ mm
RECTANGULARITY:	$\leq 0,6\% * \text{modular width} = 6,6$ mm
RECTILINEARITY:	1,0 mm/m, max 5,0 mm
LONGITUDINAL BENDS:	2,0 mm/m, max 10 mm
CROSSWISE BENDS:	8,5 mm/m

III. ADDITIONAL INFORMATION

a. Documentation and certificates

Declaration of Performance Properties CE

IV. TECHNICAL DRAWINGS – FLASHINGS AND RECOMMENDED SOLUTIONS

Available on our website www.europanel.pl.