PolTherma TS X

I. GENERAL CHARACTERISTICS

a. Application

PolTherma TS X is a wall sandwich panel with a core made of rigid polyurethane foam PU and it is installed onto the support construction 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 constructions in both horizontal and vertical layout. PolTherma TS X is dedicated as a universal outside wall material in buildings of versatile purposes ranging from agricultural buildings, hrough warehouses to industrial buildings as well as partition walls and suspended ceilings.

PolTherma TS X 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 X must be in compliance with existing regulations and norms, including the legal authorites' guides and requirements.

b. Characteristics

PolTherma TS X panels panels are characterized by very advantageous durability and acoustic parameters, very good, thermo insulation, and air and water tightnes plus easiness in installation in both vertical and horizontal layout.

PolTherma TS X panels are available in vary modular widths and thickness:

- modular width:	1000*, 1100*, 1130*, 1150 (standard width), 1200*
- thicknesses:	40, 60, 80, 100, 120, 140, 160, 180, 200 mm

* optional width, available on individual request

I. PHISICAL PROPERTIES, TECHNICAL DATA

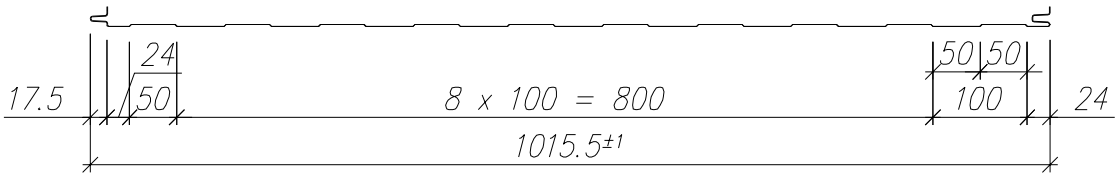
a. Dimensions

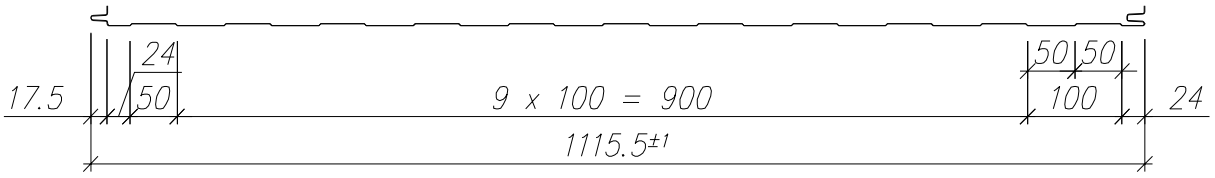
MODULAR WIDTH (COVERING AREA) [mm]:	1000, 1100, 1130, **1150**, 1200
TOTAL WIDTH [mm]	1017 (1000), 1117 (1100), 1147 (1130), **1167 (1150)**, 1217 (1200)
AVAILABLE LENGTHS [mm]:	minimum: standard 2800 (for TS X 40), 2300 (for TS X 60) 2100 for the remaining thicknesses
	maximum: 13 500 (for TS X 40) and 18 500 for the remaining thicknesses
AVAILABLE THICHNESSES (CORE) [mm]	40*; 60; 80; 100; 120; 140, 160; 180, 200

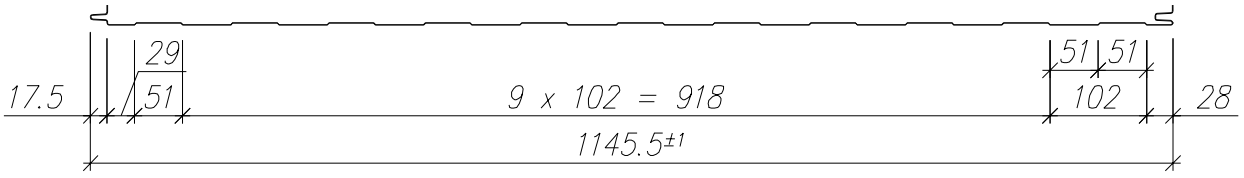
* attention: in case of TS X 40 external and internal facings have thermal bridge in the joint line

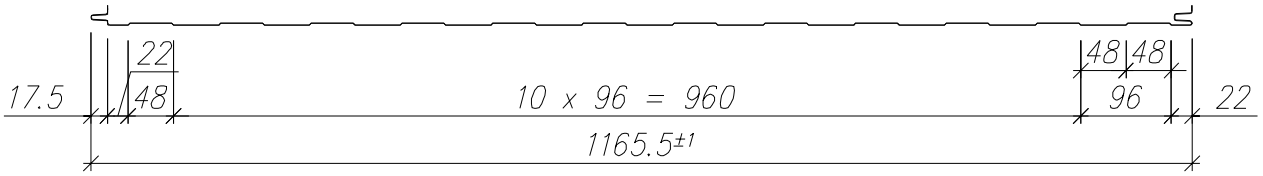
b. Outer facing profiling

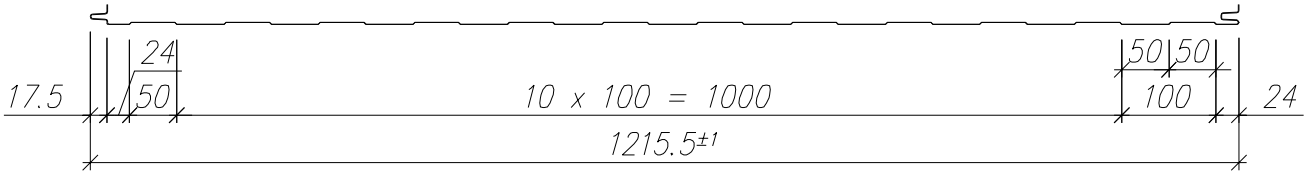
- Linear:



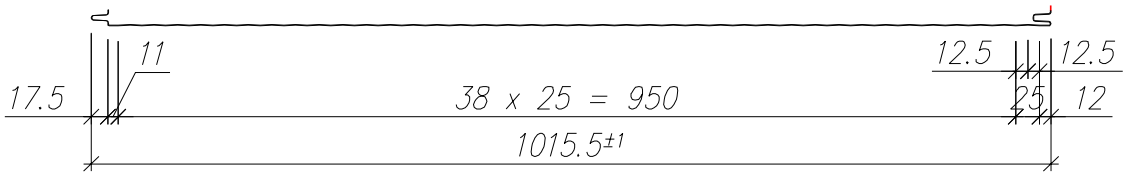


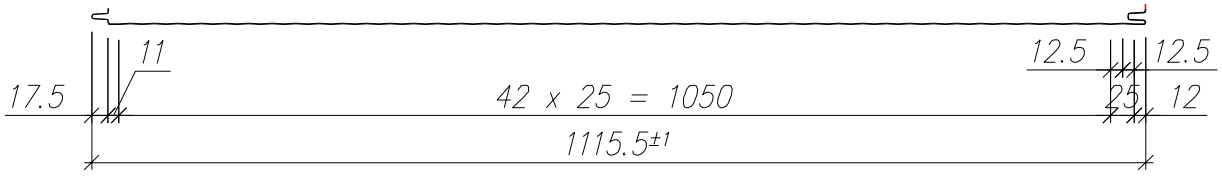






- Micro:


11
17.5
38 x 25 = 950
1015.5±1
12.5
12.5
25
12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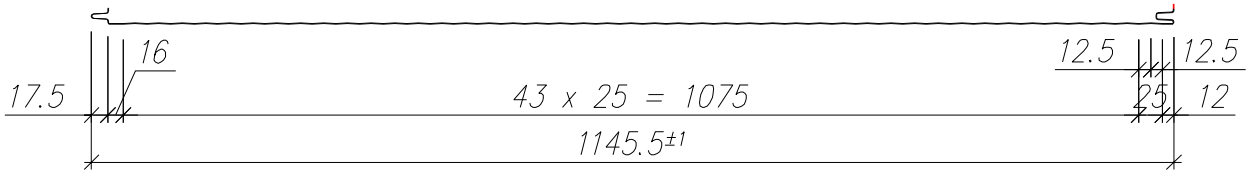
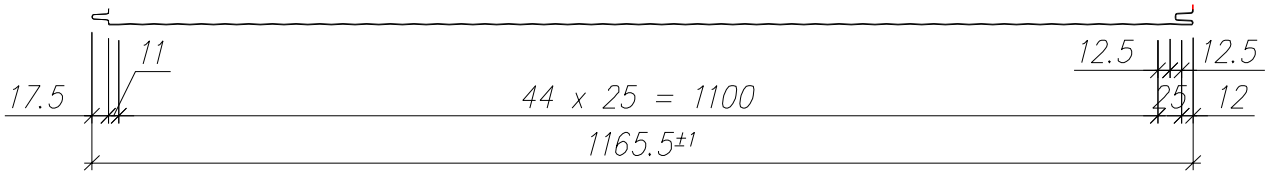
17.5
42 x 25 = 1050
1115.5±1
12.5
12.5
25
12


16
17.5
43 x 25 = 1075
1145.5±1
12.5
12.5
25
12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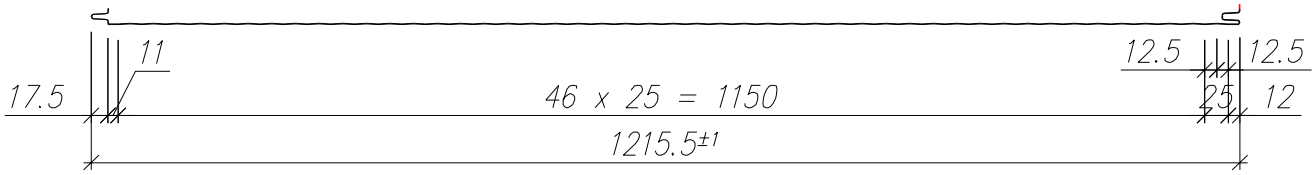
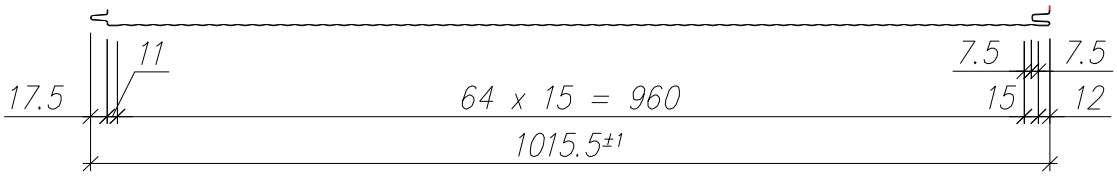
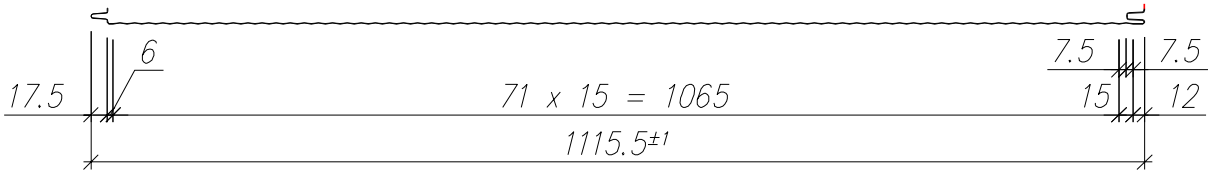
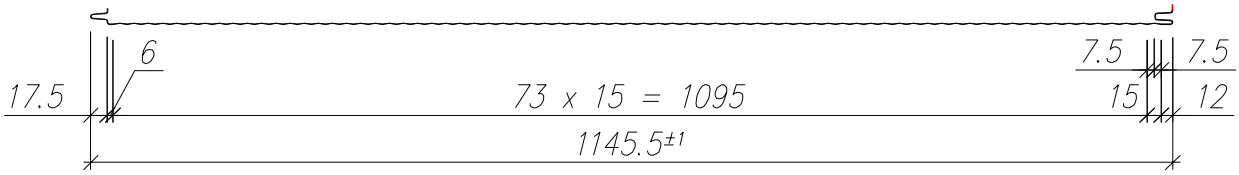
17.5
44 x 25 = 1100
1165.5±1
12.5
12.5
25
12

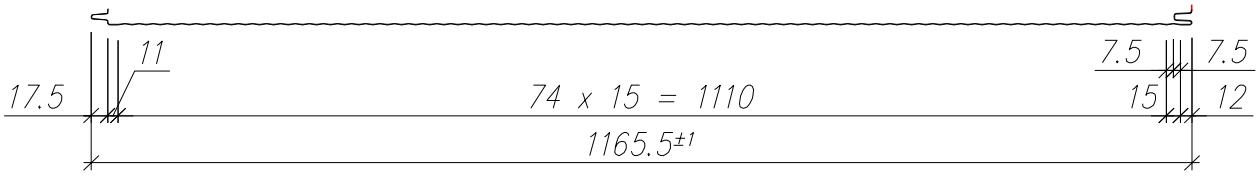

11
17.5
46 x 25 = 1150
1215.5±1
12.5
12.5
25
12

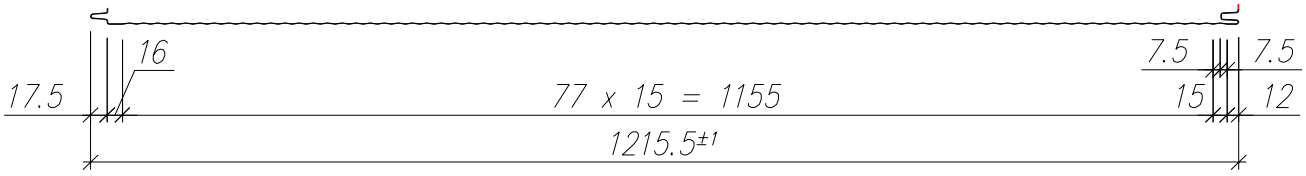
- Super-micro:


11
17.5
64 x 15 = 960
7.5
7.5
15
12
1015.5±1


6
17.5
71 x 15 = 1065
7.5
7.5
15
12
1115.5±1

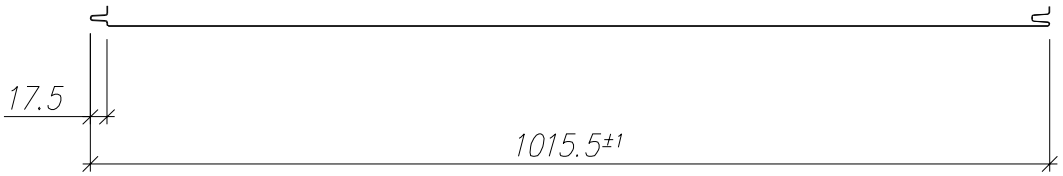

6
17.5
73 x 15 = 1095
7.5
7.5
15
12
1145.5±1

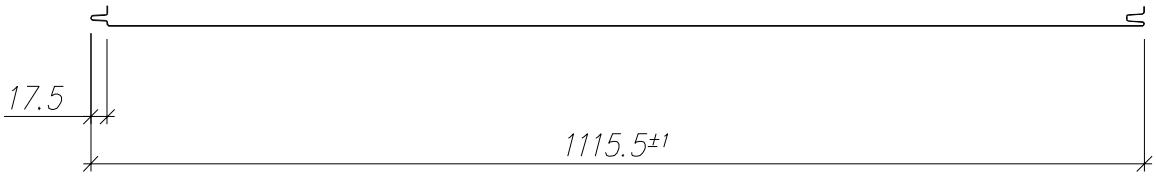

11
17.5
74 x 15 = 1110
7.5
7.5
15
12
1165.5±1

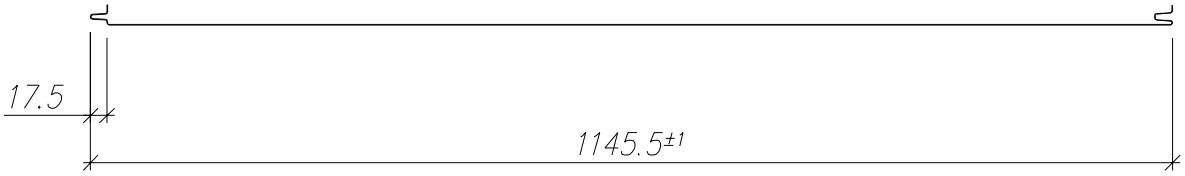

16
17.5
77 x 15 = 1155
7.5
7.5
15
12
1215.5±1

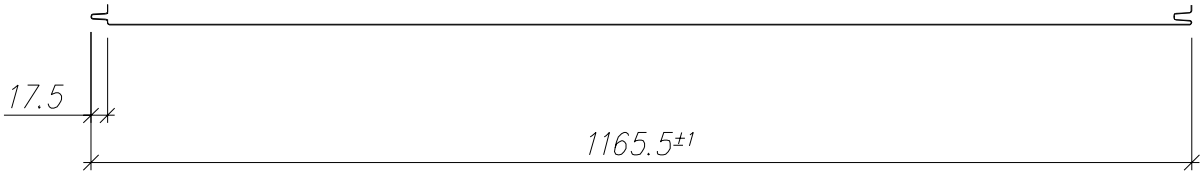
Option for facing thickness ≥ 0,5mm:

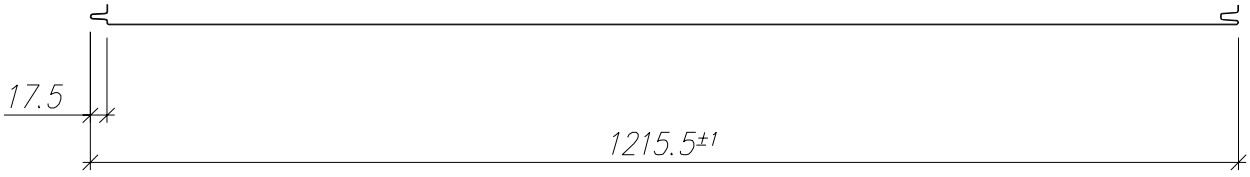
- Flat:





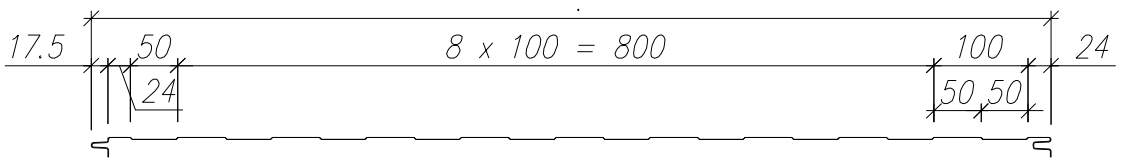


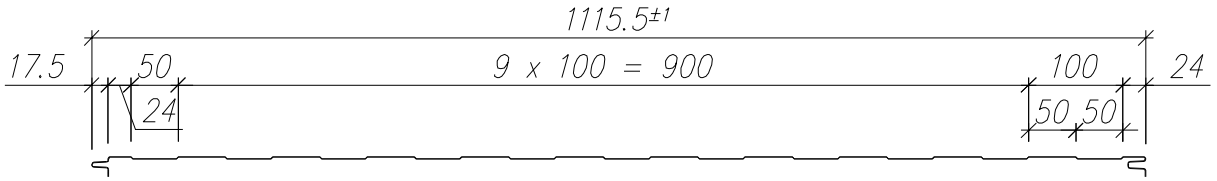


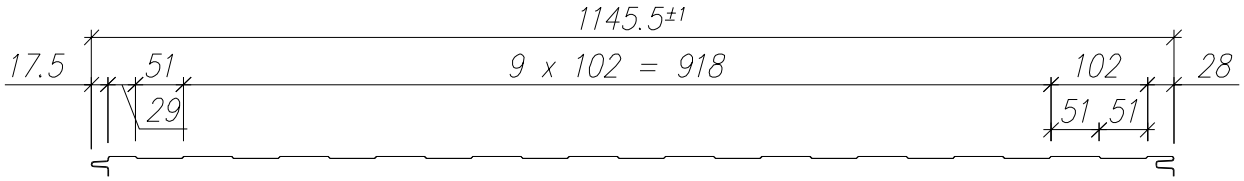


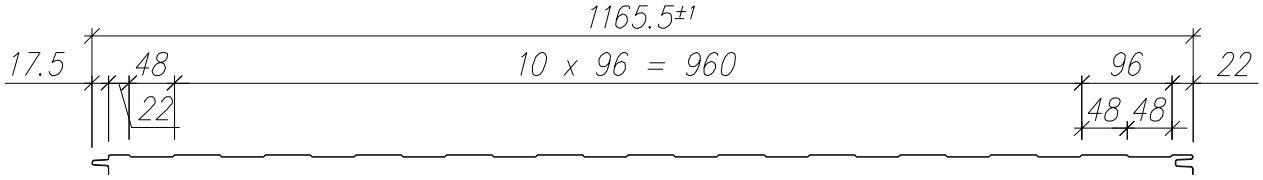
b. Inner facing profiling

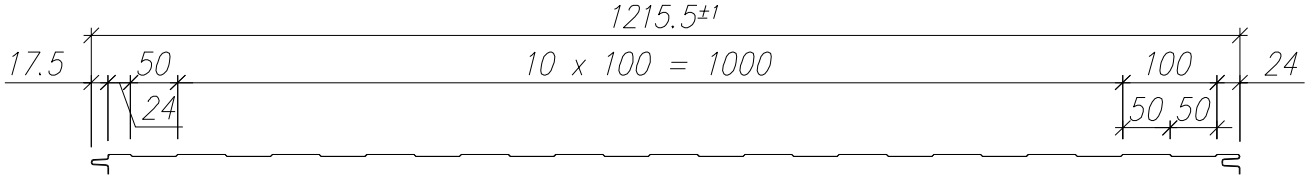
- Linear:



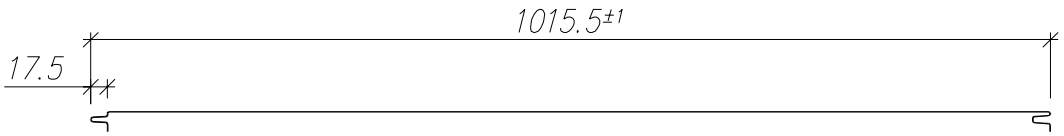


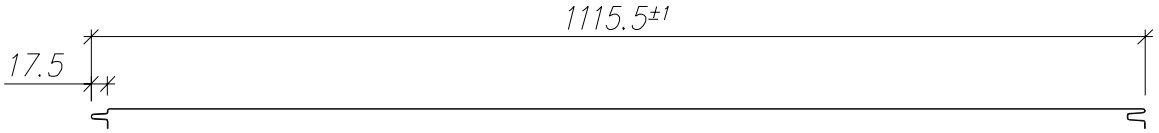


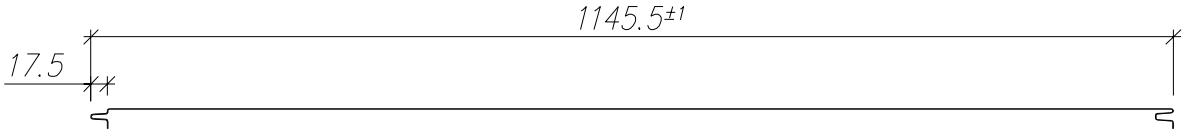


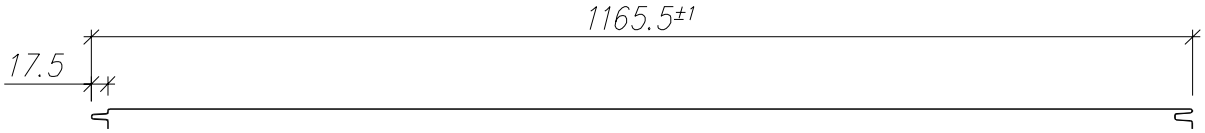


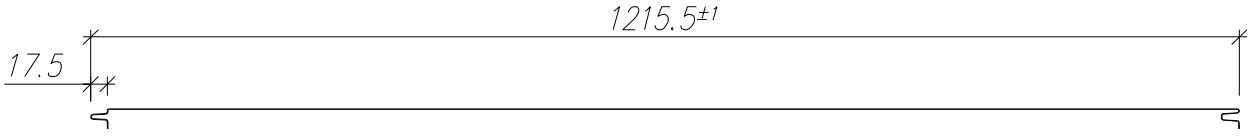
- Flat:











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 m² [kg]
40	9,5
60	10,3
80	11
100	11,8
120	12,6
140	13,3
160	14,1
180	14,8
200	15,6

f. Facings

Galvanized coated steel, S220-S320 GD grade (usually S280 GD) acc. PN-EN 10147 thickness 0,5mm (outer skin) and 0,5mm (inner skin) accordingly to standard PN-EN 10143

g. Core

Rigid PU foam PIR, λ = 0,022 W/(m·K) at +10°C including aging, accordingly to standard PN-EN 14509:2013-12

h. Thermo insulation

PANEL THICKNESS [mm]	U [W/(m²·K)] for profilings: L, M, SM, P
40	0,50
60	0,35
80	0,26
100	0,21
120	0,18
140	0,15
160	0,13
180	0,12
200	0,11

i. Acoustic parameters

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

j. Tightness

AIR PERMABILITY:	≤0,10 $m^3/m^2/h$
WATERPROOFNESS:	A class
VAPOR TRANSMITTANCE:	Impermeable

k. Fire resistance

PolTherma TS X starting from thickness 100 mm is classified as follows:
- external walls EI 30 (i ↔ o) / EW 30 (i ↔ o) span 7,5 m (horizontal layout)
- partitions EI 45-ef (o → i) / EW 30-ef (o → i) span 7,5 m (horizontal layout)

l. Reaction to fire

B-s2, d0

m. Fire spreading rate

NRO

n. Durability

Fulfills for all colour groups

o. Corrosive tests

Basic anticorrosion protection (depending on delivery batch): AZ100, AZ140, AZ150, ZM100, ZM120, Z225, Z275, in accordance with PN-EN 10147.

Possible to use in environments A1, A2, A3 inside the building and C1, C2, C3 inside and outside of a building for standard coatings SP25 acc. PN-EN 10169. Remaining corrosive requirements need other, individual coatings.

p. Loads

Load charts have been prepared for all PolTherma TS X 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 2,2 kN/pc. The charts are available on our website www.europanels.pl.

q. Dimension tolerance

THICKNESS:	± 2 mm for lengths up to 100 mm and +/- 2% for lengths over 100 mm
FLATNESS:	L=0,6/1,0/1,5 mm for L=200/400/>700 mm
LENGTH:	L=±5/10 mm for lengths ≤ 3000/> 3000 mm
MODULAR WIDTH:	W3 = ± 2 mm
RECTANGULARITY:	≤ 0,6%*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