

# 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. PolThermaTSX 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 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 authorities' guides and requirements.

### b. Characteristics

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

PolTherma TS X panels are available in various 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. PHYSICAL PROPERTIES, TECHNICAL DATA

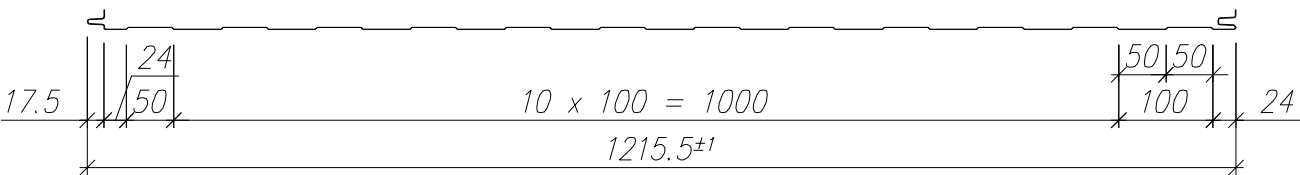
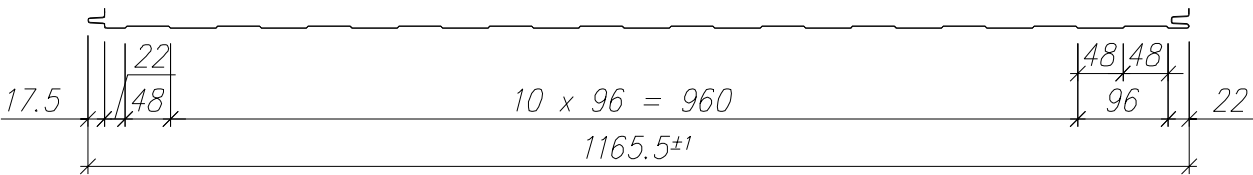
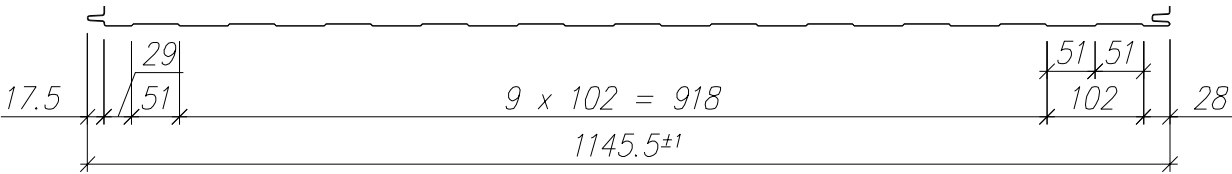
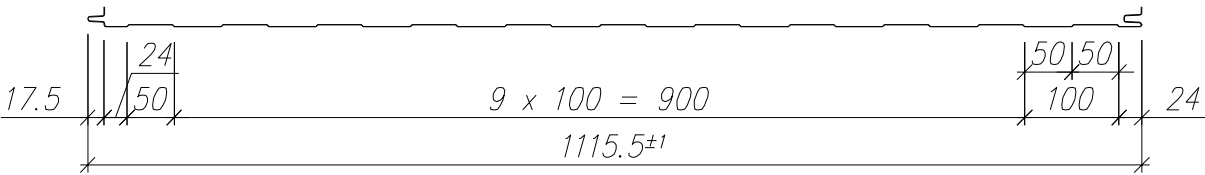
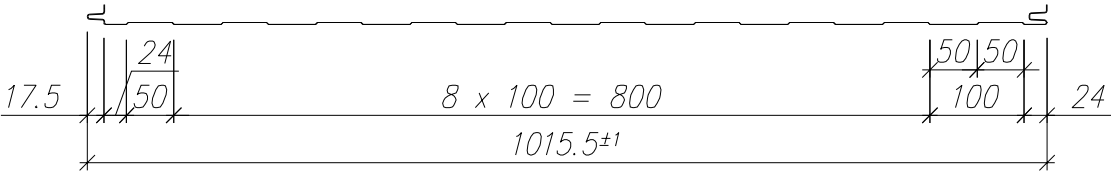
### a. Dimensions

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

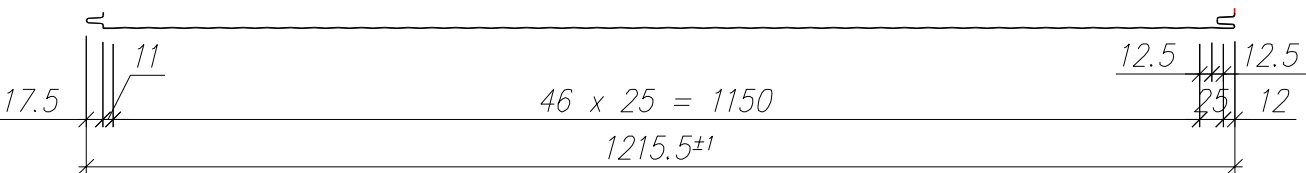
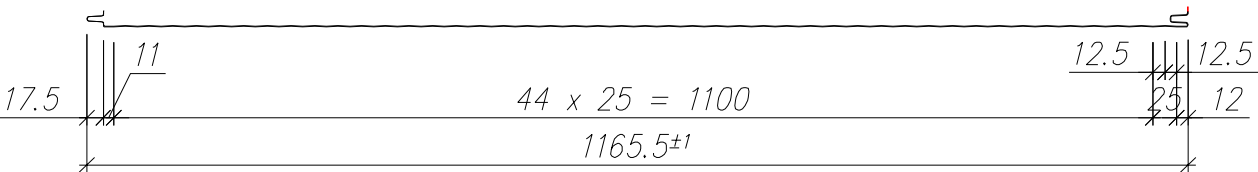
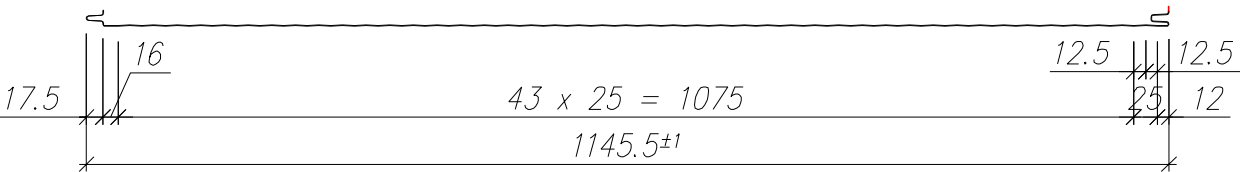
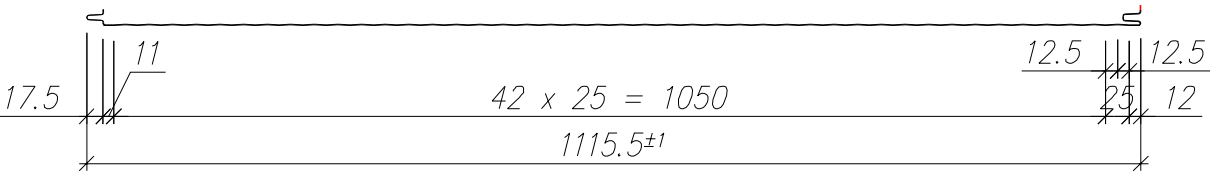
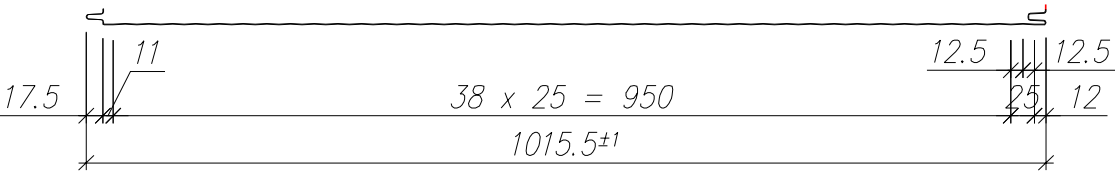
\* attention: in case of TSX40 external and internal facings have thermal bridge in the joint line

b. Outer facing profiling

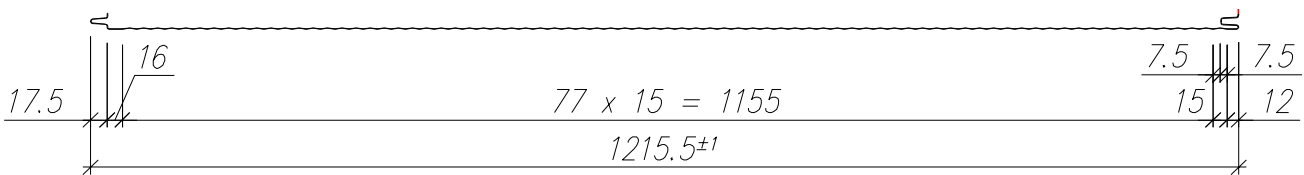
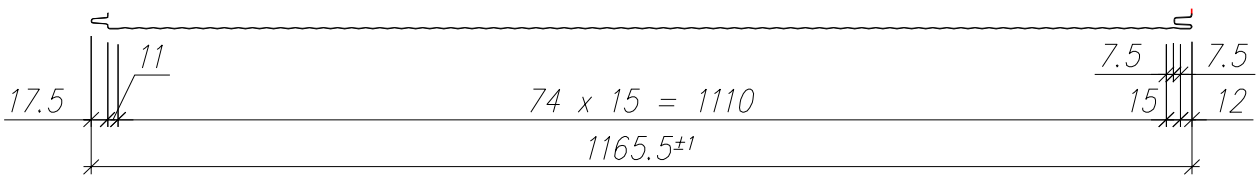
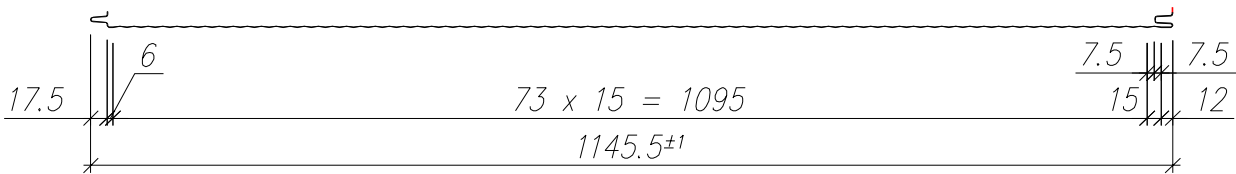
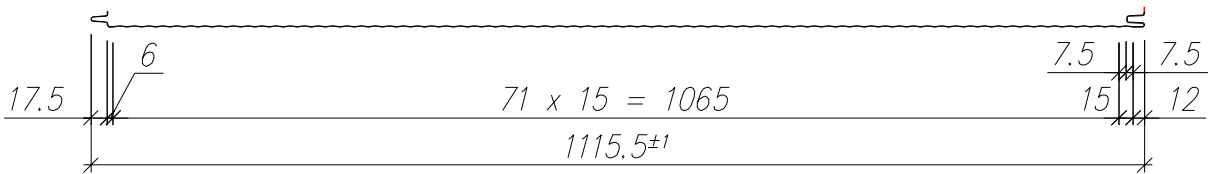
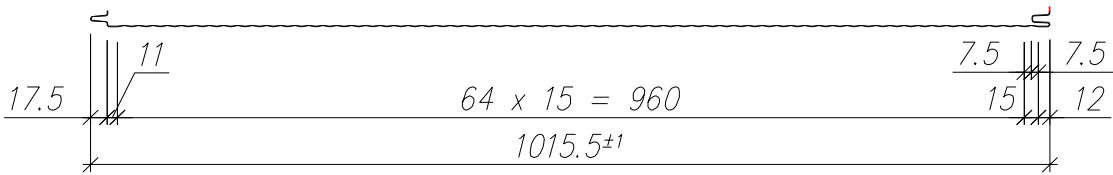
- Linear:



- Micro:

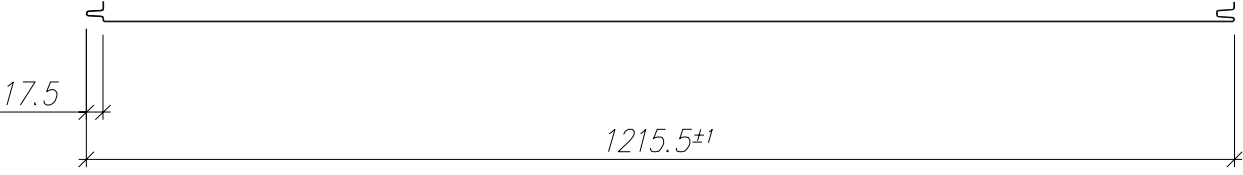
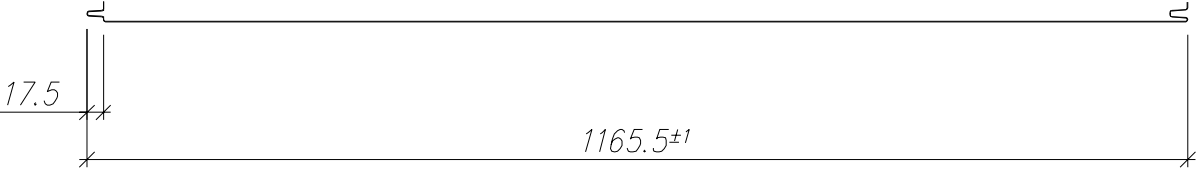
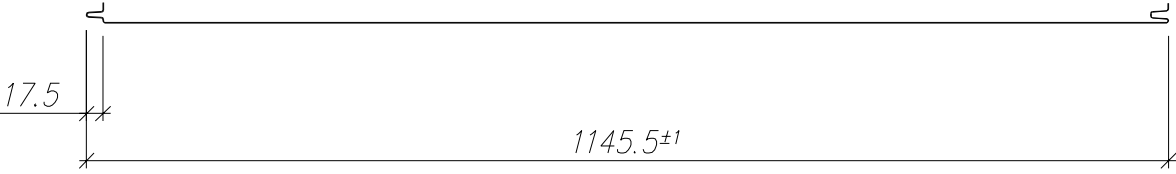
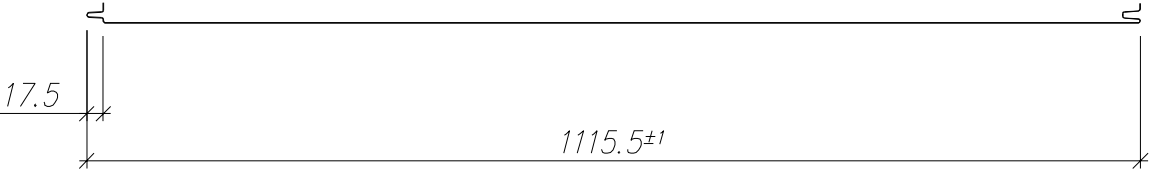
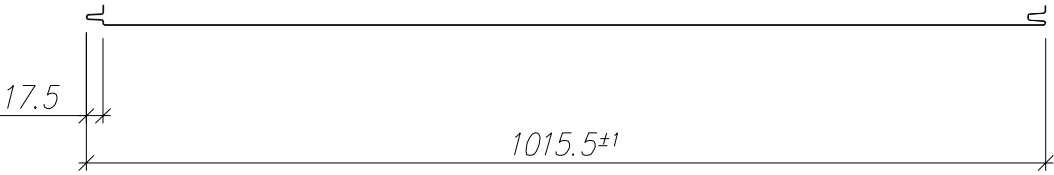


- Super-micro:



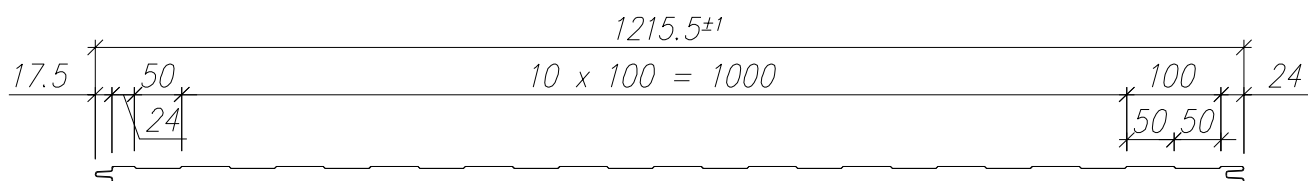
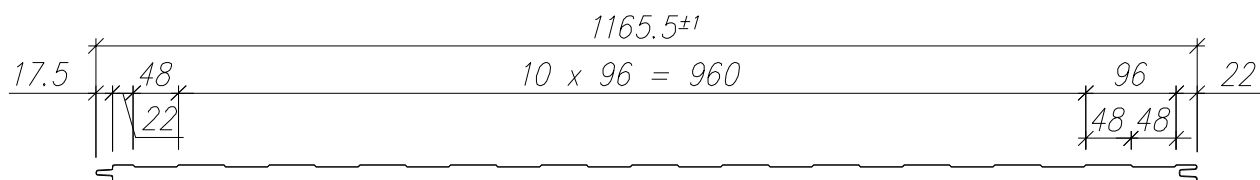
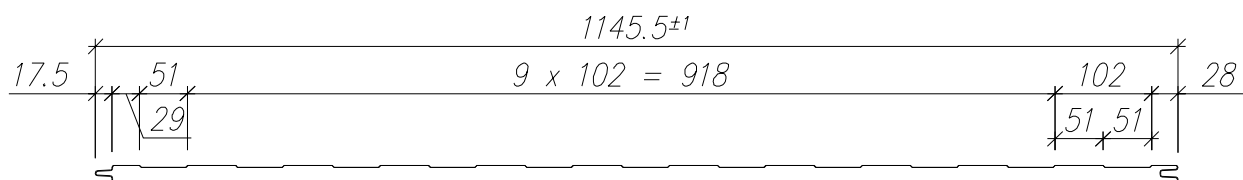
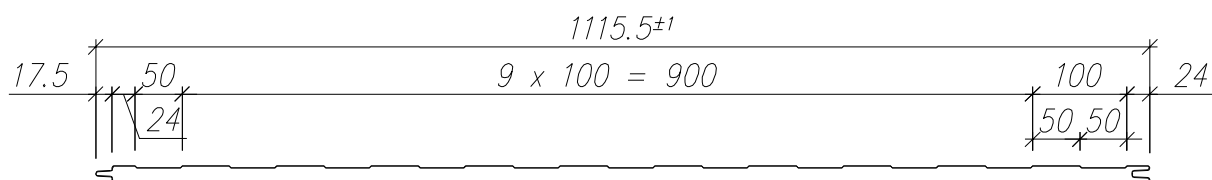
OpÇon for facing thickness  $\geq 0,5\text{mm}$ :

- Flat:

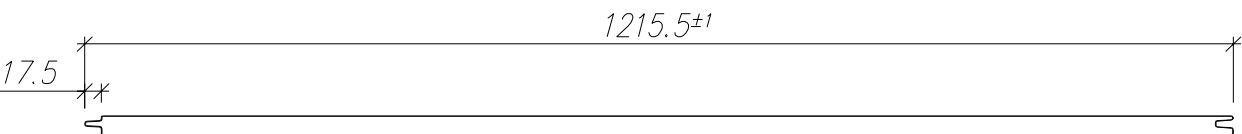
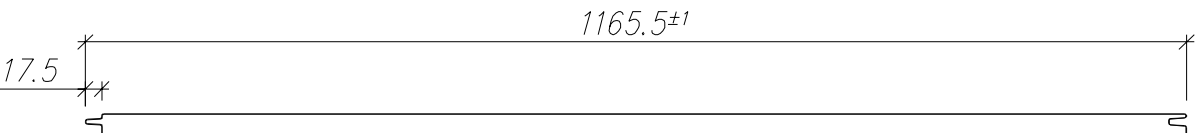
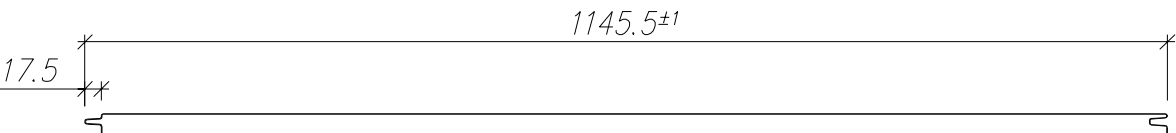
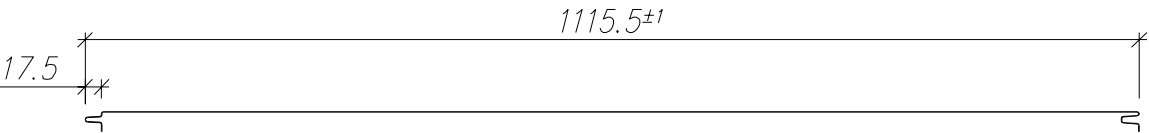
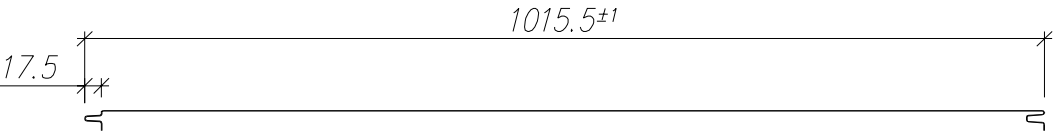


# PolThermaTS X

Technical drawing of a rectangular plate. The overall width is 800, calculated as  $8 \times 100 = 800$ . The overall height is 24. The drawing shows a top view with dimensions: 17.5 on the left, 50 on the top left, 24 on the bottom left, 100 on the top right, and 50, 50 on the bottom right. The plate is divided into sections by dashed lines.



- 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 m <sup>2</sup> [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-S320GDgrade (usually S280GD)acc. PN-EN10147 thickness 0,5mm (outer skin) and 0,5mm (inner skin) accordingly to standard PN-EN 10143

**g. Core**

Rigid PU foam PIR,  $\lambda$  = 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/(m <sup>2</sup> ·K)]<br>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 ABSORPTION:         | $\alpha_w = 0,15$               |

### j. Tightness

|                      |                                             |
|----------------------|---------------------------------------------|
| AIR PERMEABILITY:    | $\leq 0,10 \text{ m}^3/\text{m}^2/\text{h}$ |
| WATERPROOFNESS:      | A class                                     |
| VAPOR TRANSMITTANCE: | Impermeable                                 |

### k. Fire resistance

NPD

### l. Reaction to fire

B-s1, 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.europanel.pl](http://www.europanel.pl).

q. Dimension tolerance

|                     |                                                                           |
|---------------------|---------------------------------------------------------------------------|
| THICKNESS:          | $\pm 2$ mm for lengths up to 100 mm and $\pm 2\%$ for lengths over 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:     | $\leq 0,6\% \cdot \text{modular width} = 6,6$ 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 ProperGres CE