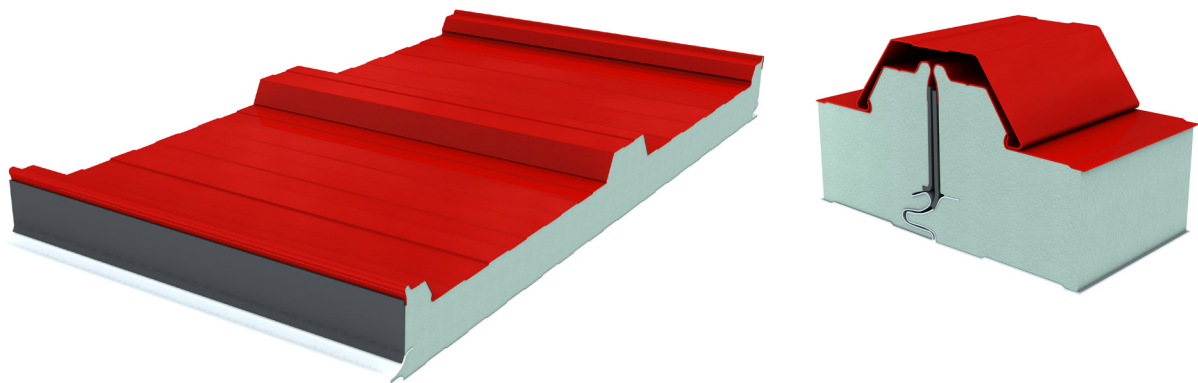




# TZ-C

## HIGH PERFORMANCE INSULATING ROOF PANEL



- Rigid insulation core with excellent thermal performance (thermal conductivity of only 0,023 W/mK for PIR).
- Longitudinal joint designed with cover strip to ensure total watertightness.
- High structural capacity, covering spans up to 6.25 m.
- Structural steel sheets with different options of high durability coatings.
- No water absorption and resistant to biological agents, keeping the panel properties throughout lifespan.
- Guaranteed and certified safety and quality.



# TZ-C Insulating roof panel

## DESCRIPTION AND APPLICATIONS

Sandwich panel for roofs with rigid insulation core and outer faces of structural steel profiled sheet.

High insulation performance and ensured water tightness, thanks to its tongue-and-groove joint design and the continuous top flashing that hides the fixing screw.

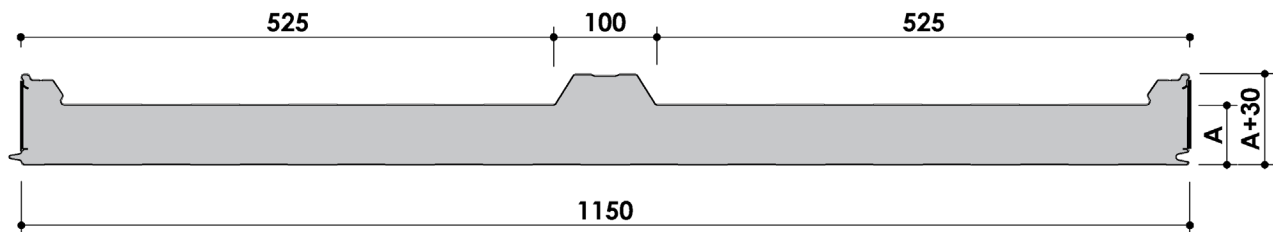
PIR (polyisocyanurate) foam is used as insulating core.

Available in different steel thicknesses, coatings and colours.

Thermal-efficient roofs with high aesthetic value and fast execution for industrial, commercial, agricultural and public buildings.



## PRODUCT DATA



<b>Useful width</b>	1,150 mm						
<b>Manufacturing length</b>	<b>Standard</b>	2.0 a 13.5 m					
	<b>Special</b>	13.5 to 20 m (requires special transport)					
<b>Thermal conductivity (PIR)</b>	0,023 W/mK						
<b>Insulating core density</b>	37 kg/m <sup>3</sup>						
<b>Insulating core thickness (A)</b>	30	40	50	60	80	100	(mm)
<b>Self-weight <sup>1</sup></b>	9,66	10,03	10,40	10,77	11,51	12,25	(kg/m <sup>2</sup> )
	11,11	11,53	11,96	12,39	13,24	14,09	(kg/ml)
<b>Thermal transmittance (PIR) <sup>1</sup></b>	0,71	0,54	0,44	0,36	0,28	0,22	(W/m <sup>2</sup> K)

### NOTES:

(1) For 0.5/0.5 mm plates (int/ext).

(2) Thermal transmittance determined according to EN 14509:2013.

# Insulating roof panels **TZ-C**

## COMPONENTS

### Insulating core

Rigid polyisocyanurate (PIR) foam, continuously injected.

### Panel skins

Cold-formed steel sheet, grade S220GD from quality-certified structural steel coil.

Upper face with three trapezoidal-shaped ribs, slightly profiled lower face.

Standard sheet thicknesses: 0.5 mm (other thicknesses available on request).

Hot dip galvanized sheet according to EN 10346:2015.

### Coatings

The TZ-C panel can be manufactured with different available coatings to ensure maximum durability, depending on the environment and the intended conditions of use:

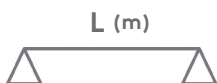
- Polyester or Polyester plus lacquered (25  $\mu$ )
- Granite HDS (35  $\mu$ ) or HDX (55  $\mu$ )
- PVDF / Polyvinylidene fluoride (35  $\mu$ )
- PET (50  $\mu$ ) (only for inside face of the panel)

## MAXIMUM ALLOWABLE SPANS

The following tables show the maximum distances between supports (m) as a function of the panel thickness (mm) and the uniformly distributed load (daN/m<sup>2</sup>) in the SLS.

The mechanical performance of the panel has been determined by structural tests. Contact the Technical Department for load tables in the ULS.

### SINGLE SPAN



Thickness (mm)	Pressure loads (daN/m <sup>2</sup> )						
	50	75	100	125	150	175	200
30	3.50	3.00	2.60	2.30	2.10	1.90	1.80
40	3.80	3.30	2.90	2.60	2.40	2.20	2.10
50	4.10	3.60	3.20	2.90	2.70	2.50	2.40
60	4.40	3.90	3.50	3.20	3.00	2.80	2.70
80	5.30	4.60	4.20	3.90	3.65	3.50	3.35
100	5.60	5.00	4.45	4.05	3.75	3.50	3.35

NOTE: Maximum deflection  $\leq L/200$ .

1 daN/m<sup>2</sup>  $\approx$  1 kg/m<sup>2</sup>

### TWO SPANS



Thickness (mm)	Pressure loads (daN/m <sup>2</sup> )						
	50	75	100	125	150	175	200
30	4.00	3.50	3.00	2.70	2.40	2.20	2.00
40	4.30	3.80	3.30	3.00	2.70	2.50	2.30
50	4.60	4.10	3.60	3.30	3.00	2.80	2.60
60	4.90	4.40	3.90	3.60	3.30	3.10	2.90
80	6.00	5.25	4.80	4.45	4.15	3.95	3.80
100	6.25	5.62	5.15	4.65	4.33	4.05	3.80

NOTE: Maximum deflection  $\leq L/200$ .

1 daN/m<sup>2</sup>  $\approx$  1 kg/m<sup>2</sup>



# TZ-C Insulating roof panel

## REACTION TO FIRE

### TZ-C PIR panel:

Euroclass B-s1,d0\* + BRoof (t1)-Roof fire.

La reacción al fuego ha sido determinada mediante ensayos en laboratorio (norma UNE-EN 13501-1:2019).

The TZ-C panel with PIR insulation core has obtained the best possible classification for an organic material (hardly combustible product with very little contribution of smoke and no production of flammable droplets).

(\* ) Tested under the name "TZ-C PANEL"

## QUALITY AND MANUFACTURING REGULATIONS

### Guaranteed and certified quality

The TZ-C panel is manufactured with the highest quality raw materials using automated and constantly monitored C.I.M manufacturing lines and is subject to strict quality control to ensure compliance with Kingspan's high quality standards. The panel is subjected to flexural, compression and tensile tests, thermal conductivity, core density, accelerated aging and dimensional controls, among others.

The Kingspan Integral Quality Management System, according to ISO 9001, is audited and certified by AENOR and IQNet.

### Steel sheet certificates

Steel used in accordance with EN 10346:2015 (galvanized) and EN 10169:2022 (organic coatings).

### TZ-C Panel certificates

CE marking according to EN 14509:2013.

Product certified with the "N" quality assurance stamp of AENOR.



## OTHER FEATURES

### Water absorption

The insulation core of the panel does not absorb water, thus maintaining its thermal performance over its entire life. Therefore, it can be installed in adverse weather conditions.

### Water tightness

The carefully designed tongue-and-groove design of the hidden joints of the panel ensures absolute watertightness against rainwater.

### Sustainability

Both the steel and its metallic and organic coatings are free from SVHC ("Substances of very high concern"), in accordance with the requirements of the European REACH regulation.

Kingspan | Teczone's Environmental Management System (ISO 14001) and the Occupational Safety and Health System (ISO 45001) are certified by AENOR and IQNet.

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