

## R4 Roof Panel



### Product Description

It is the first, single and real capped sandwich panel produced in Turkey. The greatest advantage of the R4 capped panel is that the panel link elements are protected from external factors thanks to the cap profile that covers the panel connection points and the prevention of the water leakage problems that can be experienced over time in connecting components. Also the ability to make the cap profiles in different colors by preference provides an advantage for appearance. By using the R4 panels, roofs with a 5% gradient can be built; while the ability to cover the connecting components makes them usable for facade paneling.

### Production Plant

İstanbul

### Product Application

- Industrial Buildings
- Military Buildings
- Public Buildings
- Agricultural Buildings
- Sports Facilities
- Construction Site Buildings
- Silos
- Hypermarkets
- Shopping Centers
- Storehouse Halls
- Administrative Buildings

and all other concrete structures with steel or prefabricated load bearing systems.

## Performance Advantages

Best heat insulation values.

Fast and problem-free assembly saves both time and labor.

PIR does not keep water within its body and it does not accommodate bacteria and insects.

It has an environmentally friendly core filling.

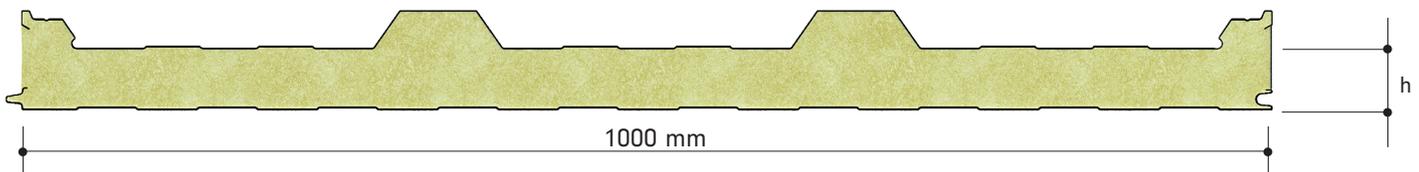
The colorful surface does not require additional coating like plaster or paint.

Color can be selected from the RAL catalogue.

There are surface paint options (Polyester, PvdF, Plastisol, PVC) suitable to the place of use.

Usable as a roof cover for minimum 5% slope.

### Measurement



h: 40-50-60-80-100 mm

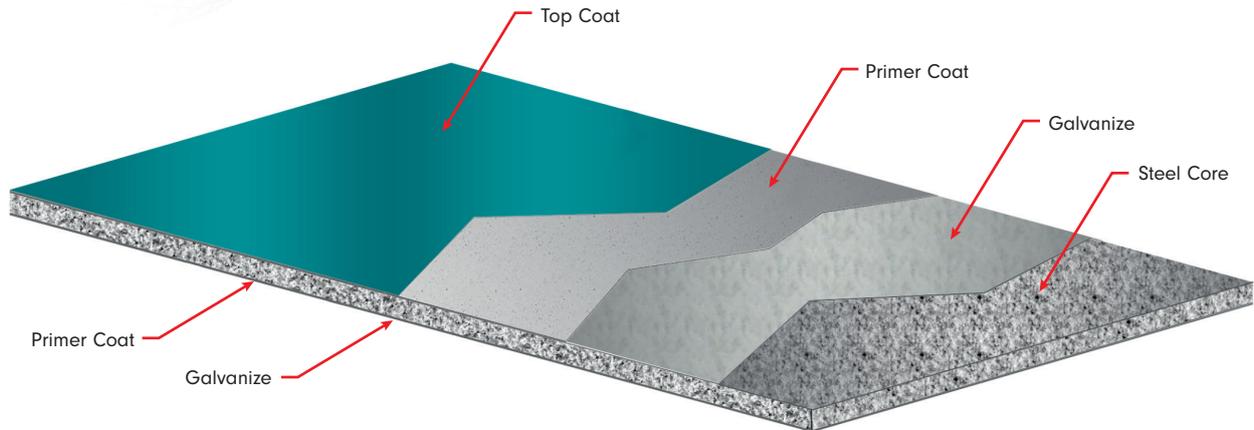
<b>Favourable Width</b>	1000 mm
<b>Minimum Length</b>	3 meters
<b>Maximum Length</b>	Depends on Transport Conditions

### SmartCore - PIR Elite - PIR



<b>Density (EN 1602)</b>	PIR: 40 (±2) kg/m <sup>3</sup> & PIR Elite-SmartCore: 41 (±2) kg/m <sup>3</sup>
<b>Thickness</b>	40-50-60-80-100 mm
<b>Thermal Conductivity (EN 13165)</b>	PIR Elite-PIR: 0,022-0,024 & SmartCore: 0,019 W/mK
<b>Dimensional Stability (EN 13165)</b>	Level DS (TH) 11
<b>Reaction to Fire (13501)</b>	SmartCore-PIR Elite: B-s1,d0 & PIR: B-s2,d0
<b>Water Absorption (EN ISO 354)</b>	By Volume 2% (168 hours)
<b>Closed Cell Percentage (EN 14509)</b>	%95
<b>Vapour Diffusion Resistance (EN 12086)</b>	30-100
<b>Heat Resistance</b>	-200 /+110 °C

## Metal Surfaces



## Prepainted Galvanized Steel Surface

<b>Type</b>	Prepainted Galvanized Steel
<b>External Facing Thickness</b>	0,35-0,80 mm
<b>Internal Facing Thickness</b>	0,35-0,80 mm
<b>Thickness Tolerance (EN 10143)</b>	Nominal
<b>Steel Quality (EN 10327)</b>	Dx51 D+Z Prepainted Galvanized Steel (last coat polyester paint on primer)
<b>Paint Type</b>	Polyester, PvdF, Plastisol, PVC

## Load Bearing Tables

PPGS	PPGS	Double Span					
		PUR-PIR (mm)	150 cm	200 cm	250 cm	300 cm	350 cm
External Sheet Thickness (mm)	Internal Sheet Thickness (mm)						
0,5	0,4	40	399	197	114	73	50
0,5	0,4	50	462	240	146	97	67
0,5	0,4	60	522	283	178	121	87
0,5	0,4	80	645	370	244	173	129
0,5	0,4	100	768	459	312	227	172

Load: kg/m<sup>2</sup> • Deflection: L/200 • PPGS: Prepainted galvanized sheet

## Thermal Conductivity Values

Panel Thickness	U Thermal Conductivity (W/m <sup>2</sup> K)	R Thermal Conductivity (m <sup>2</sup> K/W)	R Thermal Conductivity (ft <sup>2</sup> °F h/Btu)
40 mm	0,550	1,818	11,324
50 mm	0,440	2,273	12,905
60 mm	0,367	2,727	15,485
80 mm	0,275	3,636	20,647
100 mm	0,220	4,545	25,809

## Mechanical Properties

<b>Steel Surface Yield Strength</b>	min. 220 N/mm <sup>2</sup>
<b>Shear Strength of Core Material</b>	min. 0,11 Mpa
<b>Shear Modulus of Core Material</b>	min. 1,5 Mpa
<b>Compressive Strength of Core Material</b>	min. 0,095 Mpa
<b>Yield Coefficient</b>	t=100.000 hour (Free Load): 7,0 t=100.000 hour (Snow Load): 2,4
<b>Sheer Strength After Long-Continued Loading</b>	t: 1.000 saat min. 35% t: 2.000 saat min. 30% t: 100.000 saat min. 7%
<b>Bending Moment Capacity in Span</b>	min. 2,5 KNm/m (Upwards) min. 1,5 KNm/m (Downwards)
<b>Torsion Stress in Span</b>	min. 100 MPa (Reverse) min. 115 MPa (Straight)

According to TSE EN 14509

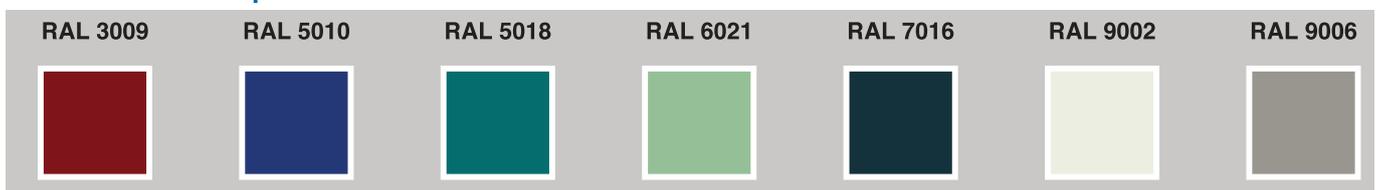
## Tolerances

Panel Length	Panel Thickness	Panel Cover Width	Rectangularity
If L ≤ 3000 mm, ± 5mm If L > 3000 mm, ± 10mm	D ≤ 100 mm ± 2 mm	± 2mm for all profiles	0.6% of s ≤ nominal cover

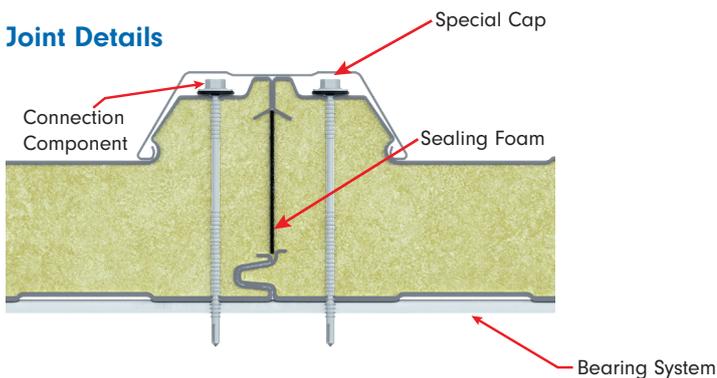
## Standard Package

Thickness (mm)	30	40	50	60	70	80
Number	22	20	16	14	12	10

## Standard Colour Options



## Joint Details



## Transportation and Protection of Sandwich Panel

