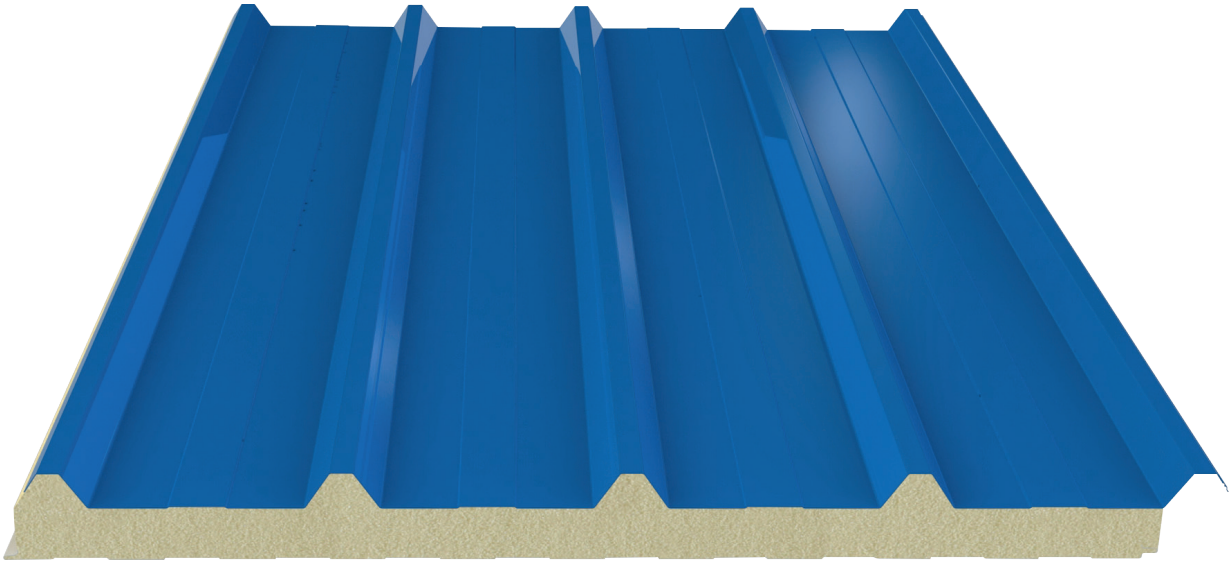
N5 Roof Panel



Product Information

It is a five-indented lateral connected sandwich panel. Roofs with a 10% gradient can be covered. Its biggest advantage is that it enables fast assembly thanks to lateral connected panel connection. This product enables wide gaps to be passed safely with its indented form.

Production Plant

Istanbul, Iskenderun, Balıkesir

Product Application

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

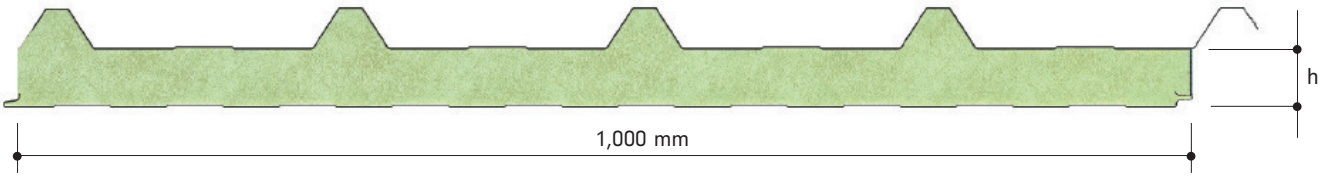
and all other concrete structures with steel or prefabricated load bearing systems.

EN.PRR.N5.03

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 10% slope.

Measurements



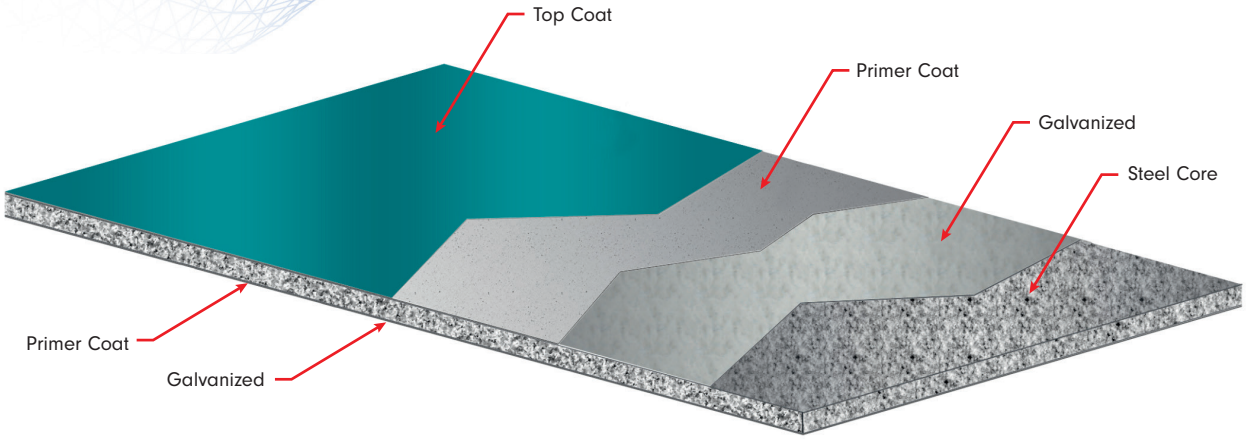
h: 30-40-50-60-80-100-120-160 mm

Favorable Width	1,000 mm
Minimum Height	3 meters
Minimum Width	Depends on the transport conditions.

SmartCore – PIR Elite – PIR

Density (EN 1602)	PIR: 40 (± 2) kg/m³ & SmartCore-PIR Elite: 41 (± 2) kg/m³
Thickness	30-40-50-60-80-100-120-160 mm
Thermal Conductivity (EN 13165)	PIR Elite-PIR: 0.022-0.024 & SmartCore: 0.018-0.019 W/mK
Dimensional Stability (EN 13165)	Level DS (TH) 11
Reaction to Fire (EN 13501)	PIR Elite: B-s1,d0 & PIR: B-s2,d0
Water Absorption (EN ISO 354)	By Volume 2% (168 hours)
Closed Cell Rate (EN 14509)	95%
Vapour Diffusion Resistance (EN 12086)	30-100
Heat Resistance	-200/+110 °C

Steel Surfaces



Prepainted Galvanized Steel Structure

Type	Prepainted Galvanized Steel Structure
External Facing Thickness	0.35-0.80 mm
Internal Facing Thickness	0.35-0.80 mm
Thickness Tolerance (EN 10143)	Nominal
Steel Quality (EN 10327)	Dx51 D+Z Prepainted Galvanized Steel (last coat polyester paint on primer)
Paint Type	Polyester, PvdF, Plastisol, PVC

Load Bearing Tables

BGS	BGS	Double Span					
External Sheet Thickness (mm)	**Internal Sheet Thickness (mm)**	**PIR (mm)**	**150 cm**	**200 cm**	**250 cm**	**300 cm**	**350 cm**
0.5	0.4	30	355	164	91	56	38
0.5	0.4	40	437	217	127	82	56
0.5	0.4	50	501	261	160	106	75
0.5	0.4	60	562	304	195	131	95
0.5	0.4	80	684	392	259	184	137
0.5	0.4	100	808	481	327	238	181
0.5	0.4	120	932	571	396	293	227

Load: kg/m² • Deflection: L/200 • PPGS: Prepainted galvanized sheet

Thermal Conductivity Values

Panel Thickness	U Thermal Conductivity (W/m²K)	R Thermal Conductivity (m²K/W)	R Thermal Conductivity (ft² °F h/Btu)
30 mm	0.733	1.364	7.743
40 mm	0.550	1.818	10.324
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
120 mm	0.183	5.445	30.971
160 mm	0.138	7.273	41.295

Mechanical Properties

Steel Surface Yield Strength	min. 220 N/mm^2
Shear Strength of Core Material	min. 0,11 MPa
Shear Modulus of Core Material	min. 2,0 MPa
Compressive Strength of Core Material	min. 0,095 Mpa
Yield Coefficient	t=100,000 hrs (Free Load): 7.0 t=100,000 hrs (Snow Load): 2.4
Sheer Strength After Long-Continued Loading	t:1.000 hours min. 0,04 MPa t:2.000 hours min. 0,03 MPa t:100.000 hours min. 0,01 MPa
Bending Moment Capacity in Span	min. 2.3 KNm/m (Upwards) min. 2.0 KNm/m (Downwards)
Torsion Stress in Span	min. 100 MPa (Downwards) min. 115 MPa (Upwards)

According to TSE EN 14509.

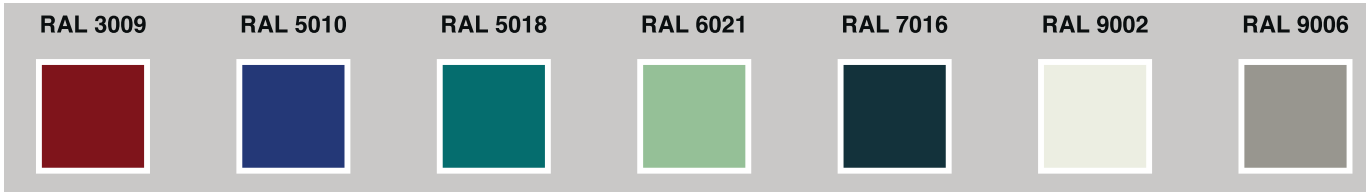
Tolerance Values

Panel Length	Panel Thickness	Panel Cover Width	Rectangularity
If L < = 3,000 mm ± 5 mm If L > 3,000 mm ± 10 mm	D ≤ 100 mm ±2 mm	± 2 mm for all profiles	0.6% of s ≤ nominal cover thickness (Width x 0.006)

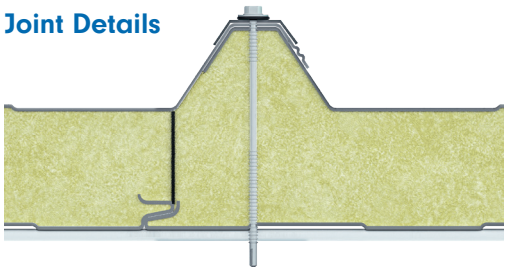
Standard Package

Thickness (mm)	30	40	50	60	80	100	120	160
Number	22	20	18	14	10	9	8	6

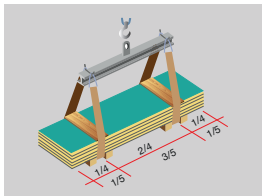
Standard Colour Options



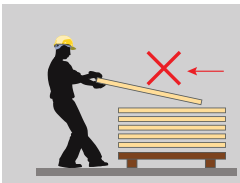
Joint Details



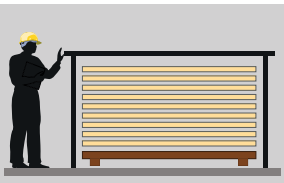
Transportation and Protection of Sandwich Panel



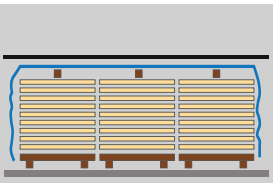
During hoisting, take precaution for the sling.



Do not drag panels in a pile, or on the roof purlins. Lift panels from both ends when moving or laying in place.



Panels to be strored on site for long periods should be stacked in covered areas. Wherever possible, always place stacks preferably on wooden wedges, against ground water.



For shorter periods, stacks should be arranged on sloppy areas with a simple scaffolding and polyethilen cover, leaving space for ventilation. Place stacks on a simple wedge.

Do not walk on panels.