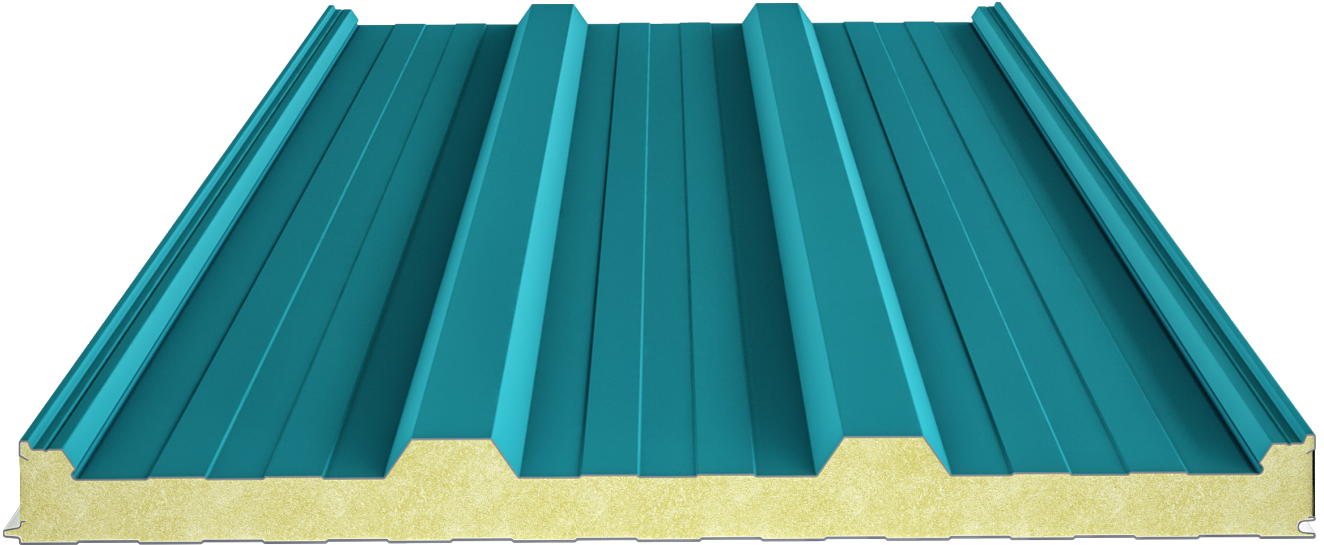


R4 Roof Panel



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 façade paneling

Production Plant

Istanbul

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.

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

Thanks to n-Pentane which is used to inflate the Polyurethane, no damage is caused to nature.

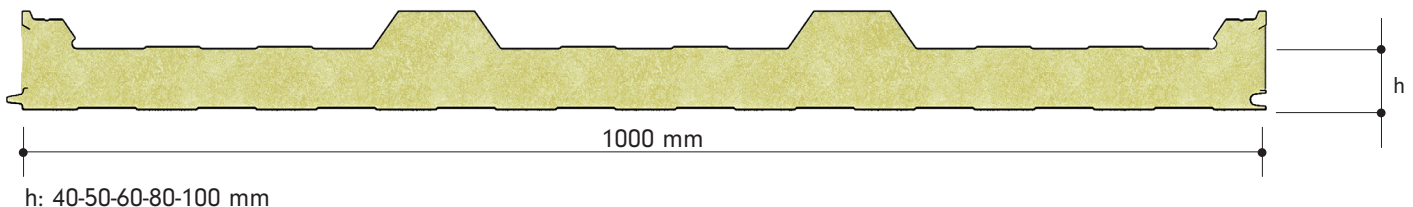
The colorful surface does not require additional coating like plaster or paint.

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



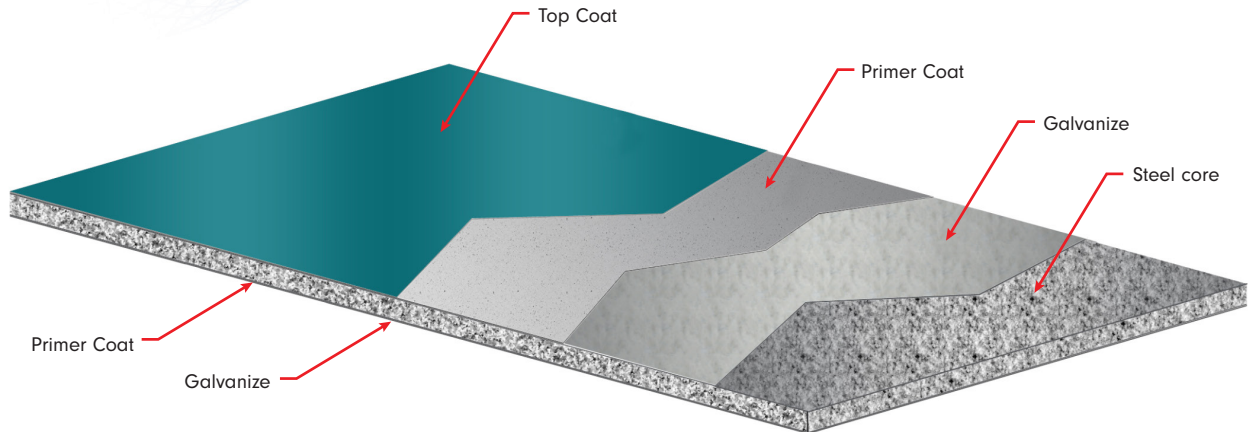
Favourable Width	1000 mm
Minimum Length	3 meters
Maximum Length	Depends on Transport Conditions

Polyurethane (PUR) – Polyisocyanurate (PIR)



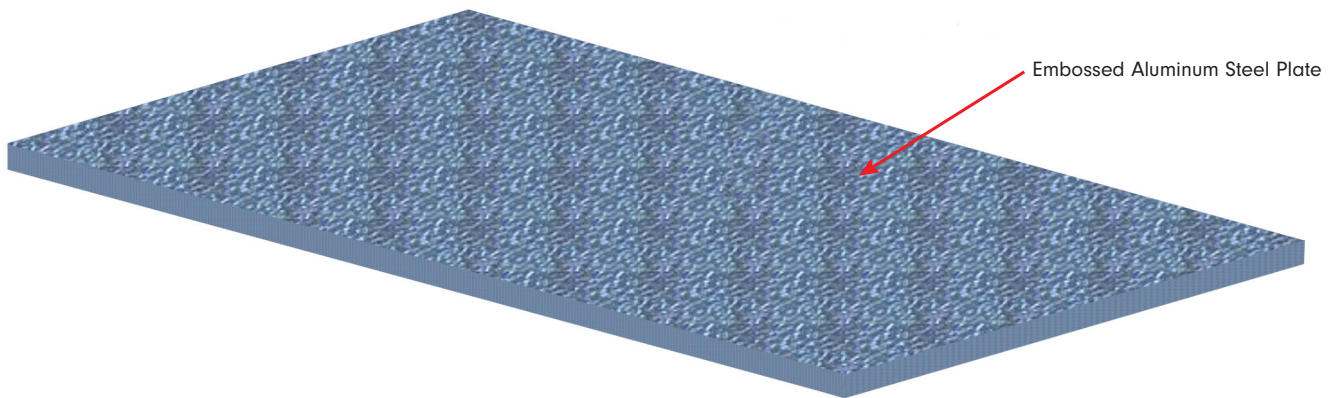
Polyurethane (PUR)/Polyisocyanurate (PIR) Density (EN 1602)	PUR: 40 (±2) kg/m ³ / PIR: 41 (±2) kg/m ³
Polyurethane (PUR)/Polyisocyanurate (PIR) Thickness	40-50-60-70-80-100 mm
Thermal Conductivity (EN 13165)	0,022-0,024 W/mK
Dimensional Stability (EN 13165)	Level DS (TH) 11
Reaction to Fire (13501)	B. S2 . d0 / B. S1 . d0
Water Absorption (EN ISO 354)	By Volume 2% (168 hours)
Closed Cell Percentage (EN 14509)	95%
Vapour Diffusion Resistance (EN 12086)	30-100
Heat Resistance	-200 /+110 °C

Metal Surfaces



Prepainted Galvanized Steel Surface

Type	Prepainted Galvanized Steel
External Facing Thickness	0,50-0,70 mm (20-25 mic paint thickness is included)
Internal Facing Thickness	0,40-0,70 mm (20-25 mic paint thickness is included)
Thickness Tolerance (EN 10143)	Nominal
Steel Quality (EN 10327)	Dx51 D+Z Prepainted Galvanized Steel (last coat polyester paint on primer)
Hot Dipped Coated Steel Grade (EN 10327)	100-275 gr/m ² (included in total sheet thickness)
Paint Type	Polyester, PvdF, Plastisol, PVC, RAL 7037



Aluminum Steel Surface

Type	Aluminum
External Facing Thickness	0,50-0,70 mm
Internal Facing Thickness	0,40-0,70 mm
Thickness Tolerance (EN 485-4)	Nominal
Steel Quality (EN 485-2)	High Conditioned AW 3000 series aluminum manufactured by Assan Aluminum
Condition (EN 485-2)	H16-H26
Alloy (EN 485-2)	AW 3000 series
Surface Appearance	Embossed or Prepainted
Temperature Resistance	-200 /+110 °C

Load Bearing Tables

BGS	BGS	Double Span									
External Sheet Thickness (mm)	Internal Sheet Thickness (mm)	PUR-PIR Thickness (mm)	150 cm	175 cm	200 cm	225 cm	250 cm	275 cm	300 cm	325 cm	350 cm
0,5	0,4	40	395	317	258	208	176	144	124	105	91
0,5	0,4	50	547	437	354	290	243	200	171	146	124
0,5	0,4	60	699	558	452	366	312	256	217	181	158
0,5	0,4	80	951	759	616	503	423	351	298	251	218
0,5	0,5	30	291	237	195	160	137	114	97	84	73
0,5	0,5	40	390	316	260	214	181	151	129	112	99
0,5	0,5	50	521	423	348	287	243	204	174	149	131
0,5	0,5	60	648	528	432	356	301	251	213	184	160
0,5	0,5	80	864	703	578	477	404	338	287	249	217

Aluminum	Aluminum	Double Span									
External Sheet Thickness (mm)	Internal Sheet Thickness (mm)	PUR-PIR Thickness (mm)	150 cm	175 cm	200 cm	225 cm	250 cm	275 cm	300 cm	325 cm	350 cm
0,5	0,4	40	314	234	181	141	113	93	74	62	52
0,5	0,4	50	416	274	237	186	151	122	100	82	68
0,5	0,4	60	514	334	290	227	188	147	121	101	83
0,5	0,4	80	694	456	395	312	253	205	169	137	115
0,7	0,5	30	309	230	177	138	110	87	72	59	49
0,7	0,5	40	459	343	264	205	165	131	108	88	75
0,7	0,5	50	601	448	345	268	214	171	140	116	99
0,7	0,5	60	752	562	427	334	265	221	172	144	122
0,7	0,5	80	1003	748	577	448	359	287	234	195	164

• Load : kg/m² • Deflexion: L/200 • BGS: Prepainted Galvanized Sheet

Thermal Conductivity Values

Panel Thickness	U Thermal Conductivity (W/m ² K)	R Thermal Conductivity (m ² K/W)	R Thermal Conductivity (ft ² °F h/Btu)
40 mm	0,497	2,011	11,418
50 mm	0,406	2,465	14
60 mm	0,342	2,921	16,584
80 mm	0,261	3,83	21,747

Mechanical Properties

Steel Surface Yield Strength	min. 220 N/mm ²
Aluminum Surface Yield Strength	min. 140 N/mm ²
Panel Tensile Strength	min. 0,018 Mpa
Panel Tensile Modulus at Elevated Temperature	min. 0,04 Mpa
Shear Strength of Core Material	min. 0,11 Mpa
Shear Modulus of Core Material	min. 1,5 Mpa
Compressive Strength of Core Material	min. 0,095 Mpa
Yield Coefficient	t=100.000 hour (Free Load): 7 t=100.000 hour (Snow Load): 2,4
Sheer Strength After Long-Continued Loading	t: 1.000 hour min 35% t: 2.000 hour 30% t: 100.000 hour 7%
Bending Moment Capacity in Span	min. 2,5 KNm/m (Upwards) min. 1,5 KNm/m (Downwards)
Torsion Stress in span	min. 100 Mpa

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 ≤ 100mm ±2mm	± 2mm for all profiles	0.6% of s ≤ nominal cover thickness (Width x 0.006)

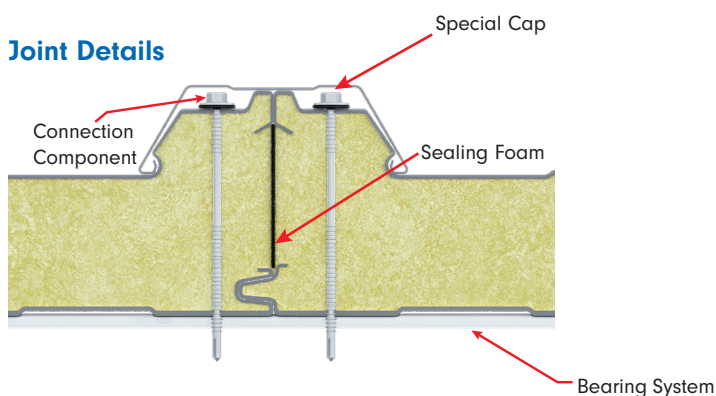
Standard Package

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

Standard Colour Options

RAL 3009	RAL 5010	RAL 5018	RAL 6021	RAL 7016	RAL 9002	RAL 9006
						

Joint Details



Transportation and Protection of Sandwich panel

