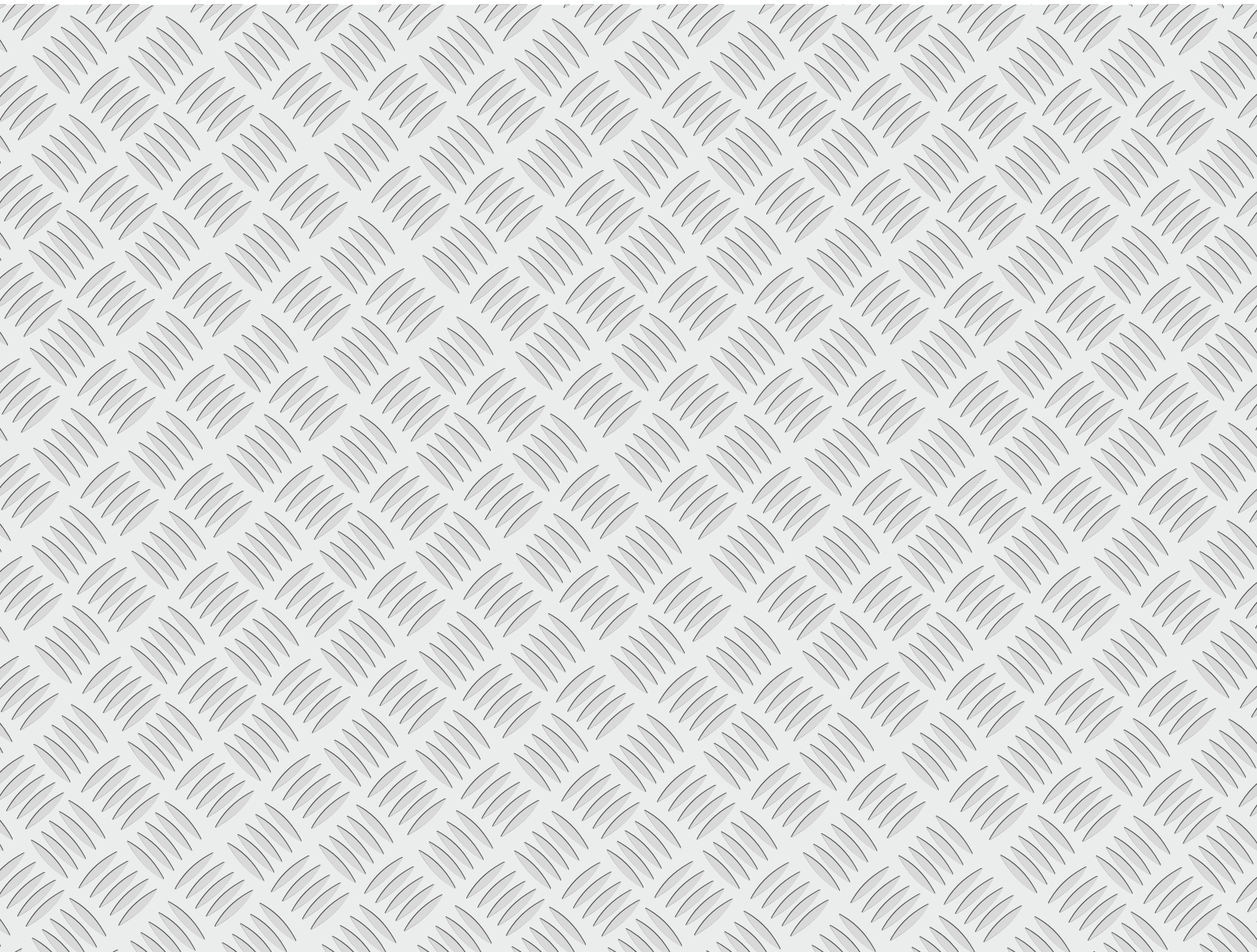
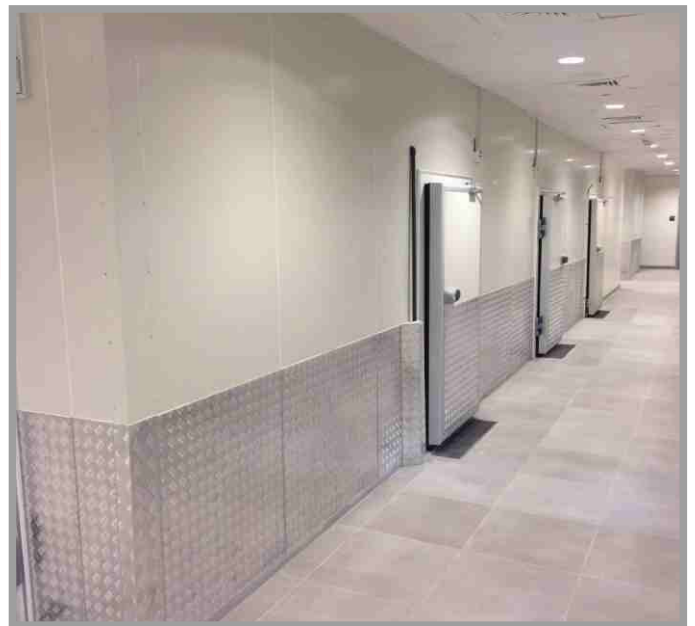
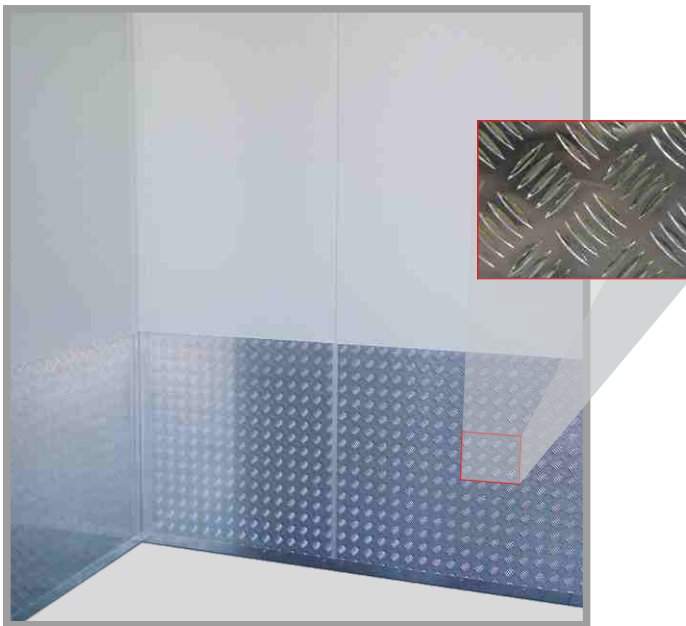


SMART PANEL



Dimensional Stability and Long Term Thermal Performance

Insulation materials	: Rigid IPN / PUR foam, pentane blowing, does not contain CFC and HCFC.
Density	: 38 ±2 Kg/m ³
Fire reaction (IPN)	: According to EN 13501-1 standard, B s1 d0 - FM 4880 Class1
Product Length	: Depending on the panel thickness, can be produced up to 19 m.
Product Conformity Standard	: TS EN 14509
Acoustic Insulation	: About 25dB in all panel thicknesses.
Recommended Thickness	: 200 mm for -40°C 150 mm for -18°C 100 mm for 0,+°C



Materials

Insulation Core

Polyisocyanurate (PIR), with zero Ozone Depletion Potential (Zero ODP). Available in FM Global insurer approved Firesafe certified product range. PIR foam is a thermosetting material. It does not melt, flow or drip when exposed to fire. It forms a strong char that helps protect the foam core and prevent flame spread within the panels.

Steel Substrate Options

- The steel used for the skin of the panels conforms to EN 10143 and has a guaranteed minimum yield strength of 220 Mpa.
- Hot-dip zinc coated with a total of 100, 200, 225 or 275 g/m² of zinc. This can be finished with a number of coatings
 - polyester, PVDF, Plastisol

Substrate thickness:

External skin: 0.50–0.70 mm

Internal skin: 0.40–0.60 mm

Other thicknesses can be supplied subject to discussion with Kingspan-lzopoli.

Aluminyum Ceta

2 mm Aluminyum 5 Bar Ceta, Alloys- 1050 series, Tempers- Soft-0 1/2 Hard (H244). Special tempers available upon request.

Coating Options

Standard Polyester (PES)

The standard surface used for manufacturing sandwich panels is a 25 micron (nominal thickness) polyester coating system with medium term life for worldwide use.

Plastisol 100 - 200 µm – Foodsafe

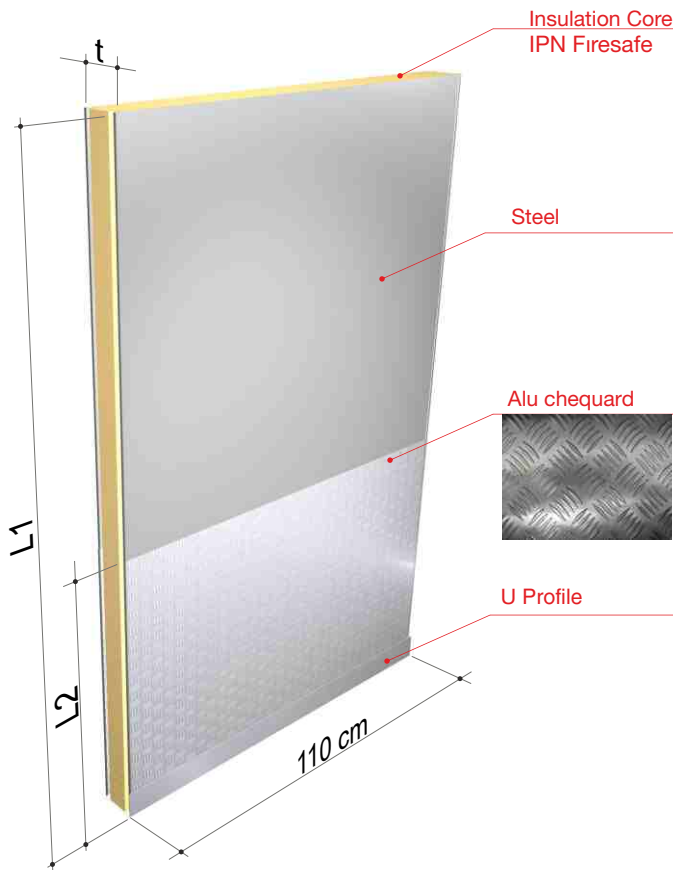
Plastisol 100- 200 µm – Foodsafe is chemically inert and safe for continuous contact with unpacked foodstuff.

200 micron Plastisol is a 200 micron thick high performance plastisol coating system with leather grain finish.

PVDF

PVDF has a smooth, 25 micron (nominal thickness) coating system which offers excellent colour stability. The standard colour range includes metallic silver. Whilst PVDF offers good corrosion resistance in most environments worldwide, its durability is generally less than that of HPS 200.

Smart Panel provides solutions for damages which may occur as a result of panel crashing and friction particularly witnessed in transport sections of production facilities.



Panel Properties and Thermal Performance

Panel Thickness (mm)	U Value (w/m ² K)	Ceiling element span, cantilever as single - span girder (Appx. m)
40	0.50	2.50
45	0.44	3.00
60	0.33	4.00
80	0.25	4.50
100	0.20	6.00
120	0.17	7.50
140	0.14	8.50
150	0.13	8.50
170	0.12	9.00
200	0.11	10.00

Notes:

Structural loading parameters are based on the following:

WALL KS100CTF panels, thickness range 60, 80 and 100 mm

- Temperature gradient over panel 20°C

- Maximum deflection limit L/150

- Internal loading (internal pressure) – 0,3 kN/m²

WALL KS100CTF panels, thickness range 120, 150,170 and 200 mm

- Temperature gradient over panel 50°C

- Maximum deflection limit L/150

- Internal loading (internal pressure) – 0,3 kN/m²

Heat Transmission

$$D = (\lambda \times \Delta t) / Q$$

D = Panel thickness (m)

λ = 0.020 W/mK, thermal conductivity of the panel

Δt = Difference between internal and external temperatures

Q = 10W/m² design heat flow for refrigeration

Heat Flow (w/m²)

Temperature Difference (°C)	Panel Thickness in mm									
	45	60	80	100	120	140	150	170	200	
20	8.89	6.67	5.00	4.00	3.33	2.86	2.67	2.35	2.00	
25	11.11	8.33	6.25	5.00	4.17	3.57	3.33	2.94	2.50	
35	13.33	10.00	7.50	6.00	5.00	4.29	4.00	3.53	3.00	
35	15.56	11.67	8.75	7.00	5.83	5.00	4.67	4.12	3.50	
40	17.78	13.33	10.00	8.00	6.67	5.71	5.33	4.71	4.00	
45	20.00	15.00	11.50	9.00	7.50	6.43	6.00	5.29	4.50	
50		16.67	13.75	10.00	8.33	7.14	6.67	5.88	5.00	
55		18.33	15.00	11.00	9.17	7.86	7.33	6.47	5.50	
60			16.25	12.00	10.00	8.57	8.00	7.06	6.00	
65				13.00	10.83	9.29	8.67	7.65	6.50	
70				14.00	11.67	10.00	9.33	8.24	7.00	
75					12.50	10.71	10.00	8.82	7.50	
80					13.33	11.43	10.67	9.41	8.00	
85					14.17	12.14	11.33	10.00	8.50	
90							12.00	10.59	9.00	
95							12.67	11.18	9.50	
100							13.33	11.76	10.00	

Heat Transmission (W/m²) – Technical specification (thermal conductivity factor for IPN core λ = 0,020 W/mk)

Recommended minimum insulation value for cold stores is 10 W/m² heat gain



SMART PANEL



Izopoli Yapı Elemanları Taahhüt Sanayi ve Ticaret A.S.

Çıragan Caddesi, No: 97, 34347 Ortaköy/İstanbul-Turkey

T:+90 212 236 60 32 (pbx) F:+90 212 261 64 41

info@izopoli.com www.izopoli.com

