

GENERAL INFORMATION

The **Xpan Zentyss** panels are a trademark for the thermo-insulating extruded polystyrene foam panels produced by OPAL TECHNOLOGIES using its own production lines, with the latest environment - friendly technology. The **XPan** extruded polystyrene isolating panels are according to the European regulations regarding the emission of substances that affect the ozone layer, they do not contain CFC – HCFC compounds and do not contribute to global warming.

CONFORMITY


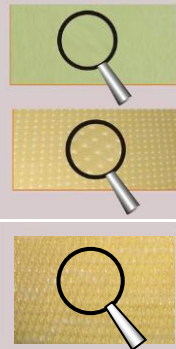

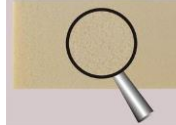





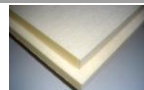

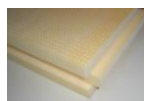
The XPan Zentyss panels (extruded polystyrene insulating panels) have been tested according to the (SR)EN 13164:2012+A1:2015 standard (system 3 of Attestation of Conformity), tests that have shown that the performances are according to the reference. The Manufacturer applied the CE marking on the product label and the accompanying documents in accordance with Regulation (EU) No 305/2011 and No 765/2008.

PROCESS

The production of the **XPan Zentyss** panels is based on the physical expansion of the melted plastic material in the extruder, where the temperature, pressure, melted material and the quantities of blowing agents are controlled continuously. The closed cellular structure of the panels produced using this technology and the additives mixed with the polystyrene determine superior, long-lasting technical characteristics:

- mechanical resistance
- reduced thermal conductivity
- homogeneous density
- high resistance to moisture
- resistance to freeze-meltdown cycles
- resistance to vapor diffusion
- ease of cutting with usual tools
- clean, odor-free non-irritating for the skin
- lack of capillarity
- elasticity
- ease of handling

CLASSIFICATION

A XPan Zentyss classification panels - depending on the surface treatment				
1	XPan Zentyss panels - with skin surfaces	<ul style="list-style-type: none"> • smooth surface • perforated surface • embossed surface (wafe) Thickness: 20 - 160 mm		
2	XPan Zentyss panels - without skin	without skin Thickness: 20 - 160 mm		
3	XPan Zentyss panels - elaborated surfaces (with longitudinal grooves)	grooves: for breaking (narrow) and for additional adherence (wide) Thickness: 20 - 160 mm		
B XPan Zentyss classification panels - depending on the edge type				
1	XPan Zentyss panels - Straight cut	Straight Edge Thickness: 20 - 160 mm		
2	XPan Zentyss panels - Step cut	Step cut edge Thickness: 30 - 160 mm		
3	XPan Zentyss panels - "male & female" edges	"male & female" edges Thickness: 50 - 160 mm		

XPan - EXTRUDED POLYSTYRENE

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PANELS SIZE	Length [mm]:	Width [mm]:	Thickness [mm]:
	1250–3000	600	20; 30;40;50;60;80;100;120;140;150;160
XPS Codes	according to (SR) EN 13164:2012+A1:2015		
dN:	Code:		
20 mm	XPS EN 13164 -T3 - DLT(1)5-CS(10/Y)200-WD(V)3-WL(T)0.7-MU150-FTCI1		
30-40 mm:	XPS EN 13164 -T3-DS(70,90)-DLT(1)5-CS(10/Y)300-TR200-CC(2/1,5/50)100-WD(V)3-WL(T)0.7-MU150-FTCI1-SS190		
50-60 mm	XPS-EN XPS EN 13164 -T2-DS(70,90)-DLT(1)5-CS(10/Y)300 - TR200 CC(2/1,5/50)100- WD(V)3-WL(T)0.7 - MU150 - FTCI1-SS190		
80-120 mm:	XPS EN 13164-T1-DS(70,90)- DLT(1)5-CS(10/Y)300- TR200- CC(2/1,5/50)100-WD(V)3 - WL(T)0.7 - MU150 - FTCI1- SS190		
140-160 mm:	XPS EN 13164-T1-DS(70,90)- DLT(1)5-CS(10/Y)300- TR200- CC(2/1,5/50)100-WD(V)3 - WL(T)1.5 - MU150 - FTCI1- SS190		

RECOMMENDED APPLICATIONS

XPan Zentyss panel type	embossed surface	smooth surface	without skin	without skin grooves
Insulating the perimeter of foundation walls in contact with the earth	■	■		
Interior basement wall insulation	■	■		
Floor insulation: <i>domestic floors, load bearing floors, load bearing floor slabs</i>	■	■		
Insulation building facades: <i>new or renovated buildings</i>			■	■
Internal walls Insulation	■		■	
Thermal insulation of roofs and terraces: <i>conventional flat roofs, duo roofs, promenade roofs, plus roofs, roof gardens, pitched roofs, parking decks, parapet walls, ceilings</i>	■	■		
Cold bridge insulation: <i>concrete beams and pillars insulation</i>	■			■
Sandwich panels, double metal doors Plasterboard laminates			■	■
Ice rinks: refrigeration rooms isolation	■	■		
Frost protection under roads and railways	■	■		

TECHNICAL DATA

Characteristic	EN 13164 code	Thickness [mm]	Unit	Value
Thermal conductivity	λ_D	20 – 30	W/m ^o K	0,033
		40 – 60		0,035
		80 – 120		0,037
		140 – 160		0,038
Thermal resistance	R_D	20	m ² oK/W	0,60
		30		0,90
		40		1,10
		50		1,40
		60		1,70
		80		2,15
		100		2,70
		120		3,20
		140		3,65
		150		3,95
160	4,20			

XPan - EXTRUDED POLYSTYRENE

OPAL
TECHNOLOGIES s.r.l

Characteristic	EN 13164 code	Thickness [mm]	Unit	Value
Compressive stress or compressive strength at 10% deformation *	CS(10/Y)	30 - 160		≥ 300
		20	KPa	≥ 200
Shear strength	ζ	20 - 160	KPa	190
Water vapor transmission	MU	20 - 160	-	150
Long term water absorption by immersion	WL(T)0,7	20 - 120	%	≤ 0,7
		140 - 160		≤ 1,5
Water absorption by diffusion	WD(V)	20 - 160	%	≤ 3
Reaction to fire*	-	20	Euro-class	F
		30 - 160		E
Freeze-thaw-resistance	FTCI1	20 - 160	%	1
Maximum service temperature	-	20 - 160	°C	-50 ÷ +70
Global Warming Potential GWP				< 120
Ozone Depleting Potential ODP				0

* Characteristics of compressive strength and reaction to fire class are relevant under this specifications, after following the period of maturation. Maturation period is between 30 days for panel thickness of 20 mm and 180 days for 160 mm panel thickness.

Xpan Zentvss PACKAGING, MARKING.

- *packaging:* packs
 - 1250 x 600 x 400 (420) mm, packed in LDPE shrink film;
 - *marking:* on labels / on packaging / on panel - according to (SR) EN 13164, paragraph 8 (identification and main technical characteristics);
 - *transport* - with transport vehicles clean and covered to protect goods during transport.
- It is forbidden:**
- ☞ *extruded polystyrene transport together with the materials that may damage the panels (solvents, fuels, paints, materials that can move during transport).*
 - *storage:* in original packaging and in areas covered, on wooden grids, clean, ventilated, away from direct sunlight and sources of heat and fire or corrosive and hard objects that may damage the product shear.

WARNING ! No smoking and no working with open flames in the trailer or warehouse.

The guarantee period of **XPan** panels is 12 months from the date of manufacture, under the conditions of packaging, storage and transportation provided above.

NOTE:

1. XPan Zentyss panels are completely ecological and do not contain CFC, HCFC, HBCD.
2. The resistance to fire and resistance to compression characteristics are relevant according to the regulations declared after the maturation period.
3. XPan Zentyss panels aren't biodegradable and do not represent a threat to water and soil
4. The resulting waste can be recycled but should not be mixed with other polymers
5. When using panels without a complete maturation period (30-180 days from the production date, depending on thickness), users need to consider a decrease in the product's fire resistance and easier burning of the panels.
6. **DO NOT USE** open flame when using XPan Zentyss panels (when used together with hydro-isolating membranes, an open flame **MUST NOT BE USED** - auto-adhesive membranes needs to be used in this situations).
7. **IMPORTANT:** when installing the XPS panels (after mounting) protection against external
8. factors must be ensured. Excessive heating due to direct sunlight exposure can cause the deformation of the thermo-isolating panels. We recommend the immediate installing of the system's other components. For isolating terraces, over the XPan Zentyss panels that are installed directly on the hydro-isolation, a geo-textile separation layer must be applied, and afterwards a protection layer (which also has ballast role). The protection layer can be made of:
 - a layer of concrete or concrete slabs – for circulated terraces
 - a permeable layer, resistant to UV and that does not wear out in time (gravel with large grain) for not circulated terraces.

WARNING! Darkly-colored film and membranes aren't adequate as a **temporary** protection layer.