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INDUSTRIAL MANUFACTURER
The partner you're looking for

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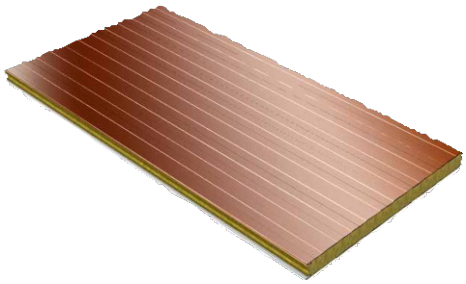
MANAGEMENT SYSTEM CERTIFIED
QUALITY ISO 9001 CERTIFIED
ENVIRONMENT ISO 14001 CERTIFIED
HEALTH & SAFETY OHSAS 18001 CERTIFIED

TECHNICAL CHART

Product : 80 mm SW PV

CE



'POLAR' thermal insulation wall panel, with a visible fastening system, with (upper and lower) sides made of (PES, PVDF..) galvanised steel sheets with galvanic protection, and with a 80 mm thick stone wool core.

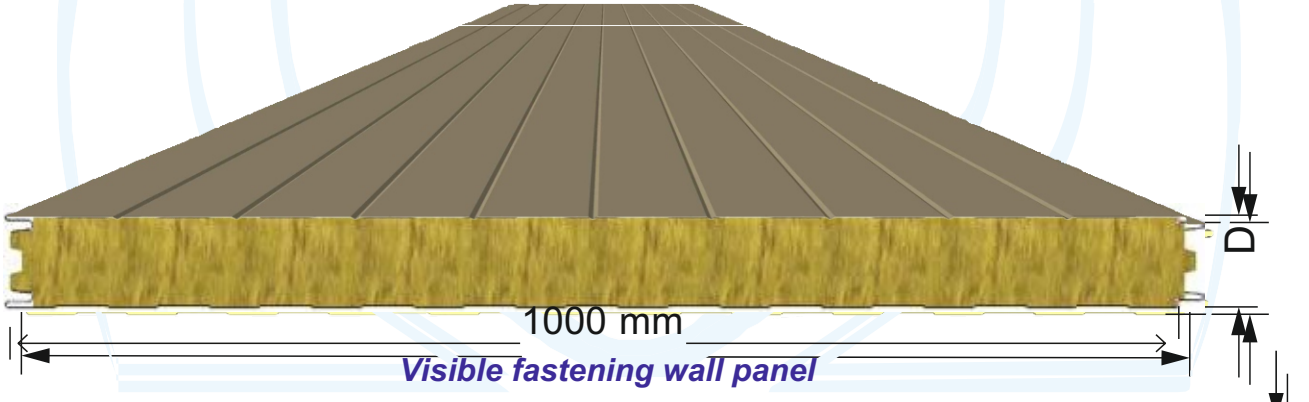
Sheet painting takes place by the coil-coating procedure, which provides both evenness to the thin layer of paint and its perfect adherence to the supporting layer.

The thickness for the two pre-painted steel sheet sides takes into account the applications of the panel and includes all the layers of protection (paint in 15-25 µm layers and 140-275 g/m^2 zinc protection, according to EN 10147:2000.

The thermal insulation core of PV 80 mm : **basalt stone wool** : ρ = 100 kg/m^3 minimum density (thermal conductivity coefficient λ=0.04 W/m^{2}K) and A1 reaction to fire class.

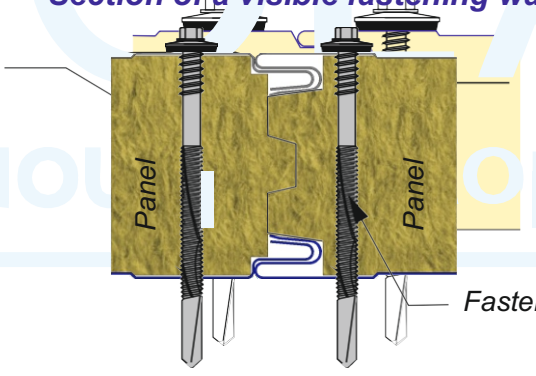
At least one side of the panels is protected by a 50 µm polyethylene film.

The 'POLAR' panels meet the requirements of the European standards and of the international agreements pertaining to the emissions of substances that damage the ozone layer, they do not contain CFC – HCFC and do not add to the global warming phenomenon.



Visible fastening wall panel

Section of a visible fastening wall panel



Panel fastening section

General product data :

Usable width	1000 mm
Overall width	1024 mm
Thermal insulation thickness (mm)	60 / **80** / 100 / 120 / 150
Rib height (micro-ribbed profiles)	1.0 mm
Rib height (standard profiles)	1.5 mm
Rib height (micro-cased profiles)	2.0 mm
Rib height (cased profiles)	3.0 mm
Rib pitch (micro-ribbed profiles)	15 mm
Rib pitch (standard profiles)	87 mm
Rib pitch (micro-cased profiles)	100 mm
Rib pitch (cased profiles)	333.33 mm
Available lengths	2 m – 15 m
Colours	RAL
Panel length tolerance	For L ≤ 6m => ± 4 mm For 6 ≤ L ≤12m => ± 6 mm For L ≥ 12m => ± 8 mm
Panel width tolerance	± 3 mm
Panel thickness tolerance	± 2 mm

Product performance items:

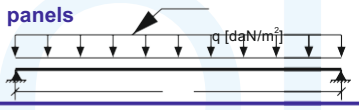
Weight		Kg/m^2	16.710
Shear strength (f_{cv})		Mpa	0.065
Compression strength (δ_{10})		Mpa	0.063
Crosswise tensile strength on the panel (f_{ct})		> 0,018 MPa	0.540
Bearing capacity upon flexure (Mu)	kNm/ m width	Upper side :	5.870
Bearing capacity upon flexure and bending stress over a central support	kNm/ m width	Lower side :	6.250
		Descending load :	4.720
		Ascending load :	4.270
Thermal transfer coefficient (K)		$Kcal/m^2\ h\ ^0C$	0.450
		W/m^2K	0.413
Thermal conductivity (λ_{10})		W/mK	0.0327
Thermal resistance (R_{10})		m^2K/W	2.42
Water vapour permeability		-	'Compliant' (waterproof)
Long-lastingness		-	'Compliant'
Combustibility class / Reaction to fire		C0	A2 - s1, d0
Fire resistance		Utilisation as exterior walls	EI - 60 min.
		Utilisation as partitions	EI - 60 min.

Allowable loads table :

Allowable loads table

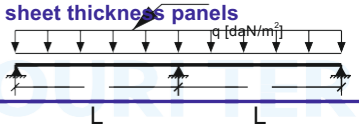
It contains the allowable free sizes, in metres, corresponding to each evenly distributed load, insofar as to guarantee a maximum less than not greater than l/200 arrow, while taking into account a safety coefficient (at the bending stress) greater than or equal to 3

Allowable openings (m) for (simple) upholding on 2 supports; applicable to panels with 0.5 mm / 0.5 mm int./ext. sheet thickness panels



G	60	80	100	120	140	Load 160	180	200	220	240	250
mm	daN/m²										
80	5,00	4,40	3,95	3,60	3,30	3,10	2,90	2,70	2,55	2,45	2,40

Allowable openings (m) for (multiple) upholding on 3 or more supports ; applicable to panels with 0.5 mm / 0.5 mm int./ext. sheet thickness panels



G	60	80	100	120	140	Load 160	180	200	220	240	250
mm	daN/m²										
80	6,15	5,30	4,70	4,20	3,85	3,50	3,25	3,05	2,85	2,65	2,60

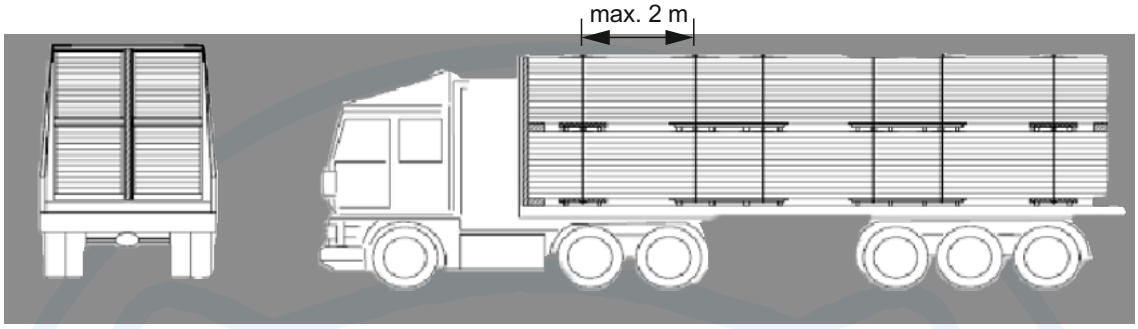
$$q\ [daN/m^2] \rightarrow \begin{cases} S_d = \Upsilon_G G_k + \Upsilon_{Q1} Q_{k1} + \sum_{i>1} \Upsilon_{Qi} \psi_{Qi} Q_{ki} \quad (1) \\ S_d = \sum_{j \geq 1} G_{kj} + Q_{k1} + \sum_{i>1} \psi_{0i} Q_{ki} \quad (2) \\ S_d = \sum_{j \geq 1} G_{kj} + \psi_{11} Q_{k1} + \sum_{i>1} \psi_{0i} \psi_{1i} Q_{ki} \quad (3) \end{cases}$$

(1) design value at the ultimate limit state (U.L.S.)
design value at the serviceability limit state (S.L.S.) – specific combination (commonly used for irreversible limit states)

(2) design value at the serviceability limit state (S.L.S.) –
frequent combination (used for deflections)
'+' means 'in combination with'
'Σ' means 'the combined effect of'

Manager,
Dan Popescu, Eng.

Upon transporting the panels, they must not remain within the bracket on the platform of the means of transport. The vehicle used for transporting the panels must be equipped with straps, for securing purposes ; their number depends on the length of the panels carried and they should be placed 2 m one from the other. Elbow pieces on both ends of the pallets must face every strap, in order to avoid crushing the edges of the panels located above. The metal accessories carried in the same means of transport as for the panels are recommended to be separately packed and tied up.



On the working site, the panels are to be stored on flat clean surfaces, at a certain distance one from the other.

The pallets are to be protected from bad weather and mechanical damages (impacts, scratching, deformations).

Loading, unloading, storing and handling shall take place carefully ; it is therefore forbidden to throw down or to drag the panels, so as not to deform them, to break their thermal insulation or to damage the metal sheet.

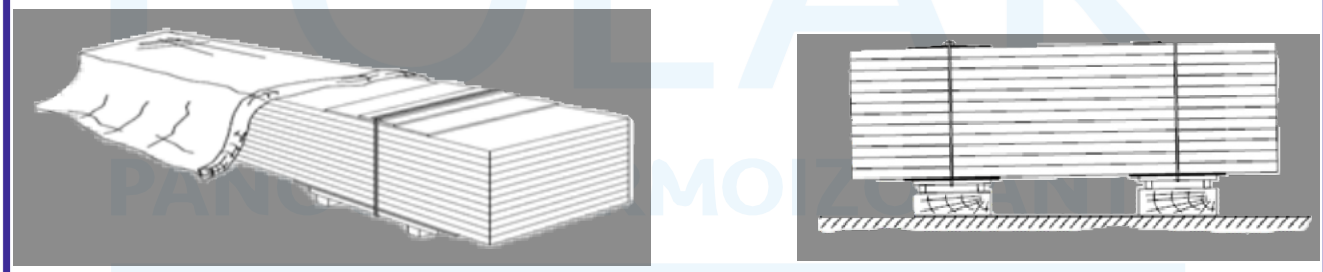
Packs loading & unloading and panels lifting at the level of the roof shall take place by crane, by means of adequate devices.

In order to unload smaller than 6 m pallets by forklift or crane, textile straps and spacers shall be used in the upper and lower parts of the pallets. The spacers should be 100 mm longer than the panels width.

Upon unloading more than 6 m long panels it is necessary to use a balancing beam alongside the textile straps. These ones shall be stretched, with the help of the spacers, in the upper and lower parts of the panels, as shown in the figure below.It is forbidden to use metal cables or chains for handling the panels.

As far as pallet stacking one above the other is concerned, a 30-day period should not be exceeded.

For protection against bad weather and UV rays, the pallets stored outside shall be covered with a tarpaulin and upon their placing on the ground, they shall be slightly inclined (3 % - 5 %), in order to enable the water to flow down.



Panels protection against bad weather

Panel positioning shall have a minimum 3 % - 5 % slope, for water flowing down purposes.

The panels should be mounted within maximum 1 month from their delivery.

The protective film should be removed maximum 3 days after mounting.