

METALCELL® Laquered - PP (6,35/Vuoto)(1,0-1,0)S(8)

Description of the product

PP is a sandwich panel with a cosmetic finish, made using a panel without finish such as the RAWCELL® Metal FP to which a painted aluminium skin (finish) is applied in place of one of the two structural raw aluminium skins. Main fields of application: construction, furniture, lifts, shipbuilding, railway, road.

Layers

1) INTERNAL CORE

aluminium honeycomb
(Starcell production)
aluminium alloy: 3000-5000 series
density: 29 - 40 - 56 - 65 - 80 kg/m³
cell diameter:
10 mm (standard);
6.35 - 12.7 - 19 mm (on request)

2) ADHESIVE

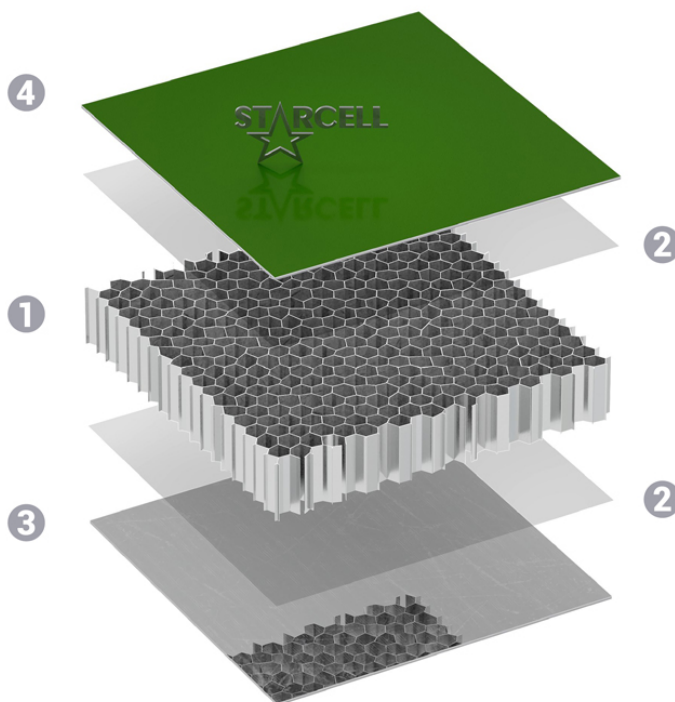
thermoplastic/epoxy/polyurethane

3) EXTERNAL BACK SKIN

raw or primed aluminium sheet
skin thickness: 0.1 - 0.3 - 0.5 - 0.8 - 1.0 - 1.5 mm
other thicknesses on request

4) EXTERNAL FRONT SKIN (FINISH)

painted aluminium sheet
skin thickness:
0.1 - 0.3 - 0.5 - 0.8 - 1.0 - 1.5 mm
other thicknesses on request



Technical sheet of the support panel

PRODUCT ID CODE		
Code structure	Value in this sheet	Meaning
METALCELL®		family to which the product belongs
Laquered		subfamily to which the product belongs
PP (n/n)(n-n)		panel type
PP (n/)()	6,35/ =	size (mm) of the hexagonal honeycomb cell
PP (/n)()	/-- =	panel thickness (mm)
PP (/)(n-n)	1,0-1,0	thickness (mm) of the two skins
S(n)	8=	standard dimensions (mm) - S(8) = 1.250 X 3.050

CHARACTERISTICS OF MATERIALS AND COMPONENTS

Front finishing layer

material:	aluminium sheet
type:	painted
standard thicknesses (mm):	0,1 - 0,3 - 0,5 - 0,8 - 1,0 - 1,5

Structural skins

standard thicknesses (mm):	0,8
standard adhesive:	thermoplastic - epoxy - polyurethane

Hexagonal cell honeycomb

material:	aluminium foil
type:	alloy series 3000 - 5000
foil thicknesses (µm):	50 - 60 - 70
density (kg/m³):	29 - 40 - 56 - 65 - 80
standard cell sizes (mm):	10
on request cell size (mm):	6,35 - 12,7 - 19

Back structural skin

material:	aluminium sheet
type:	1000 - 3000 - 5000 series alloy
standard thicknesses (mm):	0,1 - 0,3 - 0,5 - 0,8 - 1,0 - 1,5
surface appearance:	raw - primed
standard adhesive:	thermoplastic - epoxy - polyurethane

PHYSICAL AND DIMENSIONAL CHARACTERISTICS OF THE PANEL

Dimensions

standard (mm):	S(2) = 1.000 X 2.050 - S(7) = 1.250 X 2.550 - S(12) = 1.500 X 3.050
special (mm):	1.500 - maximum length: 4.300
tolerance (mm):	± 1 (squared panels)

Thicknesses

standard (mm):	5	10	12,7	15	20	25	30
special (mm):	from 4 to 60						
tolerance (mm):	± 0,3						

Weights*

weights referred to standard thicknesses (kg/m²):	3,29	3,32	3,43	3,56	3,83	4,10	4,37
tolerance (kg/m²):	± 0,2						

*The weights refer to panels with the following characteristics:

cell size (mm): 10

foil thickness (µm): 70

thickness of the skins (mm): 0,5

MECHANICAL CHARACTERISTICS OF THE PANEL

The characteristics of this sheet refer to the following type of panel:

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Starcell's Technical Department will gladly work with customers to determine the features of other panel configurations

Type	Standard	Characteristic value						
standard thicknesses	-	5	10	12,7	15	20	25	30
maximum load* (N):	DIN 53293; EN 14125		857					
deflection at Max* load (mm):	DIN 53293; EN 14125		3,49					
resistance to peeling* (N):	DIN 53295	> 130 (min.) - >350 (average)						
compressive strength* (Kg/cm²):	UNI 4913	26,4						
elasticity modulus (E)* (N/mm²):	DIN 53293		20.301					
stiffness modulus (R)* (N/m²):	DIN 53293	41						
thermal expansion coefficient* (°C⁻¹):	-	2,3x 10⁻⁵						
operating temperature (°C):		from -40 °C to +75 °C (on request +120 °C)						

(*) values obtained by Starcell's Internal Laboratory.

CERTIFICATIONS

Type	Standard	Sector	Class
fire behaviour of the panel	EN 13501-1	CIVIL	A2-s1, d0
fire behaviour of the panel	IMO Res. MSC.307(88) - 2010FTP Code	SHIPBUILDING	C
fire behaviour of the panel	UNI 11170-3	RAIL	M1 F0
fire behaviour of the honeycomb	ISO 1182		0

PROPERTIES

- Very high resistance to bending, shear and tensile stress.
- Excellent dimensional stability, also in terms of flatness over time.
- Exceptional compressive strength (aluminium honeycomb).
- Excellent ratio between mechanical performance (high) and weight (content).
- Excellent weather resistance.
- Ease of machining with manual or CNC equipment suitable for machining aluminium.
- Wide operating temperature range.
- Excellent product recyclability (100%).

FIELDS OF APPLICATION

The METALCELL® Laquered - PP panel is widely used in the most diverse fields of application, thanks to its particular properties: moderate weight, high rigidity and flatness, excellent mechanical properties, fire resistance, no toxic fumes and dimensional stability over time. In the civil engineering field, it is chosen by architectural firms for its versatility both in the structural field (e.g. ventilated façades, floors, partition walls, sunshades, canopies, parapets) and in the finishing field (furnishings and fittings in general). In the transport sector, the railway and naval markets are two fundamental targets for using the panel, which is chosen to build partition walls, false ceilings, bathrooms and floors. The total recyclability of the panel, entirely made of aluminium, extends its use wherever regulations or commitment to environmental protection are an essential constraint.

STORAGE

The METALCELL® Laquered - PP panel is a product in the “semi-finished products” category and therefore is subject to further processing; we recommend storing the panels horizontally in a closed and dry environment, possibly away from heat sources and to support them along their edges.

SAFETY DATA SHEETS

On request, safety data sheets for this product are available in Italian or English. For more information, please visit: www.starcellspa.com.

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