

## LITHOCELL® Natural Stone - GR4 (6,35/n)(0,5-0,5)S(8)

### Description of the product

GR4 is a sandwich panel with a cosmetic finish consisting of a thin slab of granite (4 mm). It has an aluminium honeycomb core and skins made of glass fibre fabric. It is obtained by gluing a granite finish slab to a panel without finish such as the RAWCELL® Fiber panel (bonding performed by external marble workers, our partners, customers). Main fields of application: construction, furniture, shipbuilding, lifts.

### Layers

#### 1) INTERNAL CORE

aluminium honeycomb  
(Starcell production)  
aluminium alloy: 3000 series  
density: 29 - 50 - 56 - 65 - 80 kg/m<sup>3</sup>  
cell diameter:  
6.35 mm (standard);  
10 - 12.7 - 19 mm (on request)

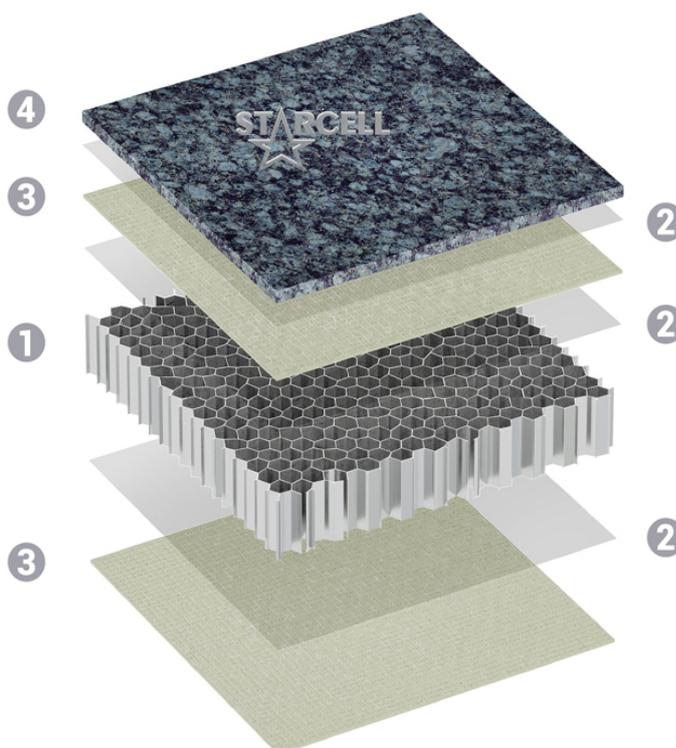
#### 2) ADHESIVE

thermoplastic or thermosetting  
(Starcell formula);  
bonding of finishing materials  
performed by our customers and  
partners who work with natural stone

#### 3) EXTERNAL SKINS

glass fabric impregnated with epoxy resins  
(impregnated fabric weight: 1000 g/m<sup>2</sup> per side)

#### 4) FINISHING granite slab thickness 4 mm



## Technical sheet of the support panel

### PRODUCT ID CODE

Code structure	Value in this sheet	Meaning
LITHOCELL®		family to which the product belongs
Natural Stone		subfamily to which the product belongs
GR4 (n/n)(n-n)		panel type
GR4 (n/ )( )	6,35/ =	size (mm) of the hexagonal honeycomb cell
GR4 ( / n)( )	/n =	panel thickness (mm)
GR4 ( / )(n-n)	0,5-0,5	thickness (mm) of the two skins
S(n)	8=	standard dimensions (mm) - S(8) = 1.300 X 3.050

## CHARACTERISTICS OF MATERIALS AND COMPONENTS

### Front finishing layer

material:	granite slab
standard thicknesses (mm):	4,0
surface appearance:	smoothed - bush-hammered
on request adhesive:	bonding performed by external specialized laboratories

### Structural skins

material:	glass fibre roving fabric
type:	(impregnated weight 1000 g/m <sup>2</sup> - 600 tex)
standard thicknesses (mm):	0,5
impregnation:	epoxy resin (Starcell formula)
surface appearance:	raw
standard adhesive:	thermoplastic film (Starcell formula)
on request adhesive:	epoxy film

### Hexagonal cell honeycomb

material:	aluminium foil
type:	3000 series alloy
foil thicknesses (µm):	60 - 70
density (kg/m <sup>3</sup> ):	29 - 50 - 56 - 65 - 80
standard cell sizes (mm):	6,35 - 10 - 12,7 - 19

## PHYSICAL AND DIMENSIONAL CHARACTERISTICS OF THE PANEL

### Dimensions

standard (mm):	S(9) = 1.300 X 2.550 - S(13) = 1.550 X 3.050
special (mm):	1.550 - 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/m <sup>2</sup> ):	3,06	3,39	3,56	3,71	4,04	4,36	4,69
tolerance (kg/m <sup>2</sup> ):	± 0,2						

\*The weights refer to panels with the following characteristics:

cell size (mm): 6,35

foil thickness (µm): --

thickness of the skins (mm): 0,5

## MECHANICAL CHARACTERISTICS OF THE PANEL

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

LITHOCELL® Natural Stone - GR4 (6,35/n)(0,5-0,5)S(8)

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	251	479	515	1.583	1.835	2.337	
deflection at Max* load (mm):	DIN 53293; EN 14125	11,42	4,41	6,12	8,86	8,01	12,59	
resistance to peeling* (N):	DIN 53295	> 130 (min.) - >350 (average)						
compressive strength* (Kg/cm <sup>2</sup> ):	UNI 4913	21,97 ± 10						
elasticity modulus (E)* (N/mm <sup>2</sup> ):	DIN 53293	14.460	16.130	12.169	18.817	23.777	19.022	61.840
moment of inertia (I)* (mm <sup>4</sup> ):	DIN 53293	253	1.128	2.363	3.942	9.506	18.758	32.634
operating temperature (°C):		from -40°C to +80°C						
maximum distributed load** (Kg):		2000						
deflection**(mm) for a distributed load of: 300 kg		1,50						

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

(\*\*) value obtained on a panel held on 4 sides:

size (mm): 1.000 X 1.000

thickness (mm): 20

cell size (mm): 6,35

## CERTIFICATIONS

Type	Standard	Sector	Class
fire behaviour of the honeycomb	ISO 1182		0

## PROPERTIES

- Very high resistance to bending, shear and tensile stress.
- Excellent resistance to peeling.
- Excellent dimensional stability, also in terms of flatness over time.
- Very good compressive strength (due to aluminium honeycomb).
- Maximum mechanical performance, compared to the high lightness of the panel.
- Excellent weather resistance.
- Wide operating temperature range.

## FIELDS OF APPLICATION

Typical applications for the LITHOCELL® Natural Stone - GR4 panel include building façades, interior design and lift systems.

## STORAGE

The LITHOCELL® Natural Stone - GR4 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](http://www.starcellspa.com).

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