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P.IVA 04102600378 CCIAA BO 0339628
ALUMINIUM AND THERMOPLASTIC HONEYCOMBS, LAMINATES, SANDWICH PANELS

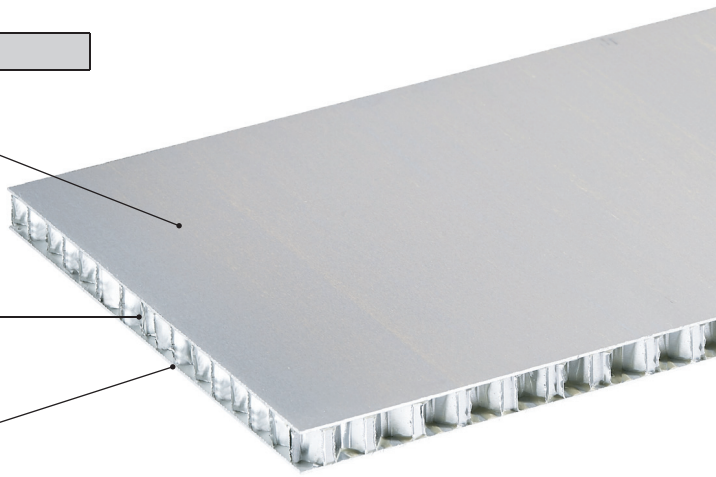
ENG

Compocel® AL FR

Panel's composition

ALUMINIUM SKINS
Thickness mm: 0,5 - 0,8 - 1 (standard)

CORE
Aluminium honeycomb (Alloy series 3000*) with hexagonal cells
Diameter: Ø1/4", Ø3/8", Ø1/2", Ø3/4"
Thickness Foil: from 50 to 70 microns



* To Aluminium alloy series 3000 belong: Aluminium alloy 3003, Aluminium alloy 3005, Aluminium alloy 3103, Aluminium alloy 3104. Serie 5000 on demand.

Technical data sheet for standard panels (dimensions, materials and special finishes on request)										
TECHNICAL CHARACTERISTICS OF PANEL	Panel size		mm	standard 1250 x 2500 / 1250 x 3000 / 1500 x 3000; On request up to 2000 x 7000						
	Thickness tolerance		mm	± 0,3						
	Dimension tolerance		mm	± 30						
	Planarity ***		mm/m	+/-1						
	Skins thickness		mm	from 0,5 to 5,0						
	Skin			1000 series, 3000 series, 5000 series						
	Honeycomb alluminium alloy			3000 series, 5000 series						
	Thickness of honeycomb foil		µm	50 and 70						
	Honeycomb diameter		Ø = mm	from 3 to 19						
	Honeycomb density		Kg/m³	from 20 to 163						
	Adhesive			Two-components polyurethane adhesive/thermoplastic film/ epoxy film/ two-components epoxy adhesive						
	Skin characteristics			Raw/primer/polyester/PVDF/anodised						
PANEL PHISIC AND MECHANIC PERFORMANCES	Type panel (some examples)		Panel Thickness mm	6	10	15	10	15	20	25
			Skin Thickness mm	0,5 + 0,5			1,0 + 1,0			
	Panel weight ‡		Kg/m²	3,8	4,0	4,3	6,7	7,0	7,3	7,6
	Compressive stabilised strength MPa ** ‡	ASTM C 365-365 M	Mpa	2,9						
	Maximum load ** ‡	ASTM C 393 †	N	190	340	520	600	1.000	1.350	1.700
	Deflection at maximum load ‡	ASTM C 393 †	mm	14	8	6	8	6	4	3
	Skins E Elastic Modulus		Mpa	68.000 - 70.000						
	Moment of inertia I **		mm⁴/m	7.600	22.000	52.000	40.000	98.000	181.000	288.000
	Average resistance to peeling ** ‡	ASTM D1781-98 (2012)		> 280 N/76 mm or 40 Nmm/mm						
	Maximum service temperature **		°C	- 40 / + 60; on request + 80 / + 100 / + 150						
	Thermal expansion coefficient **		°C $^{-1}$	2,3 x 10^{-5}						

** Tested by Internal Laboratory
*** Approximate value
† Sample dimension with 4 support points (L, W) 540x50mm; distance among the lower points 500mm, distance among the upper points 250mm
‡ Values for a panel with a honeycomb core of Ø6 56kg/m³ (Ø 1/4")

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Sandwich Panel Compocel® AL FR

Last Revised: 01/26_Rev.14

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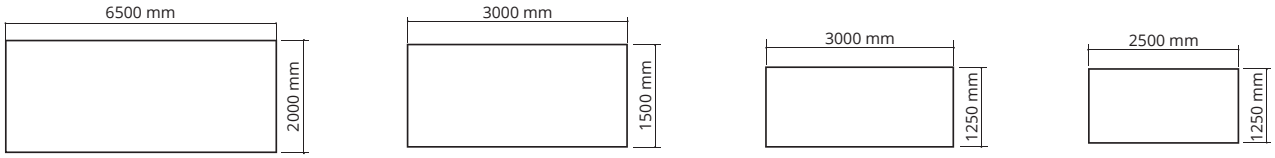
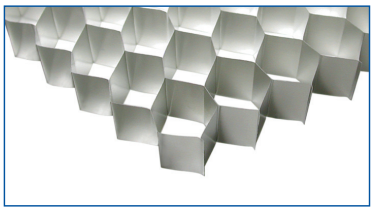
Standard dimensions (other dimensions available on request) - Dimension tolerance ±30mm



(other size on request)

Honeycomb core's properties	50 Microns			
Type	**ALUMINIUM ALLOY 3003/3005/3103/3104**			
Ø honeycomb in mm	6	9	12	19
Ø honeycomb in inches	1/4"	3/8"	1/2"	3/4"
Density Kg/m³	56 - 59	39 - 40	29 - 30	20 - 21
Compressive stabilised strength MPa	3,0 - 3,5	1,4 - 1,95	0,8 - 0,95	0,4 - 0,6

Honeycomb core's properties	70 Microns			
Type	**ALUMINIUM ALLOY 3003/3005/3103/3104**			
Ø honeycomb in mm	6	9	12	19
Ø honeycomb in inches	1/4"	3/8"	1/2"	3/4"
Density Kg/m³	80 - 83	54	40 - 42	27 - 29
Compressive stabilised strength MPa	4,3 - 4,6	2,5 - 2,6	1,41 - 1,5	0,85 - 0,9



Aluminium honeycomb

Certified version COMPOCEL AL FR must be required while asking for a quotation.
Certified products must be required in advance and might have a price surcharge due to certified materials.

CONFORM TO AMERICAN STANDARDS				
ASTM C67-M18 Water Absorption	**ASTM E72-15** Strength-Transverse load	**ASTM C297 M-16** Flatwise tensile strength	**ASTM E84-17** Flamespread	**TAS 201** **TAS 203** Impact and Cyclic Wind Pressure

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FIRE REACTION			
SECTOR	**NORM**	**CLASSIFICATION**	**DESCRIPTION**
SHIPBUILDING	FTP CODE 2010 3.18a 0407	**LOW FLAMESPREAD** **MOD. B.** **MOD. D.**	**COMPOCEL AL FR** Aluminum honeycomb panel complying with the MED directive for the application in ships registered or applied in the European Union. Item N. MED / 3.18a, IMO 2010 FTP Code, Annex 1
	U.S. Coast Guard	**MOD. B.** **MOD. D.**	**COMPOCEL AL FR** Aluminium honeycomb sandwich panel
	FTP CODE 2010 3.64	**BULKHEAD C. CLASS DIVISION** **INCOMBUSTIBILITY**	**COMPOCEL AL FR** Aluminium honeycomb panel
BUILDING COUNTERTOPS	UNI EN 13501-1	**A2 s1 d0** **COMPOCEL AL FR** **NON- COMBUSTIBLE** **COMPOCEL AL FLOOR, ALURIS, ALUMAN**	**COMPOCEL AL FR, COMPOCEL AL FLOOR, ALURIS, ALUMAN** Aluminium honeycomb panel **A2 – NON- COMBUSTIBLE** **s1** – Smoke emission absent **d0** – no dripping
BUILDING VENTILATED FACADES	UNI EN 13501-1	**A2 s1 d0** **NON- COMBUSTIBLE**	**COMPOCEL AL FR** Tested: only 20mm **A2 – Incombustible** **s1** – Smoke emissiony absent **d0** – no dripping
BUILDING FLOORS	UNI EN 13501-1	**A2fl s1 d0** **NON- COMBUSTIBLE** **COMPOCEL AL FR** **COMPOCEL AL FLOOR ALURIS, ALUMAN**	**COMPOCEL AL FR, FLOOR, ALURIS, ALUMAN** Aluminium honeycomb panel **A2 – Incombustible** **s1** – Smoke emission absent **d0** – No dripping
BUILDING	UNI EN 13501-1	**B s1 d0** **LOW FLAME SPREAD**	**COMPOCEL AL FR** Aluminium honeycomb panel **B** – LOW FLAME SPREAD **s1** – Smoke emission absent **d0** – no dripping
BUILDING FLOORS	UNI EN 13501-1	**Bfl s1 d0** **LOW FLAME SPREAD** **COMPOCEL AL FR** **COMPOCEL AL FLOOR, ALURIS, ALUMAN**	**COMPOCEL AL FR, FLOOR, ALURIS, ALUMAN** Aluminium honeycomb panel **Bfl** – LOW FLAME SPREAD **s1** – Smoke emission absent **d0** – no dripping
BUILDING	NF P92-501	**M1**	**NOT FLAMABLE**
RAILWAY VEHICLES	UNI EN 45545-2	**HL3** (HAZARD LEVEL)	**COMPOCEL AL FR** Aluminium honeycomb panel Meets requirements for applications: **R2** Suspended ceilings, countertop **R1** Partitions **R10** Floors

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