



**nidaplast**  
composites

[www.nidaplast.com](http://www.nidaplast.com)



## Nidaplast, innovation and performance

Having made its name in the Composites Market since 1984, Nidaplast designs, manufactures and markets a wide range of multi-functional honeycomb core materials for demanding industrial applications.

Nidaplast composites demonstrates its capacity for innovation and develops lightweight and structural sandwich panels, based on nidaplast honeycombs, and used for everyday applications in a broad spread of sectors : building, transportation, marine, equipments...

1984

**Foundation** of the company

The **first** extruded polypropylene honeycomb is launched by Induplast

1992

**Induplast** integrates the Etex group

2001

Induplast renamed **Nidaplast**

TODAY

A **unique know-how** and high technology equipment, Nidaplast manufactures and sells products recognized worldwide

## Certifications



Nidaplast attaches great importance to :

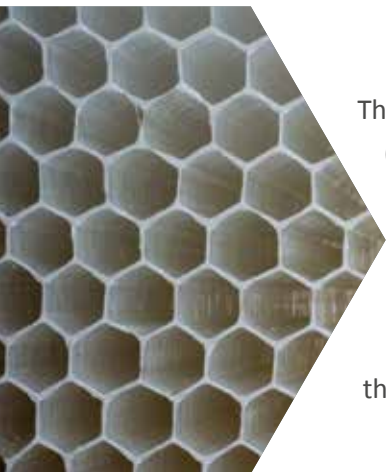
- the satisfaction of its customers by the quality of its products and services,
- the respect for people and its environment.

We have been involved in a strong certification process for more than 15 years. Our company is QSE certified: ISO 9001 Quality, OHSAS 18001 Safety, ISO 14001 Environment.



The nidaplast composite products comply with the DNV and Germanischer Lloyd classification are certified for applications in the marine and the boating industry.





## At the beginning: Aeronautics

Thermoplastic honeycomb was created by combining a material (plastic) and a structure (honeycomb) as part of an innovative research programme in the 1980s, in order to obtain durable and very light materials.

This invention aimed to open up to a wider audience, a technology that was already known in the aviation industry: the honeycombs used in the core of structural panels.

## The real designer of the PP honeycomb

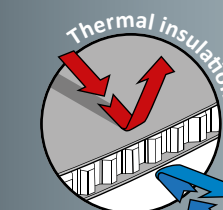
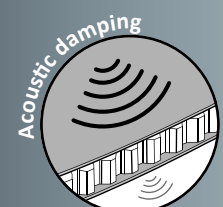
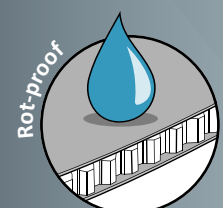
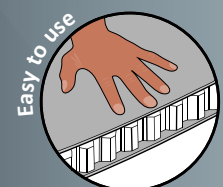
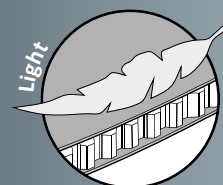
In order to create a product which is both highly durable and very light in weight, nidaplast developed an extrusion process which made it possible to produce large quantities of cellular blocks or plates in an economical way. An effective production process, which was obtained from the middle of the 1980s. Having made a name for itself as the creator of the genuine extruded polypropylene honeycomb, nidaplast has never stopped developing its concept.



## A no limits development

Nidaplast is proud to be the source of the integration of this technique in structures such as boating, building, industrial equipments... Today, Nidaplast has experience feedback of several million sqm of products sold worldwide and used as composite materials to lighten the structures.

Very quickly, the polypropylene honeycomb has shown significant potential in other fields of application, such as cellular blocks or panels for stormwater retention, lightweight embankment, but also for strengthening and stabilizing soils.



## STANDARD RANGE

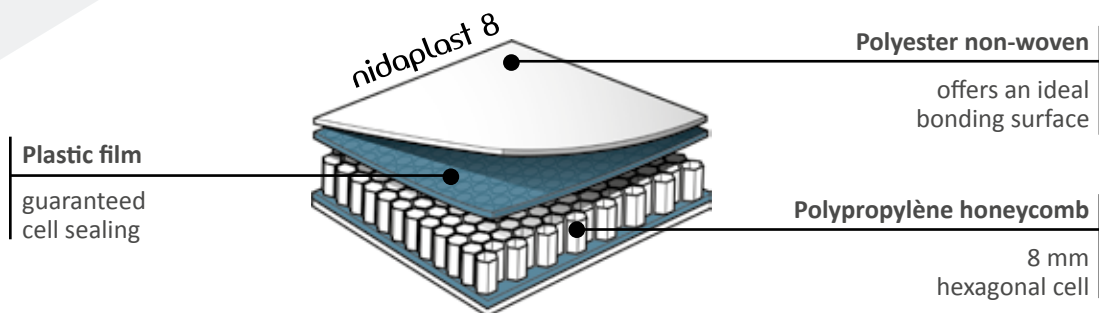
Nidaplast 8 : Honeycomb core for lamination



Nidaplast 8



Nidaplast 8DB



Characteristics	NIDAPLAST 8	NIDAPLAST 8DB
Size	2500 x 1220 mm*	
Thicknesses	5 to 90 mm*	10 to 40 mm*
Honeycomb density	65 kg/m <sup>3</sup>	
Non-woven	45 g/m <sup>2</sup> Polyester	
Plastic film	50 µm	
Honeycomb special features	Polyvalent	Scored to allow conformability

\*other dimensions on request

## FIRE AND HIGH PERFORMANCE

Technical core for **fire resistance, shock absorption and compression resistance**



Nidaplast 8FR



### Fire retardant

Honeycomb panel providing a better fire behaviour, no smoke toxicity, without halogenous material.

Meets standards of :

- railway (EN 45545)
- building (Euroclasse : EN 13-501)
- ...



Nidaplast 8HP



### Shock and compression

High density honeycomb for applications wich need high mechanical properties.

Compressive strength : **260 t/sqm**





## PANELS FOR CLOSED MOLDING PROCESS

Nidaplast 8R / 8RI : honeycomb core for closed molding process



### RTM

Honeycomb for the implementation by RTM (Resin Transfer Molding) thanks to a reinforced plastic film and a specific non-woven for resin impregnation.

Reinforced plastic film **200 µm**



### Vacuum infusion

Honeycomb covered by a polyester non-woven and a reinforced plastic film specially adapted for resin pressure during vacuum infusion process.

Reinforced plastic film **300 µm**

## PANELS FOR GLUING PROCESS

Nestaplast and Fitcore : honeycomb core for **gluing process**



### Flat surface

Honeycomb :  
Structural core for sandwich panels with a flat surface, ideal for gluing process.



### Low consumption

Honeycomb :  
Structural core for sandwich panels with a low glue consumption.



## SEMI-FINISHED PANELS

Nidapan : semi-finished and reinforced panel



Nidapan 8GR600



### Reinforced

Honeycomb for a faster processing and a low material consumption thanks to an integrated reinforcement.

600 g/sqm Glass/PP biaxial reinforcement



#### Characteristics

#### NIDAPAN 8GR600

Size 2500 x 1220 mm\*

Thicknesses From 10 to 40 mm\*

Honeycomb density 65 kg/m<sup>3</sup>

Non-woven 45 g/m<sup>2</sup> Polyester

Plastic film 50 µm

Honeycomb special features Reinforced panel for one side processing

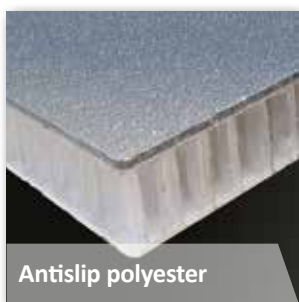
\*other dimensions on request

## FINISHED PANELS

Nidaskin : finished panels with Nidaplast core



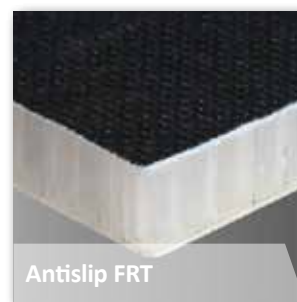
Polyester



Antislip polyester



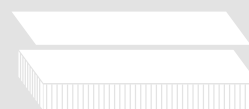
Aluminum



Antislip FRT

### Sandwich panels

Finished panels made with honeycomb core and a rigid skin on both sides. This method offers light and rigid panels but also technical characteristics (aesthetics, antislip, fire properties..).



#### Characteristics

#### NIDASKIN

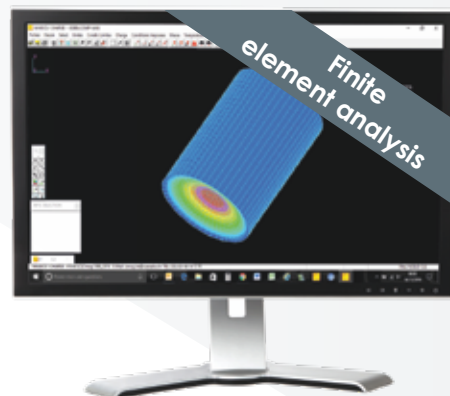
Skin	Material	Polyester	Antislip polyester	Aluminum	Antislip FRT composite
	Thicknesses	1,5 mm	1,5 mm	1 mm	0,5 mm
Size (Gross format)		2440 x 1220 mm*	2440 x 1220 mm*	2500 x 1250 mm*	2500 x 1220 mm*
Thicknesses		5 - 10 - 15 - 20 - 25 - 30 mm*			
Indicative density (th. 20mm)		5,5 kg/sqm	5,1 kg/sqm	6,3 kg/sqm	2,5 kg/sqm

\*other dimensions on request

## Design assistance

Nidaplast puts its many years of experience and success at your disposal to help you to pre-size the structural aspects of your composites parts.

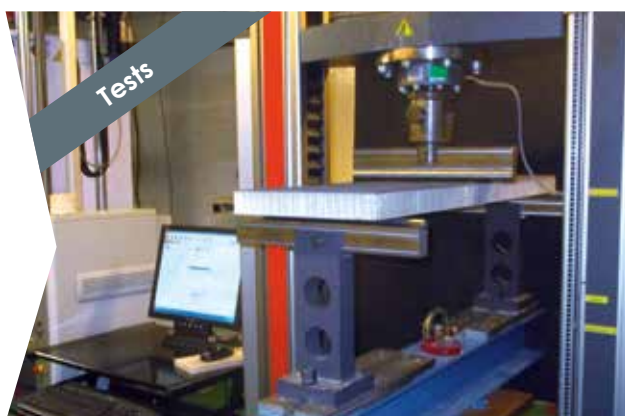
Equipped with an analytical software program, *Magics Composite*, our engineers analyse the behavior of composite materials layer by layer.



## Tests in our laboratory

Nidaplast has an efficient laboratory equipped with equipment and tools to regularly perform mechanical tests on its products: dimensional accuracy, tensile, compression and shear tests.

Our engineers can help you choose the right material for your application and define the tests to be carried out on your product by our laboratory : bending tests, fatigue tests and climatic tests with temperatures ranging from -20°C to +80°C.



## Nidakit : CNC kit cutting service

Nidaplast offers a bespoke cutting service for honeycomb panels to improve your productivity. Nidaplast kits, cut at the required dimensions, allow a good cost control by optimizing the honeycomb wastes and by reducing the labor cost with a faster implementation.



## Ready-to-use panels

A pre-assembly service is also available for more elaborate needs. Each project is managed by our technical staff in close collaboration with the customer:

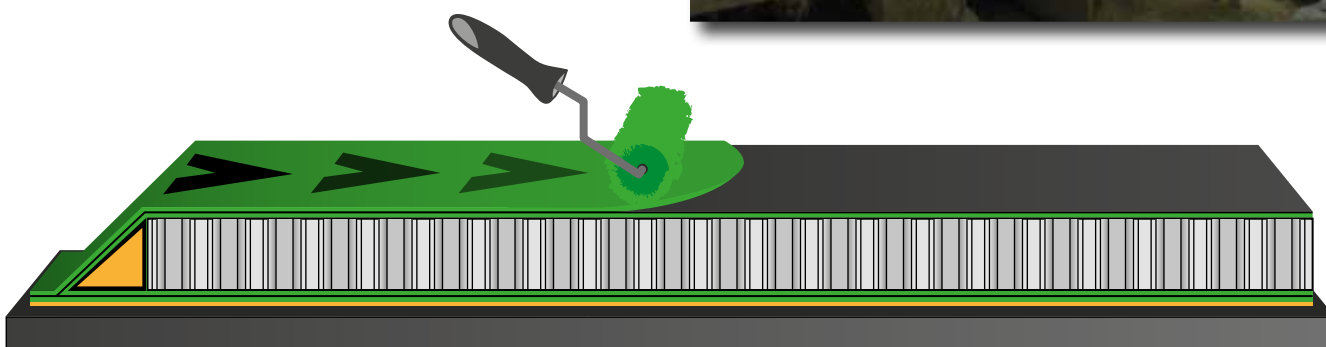
- ▶ Choice and use of materials,
- ▶ Technical specifications,
- ▶ Design of ready-to-use solutions.

# HONEYCOMB IMPLEMENTATION

## Contact or spray lamination

Nidaplast core is well suited for the production of sandwich parts in hand lay-up or spray lay-up molding.

The polyester non-woven is strongly heat welded onto the cells of the honeycomb and ensures a high level of adhesion with most types of thermoset resins. Considering the many different resin formulations and variations in process, it is recommended to check the compatibility with Nidaplast.

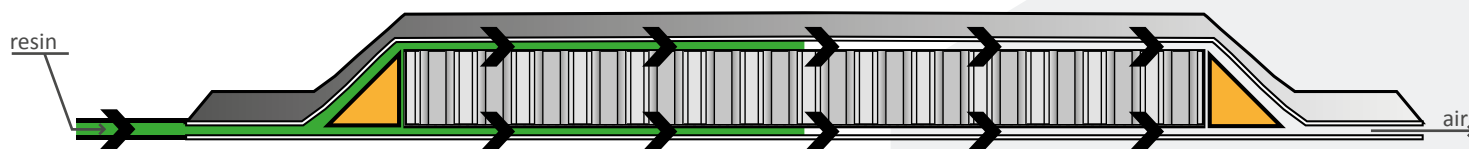


Refer to the implementation requirements for further details

## RTM or infusion

Nidaplast® 8R and 8RI are specific products that have been developed to keep cells sealed during infusion and RTM manufacturing processes. Thanks to a specific film, the cells do not fill with resin. To allow drainage of the resin, Nidaplast®8RI must be combined with interlaminar flow media, such as bleeder nets or glass Continuous Filament Mats (CFM).

The distance covered by the resin and its speed depend on its viscosity, its feed rate but also on the draining power of the reinforcements and the flow media. This flow media needs to be in direct contact with the core, in order to allow a good impregnation of the core and the reinforcement layers.



Refer to the implementation requirements for further details



## Gluing



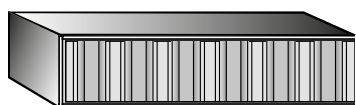
The honeycomb can also be used as a core for the production of glued sandwich panels. The honeycomb is covered on both sides by a PP film and a Polyester non-woven. This surface allows a perfect bonding with most kind of structural adhesives (Polyurethane, Epoxy, MS polymer...) or hot melt adhesive films. The application of glues can be carried out by glue roller (manual or industrial).

Almost all materials can be glued on nidaplast honeycomb (Metals, wood, laminates, minerals...)

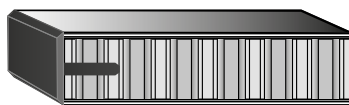
The use of a sandwich structure optimises the weight/rigidity ratio, making it an ideal solution in many sectors, like transportation, construction, marine, leisure equipments or industrial goods.

## Panel edging

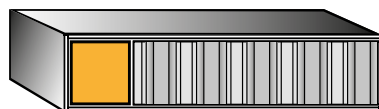
Several edge finishings are available (for example by a frame or a finishing section) depending on the manufacturing type, use and restrictions applied to the finished panels. Edges that will not bear mechanical stresses can be stuck to the sheets of the sandwich panel.



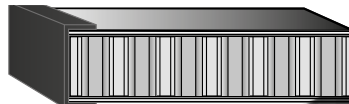
Laminated edge (glass / polyester)



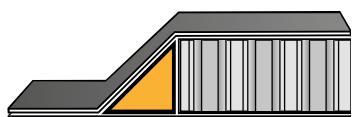
T profil



Foam or wood edge

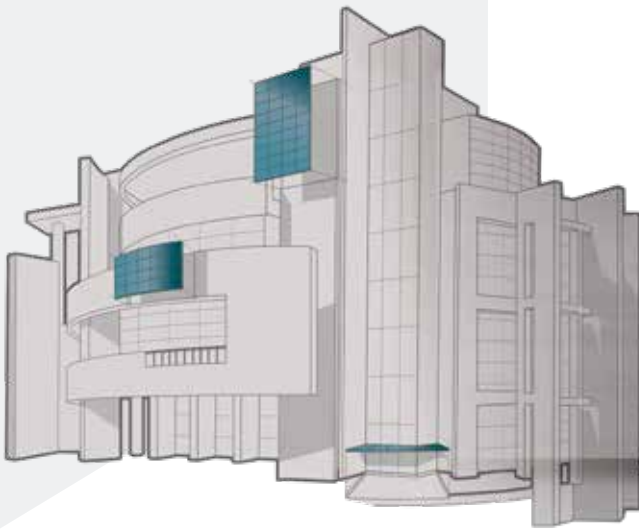


U profil



Beveled edge made of foam or wood

## BUILDING



- ▶ Claddings
- ▶ Prefabricated toilet block
- ▶ Decorative structures
- ▶ Technical doors
- ▶ Bathroom
- ▶ Architectural elements
- ▶ Partitions
- ▶ Technical floors



CLADDINGS



SHOWER CUBICLES

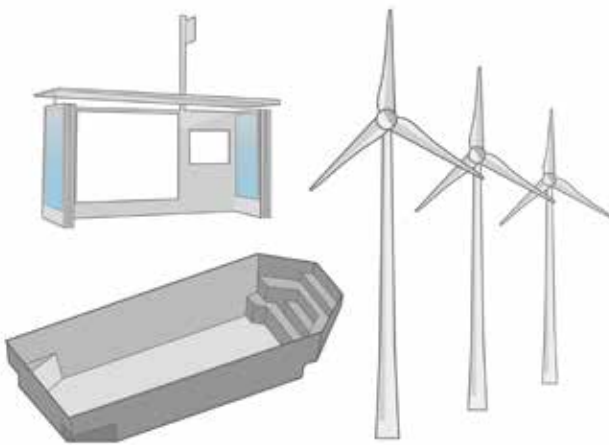


ARCHITECTURAL ELEMENTS



INTERIOR FURNISHINGS

## INDUSTRIAL FITTINGS



- ▶ Polyester processing
- ▶ Wind turbine nacelles
- ▶ Floating floors
- ▶ Swimming pools
- ▶ Waterjet cutting support
- ▶ Boxes
- ▶ Bus shelters
- ▶ Urban furniture



WIND TURBINE



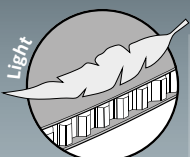
URBAN FURNITURE



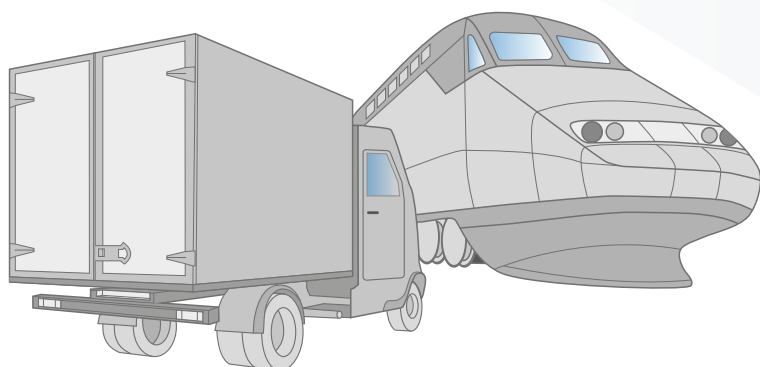
SWIMMING POOLS



POLYESTER PROCESSING



## TRANSPORT



- ▶ Truck trailer
- ▶ Horse van
- ▶ Ambulances
- ▶ Railway
- ▶ Recreational vehicles (RV)
- ▶ Cleaning vehicles
- ▶ Vehicle floors
- ▶ Site hut



TRUCK TRAILER



SPECIFIC VEHICLES

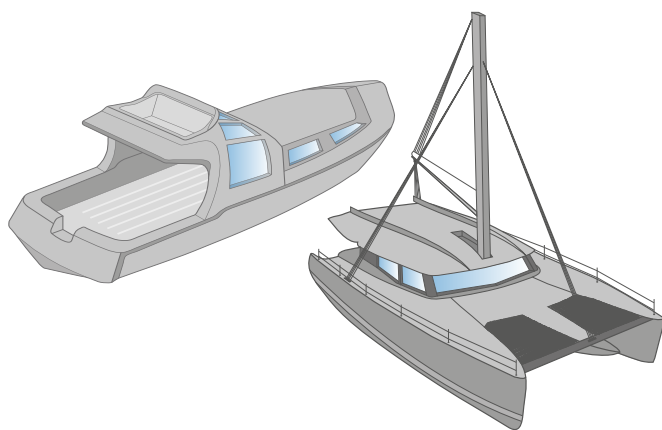


RAILWAY APPLICATIONS



FLOORS

## YACHTING



- ▶ Deck reinforcement
- ▶ Catwalk
- ▶ Cockpit floor
- ▶ Structural walls
- ▶ Decorative walls
- ▶ Interior layout
- ▶ Furniture
- ▶ Hull



SUPERSTRUCTURES



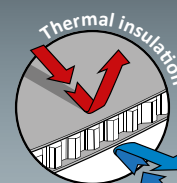
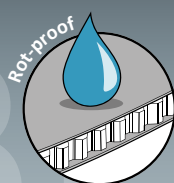
DECK



FURNITURE



COCKPIT







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