

PANELTIM[®]

Pioneer in plastic sandwich panels



Paneltim[®] Construction panels



WWW.PANELTIM.COM

Inhoud

Paneltim® Construction panels	3
Paneltim® panels: light, strong, quickly processable & durable	3
Paneltim - a pioneer for more than 20 years	3
Raw materials for Paneltim® panels	4
Polypropene or polyethene	4
Prime, near-to-prime & recy	5
Production: from granule to panel	7
Ecologie & recycling	9
5 reasons to choose Paneltim®	11
Extensive Paneltim® range	13
Paneltim® Multipower	14
Paneltim® Lightweight	16
Paneltim® Antislip	18
Profiles	20
PP-profiles	20
PVC-profiles	20
New: Paneltim® PP H and U profiles	21
Which panel for my project?	22
Paneltim® processing	24
Paneltim® Technical Standard	26
Reinforcements	28
Transport	29
Highlighted projects	31
Paneltim® Multipower	31
Paneltim® Lightweight 50 mm	32
Paneltim® Lightweight 35 mm and 20 mm	33
Paneltim® Antislip	34



Paneltim® Construction panels

PANELTIM® PANELS: LIGHT, STRONG, QUICKLY PROCESSABLE & DURABLE

Paneltim® plastic panels are hollow and therefore **lightweight**, but thanks to their internal cell structure they are **strong and rigid**. This makes them extremely suitable for building all kinds of structures that must be light, yet sturdy, ranging from air ducts, air washers, liquid tanks, industrial furniture, flight cases, sanitary and technical spaces,... to various types of trailers..

In addition, Paneltim® panels are **easy to process** with standard hand tools and you can **quickly** weld them together to any desired size.

The panels are made from

- **polypropene copolymer** (PP copo)
also known under the older name
polypropylene
- or
- **high density polyethene** (HDPE)
also called polyethylene.

All the panels are therefore made of 1 component so that they can be easily recycled at the end of their life. This way they **retain their raw material value**.

Paneltim plastic panels are available via a world-wide dealer network. We will gladly assist you to find a dealer close to you.

PANELTIM A PIONEER FOR MORE THAN 20 YEARS

Paneltim has been producing plastic panels in Lichtervelde (Belgium), since 1997. In 2019 we established a sales office in the United States; Paneltim USA. Yet we are really still a family company.

Innovation, ecology, quality and durability are of paramount importance.

Through continuous product development and a progressive production process, we always develop quality products that respond to the needs of the market.

We care about the environment. This is why we produce according to the principle of cradle to cradle and contribute to sustainable development and the circular economy.

Thanks to our world-wide dealer network we export to about fifty countries. We stimulate and support our partners in various sectors to discover strong and innovative applications for Paneltim® products.

We are ready for the future and look forward to the new applications that our partners will come up with for our panels. Will you send us a photo of your creation?



Raw materials for Paneltim® panels

POLYPROPENE OR POLYETHENE

Paneltim® panels are made from high-quality polypropene copolymer (PP copo) or high-density polyethene (HDPE), materials that have been tested according to European and international standards (EN 1778).

The panels therefore consist of only one raw material; 100% polypropylene or 100% polyethene which simplifies its recycling at the end of its life.

Because Paneltim® panels are made from PP and PE, they are resistant to most chemicals and can be welded easily.

POLYPROPENE OR POLYPROPYLENE (PP)

Polypropene is also known under the older name polypropylene.

Polypropene is used in various product areas and can be processed and applied using various techniques such as injection molding, sawing, milling and drilling.

In most cases, Paneltim® panels made of PP are chosen because they are stronger and stiffer and have a higher module of elasticity. PP is also less sensitive to deformations and performs better at higher temperatures.



Plastic containers made of PP

POLYETHENE OR POLYETHYLENE (PE)

Polyethene is also known under the older name of polyethylene.

In some cases, Paneltim® panels in polyethene are used, for example at a very low operating temperature. When existing PE products have to be added or combined with Paneltim® panels, preference will also be given to PE panels.



PE pipes

Raw materials for Paneltim® panels

PRIME, NEAR-TO-PRIME & RECY

Paneltim® panels are available in a wide range of options: in addition to the choice between PP copo and HDPE, you can choose from 3 different qualities: prime, near-to-prime or recycled raw materials.



Prime raw materials

PRIME

Prime or “Virgin” quality refers to pure, new plastic. These days the focus throughout the world is increasingly on sustainability and renewable resources. Yet, in a number of cases, it is advisable to work with Paneltim® panels made from new, prime quality plastic. The mechanical properties of this are after all 100% known and controllable.

Over the years, Paneltim has invested heavily in the research and development of prime panels. We therefore have long-term data on the basis of which you can, for example, make reliable calculations and analyses with finite element analysis (FEA).



Near-to-prime raw materials

NEAR-TO-PRIME (NTP)

Near-to-prime or “off-spec” quality is the quality that arises when starting up or finishing a production run prime material. It is therefore new plastic, but minimal technical or visual deviations can occur.

Even though the quality is comparable to that of prime raw materials, the mechanical properties are not 100% known. Long-term calculations can therefore not be made, but for certain applications this may not be necessary and near-to-prime quality may suffice.



Recycled raw materials

RECY

50% of the panels produced by Paneltim are made from 100% recycled raw materials. The origin of these raw materials is ‘post-industry’. It therefore concerns industrial plastic waste that is processed into reusable plastic.

These raw materials are strictly inspected both externally and internally in the Paneltim lab. After all, we want our recy panels to meet strict standards, so that the quality of these panels can be guaranteed. Because the quality and origin are not 100% verifiable, long-term data cannot be provided. Keep in mind that color differences can occur with recycled panels.



Paneltim® panels are injection molded in high-quality polypropene (PP) or polyethylene (HDPE)

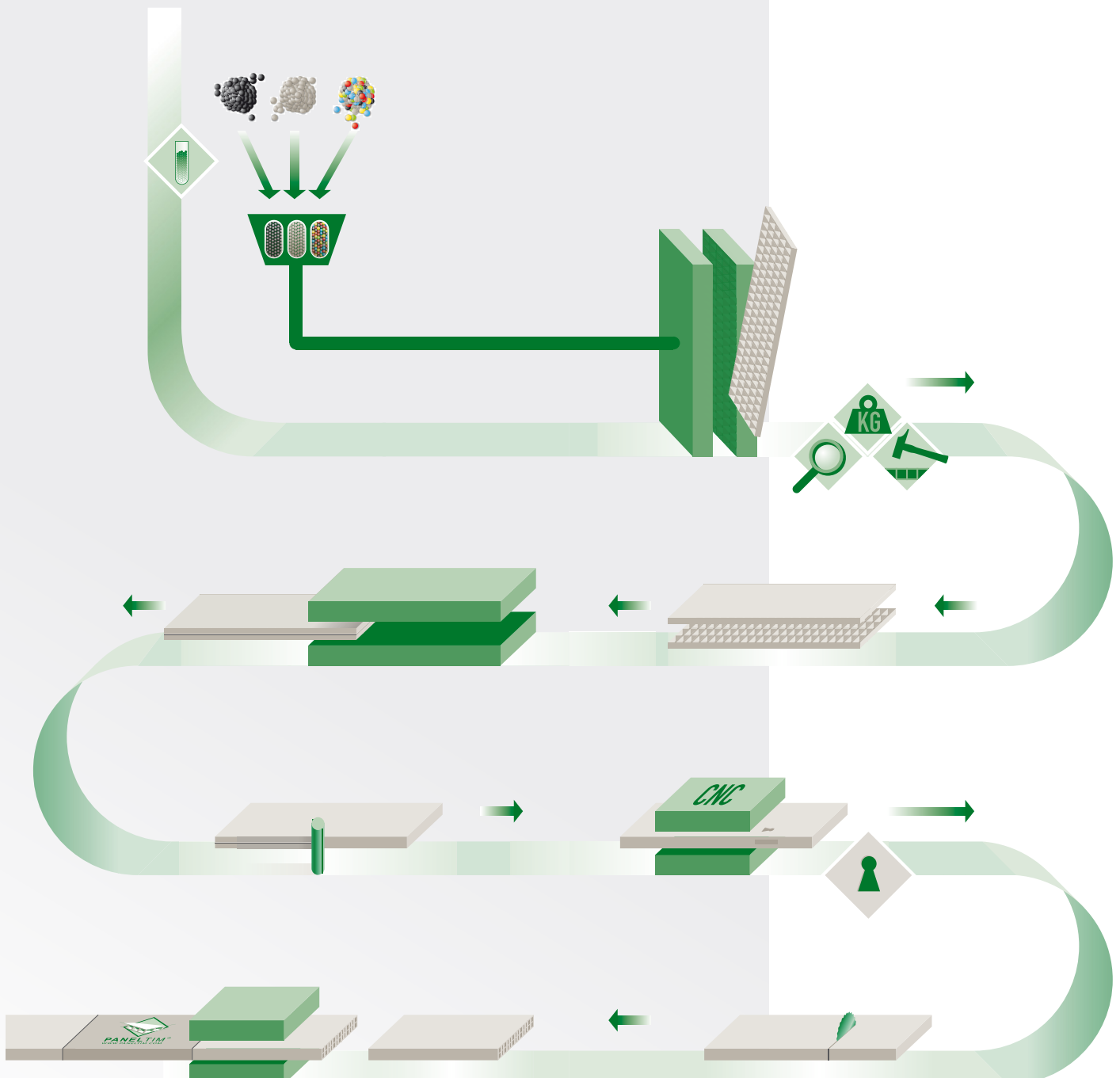
Production: from granule to panel

Prime and near-to-prime raw materials enter Paneltim as round granules, recycled raw materials generally as grind (flakes).

The raw materials are mixed in mixing machines with the necessary pigments - also known as "masterbatches" - and possibly other additives such as UV stabilizers or fire retardants.

Half panels are then injection molded under high pressure in various injection molding machines. The injection molding machines that Paneltim uses for this are among the largest in Europe. They have a clamping force of 1600, 1850, 3000 and 4000 metric tons.

The half panels are then welded together by large automated mirror welding machines, after which they are stacked on pallets.





Colorful mix of recycled plastic that black panels are made of

Ecology & recycling

Ecology, recycling, sustainable development and circular economy are not buzzwords to us. From the foundation of Paneltim, we have been producing as much as possible according to the cradle to cradle principle.

CRADLE TO CRADLE

Cradle to Cradle is a principle whereby every material, after the life of the product in which it is processed, must be reused in another product or must return to nature.

We strive to achieve these objectives and make it a point to produce as much as possible according to this principle.

- ✓ All the Paneltim® panels are 100% recyclable.
- ✓ We collect as many plastic residues from the production process as possible, such as residual pieces, chips, ... and either grind it ourselves or in collaboration with external partners. With this ground plastic, we then produce recy panels.
- ✓ We strive towards using as little as possible packaging material. Most of our panels are transported on pallets without a film wrapped around it.

FREE OF TOXIC SUBSTANCES

Paneltim® panels are free of toxic substances and meet the European directive 2011/65/EU.

SIMPLE RECYCLING

Because Paneltim® panels consist of 1 component, namely PP or PE and are free of toxic substances, they are easy to recycle.

RECYCLING CODES

Most plastics have a recycling number. These numbers are indicated on most products as a recycling symbol. This symbol simplifies the identification of the material when processing products that have reached the end of their life cycle.

PP: CODE 5

For instance, Paneltim® panels made from PP always have recycling code 5.

PE: CODE 2

Panels made from PE always have recycling code 2.

These codes are often found on lids of cold drinks, flower pots, beer crates,... and we could in principle use these to make recy panels with. In the practice we use mainly recycled plastic of **post-industrial origin**.



DID YOU KNOW THAT...

...ALL PANELTIM® PANELS ARE 100% RECYCLABLE?



Paneltim® panels consist of 1 component: PP or PE. This simplifies recycling at the end of its life cycle and ensures that the panels are 100% recyclable.

...50% OF THE PANELS ARE MADE FROM 100% RECYCLED RAW MATERIALS?

Half of the panels produced by us are sprayed with 100% recycled plastic. In the agricultural sector, recycled panels have been used almost exclusively for years to make, for instance, pennings, but the demand for recycled panels for certain applications is also growing outside the agricultural sector.

...RECYCLED PANELS RETAIN THEIR RAW MATERIAL VALUE?

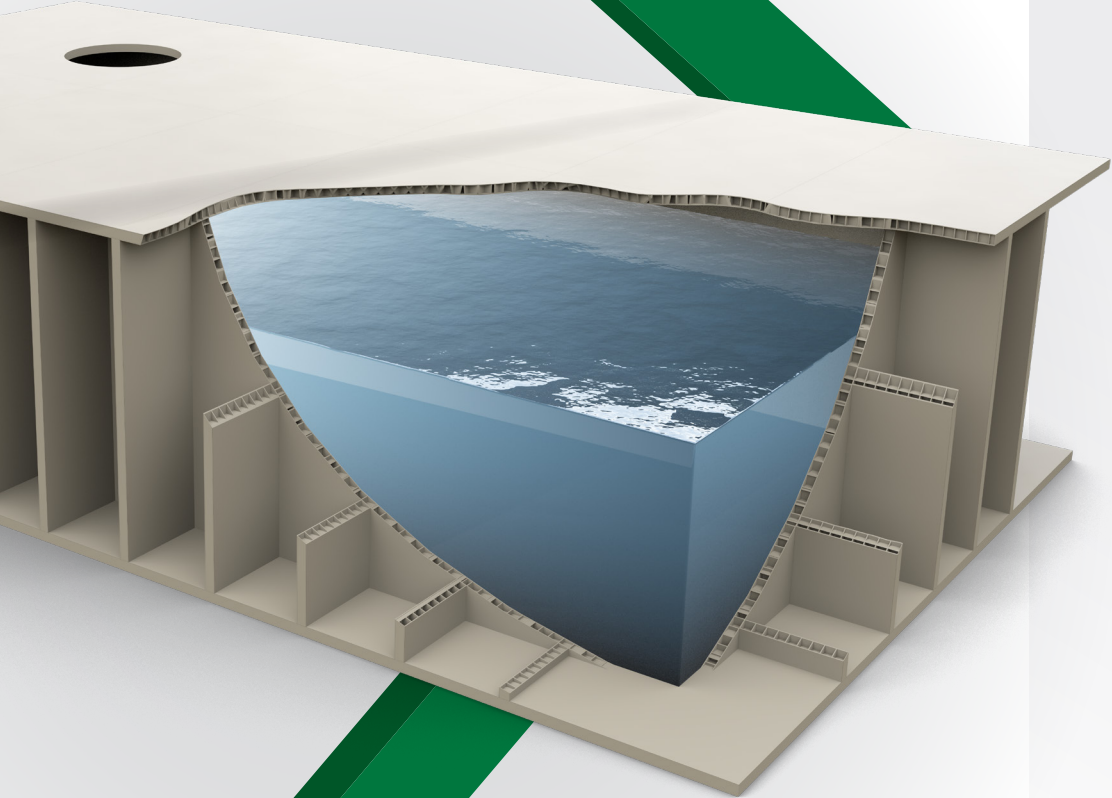
Indeed, after recycling, the panels retain their raw material value and the plastic can be reused for making other products.

Build your structures QUICKLY and SAFELY

Consult the PTS, a new standard for calculating structural applications with double-walled plastic panels. Read more about it on page 26.



PTS



REASONS TO BELIEVE IN PANELTIM®

WATCH THE VIDEO:
<http://bit.ly/YoutubePaneltimUSP>



5 REASONS TO CHOOSE PANELTIM®



Thanks to their internal cell structure, Paneltim® panels are extremely strong. The cells ensure that the panels have excellent bending resistance in all directions.



Thanks to their hollow cell structure, Paneltim® panels are very light, while retaining their sturdiness and rigidity.

This not only facilitates the processing of the panels, but also lowers the costs of transport and installation.



Paneltim® panels are resistant to many chemicals, repel dirt and are easy to clean with a high-pressure cleaner.

Thanks to the closed cell structure, dirt has no chance to penetrate into the panels.



Standard Paneltim® panels can be processed to all desired dimensions thanks to different welding techniques or mechanical connections. The panels are also easily processable with traditional actions such as sawing, drilling, screwing,...



Paneltim® panels are 100% recyclable. They are free of toxic substances and meet the European directive 2011/65/EU.

DID YOU KNOW THAT PANELTIM® PANELS...

...OFFER ENORMOUS FLEXIBILITY?

The panels are welded together quickly and easily so that any desired dimension can be created. Both in the workplace and on site.

...ARE INSULATED?

Paneltim® panels are filled with air on the inside and therefore perform well in terms of thermal insulation in comparison with similar products. Air has a high thermal resistance. This insulation effect can be compared with the principle of a cavity wall or double glazing.

...CAN ALSO BE USED OUTSIDE BY ADDING UV STABILIZERS?

Paneltim® panels are prime quality and always provided with UV stabilization for the Central European climate and can be used outside.

We always recommend using light colors for outdoor applications.





R
[Barcode]

R
[Barcode]

PPH615UNL02
[Barcode]
Operator [Barcode]

Paneltim® panels are available in different thicknesses, sizes, colors and internal cell structures,

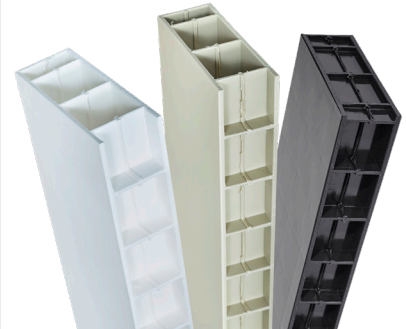
Extensive Paneltim® range

Thanks to the wide range of designs, different thicknesses and structures, there is a Paneltim® solution for every application that exactly meets your specific requirements.

PANELTIM® MULTIPOWER

Paneltim® Multipower panels have an internal cell structure of 50 mm by 50 mm. This makes them the strongest and most robust panels from the range of Paneltim® plastic panels.

These panels are suitable for building all kinds of liquid tanks, air washers and air filters, heat exchangers, swimming pools, non-roof-bearing walls,...

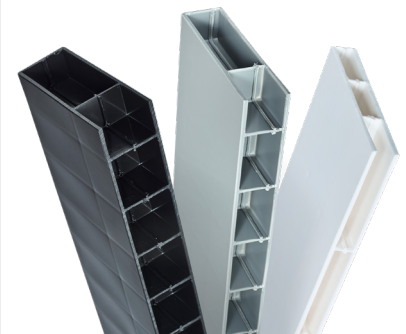


PANELTIM® LIGHTWEIGHT

Paneltim® Lightweight panels are very light due to their internal cells of 100 mm by 50 mm. Despite their light weight, they still exhibit good properties in terms of stiffness and deflection under load.

The Lightweight panels are available in three different thicknesses: 50 mm, 35 mm and 20 mm.

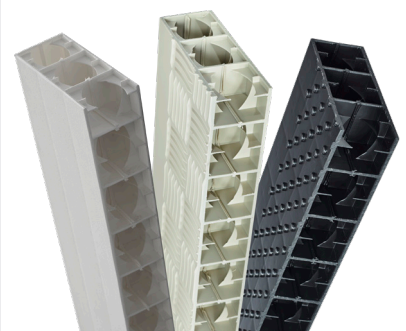
These panels are suitable for making a wide range of applications ranging from garden furniture, air ducts, planters, transport boxes to technical rooms, trailers,...



PANELTIM® ANTISLIP

Thanks to their internal cell structure of 50 mm and 50 mm heavy loads, Paneltim® Antislip panels are suitable for anti-slip floors in various applications. These panels have a tear plate, stud or orange peel structure.

These panels are suitable for building scaffolding, pontoons, footpaths, lids,...



Cells of 50 mm x 50 mm



Cells of 100 mm x 50 mm

NEW: FILM PROTECTION

The panels can be covered with a transparent film on request, to prevent damage. The film can be applied to one or both sides of the panel and is easy to remove.

Paneltim® Multipower

Paneltim® Multipower panels are the strongest and most robust within the Paneltim® range.

Thanks to the internal cell structure of 50 mm x 50 mm, the panel has excellent mechanical properties, both in length and width.

THE PANEL

Paneltim® Multipower panels from PP copo or HDPE are 50 mm thick and are available in the dimensions 2,600 mm x 1,000 mm and 1,200 mm x 1,000 mm.

Multipower panels have a square cell structure of 50 mm x 50 mm. With the large 2,600 mm x 1,000 mm panels, the first cell is narrower (50 mm x 25 mm) to minimize material loss during welding.

COLORS

Paneltim® Multipower panels are available in various colors, depending on the raw material used, either PP or PE (see table):

- beige (RAL 7032)
- light gray (RAL 7001)
- white (RAL 9010)
- black

The panels are available in other colors upon request. Contact us for more information.

We recommend that you always use light colors with UV stabilization outdoors.

UV PROTECTION

Paneltim® Multipower prime panels are always provided with UV stabilization for the Central European climate.

Other panels with UV stabilizers are also available on request. Contact us for more information.

RECYCLING

- 100% recyclable
- Recycling codes:



PP



PE

ON THE MARKET SINCE...

The Paneltim® Multipower panel is actually as old as Paneltim itself. Paneltim launched the first version of the panel in 1997. It was 50 mm thick, had cells of 50 mm x 50 mm and was available in 3 different sizes. In 2013 the Paneltim® Multipower panel, as we know it today, was introduced.



Paneltim® Multipower

OTHERS CREATE WITH PANELTIM® MULTIPOWER...*

AQUACULTURE

Fish tanks, breeding canals (e.g. trout), containers for transporting fish, lobsters, drum filters, bio-filters,...

INFRASTRUCTURE

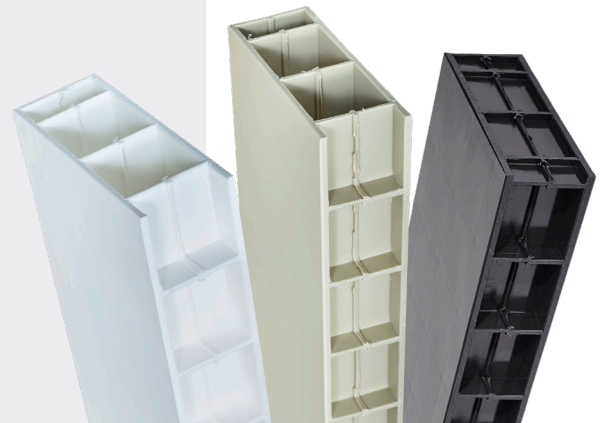
Technical rooms, pump cabins, trailers, site containers, non-weight-bearing walls, diving containers, toilet trailers, shower cubicles, sanitary blocks, washbasins, planters, boats, beach houses, smokers' houses, stairs, stages, both rectangular and round lids, palettes, pontoons, walls around Jacuzzis, saunas, containers for storing tomatoes, plastic "skids" (prefab holder for mounting technical equipment), cleaning cabins, cable ducts, corridors, doors, gates,...

AIR

Industrial air washers, air ducts, air filters, heat recovery ducts, cooling installations, ventilation ducts, odor filters, dust filters,...

LIQUIDS

Liquid tanks, sedimentation tanks, rainwater tanks, waste water tanks, liquid filters, bio-filters, fat collection trays, drip trays, above-ground and built-in swimming pools, even with moving floor, recovery baths (for humans and animals), ponds,...



MOST IMPORTANT BENEFITS

- ✓ Light yet rigid
- ✓ Equally strong in length and in width
- ✓ Weldable to any size
- ✓ Processable in small spaces
- ✓ Corrosion resistant
- ✓ Long-term data for prime panels
- ✓ Time saving due to short welding cycle
- ✓ 100% recyclable

Structure	Raw material	Thickness (mm)	Cells (mm)	Dimensions (mm x mm)	Wall thickness (mm)	Weight (kg/m ²)	Pallet (stuks)
2 flat edges	PP	50	50 x 50	2,600x1,000	4.3	12.8	20
				1,200x1,000	3.3	11.5	
	PE	50	50 x 50	2,600x1,000	4.5	13.8	20

The data in the above table are based on prime material.

Contact Paneltim for more detailed information and ask for the technical sheets. Near-to-prime material may differ slightly.

Prime	NTP
White	Gray
Black	-
Beige	-

No true color representation of the colors. This is just an indication.

Contact Paneltim for more information about the available colors.



* Paneltim is a manufacturer and distributor of plastic panels. We cannot be held responsible for the results of constructions, but we are happy to put you in contact with experts.

Paneltim® Lightweight

Paneltim® Lightweight panels are light, strong and rigid with excellent resistance to deflection under load. The panels have an internal cell structure of 100 mm x 50 mm.

THE PANEL

Paneltim® Lightweight panels made of PP copo or HDPE are 50 mm, 35 mm and 20 mm thick and are available in the 1,200 mm x 1,000 mm dimension. 50 mm thick panels are also available in the large 2,600 mm x 1,000 mm format.

COLORS

Paneltim® Lightweight panels are available in various colors, depending on the raw material used, either PP or PE (see table):

- beige (RAL 7032)
- dark blue (RAL 5002)
- green
- light gray (RAL 7001)
- white (RAL 9010)
- black

The panels are available in other colors upon request. Contact us for more information. We recommend that you always use light colors with UV stabilization outdoors.

UV PROTECTION

Paneltim® Lightweight prime panels are always provided with UV stabilization for the Central European climate.

Other panels with UV stabilizers are also available on request. Contact us for more information.

RECYCLING

- 100% recyclable
- PP Recy panels are made from 100% recycled raw materials.
- Recycling codes:



PP



PE

ON THE MARKET SINCE...

Paneltim launched the 50 mm Paneltim® Lightweight panel in 3 dimensions, in 2005. The thinner versions were added to the range in 2015: 35 mm and 20 mm.

HALF PANELS

The 27 mm and 11 mm half Paneltim® panels are flat on one side and have an open rib structure on the other side. These half panels are easy to install as wall or ceiling cladding. This way ceilings and walls are covered quickly. Painting is no longer necessary. An additional advantage is that they are easy to clean.



Paneltim® Lightweight

WHAT OTHERS CREATED WITH PANELTIM® LIGHTWEIGHT...*

AGRICULTURAL APPLICATIONS

Biological and chemical air washers, doors, gates, cadaver boxes,...

INFRASTRUCTURE

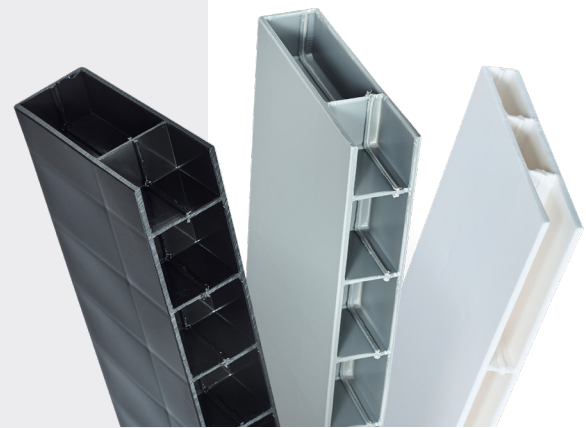
Pump booths, trailers, site containers, non-roof-bearing walls, toilet trailers, planters, beach houses, smokers' houses, both rectangular and round lids, palettes, walls around Jacuzzis, saunas, barrels for storing tomatoes, "skids" (prefab holder for mounting technical equipment), cleaning booths, cable ducts, corridor walls, doors, gates, storage cabinets, tool boxes, cases for transporting sports equipment, machines,... hardtops for jeeps, walls of machines, billboards around sports fields, dugouts, garden furniture (tables, benches, picnic tables), wall coverings from car washes, mobile walls,...

AIR

Industrial air washers, air ducts, air filters, heat recovery ducts, cooling installations, ventilation ducts, odor filters, dust filters,...

SANITARY AREAS

Hygiene locks, toilet areas, shower cubicles, sanitary blocks, washbasins,...



MOST IMPORTANT BENEFITS

- ✓ Various thicknesses
- ✓ Light weight
- ✓ Long-term data available for Prime
- ✓ Time saving due to short welding cycle
- ✓ Corrosion resistant
- ✓ 100% recyclable
- ✓ Long life-cycle

Structure	Raw material	Thickness (mm)	Cells (mm)	Dimensions (mm x mm)	Wall thickness (mm)	Weight (kg/m ²)	Pallet (stuks)	
2 flat edges	PP	50	100x50	2,600x1,000	3.5	9.9	20	
				1,200x1,000	3.5	9.9		
				1,200x800	3.5	9.9		
		35	100x50	1,200x1,000	3.5	8.7		30
				1,200x800	3.5	8.7		30
				20	100x50	1,200x1,000		3.5
	1,200x800	3.5	7.6			50		
	PE	50	100x50	2,600x1,000	3.5	10.5	20	
				1,200x1,000	3.5	9.6	30	
				1,200x1,000	3.5	8.5	50	

Prime	NTP	Recy
White	White	Green
Black	Gray	Black
Beige	Blue	-

No true color representation of the colors. This is just an indication. Contact Paneltim for more information about the available colors.



The data in the above table are based on prime material.

Contact Paneltim for more detailed information and ask for the technical sheet. Near-to-prime material may differ slightly.

With recycled panels, variation in colors and color tones are possible.

* Paneltim is a manufacturer and distributor of plastic panels. We cannot be held responsible for the results of constructions, but we are happy to put you in contact with experts.

Paneltim® Antislip

Paneltim® Antislip panels can support heavy loads and are suitable for anti-slip floors in various applications. These panels have a tear plate, stud or orange peel structure on the surface. The anti-slip panels have an internal cell structure of 50 mm x 50 mm, which gives them good mechanical properties, both in length and width. The new orange peel skin texture feels great on bare feet. All this gives these panels an enormous amount of options.

THE PANEL

Paneltim® Antislip panels made of PP copo or HDPE have a double rib (cross) in the middle. This makes it easy to make panels of 60 cm, 50 cm or 40 cm long or wide which are still closed all round with one cut of the saw.

COLORS

Paneltim® Antislip panels are available in different colors, depending on the raw material used, being PP or PE (see table).

- beige (RAL 7032)
- white (RAL 9010)
- black

The panels are available in other colors upon request. Contact us for more information. We recommend that you always use light colors with UV stabilization outdoors.

HEAVIER LOADS

Paneltim® Antislip panels have a reinforced internal cell structure that allows them to handle heavier loads. This allows them to be used as floor elements in corridors, on stairs and in lids. Contact our engineering department for assistance with your strength calculations.

UV PROTECTION

Paneltim® Antislip prime panels are always provided with UV stabilization for the Central European climate. Other panels with UV stabilizers are also available on request. Contact us for more information.

RECYCLING

- 100% recyclable
- PP Recy panels are made from 100% recycled raw materials.
- Recycling codes:



PP



PE

ON THE MARKET SINCE...

Quite, soon after the establishment of Paneltim panels with studded motifs were available. In 2016, the panel with five bars design was launched and in 2019 the panel with orange peel structure was added.



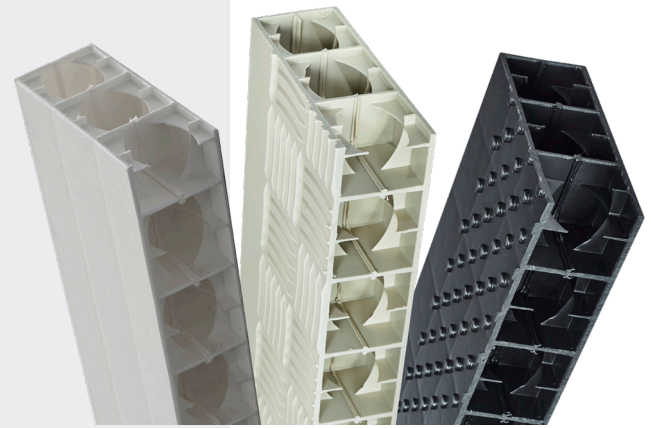
Paneltim® Antislip

OTHERS CREATE WITH PANELTIM® ANTISLIP PANELS...*

Stairs, scaffolding, walking platforms, ramps, footpaths, steps, corridors, sanitary rooms, toilets, showers, washrooms, walls and floors of swimming pools,...

HIGH SLIP RESISTANCE

Slipping and falling are the most common causes of accidents in and around the workplace. Tests show that the 3 Paneltim® Antislip panels have a high slip resistance, both in wet and dry conditions. Where the studded and five bars panels score well when wearing shoes (R10 according to DIN 51130 standard), the orange peel structure scores well on both walk-ability with shoes and on bare feet (R10 according to DIN 51130 and B according to DIN 51097).



MOST IMPORTANT BENEFITS

- ✓ Slip resistant (even with a wet surface)
- ✓ Simple to process
- ✓ Easy to clean
- ✓ Corrosion resistant
- ✓ No water absorption
- ✓ 100% recyclable
- ✓ Durable

Paneltim® Antislip	Standard		Class
Studs	DIN 51130		R10
Five bars	DIN 51130		R10
Orange peel	DIN 51130		R10
	DIN 51097		B

Structure	Raw material	Thickness (mm)	Cells (mm)	Dimensions (mm x mm)	Wall thickness (mm)	Weight (kg/m ²)	Pallet (stuk(s))
1 edge flat	PP	50	50 x 50	1,200x1,000	3.3	12.1	20
1 edge five bars	PE	50	50 x 50	1,200x1,000	3.3	12.7	20
1 edge flat 1 edge studded	PP	50	50 x 50	1,200x1,000	3.3	11.8	20
	PE	50	50 x 50	1,200x1,000	3.3	12.7	20
2 edges orange peel	PP	50	50 x 50	1,200x1,000	3.3	11.3	20

Prime	Recy
White	Black
Beige	-

No true color representation of the colors. This is just an indication. Contact Paneltim for more information about the available colors.

The data in the above table are based on prime material. Contact Paneltim for more detailed information and ask for the technical sheet.

With recycled panels, variation in colors and color tones are possible.

* Paneltim is a manufacturer and distributor of plastic panels. We cannot be held responsible for the results of constructions, but we are happy to put you in contact with experts.



Profiles

PP-PROFILES

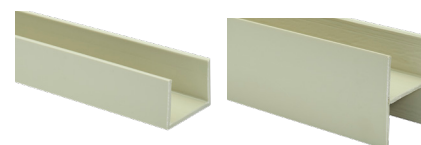
WHITE

			Piece m	Pack pieces	Pack m
PP	U-profile	50 mm	3,000 mm	10	30
PP	H-profile	50 mm	3,000 mm	10	30



BEIGE

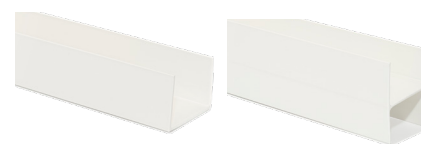
PP	U-profile	50 mm	3,000 mm	10	30
PP	H-profile	50 mm	3,000 mm	10	30



PVC-PROFILES

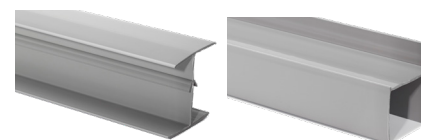
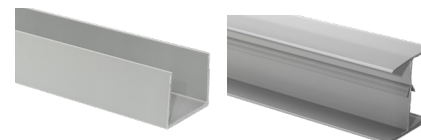
WHITE

			Piece m	Pack pieces	Pack m
PVC	U-profile	50 mm	3,000 mm	10	30
PVC	H-profile	50 mm	2,600 mm	10	26
PVC	H-profile with V	50 mm	3,000 mm	10	30
PVC	L-profile	50 mm	3,000 mm	10	30
PVC	Chair profile	50 mm	2,100 mm	10	21



LIGHT GRAY

PVC	U-profile	50 mm	3,000 mm	10	30
PVC	H-profile with V	50 mm	2,600 mm	10	26
PVC	H-profile with V	50 mm	3,000 mm	10	30
PVC	Stoelprofiel	50 mm	2.100 mm	10	21



Profiles

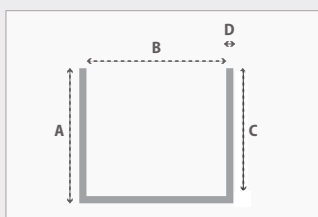
Although strong structures are best achieved by welding panels together, Paneltim also offers a limited range of fastening parts, which offer the possibility of quickly making light, yet sturdy and hygienic application.

NEW: PANELTIM® PP H AND U PROFILES

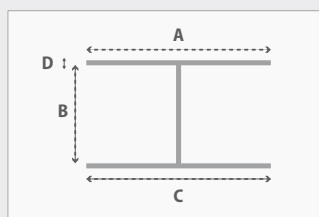
Paneltim® PP H and U profiles considerably speed up the creation of (lighter) constructions with Paneltim® panels. The profiles are both strong and durable, easy to process and to clean. Thanks to these profiles, creativity with Paneltim® panels really knows no limits.

DIMENSIONS AND COLORS

Paneltim® PP U-profile



Paneltim® PP H-profile



Profile	A mm	B mm	C mm	D mm	Length mm	Colors
U-profile	50	50	30	4	3,000	White (RAL 9010) Beige (RAL 7032)
H-profile	64	50	64	4	3,000	White (RAL 9010) Beige (RAL 7032)

MOST IMPORTANT BENEFITS

- ✓ Profile, panel and weld wire in PP
- ✓ Time saving through simple processing
- ✓ Windproof sealing of seams
- ✓ Prevents penetration of dirt and bacteria
- ✓ UV resistant
- ✓ Low maintenance
- ✓ Impact resistant

MATERIAL

Paneltim® PP H and U profiles are made from PP. PP has the characteristic that it is very sturdy, durable and easy to process and to clean. Thanks to the addition of a UV stabilizer, the profiles are also UV-resistant.

QUICK ASSEMBLY THROUGH WIRE WELDING

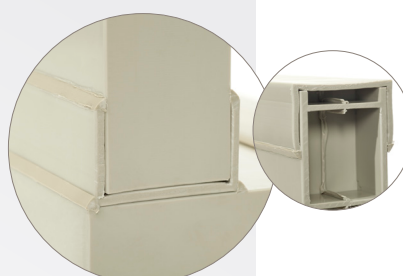
With a triangular PP welding wire of 5 mm x 3 mm x 3 mm you can quickly and easily create a seamless transition between the profile and the plastic panel.

POINTS OF ATTENTION

- * Not suitable for
 - applications with liquids
 - weight bearing applications
- * Take into account possible expansion



PP H-PROFILE
to connect panels



PP U-PROFILE
to connect panels and
to cover open cells

USES

CONNECTION OF PANELS

Thanks to PP H and U profiles you can quickly connect Paneltim® panels to each other.

FIX PANELS TO FLOORS, WALLS AND CEILINGS

Screw U profiles to floors, walls and ceilings, place the Paneltim® panels in there and weld them to the profile.

OPTIMAL FINISH

You can easily and neatly cover any open cells of a custom-cut Paneltim® panel with a U profile. PP H and U profiles ensure a perfect finish so that, once the profiles are welded to the panels, dirt has no chance to penetrate the panels.

Which panel for my project?

How rigid and strong are Paneltim® panels anyway? To give you an idea, here is a comparison between the Paneltim® prime panels with steel sheet, solid plastic sheets and OSB and chipboard. The indicated values are snapshots. These values are rounded off for indication.

USE OUTSIDE

Always use prime panels with UV stabilization in light colors for outdoor applications..

	Surface structure	Cell size mm x mm	Material	Thickness mm	Dimension mm x mm	Wall thickness mm	Weight kg/m ²
MULTIPOWER	Flat	50 x 50	PP	50	2,600 x 1,000	4.3	12.8
					1,200 x 1,000	3.3	11.5
			PE	50	2,600 x 1,000	4.5	13.8
LIGHTWEIGHT	Flat	100 x 50	PP	50	2,600 x 1,000	3.5	9.9
				35	1,200 x 1,000	3.5	8.7
				20	1,200 x 1,000	3.5	7.6
			PE	50	2,600 x 1,000	3.5	10.5
				35	1,200 x 1,000	3.5	9.6
				20	1,200 x 1,000	3.5	8.5
ANTISLIP	Five bars	50 x 50	PP	50	1,200 x 1,000	3.3	12.1
			PE	50	1,200 x 1,000	3.3	13.1
	Studded	50 x 50	PP	50	1,200 x 1,000	3.3	11.8
			PE	50	1,200 x 1,000	3.3	12.7
	Orange peel	50 x 50	PP	50	1,200 x 1,000	3.3	11.3

Which panel for my project?

Consult the Paneltim® Technical Standard (PTS), the new standard for calculating structural applications with double-walled plastic panels, to determine whether the panels are suitable for your application.

You can read more about the PTS on page 26.

Paneltim® rigidity comparable to a steel plate...		Paneltim® rigidity comparable to a solid PP/PE plate...		Paneltim® rigidity comparable to an OSB chipboard...	
met dikte ... mm	maar ... % lichter	met dikte ... mm	maar ... % lichter	met dikte ... mm	maar ... % lichter
6.2	50	38	60	34	45
6.2	50	36	60	34	45
5.6	40	39	60	31	35
6.0	50	36	70	31	55
4.6	35	28	65	25	50
3.0	5	18	55	16	35
5.4	40	36	70	28	45
4.2	30	28	65	22	45
2.7	15	18	55	13	20
6.1	50	36	60	34	45
6.1	40	36	60	31	35
6.1	50	36	60	34	45
6.1	40	36	60	31	35
6.1	50	36	60	34	45

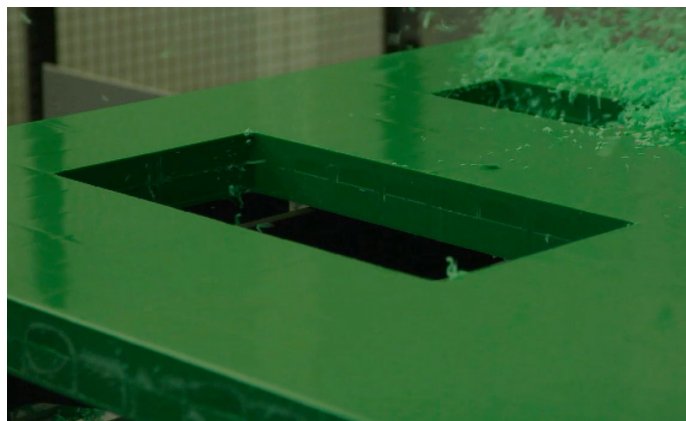
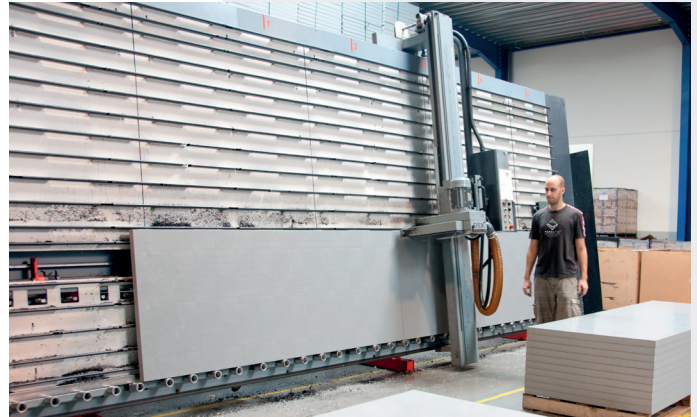
Paneltim® Processing

Paneltim® plastic panels are easy to install and attach. The extensive processing and welding options make simple and quick assembly, installation and customization possible. With Paneltim® creativity has no borders.

FLEXIBLE DIMENSIONS

Standard Paneltim® plastic panels can be processed to any desired size via the butt welding technique or by means of wire welding and/or extrusion welding. The panels are easily processable with traditional actions such as sawing, drilling, screwing,... Allowing you to easily cut them to the length or width that you need.

The light weight of the panels facilitates and speeds up the assembly of large dimensions in one piece.



MULTI-PROCESSABLE

Due to the internal cell structure of 50 mm x 50 mm or 100 mm x 50 mm of the panels, you can easily ensure that the outer edges of the panels remain closed, even with customization. If you take the dimensions of the internal cells into account, even openings that are milled into the panels with a CNC machine are closed.

This way your construction not only looks good, you also prevent dirt from settling inside the panels.

COMBINING WITH OTHER MATERIALS

Paneltim® panels made from PP or PE can be welded together with other materials in PP or PE, such as solid panels, pipes, and the like.

It is also possible to attach all kinds of pipes to the panels.



INSTALLATIONS IN SMALL SPACES

The installation of a reservoir or other construction in a limited space can be carried out at the site. This is a major advantage compared to the installation of traditional reservoirs. Waterproof assembly and welding, making connections to existing pipe entrances, etc. - everything can be done on site.



Paneltim® Processing

WELDING

Paneltim® panels can be processed to all the desired dimensions and shapes by butt welding, wire welding and/or extrusion welding. The short welding cycle shortens the processing time considerably.



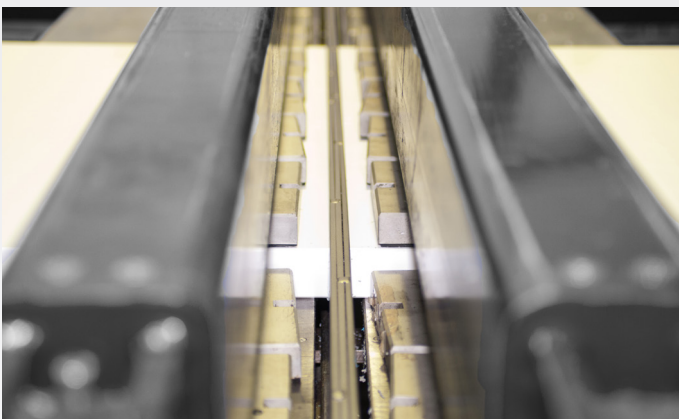
WIRE WELDING

Wire welding is a technique where welding wire is used to join plastic panels together. Triangular welding wire is preferably used for wire welding. The welding wire is guided through a tube that is preheated by hot air. The correct temperature, speed and the right pressure on the weld is essential. This determines the quality of the weld. A thicker weld is not always a stronger or better weld!

EXTRUSION WELDING

Extrusion welding is a welding process in which the PP or PE welding wire is finely ground in the welding machine and then heated under pressure to a plastic, deformable mass with which two plastic parts are bonded together.

A 'welding shoe' presses the mass against the panels and determines the width of the weld. Through the exerted pressure and the speed with which the weld is applied, the welder determines the thickness of the weld. Here too the following applies: a thicker weld is not always a stronger or better weld! Always use the correct welding head and temperature!



WELDING SETTINGS

Welding settings generally depend on:

- the type of welding machine
- outside temperature and weather conditions
- combination choice pressure, time, welding temperature
- experience of the processor
- material: PP or PE, but also prime, near-to-prime, recy
- type of panel: Multipower or Lightweight, thickness,...



BUTT WELDING

With butt welding, two panels are attached to each other by fusing them. The panels are pushed briefly against a hot 'mirror'. This makes the edges a little 'liquid-plastic'. By then pressing them together, they cool and melt into a whole.

Always weld open sides together. With the large Paneltim® Multipower panels of 2,600 mm x 1,000 mm, the first cell is therefore narrower: 50 mm x 25 mm. This way material loss during welding is minimized.

Every welding machine must be set up differently. It is important not to generalize the settings and always to test, refine and validate on your own machine, according to the instructions for use. If necessary, ask the supplier of your welding equipment for advice.

For an optimal result:
always weld in a moisture and dust-free area.

Paneltim® Technical Standard

It has become necessary to use not only lightweight, but also sustainable and ecological materials in new applications. The Paneltim® Technical Standard (PTS) provides all the necessary data to accelerate and improve the design of light and durable thermoplastic panel structures.

The PTS not only provides guidelines for manufacturing and installation, but also with regard to data, calculations and practical examples. The PTS forms a strong, scientific basis for the design, construction and welding of structures made with Paneltim® panels. It provides guidelines for design safety in order to minimize the risk of unexpected malfunctions.

ORIENTATION OF THE PANELS

MULTIPOWER AND ANTISLIP

Paneltim® Multipower and Antislip panels have a square internal cell structure of 50 mm x 50 mm. Thanks to their symmetrical structure, these panels will be equally strong regardless of the orientation of the cells.

LIGHTWEIGHT

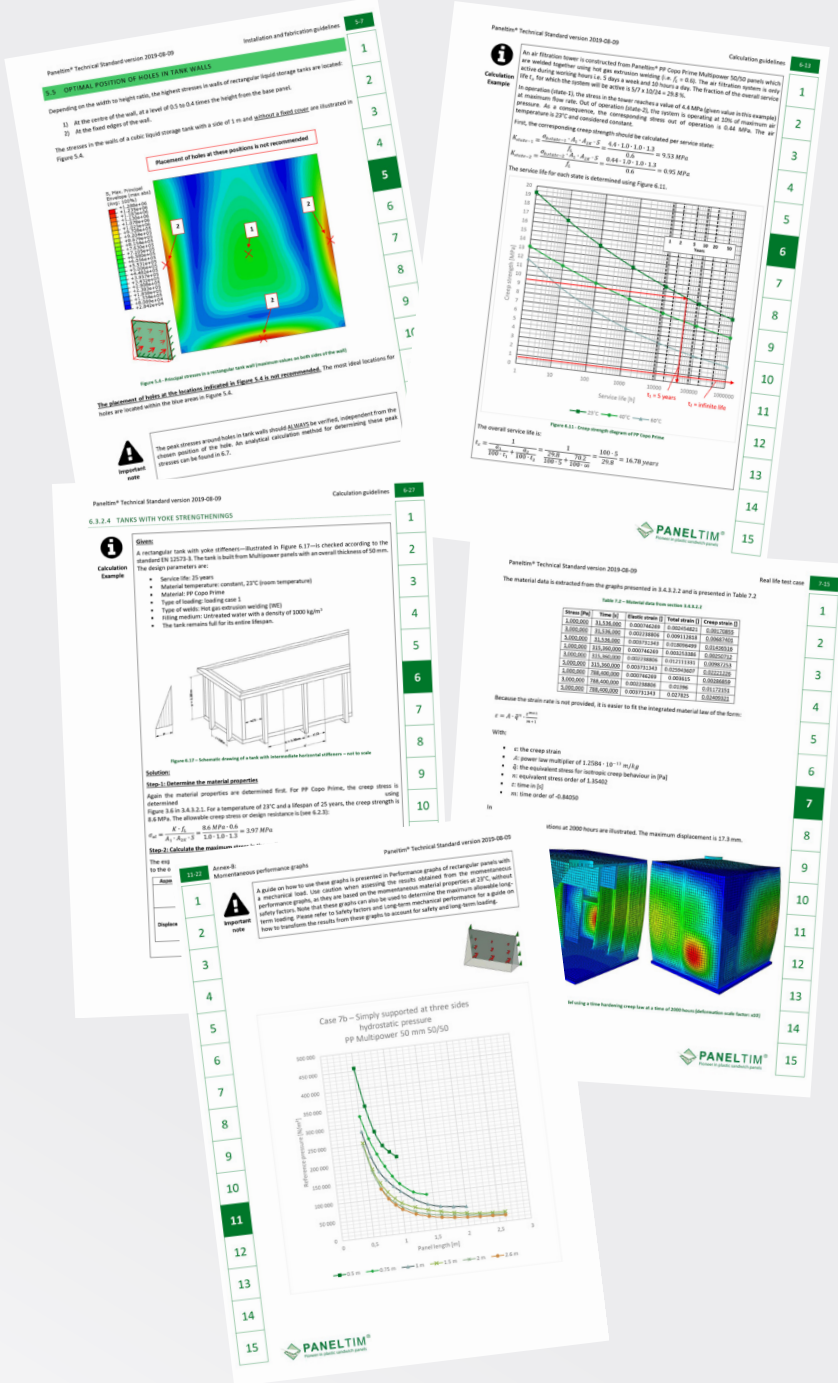
However, when using Paneltim® Lightweight panels, it makes a difference whether the cells are upright or flat in a structure, because their internal cell structure is rectangular (100 mm x 50 mm). The panels must be oriented with the longer ribs in the direction of the greatest load to provide maximum support.

For additional information about mechanical connections, orientation of the panels or placement of the openings, consult our Quick Guide to Paneltim® and the PTS.



Paneltim® Technical Standard

Some examples of topics that are covered in the PTS:



SAFETY FACTORS CHECKLIST



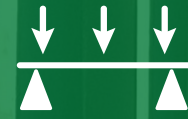
Material



Life cycle



Temperature



Type of burden



Type of weld



Type of fluid

Register to always have access to the latest technical information and the Paneltim Technical Standard:

<http://bit.ly/PTSRegistrationBrochure>



Reinforcements

Because Paneltim® panels are rigid and strong, fewer reinforcements are often required than with other materials. This saves you a lot of expensive working hours.

This does not mean that you have to save on reinforcements. You will learn in the PTS (Paneltim® Technical Standard) whether it is appropriate for your application to use reinforcements. In some cases, you calculate this based on formulas, for more complex constructions or if you want the result to be faster and more precise, use a computer program that allows you to perform finite element analysis (FEA).

The PTS also explains which factors you should take into account if you opt for a certain reinforcement. We will not discuss this further in this brochure. Here are a few options.

PLASTIC REINFORCEMENTS

Every creation requires different reinforcements. Sometimes a plastic rim or lid is sufficient. In other cases you can opt for internal or external reinforcements.



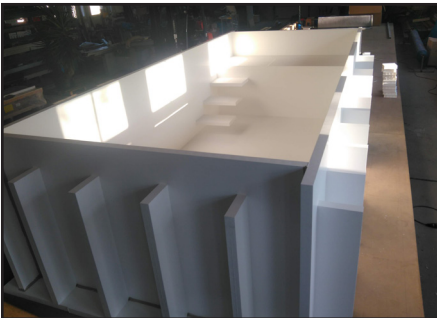
Lid as reinforcement



Edge reinforcements



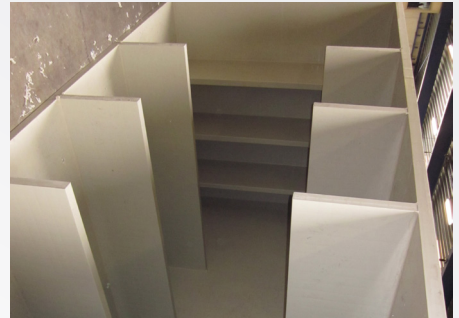
Internal reinforcements



External reinforcements



External reinforcements



Internal reinforcements

METAL REINFORCEMENTS

Of course it is also possible in many cases to apply metal reinforcements. Materials tend to expand and contract when exposed to temperature changes. You definitely know this phenomenon in bridges, highways and buildings where a joint is always provided to accommodate the expansion. All material reacts differently. In your design, bear in mind that the expansion coefficient of plastic is different from that of metal. Provide for sufficient play.

Transport

Paneltim® plastic panels are light, yet rigid and strong. This offers major advantages in the transport of structures. If the construction is performed correctly, it can easily be put on a truck without fear for stability.

TRANSPORT OF LARGE CONSTRUCTIONS

Even complete swimming pools and large air scrubbers can be lifted relatively easily and quickly on and off a truck and brought to the destination with special transport. If constructions are really too large, it is often decided to prepare the construction in several pieces, in the workshop. The different parts are then taken to the site and welded together on site. This way special transport is avoided with large creations.



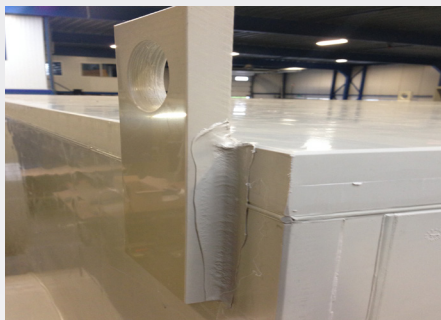
Transport large air washer



Transport large swimming pool

MOUNTING

Sometimes it can be interesting to weld plastic hoisting eyes to the structure, so that a crane can easily lift the structure.



Rectangular hoisting eye



Rounded hoisting eye



Extreme transport

IN MANY CASES WELDING TOGETHER ON SITE

Of course it is also possible to customize pieces in the workshop and weld the various parts together on site. This is even possible in very small spaces.



Pool welding on site



Building a tank in a small space



Welding modules together on site



ASD-Group - Belgium
Free-standing sanitary block: shower, toilet and dressing room

Highlighted Projects

PANELTIM® MULTIPOWER



UNDERGROUND WATER TREATMENT TANK

Project of: Greenforce OÜ - Estonia
Product: Paneltim® Multipower 50 mm PP prime
Challenge: Constructing and installing an underground tank in which dirty water from private homes and apartments is treated.

Benefits: Due to the rigidity of Paneltim® panels, it is relatively easy to make a construction of this size. "A large part of the tank was prepared in the workshop. Then the pieces were taken to the yard where we only had to weld them together," said Kaido Laosma (Greenforce). In order for the tank to be able to resist rising water, the tank is placed on a concrete floor plate and the sides are additionally supported by, e.g., concrete rubble.



LOBSTER TANKS

Project of: Fusion - Australia
Product: Paneltim® Multipower 50 mm PP
Challenge: Building lobster tanks with as few reinforcements as possible, without the walls bending.

Benefits: Before Fusion decided to build the tanks with Paneltim® panels, they carried out detailed material analyses. This way they were sure that the panels would be strong and rigid enough to prevent bending. Because fewer reinforcements had to be applied than had been the case with solid sheets, the project could be carried out much more efficiently.



MONOBLOCK SWIMMING POOL

Project van: H2O Construct Gekiere bvba - Belgium
Product: Paneltim® Multipower 50 mm PP prime
Challenge: Construction of a swimming pool that is light and UV-protected and that could be moved through a narrow passage in one piece.

Benefits: Not only the pool, but also the seats, stairs and the cover of the swimming pool roller shutter can be produced quickly and easily by butt welding and extrusion welding with Paneltim® panels with UV stabilization. In this case the pool had to be transported through a small passage. The entire structure was strong and light enough to transport it vertically through the passage.

Highlighted Projects

PANELTIM® LIGHTWEIGHT 50 MM



AERATION SYSTEM FOR CHEESE RIPENING

- Project of:** Voet en Donkers - The Netherlands
Product: Paneltim® Lightweight 50 mm PP near-to-prime
Challenge: Building modules that can be quickly installed on site.
Benefits: Voet en Donkers has been building installations for climate control for cheese makers with Paneltim® Lightweight panels for years. They bring the installation to the cheese factory in different modules, which speeds up assembly. The enclosures of the process technology and the air collectors that are built with the panels are light, strong and easy to clean. An important advantage is also that cables and, for example, electrical cabinets can easily be mounted against the panels.



INDIVIDUAL WATER TREATMENT PLANT (IBA)

- Project of:** TopolWater - Czech Republic
Product: Paneltim® Lightweight 50 mm PP near to prime
Challenge: Offering a solution to individual households that are not connected to sewerage. The installation must be able to be produced on a large scale.
Benefits: Cost saving was an important reason for TopolWater to choose Paneltim® Lightweight panels. They are strong enough for this application because the tank contains limited water volumes and is reinforced by the internal compartments. In addition, the sides of the tank are filled with filling soil in the ground to stabilize the tank and prevent shifts. Another advantage of the panels is that they are processed extremely fast.



CLEANING CABIN

- Project of:** ROTH Kunststoffen - Switzerland
Product: Paneltim® Lightweight 50 mm PP
Challenge: Building a room for a machine manufacturer to degrease produced parts.
Benefits: Paneltim® panels are light and rigid, so the panels hardly needed support to weld them together efficiently. As a result, Roth only needed half the expected assembly time. 2 panel types were combined here; the walls are made of Paneltim® Lightweight panels, the bottom consists of Paneltim® Antislip panels with a five bars structure.

Highlighted Projects

PANELTIM® LIGHTWEIGHT 35 MM AND 20 MM



AIR COLLECTOR

- Project of:** Plastitech - Switzerland
Product: Paneltim® Lightweight 35 mm PP near-to-prime
Challenge: Build rectangular air collectors that can be quickly mounted on site.
Benefits: Due to the light weight of the panels and because they can be welded together quickly, Plastitech builds square air collectors with Paneltim® panels. The collectors are deliberately square and not rounded because they stack so well during transport and can be mounted quickly and easily on the ceiling and against walls. An additional advantage is that dust does not accumulate on the collectors. The 35 mm panels are stiff enough to guarantee stability due to the reinforcements in the collectors.



MOBILE TOILET

- Project of:** George Shaw & Sons Manufacturing - England
Product: Paneltim® Lightweight 20 mm PP prime
Challenge: Years ago, George Shaw made his first trailer with Paneltim® panels. At that time, the market was not ready for it yet. Trailers were then mainly made of wood and fiberglass-reinforced plastic.
Benefits: George Shaw used to use 50 mm panels, but now he makes trailers with Lightweight 20 mm. The thin panels are strong enough and this reduces the weight of the trailer. Paneltim® Antislip panels are ideal for the floors. Optimal hygiene is guaranteed because Paneltim® panels are easy to clean. The trailers require little maintenance and will last a lifetime. For an exclusive look, George Shaw covers the trailer with a film.



STORAGE CABINET

- Project of:** Platensa - Peru
Product: Paneltim® Lightweight 20 mm PP
Challenge: Making cabinets quickly which are easy to clean.
Benefits: Platensa makes cabinets from the thin Paneltim® Lightweight panels. These are rigid enough for the weight they have to bear so that the planks do not bend. By sawing right next to a closed cell, the plates remain closed all around. The panels have a short welding cycle so that the cabinets are assembled quickly and securely. Because dirt does not easily adhere to PP, the cabinets are easy to clean.

Highlighted Projects

PANELTIM® ANTISLIP



PLATFORM AROUND TANKS

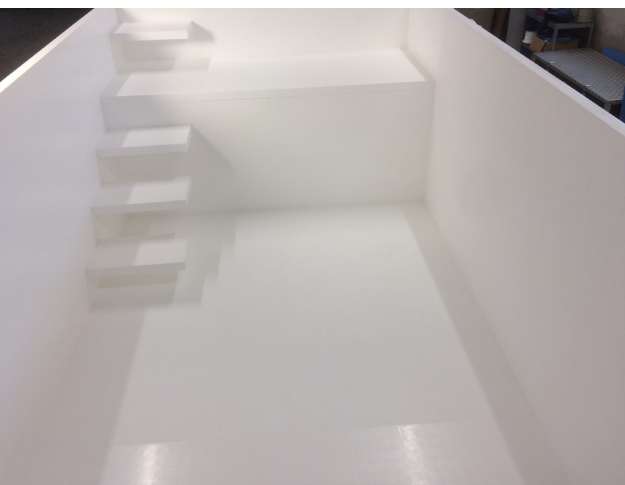
- Project of: CPO - France
Product: Paneltim® Antislip 50 mm five bars
Material: PP prime
Replacement: Metal is eaten away by chemicals
Challenge: Create a platform around tanks, which contain chemicals*, in material that is not affected by the chemicals. In addition, safety had to be guaranteed by a non-slip floor.
Benefits: The panels have a high slip resistance and are resistant to the chemicals. Moreover, they are strong, yet lightweight.

* For chemical applications, contact Paneltim for more information.



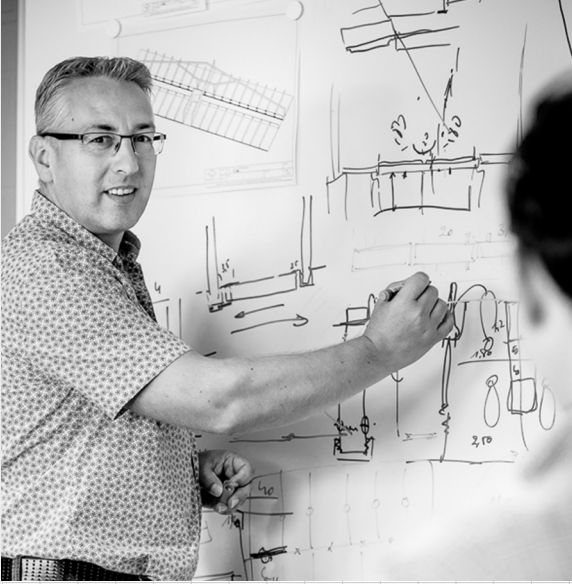
SCAFFOLDING FOR HOLIDAY RENTAL

- Project of: Plastvo Oy - Finland
Product: Paneltim® Antislip 50 mm noppen
Material: PE prime
Replacement: Hout - houten steigers rotten
Challenge: Wood - wooden scaffolding rots.
Benefits: This entire scaffolding consists of the same material: both the anti-slip panels and the floating pipes are made of PE. This way, the difference in expansion of the materials at varying temperatures need not be taken into account.



SWIMMING POOL WITH ANTI-SLIP BOTTOM, WALLS AND STAIRS

- Project of: K.IM.S. GmbH - Germany
Product: Paneltim® Antislip 50 mm sinaasappelhuid
Material: PP prime
Challenge: Pilot project
Benefits: The orange-peel motif has a good anti-slip function when one wears shoes and when one walks barefoot. Which is why K.IM.S also made the stairs and the floor with it. After all, the panels feel pleasant on bare feet. Moreover, the panels are easy to assemble on site and to weld to each other. The panels are also easy to clean.



Stay informed and visit our website regularly!
You will always find the latest news, brochures, flyers and
our general terms and conditions:

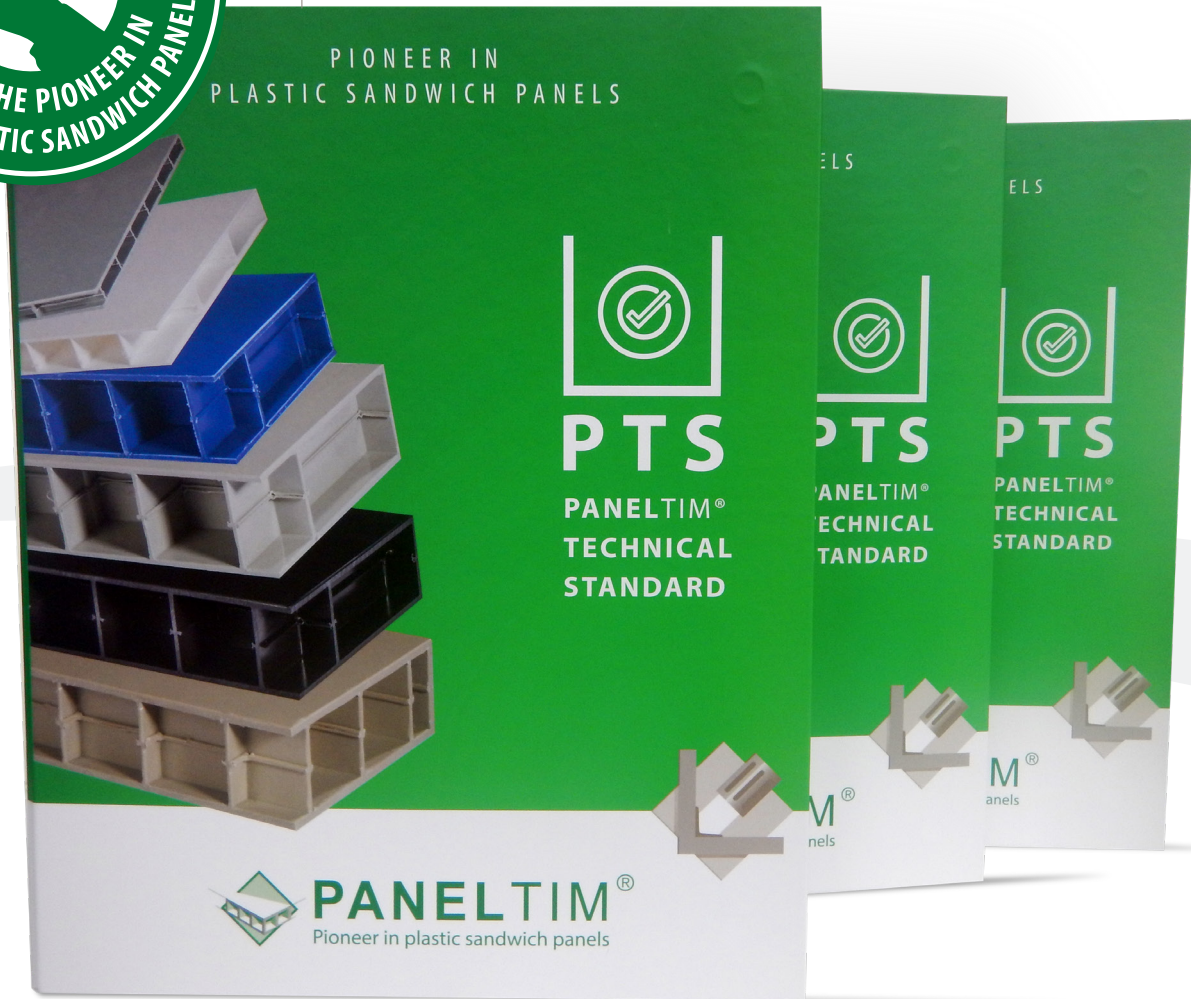
<https://www.paneltim.com/en/downloads>

Contact Paneltim for
technical support and additional information:

engineering@paneltim.com
sales@paneltim.com.



A NEW STANDARD FOR CALCULATING STRUCTURAL APPLICATIONS WITH DOUBLE-WALLED PLASTIC PANELS



Contact Paneltim to register for the PTS
and to always have access to the most up-to-date technical information.

Distributed by:

PANELTIM nv
Industrielaan 38
I.Z. Kwakkel C3
8810 Lichtervelde
Belgium
T: +32 (0)51 72 67 60
E: sales@paneltim.com
E: engineering@paneltim.com



WWW.PANELTIM.COM