

Innovative applications of plastics

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AMARGO

Plates PE HD, PP-H, PP-C-FOAM PP, PP-TALK, Coffers PP construction.

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Plates PE HD

Product characteristics and uses

- PEHD plates are manufactured from high density polyethylene. For example, are used to produce various types of tanks in food, chemical industry, for construction of sewage treatment plants, separators, storage tanks. Polyethylene sheets are resistant to many aggressive factors.
- The plates can be manufactured in any color and with the addition of anti-UV stabilizer.
- Polyethylene plastic sheets are more resistant than polypropylene plates for action of external forces (impact, and flexibility), and therefore are recommended for outdoor use.
- Due to the high flexibility the plates can be used in thermoforming technology.
- Application development and production of various elements of the polyethylene plates on the basis of technical parameters guarantees the long-term trouble-free operation.
- PEHD plastic sheets can be protected against scratching by a special foil.
- As the option we offer panels of anti-slip surface.

Ways of treatments and connections

- Polyethylene plastic sheets can be processed in a similar manner as wood.
- The polyethylene sheets can be combined - butt-welded, welded with hot air (with or without binder), and connected automatically (eg by screwing).

Packing, transport, storage

- The plates are packed on pallets and secured by protective plates and strapped.
- The plates must be stored in places away from direct heat sources.
- The plates without UV stabilization should be stored indoors.

Waste Treatment

- The waste resulting from the processing of polyethylene plates can be subjected to complete recycling.
- Of the recommended methods of disposal: milling and regranulation.

Range of production

O In accordance with an accompanying index of products

Technical Information

- O density of 960 kg/m³.
- O The extension at yield (according to EN ISO 527) min 8%.
- O Elasticity module (according to EN ISO 527) min 700 MPa.
- O stress at yield (according to EN ISO 527) min 23 MPa.
- O The elongation at break (according to EN ISO 527) min 600%.
- O Hardness of Shore 60
- O Impact strength of Charpy O + 23 ° C (according to EN ISO 179) 12 kJ/m², - 30 ° C, 4.5 kJ/m².
- O Production of plates shall be in accordance with PN 007-64, EN ISO 14 632.
- O Certificate of National Institute of Hygiene No HK/B/0522/02/2007.
- O Special class under fire conditions - product of normal inflammation.
- O chemical resistance - very high in many acids, alkalis and solvents.
- O Temperature Range of -50° C to +80 ° C

Treatment

- O Welding - YES
- O Gluing, Laminating with Resin GFK - only possible after surface preparation.
- O Varnishing, Printing - only possible after surface preparation.
- O Plastic hot machining - good

The sizes and the allowed tolerances in the plates sizes

Thickness	Tolerance	Width	Tolerance	Length	Tolerance
mm	mm	mm	mm	mm	mm
3,0		1 000		1 000	
4,0	±0,10	1 200	-5 +10	2 000	-5 +15
5,0		1 500		3 000	
			-5	2 000	
8,0	±0,20	1 500	+15	3 000	-5 +20
				4 000	
10,0					
12,0	±0,30	1 500	-5	2 000	-5
15,0			+20	3 000	+30
20,0					

Diagonal tolerance

Width	Length	Tolerance

mm	mm	mm
1 000 1 200	1 000 - 1 999	5
	2 000 - 2 999	6
	3 000 - 4 000	7
1 500	1 000 - 1 999	7
	2 000 - 2 999	8
	3 000 - 4 000	9

Product characteristics and uses

- For the production of PP-C plates by the extrusion we use block copolymer of propylene and ethylene, the use of such material causes that we get the product with a high elastic modulus.
- Plastic sheets are used to manufacture various types of reservoirs, canals and machine parts and guards in the chemical industry, food, agricultural industry, for construction of sewage treatment plants, separators, storage tanks, swimming pools, etc.
- PP-C are resistant to many aggressive factors.
- The plates can be manufactured in any color and with the addition of anti-UV stabilizer.
- Application development and production of various elements of the polyethylene plates on the basis of technical parameters guarantees the long-term trouble-free operation.
- PEHD plastic sheets can be protected against scratching by a special foil.
- As the option we offer panels of anti-slip surface.

Ways of treatments and connections

- Polypropylene plastic sheets can be processed in a similar manner as wood.
- The sheets can be combined - butt-welded, welded with hot air (with or without binder), and connected automatically (eg by screwing).

Packing, transport, storage

- The plates are packed on pallets and secured by protective plates and strapped.
- The plates must be stored in places away from direct heat sources.
- The plates without UV stabilization should be stored indoors.

Waste Treatment

- The waste resulting from the processing of polypropylene plates can be subjected to complete recycling.
- Of the recommended methods of disposal: milling and regranulation.

Range of production

- O In accordance with an accompanying index of products
- O as an option of the plate in the hardly-flammable design - Class B1 according to DIN 4102

Technical Information

- O density of 920 kg/m³.
- O Elasticity module (according to EN ISO 527) min 1000/1100 (bending / tension) MPa.
- O stress at yield (according to EN ISO 527) min 20 MPa.
- O Shore's hardness (according to EN ISO 868) > 58th
- O Impact strength of Charpy O + 23 ° C (according to EN ISO 179) min 50 kJ/m², - 20 ° C min 8 kJ/m².
- O Production of plates shall be in accordance with PN 006-64, EN ISO 15 013
- O ITC Certificate No 472101724
- O The National Institute of Hygiene Certificate No HK/B/0522/01/2007.
- O About Flammability class - normally flammable product.
- O The chemical resistance - very high to many acids, alkalis and solvents.
- O Range of temperatures - from -20°C to +80 °C

Treatment

- O Welding - YES
- O Gluing, Laminating with Resin GFK - only possible after surface preparation.
- O Varnishing, Printing - only possible after surface preparation.
- O Plastic hot machining - good

The sizes and the allowed tolerances in the plates sizes

Thickness	Tolerance	Width	Tolerance	Length	Tolerance
mm	mm	mm	mm	mm	mm
2,0				2 000	
3,0	±0,10	1 600 1 500 1 200	-5,0	3 000	-5,0
4,0			+10,0	4 000	+15,0
5,0				5 000	
		2 000		2 000	
6,0	±0,20	1 500	-5,0	3 000	-5,0
8,0		1 600 1 200	+15,0	4 000	+20,0
10,0		2 000			
12,0	±0,30	1 500	-10,0 +20,0	2 000 3 000	-5
15,0		1 200			+30

Diagonal tolerance

Width	Length	Tolerance
m	mm	mm
1 200	1 000 - 1 999	6
	2 000 - 2 999	7
	3 000 - 3 999	8 9
	4 000 - 5 000	
1 500	1 000 - 1 999	7
	2 000 - 2 999	8
	3 000 - 3 999	9
	4 000 - 5 000	10

PP-H PLATES

Product characteristics and uses

- For the production of PP-H plates by the extrusion we use block of homopolymer of propylene that is harmless and can have a contact with food.
- Plastic sheets are used to manufacture various types of installations and storage tanks in the chemical industry, food industry, galvanising industry etc.
- PP-H are resistant to many aggressive factors.
- The plates can be manufactured in any color and with the addition of anti-UV stabilizer.
- Application development and production of various elements of the polyethylene plates on the basis of technical parameters guarantees the long-term trouble-free operation.
- PEHD plastic sheets can be protected against scratching by a special foil.
- As the option we offer panels of anti-slip surface.

Ways of treatments and connections

- Polypropylene plastic sheets can be processed in a similar manner as wood.
- The sheets can be combined - butt-welded, welded with hot air (with or without binder), and connected automatically (eg by screwing).

Packing, transport, storage

- The plates are packed on pallets and secured by protective plates and strapped.
- The plates must be stored in places away from direct heat sources.
- The plates without UV stabilization should be stored indoors.

Waste Treatment

- The waste resulting from the processing of polypropylene plates can be subjected to complete recycling.

- Of the recommended methods of disposal: milling and regranulation.

Range of production

- In accordance with an accompanying index of products
- as an option of the plate in the hardly-flammable design - Class B1 according to DIN 4102

Technical Information

- density of 920 kg/m³.
- Elasticity module (according to EN ISO 527) min 1200/1500 (bending / tension) MPa.
- stress at yield (according to EN ISO 527) min 20 MPa.
- Shore's hardness (according to EN ISO 868) 68
- Impact strength of Charpy O + 23 ° C (according to EN ISO 179) min 7 kJ/m², - 20 ° C min 2 kJ/m².
- Production of plates shall be in accordance with PN 006-64, EN ISO 15 013
- The National Institute of Hygiene Certificate No HK/B/0522/01/2007.
- Flammability class - normally flammable product.
- The chemical resistance - very high to many acids, alkalis and solvents.
- Range of temperatures – from-0 oC to +100 oC

Treatment

- Welding - YES
- Gluing, Laminating with Resin GFK - only possible after surface preparation.
- Varnishing, Printing - only possible after surface preparation.
- Plastic hot machining - good

The sizes and the allowed tolerances in the plates sizes

Thickness	Tolerance	Width	Tolerance	Length	Tolerance
mm	mm	mm	mm	mm	mm
2,0 3,0 4,0 5,0	± 0,1	1 600		2 000	
		1 500 1 200	- 5,0 + 10,0	3 000	- 5,0 + 15,0
				4 000	
				5 000	
6,0 8,0	± 0,20	1 500		2 000	
		1 600	- 5,0 + 15,0	3 000	- 5,0 + 20,0
				4 000	
10,0 12,0 15,0	± 0,30	1 500	- 5,0	2 000	- 5,0
		1 200	+ 20,0	3 000	+ 30,0

Diagonal tolerance

Width	Length	Tolerance
m	mm	mm
1 200	1 000 - 1 999	6
	2 000 - 2 999	7
	3 000 - 3 999	8
	4 000 - 5000	9
1 500	1 000 - 1 999	7
	2 000 - 2 999	8
	3 000 - 3 999	9
	4 000 - 5000	10

Product characteristics and uses

O For the production of PP-FOAM plates by extrusion method we use homopolymer / copolymer of polypropylene, which is also foamed.

O Carefully selected accessories provide even foaming in the entire volume, and as the effect the established technical parameters, weld strength and stiffness are always achieved.

O By using identical raw materials superior quality of welded joint with plates PP-C and PP-H is guaranteed.

O Plastic sheets of PP-FOAM are especially recommended in applications that do not require a large static strength, such as the internal components of tanks, ventilation systems, partition, separation, etc.

Ways of treatments and connections

- Polypropylene plastic sheets can be processed in a similar manner as wood.
- The sheets can be combined - butt-welded, welded with hot air (with or without binder), and connected automatically (eg by screwing).

Packing, transport, storage

- The plates are packed on pallets and secured by protective plates and strapped.
- The plates must be stored in places away from direct heat sources.
- The plates without UV stabilization should be stored indoors.

Waste Treatment

- The waste resulting from the processing of polypropylene plates can be subjected to complete recycling.
- Of the recommended methods of disposal: milling and regranulation.

Range of production

○ In accordance with an accompanying index of products

Technical data

- density of 750 - 830 kg/m³.
- Elasticity module (according to EN ISO 527) Min 1700 (tension) MPa.
- stress limit (according to EN ISO 527) min 30 MPa.
- The elongation at break (according to EN ISO 527) 8%.
- Production records shall be in accordance with PN 006-64, EN ISO 15 013
- The National Institute of Hygiene Certificate No HK/B/0522/01/2007.
- ITC Certificate No 472101724.
- Special class under fire conditions - normal product of inflammation.

PP-TALK PLATES

Product characteristics and uses

- For the production of PP-TALK plates by extrusion method PP-C is used with a standard 10% talc. As a result of this modification plates are characterized by higher stiffness, strength and opposite decrease in impact resistance.
- The PP-TALK plates are used mainly for production of parts for tanks used on the outside of the required increased rigidity, while protected from impact.
- PP-TALK is resistant to many aggressive factors.
- The plates can be manufactured in any color and with the addition of anti-UV stabilizer. But because of the color of the pigment absorption by the talk, all batches of products may vary slightly by tinged color.
- The plates PP-TALK may be protected against scratching by a special foil.

Ways of treatments and connections

- PP-TALK plates can be processed in a similar manner as wood.
- The sheets can be combined - butt-welded, welded with hot air (with or without binder)

Packing, transport, storage

- The plates are packed on pallets and secured by protective plates and strapped.
- The plates must be stored in places away from direct heat sources.
- The plates without UV stabilization should be stored indoors.

Waste Treatment

- The waste resulting from the processing of polypropylene plates can be subjected to complete recycling.
- Of the recommended methods of disposal: milling and regranulation.

Range of production

○ In accordance with an accompanying index of products

Technical data

- density of 1000 kg/m³.
- Elasticity module (according to EN ISO 527) min 1600/1700 (bending / tension) MPa.
- The stress at yield (according to EN ISO 527) min 24 MPa.

- Certificate of National Institute of Hygiene No HK/B/0522/01/2007.
- Special class under fire conditions - normal product of inflammation.

CONSTRUCTION COFFERS PP - WALL ELEMENTS

Product characteristics and uses

- The wall elements are made of polypropylene by integral molding technology, which are structurally lightened.
- Coffers are manufactured in the following versions: colorless, white, black (other colors on request), stabilized or unstabilized to the UV.
- It is possible to manufacture from recycled material RECYCLING on request.
- The designs are as follows: MOD 20, MOD 25, MOD 25 VARIO - details available in the data sheet.
- Wall elements are mainly used in the manufacture of rectangular tanks, electroplating tanks, septic tanks, wells and other structures subjected to constant load chemical, corrosion and static. The scope of components is due to physical and mechanical parameters listed in the data sheet and should always be backed up by specialist calculation.

Ways of connections

- Wall elements can be combined by butt welding, welding with or without additional material (welding wire) and connected automatically (eg by screwing)
- The Coffers of VARIO / QUATRO type can be cut lengthwise / crosswise and to facilitate connections special structure forms are provided (extra longitudinal / lateral rib).

Packing, transport, storage

- Wall elements are packaged on pallets, protected from damage and strapped.
- The pallets with products for storage should be placed on equal backing.
- The wall elements without UV stabilizers should be stored indoors.

Waste Treatment

- The waste as a result of treatment can be completely recycled.
- The recommended methods of disposal: milling and regranulation.

Range of production

- In accordance with an accompanying index of products.

Technical Information

- density (according to PIB) 826 kg/m³.
- Elasticity module (according to EN ISO 527) 1347/1493 (bending / tension) MPa.
- The stress at yield (according to EN ISO 527) 24.6 MPa.
- The elongation at yield (according to EN ISO 527) 7.5%.
- The average coefficient of thermal elongation (64 0528) $122 \cdot 10^{-6} / K$.
- Shore hardness (according to EN ISO 868) 65
- Charpy's impact strength (according to EN ISO 179) + 23 ° C - 18.1 - 20 ° C - 9.2 kJ/m².
- The National Institute of Hygiene Certificate No HK/B/0522/01/2007.
- Special class under fire conditions - normal product of inflammation.