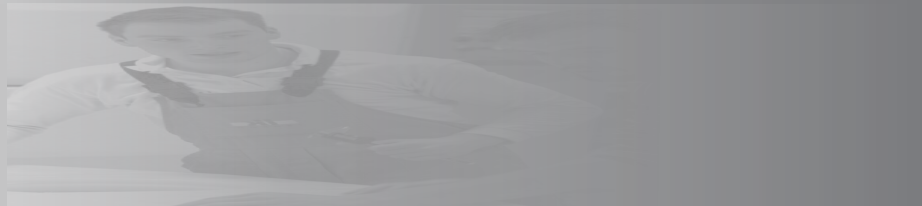


# Partner in all fields of industry





Great **flexibility** in meeting customers' demands, **product performance and quality** are the most important elements of our competitive advantage.

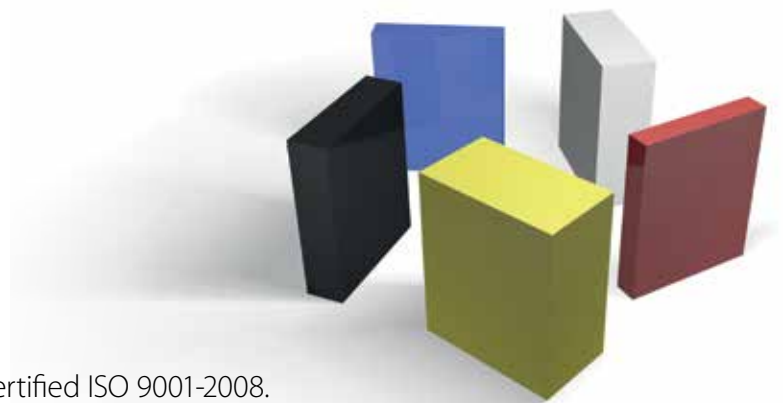
**We offer innovative solutions**, we produce and supply **engineered polymeric materials**, represented under the brands KOTERM and ISOFORM for all fields of industry.

With an extensive range of semi-finished products, **extruded and pressed sheets**, we are able to offer you the best solutions tailored to your applications.

The materials offered within this area include everything from PE and PP.

Isokon maintains a permanent development, flexible production and builds a strong partnership with its customers.

With a quick information response and operating with the global network of our distribution partners, we are renowned for providing a fast, flexible and reliable service.



Certified ISO 9001-2008.

# About us



Isosport, Eisenstadt, A



Isosport, Hall, A



Isokon, Slovenske Konjice, SI

We are a medium-sized Slovenian and European company with more than 30 years of experience in the field of technical plastics. We form part of the European chemical and rubber processing industry and are among the leaders in this sector.

We are a subsidiary of ISOSPORT GmbH, from Eisenstadt, Austria and a Member of *Constantia* Industries AG. Our headquarters are located in Slovenske Konjice, Slovenia.





## **Specialist in custom-tailored products**

We offer innovative solutions in the field of thermoplastic production and processing. We help you to solve complicated production or construction problems based on our extensive experience and exceptional know-how.

## **Wide range of possibilities**

- extruded, co-extruded and direct extruded compounded sheet
- pressed sheet and PRESS MOULDED DESIGNED sheet
- production of machine components



# Reliable solutions for all fields of industry

Isokon offers a wide range of standard and tailor-made thermoplastic solutions developed for different fields of applications.

## **Fields of application**

- Mining
- Food processing
- Building construction
- Sound proofing
- Automotive
- Mechanical engineering
- Sport
- Chemical industry
- Furniture industry
- Electrical industry
- Thermoforming
- Orthopaedics





A wide range  
of possibilities  
in semi-finished  
products







# **isoform** Extruded

- tailor-made materials for thermoforming
- composite material – reinforcement with different fillers
- wood-plastic composites
- designed products: fabric backed, metal-detectable, anti-slip, electroconductive grades and others
- embossed surfaces: N1, N2, N3, ALU or on request
- co-extrusion

## **Technologies**

- extrusion of sheets (thickness 0.5–20mm, max. width 1700mm)
- co-extrusion (AB, ABA) of sheets (thickness from 1.2mm, max. width 1500mm)
- extrusion of sheets with direct compounding (thickness 1–10mm, max. width 1600mm)

## **Lamination on extruded sheets with**

- fleece
- textile or fabric
- foam
- stripe(s)
- decorative foil
- logo- printed foil
- removable protective foil

## **Surface finishing**

- glossy
- mat
- different textured structures
- with embossed rolls

## **Others**

- surface activation with flame treatment
- “cut to size” parts from extruded sheets

## **Standard sheets in dimensions**

2000×1000mm, 3000×1500mm

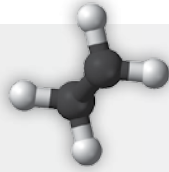
Thickness range

PE from 2mm to 20mm

PP from 2mm to 15mm



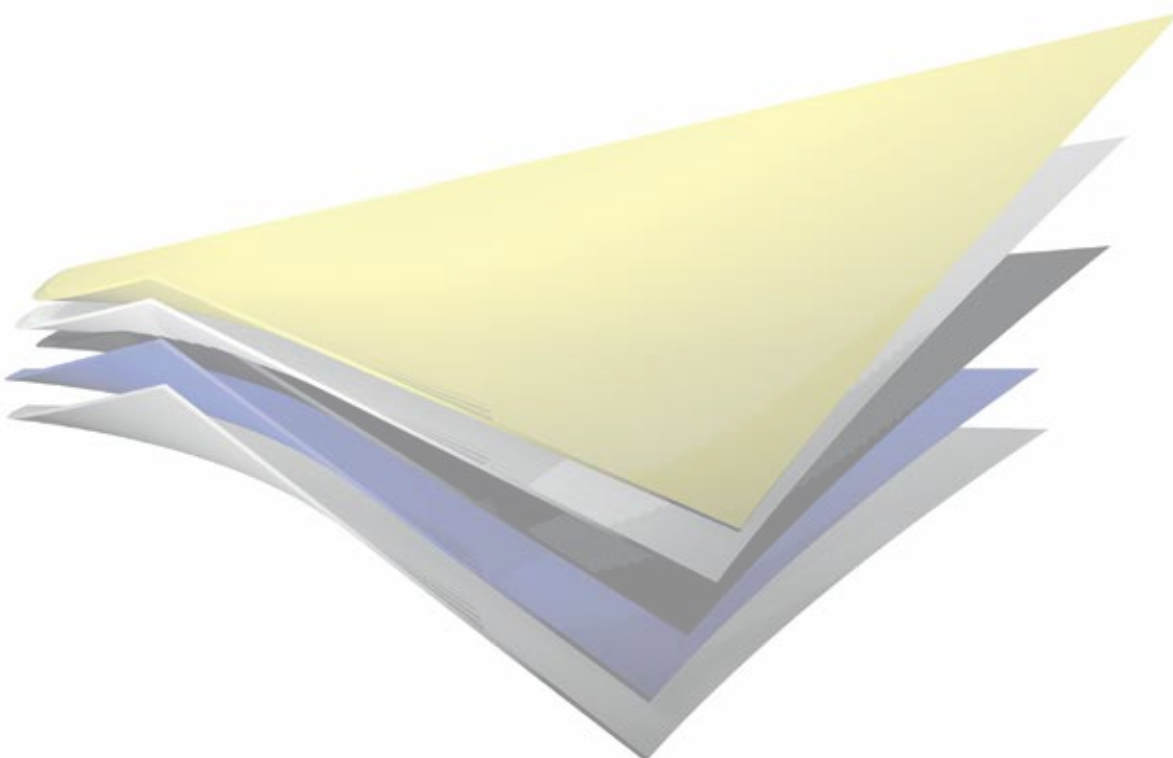
PE



# Production types

## Standard types

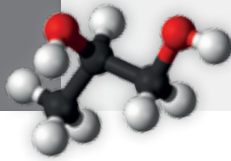
	Characteristics	Areas of use	Thickness, width/mm
HDPE (IF 300)	Tough at lower temperatures, Weldable, Moisture and chemical resistant	Building construction, Chemical industry, Food industry, Automotive industry, Electrical industry, Thermoforming, Mechanical engineering	0.5–20/1550
HDPE (IF 360)	Tough at lower temperatures, Weldable and thermoformable, Moisture and chemical resistant	Building construction, Chemical industry, Food industry, Automotive industry, Electrical industry, Thermoforming, Mechanical engineering	0.5–20/1550
LDPE (IF 50)	Flexible and soft, Thermoformable, Moisture and chemical resistant	Food industry, Thermoforming, Mechanical engineering, Electrical industry	0.6–5/1500
HDPE-R (IF 200)	Tough at lower temperatures, Weldable and thermoformable, Moisture and chemical resistant	Processing equipment, Chemical engineering	1.5–15/1550



# Special types

Characteristics		Areas of use	Thickness, width/mm	Colour
EVA	High elasticity, Flexibility, Good forming properties	Sound proofing and anti-vibration, railways	0.8–5/1500	
HDPE-FR (IF 360 FR)	Self-extinguishing material, Thermoformable, Moisture and chemical resistant, meets class UL94-V2	Building construction, Chemical industry, Food industry, Automotive industry, Electrical industry, Thermoforming, Mechanical engineering	0.5–5/1500	
IF PE80	Tough at lower temperatures, Weldable and Thermoformable, Moisture and chemical resistant, meets MRS P80 (pipe industry)	Building construction, Chemical industry	2.0–15/1500	black
IF PE100	Tough at lower temperatures, Weldable and thermoformable, Moisture and chemical resistant, meets MRS P100 (pipe industry)	Building construction, Chemical industry	2.0–15/1500	black
HDPE (IF 340)	Tough at lower temperatures, Weldable and thermoformable, Moisture and chemical resistant	Building construction, Chemical industry, Food industry, Automotive industry, Electrical industry, Thermoforming, Mechanical engineering	2.0–5/1550	
<b>Polyolefine based special material</b>				
IF 360 K20	Excellent thermoforming properties	Automotive industry, Car boot liner applications	2.0–5/1600	
<b>Orthopaedics</b>				
IF ISORTHO 10	High density polyethylene (HDPE), Excellent thermoforming, Moisture and chemical resistant	Orthopaedics	2.0–8/1500	all skin colours
IF ISORTHO 20	High density polyethylene (HDPE), Excellent thermoforming, Moisture and chemical resistant	Orthopaedics	2.0–8/1500	all skin colours
IF ISORTHO 30	Low density polyethylene (LDPE), Excellent thermoforming, Moisture and chemical resistant	Orthopaedics	2.0–8/1500	all skin colours
<b>Electroconductive</b>				
PE EL	Electroconductive properties, Surface resistivity < 106Ω	Thermoforming, Bumper protection, Automotive industry	2.0–8/1500	
<b>Polyolefine-based co-extruded material</b>				
<b>Soft antislip surface</b>				
IF 50 coex TPE	Co-extruded with an anti-slip TPE layer, Thermoformable, Embossed surface, Anti-skid surface	Automotive industry, Thermoforming	1.2–3/1500	
IF 51 coex TPE	Co-extruded with an anti-slip TPE layer, Thermoformable, Embossed surface, Anti-skid surface	Automotive industry, Thermoforming	1.2–3/1500	
IF 52 coex TPE	Co-extruded with an anti-slip TPE layer, Thermoformable, Embossed surface, Anti-skid surface	Automotive industry, Thermoforming	1.2–3/1500	
IF 50K20 coex TPE	Co-extruded with an anti-slip TPE layer, Thermoformable, Embossed surface, Anti-skid surface	Automotive industry, Thermoforming	1.2–3/1500	
IF 360 coex TPE	Co-extruded with an anti-slip TPE layer, Thermoformable, Embossed surface, Anti-skid surface	Automotive industry, Thermoforming	1.5–5/1500	
IF 450 coex TPE	Co-extruded with an anti-slip TPE layer, Thermoformable, Embossed surface, Anti-skid surface	Automotive industry, Thermoforming	1.5–5/1500	
IF S009	Co-extruded with an anti-slip TPE layer, Thermoformable, Meets VDA 4503 requirements,	Automotive industry, Thermoforming	2.0–5/1500	
IFS010	Co-extruded with an anti-slip TPE layer, Thermoformable, Chemical and Corrosion resistant, Anti-skid surface	Automotive industry, Thermoforming	2.0–5/1500	
PPPEL coex TPEEL	Co-extruded with an anti-slip TPE layer, Thermoformable, Electroinductive properties	Thermoforming	2.0–4/1500	
<b>Polyolefine-based filled materials</b>				
IF 50 K20	Flexible and soft, Thermoformable, Embossed surface	Car boot liners	1.0–6/1500	
<b>Laminated with foam</b>				
IF 340 KS200	Laminated with a soft durable foam, Thermoformable, Tough	Thermoforming, Automotive industry	1.5–4/1500	

PP



# Production types

## Standard types

	Characteristics	Areas of use	Thickness, width/mm
PPH (IF 400)	Rigid and high strength, Thermoformable and weldable, Chemical and corrosion resistant, Greater stiffness	Building construction, Automotive industry, Thermoforming, Mechanical engineering	1.0–15/1500
PPC (IF 450)	Rigid and high strength, Thermoformable and Weldable, Chemical and corrosion resistant, use at lower temperatures	Building construction, Chemical industry, Food industry, Automotive industry, Thermoforming, Mechanical engineering, Electrical industry	1.0–15/1500

## Special types

	Characteristics	Areas of use	Thickness, width/mm
PP-FR (IF 400 PPH FR V2)	Rigid and high strength, Thermoformable, Self-extinguishable	Building construction, Chemical industry, Food industry, Automotive industry, Thermoforming, Mechanical engineering, Electrical industry	1.0–5/1500
<b>Polyolefine based special materials</b>			
IF 456	Excellent thermoformability, Tough, Chemical and corrosion resistant	Thermoforming, Food industry	0.8–10/1600
FABAC	Laminated with polyester fabric, Weldable, Chemical and corrosion resistant	Chemical industry	2.0–8/1500
PP FOAM (IF 450 PPC FOAM)	Light weight polypropylene foam, Closed cell	Building construction	2.0–4/1500
<b>Elastomer modified</b>			
IF 410_25	Elastomer modified, Excellent thermoformability, Good low temperature impact strength	Thermoforming, Bumper protection, Automotive industry	2.0–8/1500
IF 410_40	Elastomer modified, Excellent thermoformability, Good low temperature impact strength	Thermoforming, Bumper protection, Automotive industry	2.0–8/1500
IF PPEPM20	Elastomer modified, Excellent thermoformability, Good low temperature impact strength	Thermoforming, Bumper protection, Automotive industry	2.0–8/1500

# Special types

Characteristics		Areas of use	Thickness, width/mm
<b>Electroconductive</b>			
PP EL	Electroconductive properties, Surface sensitivity < 106Ω	Thermoforming, Bumper protection, Automotive industry	2.0–5/1500
<b>Laminated with foam</b>			
IF 456 PPC KS200	Laminated with a soft durable foam, Thermoformable, Tough	Thermoforming, Automotive industry	1.5–4/1500
IF 456 PPEL KS200	Laminated with a soft durable foam, Electroconductive, Thermoformable	Automotive industry, Thermoforming	1.5–4/1500
<b>Orthopaedics</b>			
IF ISORTHO 40	Polypropylene polymer PPC, Excellent thermoforming, Chemical and corrosion resistant	Orthopaedics	2,0-8/1500
IF ISORTHO 50	Polypropylene homopolymer PPH, Excellent thermoforming, Chemical and corrosion resistant	Orthopaedics	2.0–8/1500
<b>Polyolefine-based co-extruded materials</b>			
<b>Soft anti-slip surface</b>			
IF 456MD30	Metal detectable properties, Thermoformable	Food industry	1.0–6/1500
<b>Polyolefine based filled materials</b>			
<b>Talc filled</b>			
IF PPT10	Good thermoformability, Rigid and tough, Talc filled	Automotive industry	1.0–6/1500
IF PPT20	Rigid and high strength, Thermoformable, High temperature resistance	Thermoforming, Food industry	1.0–8/1500
IF PPT30	Increased rigidity, higher Heat Distortion Temperature (HDT)	Electrical industry, Sterilization industry, Chemical industry, Automotive industry	1.0–8/1500
IF PPT30FR R7035	Tested with a glow wire at 750°C, Higher stiffness than normal PP, Light grey colour	Electrical industry	1.0–4/1600
IF PPT40	Rigid and high strength, High temperature resistance	Chemical industry	1.0–6/1600
IF 456T05	Excellent thermoformability, Tough, Chemical and corrosion resistant	Thermoforming	1.0–8/1500
IF 456T20	Excellent thermoformability, Tough, Chemical and corrosion resistant	Food industry, Automotive industry, Building construction, Thermoforming	1.0–10/1500
<b>Glass fibre filled</b>			
IF 456T10G10	Filled material, Excellent thermoforming properties, Increased rigidity and stiffness	Automotive industry, Thermoforming	2.0–6/1500
IF 456GF30	Glass fibre filled, Excellent thermoforming properties, Increased rigidity and stiffness	Automotive industry, Thermoforming	2.0–6/1500
<b>Heavy filled</b>			
ISOPHON 60	Flexible and high mass, Easily cut into different shapes, Sheet and roll form up to 5mm thick	Sound proofing	1.5–4/1600
ISOPHON 80	Flexible and high mass, Easily cut into different shapes, Sheet and roll form up to 5mm thick	Sound proofing	1.5–4/1600
HEAVY LAYER	Flexible and high mass, easily cut into different shapes, both sides textile coated for easy gluing	Sound proofing	1.5–4/1600
<b>WPC</b>			
IF LIP	Wood plastic composite, 100% Recyclable, One side coated with special fleece	Building construction, Furniture industry	1.4–3/1,620
IF LIP RF	Wood plastic composite, 100% Recyclable, Both sides with flame treated surfaces	Furniture industry	1.9–3/1550
IF HMPP	Wood plastic composite, 100% Recyclable, One side coated with special fleece	Building construction, Automotive industry	1.8–4/1550

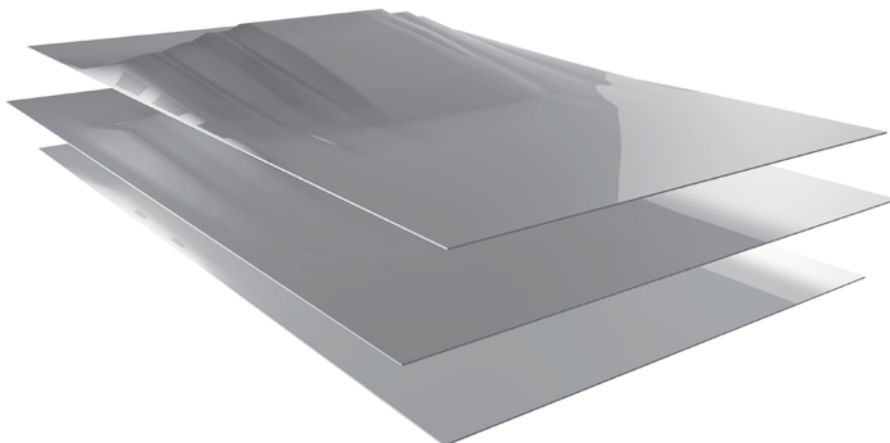
# Range of semi-finished products

\* Stock shape

ISOFORM -dimensions and colour		thickness mm		standard colours	
		PE	PP	PE	PP
1000×2000		2 to 20	2 to 15	natural, black	natural, grey
1500×3000		2 to 20	2 to 15	natural, black	natural, grey
	Rolls on request.	Other sizes, thicknesses and colours on request.			
		Thickness tolerance in accordance with EN ISO 14632 (PE), EN ISO 15013 (PP).			

\* Standard types on request

			Thickness, width/mm	Standard colours	Other colours
PE standard semi-finished products					
LDPE (IF 50)	flexible and softer material compared to HDPE		0.6–5/1500		
HDPE (IF 300, IF 340, IF 360)	general performance	use at lower temperatures	0.5–20/1550	natural, black	White RAL 9003, Green RAL 6024, Yellow RAL 1018, Red RAL 3020, Orange RAL 2004, Grey RAL 7046, Blue RAL 5015
PP standard semi-finished products					
PPH (IF 400)	general performance	higher stiffness	1.0–15/1500	natural, grey	
PPC (IF 450)	general performance	use at lower temperatures	1.0–15/1500	natural, grey	



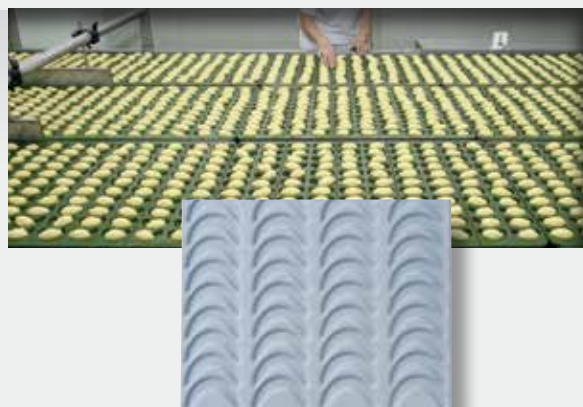


# Special types

Characteristics				Thickness, width/mm	Colours
EVA	high elasticity and flexibility	good forming properties		0.8–5/1500	
HDPE FR (IF 360 FR)	self-extinguishing properties	meets class UL94-V2		0.5–5/1500	
IF PE80	meets MRS class PE80 (pipe industry)			2.0–15/1500	black
IF PE100	meets MRS class PE100 (pipe industry)			2.0–15/1500	black
PP FR (IF 405)	self-extinguishing properties	meets class UL94-V2		1.0–5/1500	
<b>Polyolefine-based special materials</b>					
IF 456	excellent thermoforming properties			0.8–10/1600	
IF360 K20	excellent thermoforming properties	car boot liner application		2.0–5/1600	
FABAC	PPC laminated with fabric	construction industry		2.0–8/1500	
PP foam	low density up to 450kg/m3	light weight applications		2.0–4/1500	
<b>Elastomer modified</b>					
IF 410_25	excellent thermoforming properties	elastomer modified	increased toughness at lower temperatures	2.0–8/1500	
IF 410_40	excellent thermoforming properties	elastomer modified	increased toughness at lower temperatures	2.0–8/1500	
IF PPEPM20	excellent thermoforming properties	elastomer modified	increased toughness at lower temperatures	2.0–8/1500	
<b>Electroconductive</b>					
PPEL	electroconductive properties	surface resistivity < 106Ω		2.0–5/1500	
PE EL	electroconductive properties	surface resistivity < 106Ω		2.0–8/1500	
<b>Laminated with foam</b>					
IF340 KS200	laminated with foam	use of soft foam for protection		1.5–4/1500	
IF 456 PPEL KS200	laminated with foam	use of soft foam for protection	electrical conductive core-layer	1.5–4/1500	
<b>Orthopaedics</b>					
ISORTHO 10	excellent thermoforming properties	use in orthopaedics		2.0–8/1500	all skin colours
ISORTHO 20	excellent thermoforming properties	use in orthopaedics		2.0–8/1500	all skin colours
ISORTHO 30	excellent thermoforming properties	use in orthopaedics		2.0–8/1500	all skin colours
ISORTHO 40	excellent thermoforming properties	use in orthopaedics		2.0–8/1500	all skin colours
ISORTHO 50	excellent thermoforming properties	use in orthopaedics		2.0–8/1500	all skin colours

# Special types

	Characteristics			Thickness, width/mm
Polyolefine-based co-extruded materials				
Soft anti-slip surface				
IF 50 coex TPE	anti-skid surface	embossed surface		1.2–3/1500
IF 50K20 coex TPE	anti-skid surface	embossed surface		1.2–3/1500
IF 360 coex TPE	anti-skid surface	embossed surface		1.5–5/1500
IF 450 coex TPE	anti-skid surface	embossed surface		1.5–5/1500
IF S009	anti-skid surface	VDA 4503 compliant		2.0–5/1500
IF S010	anti-skid surface			2.0–5/1500
PPEL coex TPEEL	anti-skid surface	electroconductive properties		2.0–4/1500
Polyolefine-based filled materials				
IF 50 K20	filled material	embossed surface		1.2–3/1500
IF 456 MD30	filled material	metal detectable properties		1.0–6/1500
Talc filled				
IF PPT10	talc filled PP	increased rigidity and stiffness		1.0–8/1500
IF PPT20	talc filled PP	increased rigidity and stiffness		1.0–8/1500
IF PPT30	talc filled PP	increased rigidity and stiffness		1.0–8/1500
IF PPT30FR R7035	talc filled PP	meets IEC 60695-2-11 glow wire test (750°C)		1.0–4/1600
IF PPT40	talc filled PP	increased rigidity and stiffness		1.0–6/1600
IF 456T05	talc filled	excellent thermoforming properties		1.0–8/1500
IF 456T20	talc filled	excellent thermoforming properties		1.0–10/1500
Glass fibre filled				
IF 456T10G10	filled material	excellent thermoforming properties	increased rigidity and stiffness	2.0–6/1500
IF 456GF30	glass fibre filled	excellent thermoforming properties	increased rigidity and stiffness	2.0–6/1500
Heavy filled				
ISOPHON 60	barium sulphate filled	flexible and high density material		1.5–4/1600
ISOPHON 80	barium sulphate filled	flexible and high density material		1.5–4/1600
HEAVY LAYER	barium sulphate filled	flexible and high density material		1.5–4/1600
WPC				
IF LIP	hard wood fibre filled polypropylene	one side with an adhesive layer – appropriate for gluing different wood core constructions	contact layer for formwork boards	1.4–3/1,620
IF LIP RF	soft wood fibre filled polypropylene	both sides surface treated	edge banding material	1.9–3/1550
IF HMPP	hard wood fibre filled polypropylene	good thermoforming properties	increased rigidity and stiffness	1.8–4/1550

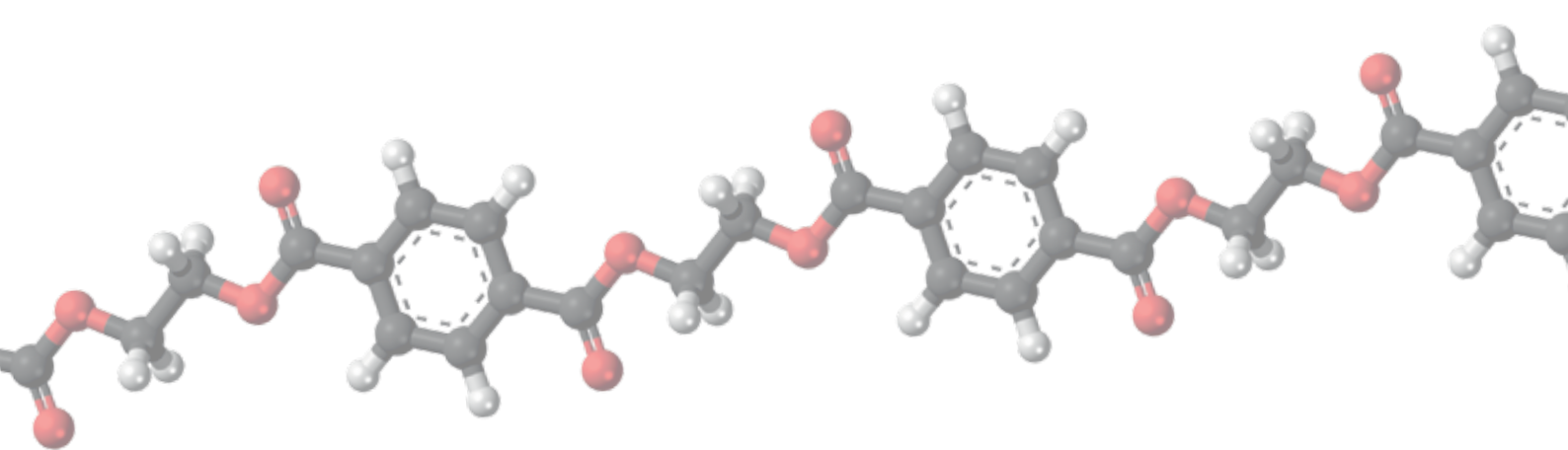


Metal detectable materials

## Basic material characteristics

The summarized data should only be used as a guide. The information data are summarized to the best of our knowledge but no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications or the results to be obtained from them, and it is the end user's responsibility to make its own determination of the product's suitability for the intended applications.

	Density (ISO 1183) g/cm <sup>3</sup>	Tensile modulus (ISO 527) MPa	Tensile strength (ISO 527) MPa	Flammability rating (UL94)	Temperature range °C	Food contact
LDPE (IF 50)	0.93	200	20	HB	-40–70	Yes
HDPE (IF 300)	0.96	1350	27	HB	-40–80	Yes
HDPE (IF 340)	0.96	1020	24	HB	-40–80	Yes
HDPE (IF 360)	0.95	1000	24	HB	-40–80	Yes
IF EVA	0.94	60	6	/	-50–60	No
HDPE FR (IF 360 FR)	1.03	900	21	V-2	-40–80	No
IF PE80	0.96	1050	>20	HB	-40–80	No
IF PE100	0.96	1100	25	HB	-40–80	No
PPH (IF 400)	0.91	1060	36	HB	0–100	Yes
PPC (IF 450)	0.91	1100	24	HB	-20–100	Yes
PP FR (IF 400 PPH FR V2)	0.94	1800	38	V-2	0–100	No
IF 456	0.92	1,00	24	HB	-40–80	Yes
IF360 K20	1.09	250	10	HB	-20–70	No
FABAC (IF 450) PPC	0.91	1100	24	HB	-20–80	No
PP foam	0.45	300	5	HB	-20–90	No
IF 410_25	0.92	550	13	HB	-40–80	No
IF 410_40	0.92	300	9	HB	-40–80	No
IF PPEPM20	0.9	720	15	HB	-40–80	No
PPEL	1	1150	21	HB	0–90	No
PE EL	1.05	1050	23	HB	-20–80	No
IF340 KS200	0.96	1000	24	HB	-40–80	No
IF 456 PPEL KS200	1	1100	20	HB	-40–80	No
ISORTHO 10	0.95	1000	24	HB	-40–80	Yes

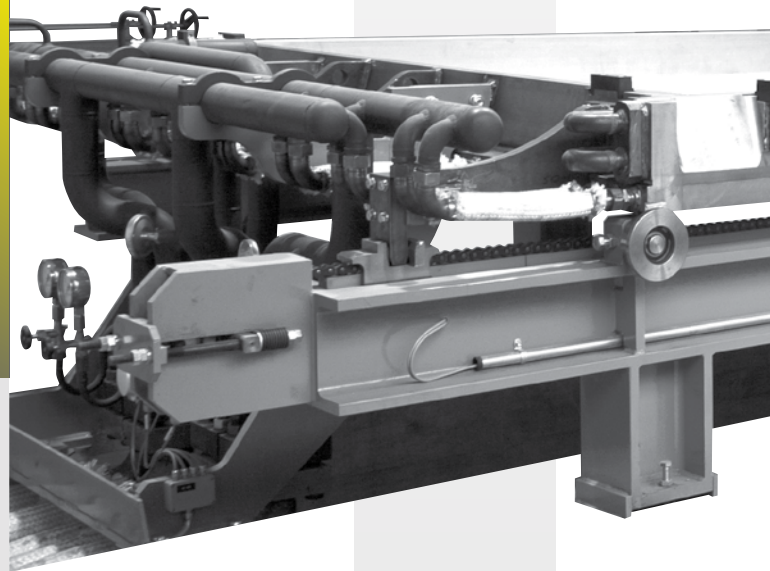


	Density (ISO 1183) g/cm <sup>3</sup>	Tensile modulus (ISO 527) MPa	Tensile strength (ISO 527) MPa	Flammability rating (UL94)	Temperature range °C	Food contact
ISORTHO 20	0.95	1000	24	HB	-40–80	Yes
ISORTHO 30	0.93	200	20	HB	-40–70	Yes
ISORTHO 40	0.91	1100	24	HB	-20–100	Yes
ISORTHO 50	0.91	1600	36	HB	0–100	Yes
IF 51 coex TPE	0.93	200	10	/	-25–75	No
IF 52 coex TPE	0.93	150	8	/	-25–75	No
IF S009	0.94	900	>20	/	-25–75	No
IF S010	0.94	900	>18	/	-25–75	No
PPEL coex TPEEL	1	1050	20	/	-20–80	No
IF PPT10	1	1300	29	HB	-40–80	No
IF PPT20	1.06	3200	37	HB	0–100	Yes
IF PPT30	1.2	4200	38	HB	0–100	No
IF PPT30FR R7035	1.2	2500	38	750°C (glow wire test)	0–100	No
IF PPT40	1.23	4100	37	HB	0–100	No
IF 456T05	0.96	1100	25	HB	-40–80	Yes
IF 456T20	1.06	1800	24	HB	-40–80	Yes
IF 456GF30	1.15	2600	28	HB	-20–80	No
ISOPHON 60	1.8	80	8	HB	-40–70	No
ISOPHON 80	2.5	250	5	Class E-d0 (EN13501-1)	-40–70	No
HEAVY LAYER	2	150	5	HB	-40–70	No
IF LIP	1.06	2800	20	/	0–100	No
IF LIP RF	1.06	3700	22	/	0–100	No
IF HMPP	1.06	3200	32	/	0–100	No



# A wide range of possibilities in semi-finished products

- Mega press wide product range
- Press moulded designed sheets (pre-formed pressed sheets)
- Prototyping large machine components (big CNC machine)



## **Mega press wide product range**

Because of investments into technology and development, we are orientated towards the application of modern materials and production technologies.

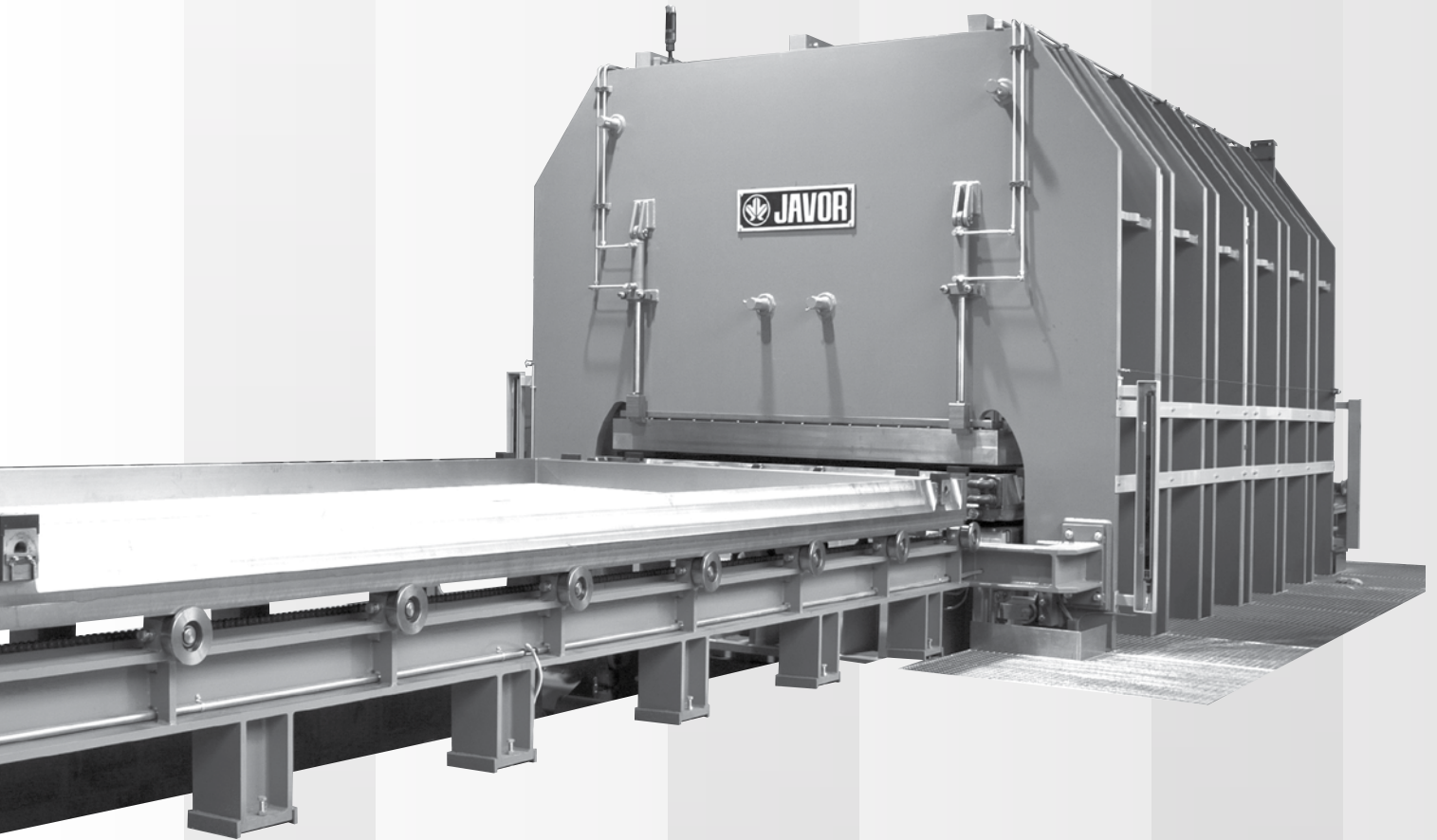
## **Standard sheets in dimensions**

2020×1020mm, 3030×1020mm, 6100×1020mm  
3030×1220mm, 2020×1220mm, 6100×1220mm

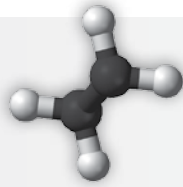
Thickness range from 10mm to 130mm



# Koterm Pressed



PE



# Production types

## Standard types

	Characteristics	Areas of use
PE1000	Low friction, High abrasion and wear resistance, Chemical and corrosion resistance	Mining, Food industry, Mechanical engineering, Chemical industry, Electrical industry
PE500	Balanced mechanical properties, Good chemical resistance, Physiologically safe	Food industry, Mechanical engineering, Building construction, Chemical industry, Electrical industry
PEHD NAT	Tough at lower temperatures, Weldable, Moisture and chemical resistant	Building construction, Mechanical engineering, Sport-funICE, Chemical industry

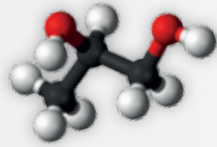
## Special types

	Characteristics	Areas of use
PE1000-2	Abrasion and wear resistant, Chemical and Corrosion resistant, No moisture absorption	Mechanical engineering, Chemical industry, Electrical industry
PE9000	Low friction, High abrasion and wear resistance, High impact strength	Mechanical engineering, Chemical industry
<b>UV stabilized</b>		
PE1000UV	UV stabilized, High abrasion and wear resistance, Low coefficient of friction	Mining, Mechanical engineering, Chemical industry, Electrical industry
<b>Anti-static/electroconductive</b>		
PE1000AST	Anti-static, High Abrasion and Wear resistance, Low coefficient of friction	Mining, Mechanical engineering, Electrical industry
PE1000ASTF	Anti-static, High abrasion and wear resistance, Meets food contact regulations	Food industry
PE1000ELC	Electroconductive, High abrasion and wear resistance, Low coefficient of friction	Mining, Mechanical engineering, Electrical industry
<b>Self-extinguishing</b>		
PE1000FR	Self-extinguishing, Meets requirements UL94-V0, High abrasion and wear resistance	Mining, Mechanical engineering, Electrical industry
PE1000FREX	Self-extinguishing with exp. graphite, Meets requirements UL94-V0, Anti-static	Mining, Mechanical engineering, Electrical industry

# Special types

Characteristics		Areas of use
<b>Wear resistance/sliding properties</b>		
PE1000M	Very low friction, Superior abrasion and wear resistance, Chemical and corrosion resistant	Mining, Mechanical engineering
PE1000S	Very low friction and superior sliding, Superior abrasion and wear resistance, Self-lubricating	Mining, Mechanical engineering
<b>Heat stabilized</b>		
PE1000SH	Heat stabilized, High abrasion and wear resistance, Improved life span at elevated temperatures	Mechanical engineering
<b>Antimicrobial properties</b>		
PE1000ABAC	Antimicrobial effect, High abrasion and wear resistance, Chemical and corrosion resistant	Mining, Mechanical engineering
<b>Metal detectable</b>		
PE1000MD	Contains a Metal detectable additive, High abrasion and wear resistance, High impact strength	Mining, Mechanical engineering
<b>Wear resistance/sliding properties</b>		
PE9000M	Very low coefficient of friction, Superior abrasion and wear resistance, Chemical and corrosion resistant	Mechanical engineering, Chemical industry
PE9000MS	Very low friction and superior sliding, Superior abrasion and wear resistance, Chemical and corrosion resistant	Mechanical engineering, Chemical industry
PE9000NLS	Very low friction and superior sliding, Excellent abrasion and wear resistance, Self-lubricating	Mechanical engineering, Chemical industry
<b>Wear/abrasion resistant</b>		
CER	Excellent abrasion and wear resistance, Low moisture absorption, Chemical and corrosion resistant	Mechanical engineering
CERAMEX	Excellent abrasion and wear resistance, Good sliding properties, Filled with a ceramic filler	Mechanical engineering
X-SLIDE	Very low friction, Superior abrasion and wear resistance, Self-lubricating	Mining
X-SLIDE	Superior abrasion and wear resistance, Very low friction and superior sliding, Withstands loads as hot as 180°C	Mining
ULA	Excellent abrasion and wear resistance, Low moisture absorption, Chemical and corrosion resistant	Mechanical engineering
<b>UV stabilized</b>		
PE500UV	UV stabilized, Good chemical resistance, Balanced mechanical properties	Mechanical engineering, Sport FunICE, Chemical industry, Furniture industry, Electrical industry
<b>Excellent sliding characteristics</b>		
FunICE	Excellent sliding properties, UV stabilized, Balanced mechanical properties	Sport FunICE
<b>Superior processing properties</b>		
PEHD BLACK	Tough at lower temperatures, Long-term stress crack resistance, Moisture and chemical resistant	Building construction, Mechanical engineering, Chemical industry
PE100	Tough at lower temperatures, Long-term stress crack resistance, Completely resistant to corrosion	Building construction, Chemical industry
PE80	Tough at lower temperatures, Long-term stress crack resistance, Moisture and chemical resistant	Building construction, Chemical industry
<b>Recycled, cost effective solutions</b>		
PEHDR	Reprocessed material	Building construction, Mechanical engineering
PEHDR RKB	Reprocessed material	Building construction, Mechanical engineering
PE1000 R	Reprocessed material, Abrasion and wear resistant, Chemical and corrosion resistant	Building construction, Mechanical engineering
PE1000 RMB	Reprocessed material, Abrasion and wear resistant, Multicolour visual appearance	Mechanical engineering

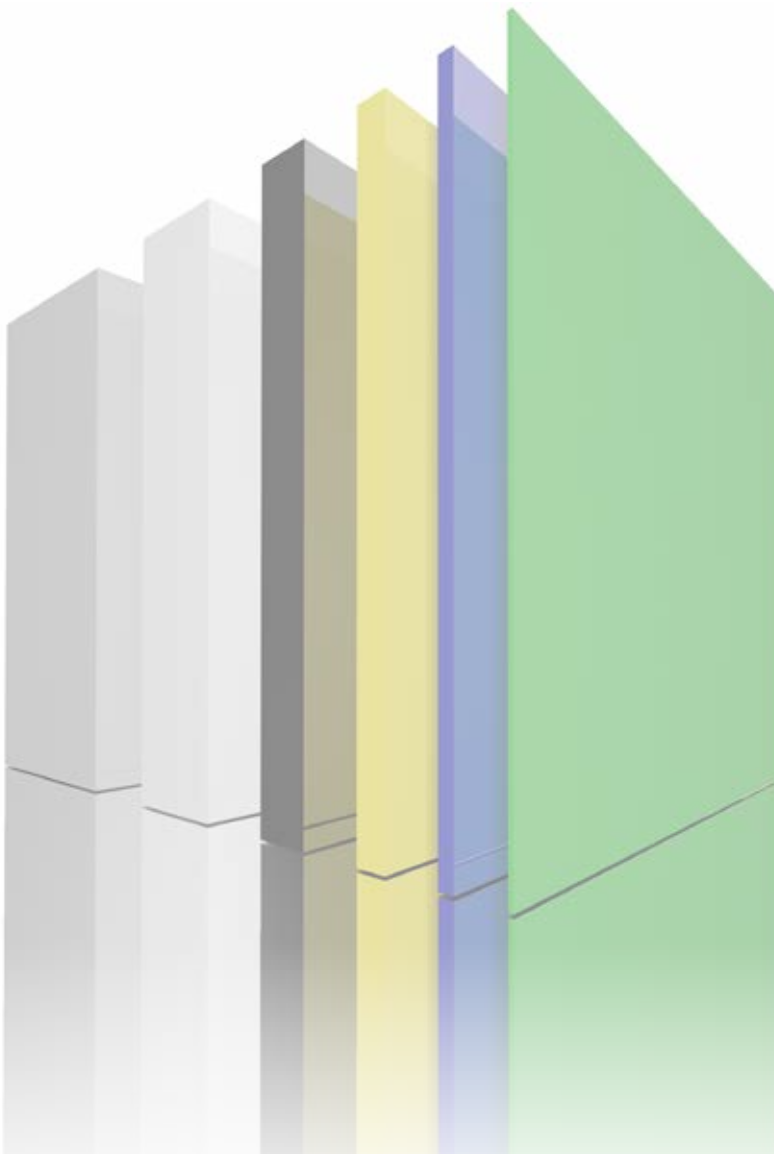
PP



# Production types

## Standard types

Characteristics		Areas of use
PPC	Rigid and tough, Chemical and corrosion resistant, Excellent weldability	Mechanical engineering
PPH	Rigid and high strength, Chemical and corrosion resistant, Excellent weldability	Mechanical engineering, Chemical industry
PPH74	Rigid and high strength, Chemical and corrosion resistant, Physiologically safe	Mechanical engineering





# Range of semi-finished products

Standard dimension (mm)	Thickness (mm)	PE 1000 PE UHMW	PE 500 PE HMW	PP	PP
		Natural Green Black	Natural Green Black	Natural	Grey
2020x1020	10	●	●	■	■
3030x1020	12	●	●	■	■
6100x1020	15	●	●	■	■
2020x1220*	20	●	●	■	■
3030x1220	25	■	■	■	■
6100x1220	30	●	●	■	■
	40	●	●	■	■
	50	●	●	■	■
	60	●	●	■*	■*
	70	■	■	■*	■*
	80	●	●	■*	■*
	90	■	■		■*
	100	●	●		■*
	110	■	■		■*
	120	■			■*
	130	■			

## Thickness tolerance +0/+0.5

- -stock/standard dimensions and colours
- -minimum quantity 1 press

## Press dimensions mm:

2510×6100, 1220×6100, 1020×6100,  
2050×4530, 2020×2020,

**Maximum planing width mm: 1220**

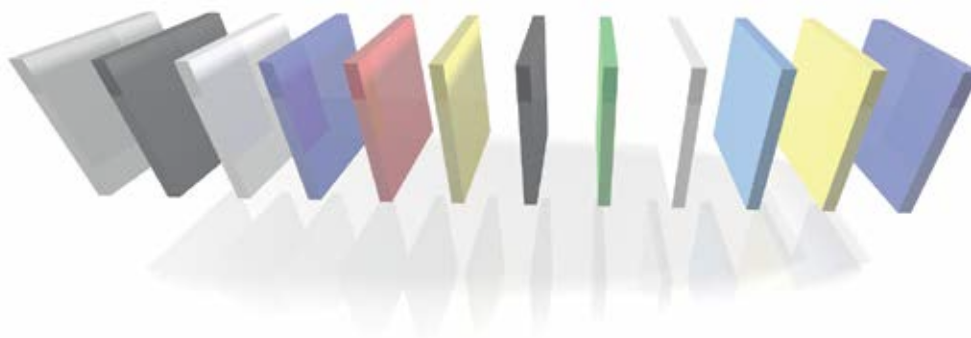
## Standard colours:

- PE: natural, black;
- PP : natural, grey

## Colours PE

- White RAL 9016
- Yellow RAL 1018
- Melon RAL 1034
- Red RAL 3020
- Red-brown RAL 3009
- Grey RAL 7037
- Blue RAL 5015
- Pepper-salt M1
- Marble-natural M2
- Marble-black M4
- Water-blue RAL 5021
- Yellow-green RAL 6018
- Violet RAL 4007
- Green RAL

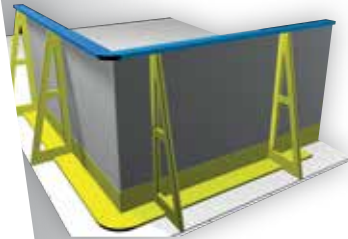
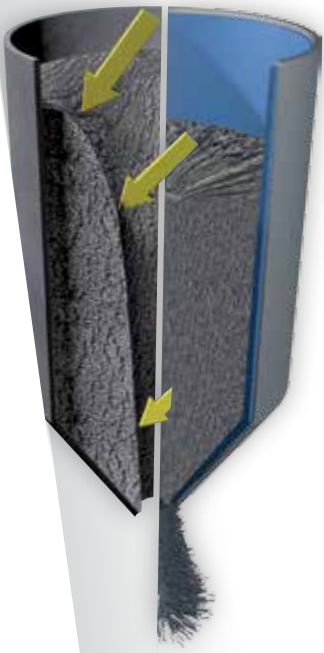
*Other colours and special  
sheet sizes upon request.*



## Basic material characteristics

The summarized data should only be used as a guide. The information data are summarized to the best of our knowledge but no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications or the results to be obtained from them, and it is the end user's responsibility to make its own determination of the product's suitability for the intended applications.

	Density (ISO 1183) g/cm <sup>3</sup>	Tensile modulus (ISO 527) MPa	Yield stress (ISO 527) MPa	Flammability rating (UL 94)	Temperature range °C	Food contact
PE1000	0,93	750	>17	HB	-200...86	Yes
PE1000-2	0,95	900	>24	HB	-100...80	No
PE1000UV	0,93	750	>17	HB	-200...80	No
PE1000AST	0,935	750	>17	HB	-200...80	No
PE1000ASTF	0,935	750	>17	HB	-200...80	Yes
PE1000ELC	0,94	750	>17	HB	-200...80	No
PE1000FR	1,01	750	>20	V-0	-200...80	No
PE1000FREX	1	750	>20	V-0	-200...80	No
PE1000M	0,94	750	>17	HB	-200...80	No
PE1000S	0,935	750	>17	HB	-200...80	No
PE1000SH	0,93	750	>17	HB	-200...110	Yes
PE1000 MD	0,93	750	>17	HB	-200...80	Yes
PE9000	0,93	750	>17	HB	-200...80	Yes
PE9000M	0,94	750	>17	HB	-200...80	No
PE9000MS	0,94	750	>17	HB	-200...80	No
PE9000NLS	0,94	750	>17	HB	-200...80	No
CER	0,96	850	>17	HB	-200...80	No
CERAMEX	1,05	950	>17	HB	-200...80	No
X-SLIDE	0,94	750	>17	HB	-200...80	No
HX-SLIDE	0,96	850	>17	HB	-200...80	No
ULA	0,96	850	>17	HB	-200...80	No
PE500	0,96	1200	27	HB	-50...80	Yes
PE500UV	0,96	1200	27	HB	-50...80	No
FunICE	0,96	1200	27	HB	-50...80	No
PEHD nat	0,96	1350	27	HB	-50...80	Yes
PEHD black	0,96	1050	>20	HB	-50...80	Yes
PE100	0,96	1100	25	HB	-50...80	No
PE80	0,96	1050	>20	HB	-50...80	No
PPC	0,92	1300	28	HB	0...100	Yes
PPH	0,91	1350	30	HB	0...100	Yes
PPH74	0,91	1600	36	HB	0...100	Yes
PEHD RKB	>0,96	>900	>23	HB	-40...80	No
PE1000 R	>0,94	900	>17	HB	-50...80	No
PE1000 RMB	>0,94	>750	>17	HB	-50...80	No



Press-moulded  
designed sheets



FunICE ice skating  
panels and dasher  
boards



## Lining



Lining in cooling chambers



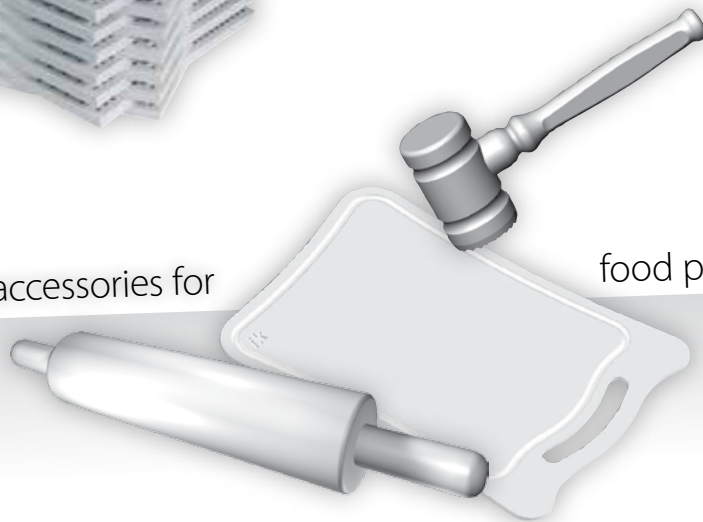


Sterilization for autoclaves in food sterilization



Cutting boards and accessories for

food preparation



Machine

components for all industries

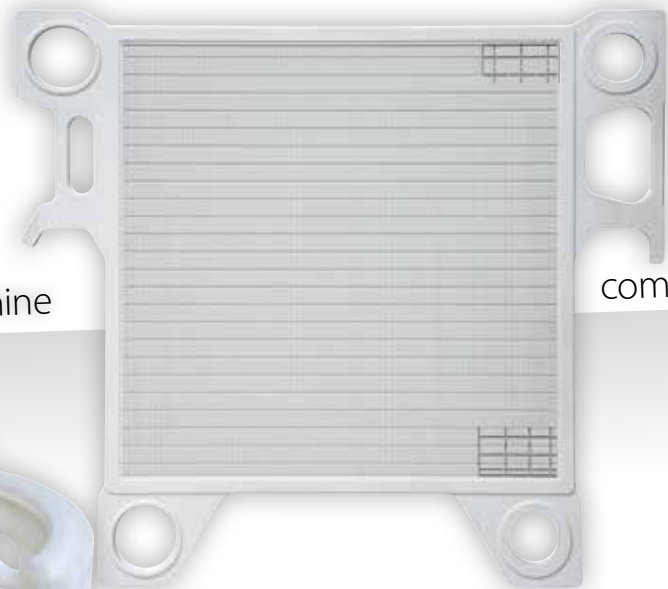




## Customized product solutions - Finished products



Bottling industry



Prototyping large machine

components



Paper industry

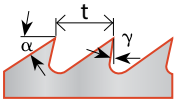
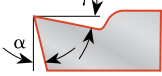
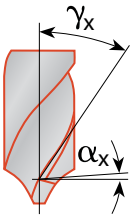
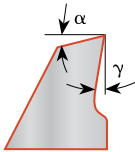
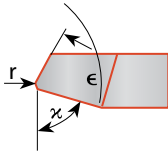
# Technical manufacturing

## Tips of processing

The Koterm PE/PP material can be machined with wood as well as metal processing machines.

The sharpness of the tools is essential to prevent splintering.

Grinding or polishing is not recommended due to the greasing effect (overheating).

	Sawing	Planing	Drilling	Milling	Turning	
						
Tool	HSS, HM	HSS, HM	Spiral shaped drill	HSS, HM	HSS, HM	Units
Cutting rate	3000-4000*	3000	15-40	1000-2000	100-600	m/min
Feed rate	0.1-0.3	0.1-0.3				mm/tooth
			0.1-0.3	0.1-0.5	0.1-0.5	mm/rpm
Cutting angle	HSS: 3-6 MH: 5-8	15-20	15-25	5-15	5-15	degrees
Relief angle	HSS: 3-6 MH: 5-8	15-30		5-15	5-15	degrees

## Welding

Butt welding procedure: the areas to be welded are heated with the heating mirror at 200 to 220°C using a low pressure level until a layer of approx. 4mm has become plastic. The surfaces are pressed at a pressure level pf 10 to 20kp/cm<sup>2</sup>.

*\*The indicated speed applies to circular saws.*



# Joint development projects with clients

We are involved in joint technological development projects with customers.

With innovations, continuous and sustainable development, and by solving questions and problems, we build long-term relationships with our customers.

## Example Grüter

- **Sensory fields and computer software give better training results in Bad Aibling**

We manufactured an **ice skating rink with markings** for one of our customers. The ice skating rink is used by **hockey players for training**; under the square markings there are built-in pressure sensors which help ice skaters with their training as they have to visually follow the path on the display, and it shortens the time needed to get to the designated sites.

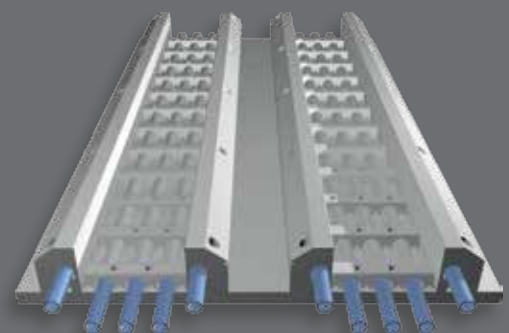
- **Bobsleigh platform in Winterberg**

We renovated the finish area of where the **bobsleigh's** comes to a halt, where the bobsleigh is pushed towards the weighing station. The right choice of material allowed a **nice slippery surface and lower operating costs**. We selected the FunICE material, which we had previously used for pilot testing in August 2013 to cover approx. 380m<sup>2</sup> of the concrete **surface of irregular shapes**. Good cooperation with our client has led to innovations, further developments and the final production of covering part of the bobsleigh tracks with plastic.

## Example Mana Original

### **Winter/Summer ski-jumping ramp**

Together with our Slovenian partner, a manufacturer of run-up tracks for ski jumping, we developed a PE ski-jump surface, made out of KOTERM. It has already been installed at three ski jumps in Europe. The homogeneous material is much **less sensitive to temperature changes** in comparison with combination of different materials. The modular composite ski-jump surfaces offer a **quick and effective replacement of any component** making up the surface. This is what put our partner in front of the competition.



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