Chemical Resistance

TEMPERATURE (ºC)	PE				PP			
	20	40	60	80	20	40	60	80
Diesel oil	+		0		0			
Corn oil	+	+	+		+	+	0	
Lubricant oil	+	+	0		0			
Mineral oil	+	+			+	+		
Olice oil	+	+	0		+	+	+	+
Palm oil	+	+	0		+	+	0	
Silicone oil	+	+	+		+	+	+	+
Turpentine oil	+	+	-		+	+	-	
Acetaldehyde pure	+	0			0	-		
Vinil acetate	+	+			+		0	
Acetone	+	+	+		+	+	+	
Acetic acid	+	+	0		+	0	-	
Carbonic acid	+	+	+		+	+	+	
Cytric acid	+	+	+		+	+	+	+
Chlorhidric acid (10%)	+	+			-			
Chlorhidric acid (20%)	0				-			
Phosphoric acid (50%)	+	+	+		+	+	+	
Nitric acid (25%)	+	+	+		+	0		
Nitric acid (50%)	+				-			
Sulphidric acid dilution	+	+	+		+	+	+	
Sulphuric acid (40%)	+	+	+		+	+	+	
Sulphuric acid (60%)	+	+	+		+	0	-	
Sulphuric acid (96%)	-				-			
Sea water	+	+	+		+	+	+	+
Aqua regia	-				-			
Camphor	0		-		0		-	
Pure ammonia gaseous	+	+	+		+	+	+	
Ammonia dilution	+	+	+		+	+	+	
Nitric anhydrid	+	+	+		+	0	-	
Aniline	-				-			
Sulphur	+	+	+		+	+	+	+
Benzene	0	0			0	-		
Bórax	+	+	+		+	+	+	+
Brome	-				-			
Quicklime	+	+	+		+	+	+	
Wax	+	+	+		+	+	+	
Cetonas	0	0	-		0	0	-	
Chlorine	-				-			
Chlorobenzene	0				+			
Chloroform	-				-			
Colouring	+	+	+		+	+	+	
Detergent	+	+	+		+	+	+	
Dichloroethylene	-				0			
Emulsifiers	+	+	+		+	+	+	

TEMPERATURE (ºC)	PE				PP			
	20	40	60	80	20	40	60	80
Ethanol	+	+	+		+	+	+	
Ether	0	0	-		0	0	-	
Alifatic ester	+	+	0		+	+	0	
Aromatic ester	0	0			0	0		
Petroleum ether	0	0	-		0	0	-	
Phenol	+	+	0		+	+	-	
Fertilizer	+	+	+		+	+	+	
Fluorine	-				-			
Formaldehyde (40%)	+	+	+		+	+		
Phosphates	+	+	+		+	+	+	+
Fuel-oil	0	-			0	-		
Glycerine	+	+	+		+	+	+	
Glycol	+	+	+		+	+	+	
Hexane	+		0		+		0	
Hydrogen pure	+	+	+		+	+	+	
Fruit juices	+	+	+		+	+	+	+
Soda lye	+	+	+		+	+	+	
Potash lye	+	+	+		+	+	+	
Hypoclhoride lye	+	+	-		+	+	-	
Mixed acids	-				-			
Methanol	+	+	+		+	+	+	
Nitrobenzene	+	0	0		+	0		
Oxygen pure	+	+	0		+	+	0	
Ozone	0	-			0	-		
Potassium permanganate	+	+	0		+	+		
Hydrogen peroxide (10%)	+	+	+		+	+	+	
Hydrogen peroxide (50%)	+				+			
Hydrogen peroxide (90%)	+		+		-			
Petroleum	+	+	0		+	0	0	
Pyridina	+	0	0		0	0	0	
Pytosanitary products	+	+	+	+	+	+	+	+
Salt	+	+	+	+	+	+	+	+
Zinc salt	+	+	+		+	+	+	
Magnesium salts	+	+	+		+	+	+	+
Potassium salts	+	+	+		+	+	+	+
Sodium salts	+	+	+		+	+	+	+
Soap solution	+	+	+		+	+	+	
Carbon tetrachloride	-				-			
Toluene	0				0			
Trichlorobenzene	-				-			
Sulphur trioxide	-				-			
Vaseline	+		0		0		-	
Xilene	-				-			
Iodine	+		0					

+ Resistant in good conditions of temperature and pressure **0** The enviroment can affect to the material **-** Weak under any condition

vapla®

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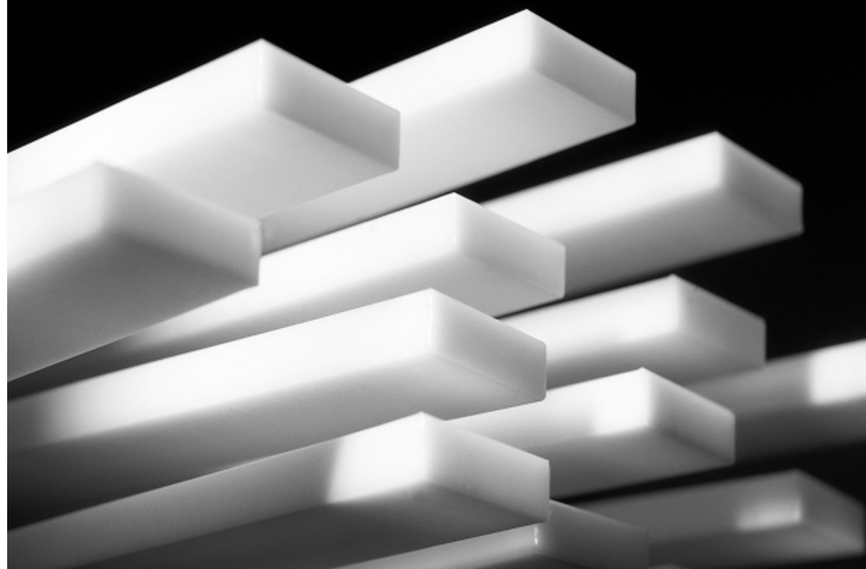

In 1987 an organization with a great vision of the future was born. Since its foundation, Vapla has been dedicated to the production of semi-finished polyethylene and polypropylene products. The flexibility of our production methods and our continued adaptation to change have been the pillars that have sustained the company since its foundation, because it is only with these values can we continue with our forward-looking vision of the future.

Vapla is committed to innovation, research and quality in all of its products. Today we have reached a position of prestige and renown in the technical plastics market, with guaranteed quality of its produced products. Vapla has also established itself as an organization capable of solving the needs of its customers in the technical plastics market.

We are a modern company that cares about the environment, we are committed to controlling and minimizing the impact of our products through an innovative recycling process of our materials.

In the future Vapla will continue to open up new ways that will allow us to go on perfecting the quality of our products and our services to our clients. We will also continue to rely on an innovative and modern production structure and an efficient and responsive after-sale service in order to ensure that out clients receive the best.

Vapla is and will continue being in the future committed to engaging with our clients in their work and to maintaining our privileged position with a great image and high level of competitiveness.

It only remains that we continue working to keep growing.

For 30 years, Vapla has produced semifinished products made from Polyethylene and Polypropylene under the brand name Vaplatec. Our pressed PE-HMW, PE-UHMW and PPH sheets have become the benchmark in both Europe and around the world.

In our constant search for and development of new applications, Vapla is able to offer an increased range of products specifically designed for different market requirements.

Thanks to our permanent stock, Vapla is able to respond to customer demands for production, which allows us to provide a flexible and quick service to all of our customers.

Our processed sheets come in a range of sizes up to 4mx2m and in a range of thicknesses from 8mm to 150mm.

At Vapla we want to be more than a supplier, so through our extensive experience and through working closely with our customers, we can form a partnership of innovative and cutting-edge projects whilst continuing with our own pioneering research.

Vaplatec DT
Magnetic arc detectable polyethylenes.

Vaplatec AS
Antistatic.

Vaplatec CN
Conductive.

Vaplatec AB
Antibacterial.

Vaplatec WR
Improved resistance to standard material.

Vaplatec UV
Resistant to ultraviolet rays.

Vaplatec LS
Reduces static and dynamic coefficient friction.

Vaplatec NF
Flame retardant V0 rated.

Vaplatec RC
Recycled polyethylene.

Vapladur
Polypropylene PP specially developed for professional cutting.

Vaplasol
Polyethylene that complies with current regulations for food contact.

Sheet sizes

PRODUCT	COLOURS	4000 x 2000 mm	4000 x1200 mm	2300 x 1000 mm	2000 x 1000 mm
Vaplatec 500	Natural, green, black	10 - 150 mm	10 - 100 mm	10 - 25 mm	10 - 150 mm
Vaplatec 1000	Natural, green, black	10 - 150 mm	10 - 100 mm	***	10 - 80 mm
Vaplatec 500 RC	Black	10 - 100 mm	10 - 80 mm	10 - 25 mm	10 - 1000 mm
Vaplatec 500 Additivated		10 - 150 mm	10 - 100 mm	10 - 25 mm	10 - 80 mm
Vaplatec 1000 Additivated		10 - 150 mm	10 - 100 mm	***	10 - 80 mm
Vaplatec PP		10 - 60 mm	10 - 60 mm	10 - 25 mm	10 - 60 mm

Tolerances: Size: - 1 mm, + 10 mm. Calibrate: + 0 mm + 0.3 mm. This dates are only informative, the company reserves the right to modify any value without previous notification.

For more thickness, please, ask about to the commercial department.
For special colours, please ask about to the commercial department.

General Properties

CHARACTERISTICS	PROPERTY	METHOD	VAPLATEC 500	VAPLATEC 1000	VAPLATEC PP
PHYSICAL	Molecular wheigt (g/mol)		Approx. 500,000	5,000,000	***
	Density (g/cm^3)	UNE-EN ISO 1183	0.950	0.930	> 0.900
	Shore hardness D	UNE-EN ISO 868	65	64	70
	Water absorption (%)	UNE-EN ISO 62	< 0.1	< 0.1	< 0.1
MECHANICAL	Tensile modulus of elasticity (MPa)	UNE-EN ISO 178	1400	915	1700
	Flexural stress (MPa)	UNE-EN ISO 178	32	23	45
	Yield stress (MPa)	UNE-EN ISO 527	29	22	36
	Ultimate tensile strenght (MPa)	UNE-EN ISO 527	25	27	***
	Elongation at break (%)	UNE-EN ISO 527	870	290	24
	Charpy impact strenght unnotchched (Pendulum of 25 J) (KJ/m^2)	UNE-EN ISO 179-1	Do not break	Do not break	75
	Charpy impact strenght nochtched (Pendulum of 25 J) (KJ/m^2)	UNE-EN ISO 179-1	50	100 (Partial break)	***
THERMAL	Wear resistance (Pattern: GUR 4120=100)	Sand Slurry test	250	100	***
	Melting tmeperature(ºC)	UNE 1135-3	135	135	160
	VICAT softening temperature VICAT B50 (ºC)	UNE-EN ISO 306	80	80	150
	Service temperature in continual (ºC)		80	80	100
ELECTRICAL	Coefficient of linear thermal expansion (m/mK)	UNE 53126	$8.70x10^{-6}$	$1.10x10^{-4}$	$6.9x10^{-6}$
	Surface resistivity (Ω)	UNE 21303	> 10^{12}	> 10^{12}	> 10^{12}
	Volume resistivity (Ω.m)	UNE 21303	> 10^{12}	> 10^{12}	> 10^{12}