

PLASTIC

- **STANDARD SIZES AND COLOURS**
- **TECHNICAL AND PHYSICAL PROPERTIES**

PLASTIC MATERIALS: SECTIONS and STANDARD COLOURS - (page 01)

Material	Sections	Available colours	Other names of common use
			<i>the names below are trademarks of property of their own producers</i>
PA6 – Nylon 6 (Polyamide 6)	Plate Full Round Bar Round Hollow Bar	Natural	Nylon, Ertalon, Nylatron, Polyamide, Sustamid.
PA66 – Nylon 6.6 (Polyamide 6.6)	Full Round Bar Plate	Natural / Black	
PA6 + MoS2 (Polyamide 6 + Molybdenum Disulfide)	Full Round Bar	Black	PA6 + MoS2, Ertalon 6 PLAS, Lamigamid 314, Nilatron MC 801, Tecast M.
PC Polycarbonate	Plate Full Round Bar	Transparent	PC, Lexan, Lexan (GF.20%), Macrolon, PC1000 (GF), Sustanat (GF.20), Szellamind 500, Tecanat (GF.30)
PE HMW - High molecular weight Polyethylene	Full Round Bar	Natural / Black / Green	PE HMW, PE HD, Cestidur, Cestilite, Ertalene 80, Hostalen, Lupolen, Muralen, Polizene, Tecafine PE, Zellamid 650.
	Pressed Plate	Natural-White / Black / Green	
PE HD High density Polyethylene	Full Round Bar	Natural / Black / Green	
	Extruded Plate Rolls		
PET - Arnite (Polyethylene Terephthalate)	Plate Full Round Bar	Natural / Black	Pet, Ertalyte, Novatron, Sustadur, Tecadur, Terephthalato, Zellamid 1400
PMMA Plexiglass (Methacrylate)	Cast Plate Extruded Plate Tube and Full Round	Transparent	PMMA, Acrylic resin.
POM C (Polyacetal)	Plate Full Round Bar Round Hollow Bar	Natural / Black	POM C, Acetron, Delrin, Ertacetal, Hostaform, Lamigamid, Murytal, Sustarin, Tecaform, Ultraform, Zellamid 900.
PP – Moplen (Polypropylene)	Extruded Plate	Natural / Grey	PP, Ertalente PP, Hostalen PP, Polipropilene, Tecafine PP, Zellamid 800.
	Pressed Plate	Natural / Grey	
	Tube	Grey	
	Full Round Bar	Natural / Black / Grey	
PTFE Virgin Teflon	Plate Full Round Bar	Natural	PTFE, Ertafloor, Fluorosint 500-207, Lubriflon, Murflor, Tecaflon PTFE, Polytetrafluoroethylene.
PVC Polyvinylchloride	Pressed Plate Extruded Plate	Natural Ivory Dark Grey and Black	PVC
	Rigid Plate	Transparent	
	Tube	Dark Grey	
	Full Round Bar	Natural Ivory / Dark Grey	
	Round Hollow Bar		
	Square and Rectangular Profiles	Natural Ivory / Dark Grey	
	Rolls	Naturale Avorio	
	Rolls	Transparent / Kristall	

PLASTIC MATERIALS: PROPERTIES and APPLICATIONS - (page 02)

Material	Properties and main applications
PA6 – Nylon 6 (Polyamide 6)	Hygroscopic. High mechanical strength, stiffness, hardness, toughness and fatigue resistance. High mechanical damping. Good sliding properties. Excellent resistance to abrasion and wear and tear. Good machinability in machine tools, in the turning it gives continuous chip. # Flammability: Self-extinguishing #
PA66-Nylon 6.6 Polyamide 6.6	
PA6 + MoS2 (Polyamide 6+ Mo Disulphide)	As for PA6 and PA66, the addition of Molybdenum Disulphide improves the wear and tear resistance and sliding properties in dynamic applications. Used for construction of bushings, gears and pulleys. # Flammability: Self-extinguishing #
PC Polycarbonate	Excellent transparency. Excellent shock resistance. Poor resistance to wear and tear. Good resistance to mineral acids, aliphatic hydrocarbons, gasoline, greases and oils. # Flammability: Not Burning #
PE HMW High molecular weight Polyethylene	Low specific weight compared to other plastic materials. Minimum water absorption. Physiologically inert (suitable for food contact, properly used in the processing of meat and fish). Excellent non-stick properties. Good resistance to wear and tear and abrasion. High shock resistance, even at low temperatures. Low friction coefficient. Moderate mechanical strength, stiffness and creep resistance. Excellent dielectric properties and electrical insulation. Excellent workability. Good resistance to strong energy radiations. Excellent chemical resistance. # Flammability: Burning #
PE HD High density Polyethylene	
PET Arnite (Polyethylene Terephthalate)	High mechanical strength, stiffness and hardness. Excellent dimensional stability. Excellent creep resistance. Physiologically inert (suitable for food contact). Good resistance to wear and tear when lubricated. High resistance to energy radiation (gamma and X rays). Excellent workability in fractional chips. Good resistance to acids. # Flammability: Burning #
PMMA Plexiglass (Methacrylate)	High transparency (higher than glass). Soft material, sensitive to scratches and abrasions. Shapable by heating at about 100 °. # Flammability: Burning #
POM C (Polyacetal)	High mechanical strength, stiffness and hardness, as well as elastic memory. Excellent dimensional stability. Low friction coefficient. Good creep resistance. High shock resistance, even at low temperatures. Good resistance to wear and tear. Physiologically inert (suitable for food contact). Excellent workability in fractional chips. Good dielectric properties and electrical insulation. # Flammability: Burning #
PP – Moplen (Polypropylene)	Absolutely non-toxic both during and after use. Low absorption and permeability to water. Good heat stability. Low resistance to atmospheric agents. Excellent resilience. Good resistance to dynamic loads. Excellent dielectric properties and electrical insulation. Good resistance to chemical agents and organic solvents, but sensitive to the action of strong oxidizing agents. # Flammability: Burning #
PTFE Virgin teflon	Wide field of operating temperatures (from -270° C to +300° C). Excellent resistance to atmospheric agents. Low stiffness. Excellent anti-adhesive and sliding characteristics of all materials. Excellent friction coefficient. Low resistance to wear and tear, excellent in the uploaded versions. Insoluble in all known solvents, at temperatures lower than 300° C. Very good electrical and dielectric properties. # Flammability: Not Burning #
PVC Polyvinylchloride	Low absorption and permeability to water. Resistant to atmospheric agents. Good rigidity and hardness. Good shock resistance. Good compressive strength at average temperatures. Medium mechanical strength. Excellent chemical resistance. Mainly used for structural and mechanical components for the construction of chemical equipment. # Flammability: Self-extinguishing #

PLASTIC MATERIALS: TECHNICAL PROPERTIES - (page 03)

Material	Density g/cm³	Tensile Strength Mpa	Breaking Elongation %	
PA6 – Nylon 6 (Polyamide 6)	1,14	70 ÷ 85	30 ÷ 300	
PA66 – Nylon 6.6 (Polyamide 6.6)	1,14	77 ÷ 84	20 ÷ 250	
PA6 + MoS2 (Polyamide 6 + Molybdenum Disulphide)	1,15	92	15 ÷ 150	
PC Polycarbonate	1,2	56 ÷ 67	80 ÷ 120	
PE HMW High molecular weight Polyethylene	0,95	23	≥ 600	
PE HD High density Polyethylene				
PET Arnite (Polyethylene Terephthalate)	1,39	47	50 ÷ 300	
PMMA Plexiglass (Methacrylate)	1,18 ÷ 1,19	50 ÷ 77	2 ÷ 10	
POM C (Polyacetal)	1,41	62 ÷ 70	40 ÷ 75	
PP – Moplen (Polypropylene)	0,92	34	200 ÷ 700	
PTFE Virgin teflon	2,17	25 ÷ 36	200 ÷ 400	
PVC Polyvinylchloride	Pressed Plate Extruded Plate	1,43	55	21
	Rigid Plate	1,4	54	>25
	Tube	1,42	≥50	>15
	Full Round Bar Round Hollow Bar Square and Rectangular Profiles	1,4	55	>18
	Natural Rolls	1,3	12	290
	Transparent and Kristall Rolls	1,22	17	400

PLASTIC MATERIALS: TECHNICAL PROPERTIES - (page 04)

Material	Charpy shock resistance with KJ/m ³ carving	Heat stability of the workpiece HDT/A 1,8 Mpa (°C)	Water absorption % - Saturation at 23 °C		
			in water	in air	
PA6 – Nylon 6 (Polyamide 6)	5,5	70 ÷ 90	9	2,6	
PA66 – Nylon 6.6 (Polyamide 6.6)	4,5	80 ÷ 100	8	2,4	
PA6 + MoS2 (Polyamide 6 + Molybdenum Disulphide)	4	110 ÷ 120	7,8	2,3	
PC - Polycarbonate	Without breakage	125 ÷ 135	0,35	0,15	
PE HMW High molecular weight Polyethylene	15	45 ÷ 55	<0,05	<0,05	
PE HD High density Polyethylene					
PET Arnite (Polyethylene Terephthalate)	2	85	0,5	0,25	
PMMA Plexiglass (Methacrylate)	2	90 ÷ 105	1,7 – 2,0	0,6	
POM C (Polyacetal)	7	110	0,85	0,2	
PP – Moplen (Polypropylene)	7	50 – 60	0,1	-	
PTFE Virgin teflon	Without breakage	50 ÷ 60	0,05	0,01	
PVC Polyvinylchloride	Pressed Plate Extruded Plate	5,5	60 ÷ 75	0,02	0,01
	Rigid Plate	4			
	Tube				
	Full Round Bar				
	Round Hollow Bar				
	Square and Rectangular Profiles				
	Natural Rolls Transparent and Kristall Rolls	-			