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Chemical Resistance of ENSINGER Engineering Plastics

CHEMICAL AGENTS

Trade Name	Raw Material Group	Acetamide 50%	Acetic Acid conc.	Acetic Acid 10%	Acetic Acid 5%	Acetone	Ammonia 10%	Benzene	Bitumen	Boric Acid 10%	Butylacetate	Butylene Glycol	Calcium Chloride 10%	Carbon Disulphide	Carbon Tetrachloride	Chlorobenzene	Chloroform	Citric Acid 10%	Clophen A 60 50%	Copper Sulphate	Cyclohexane	Cyclohexanol	Cyclohexanone	Decahydronaphthalene	Diesel Oil	Dimethylformamide	Dioctylphthalate	Dioxane	Edible Oil, Edible Fat	Ethanol 96%	Ether	Ethyl Acetate	Ethylene Chloride	Formaldehyde 30%	Formamide	Formic Acid 10%	Frigen, Freon
TECAST™	Cast Nylon 6	+	–	–	⊕	+	+	+	⊕	–	+	+	–	+	+	+	–	⊕	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	–	+
TECAMID™ 6/6	Nylon 6/6	+	–	–	⊕	+	+	+	⊕	–	+	+	–	+	+	+	–	⊕	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	–	+
TECAPET™ PET	PET (Polyethylene Terephthalate)		⊕	+	+	+	–	+			+		+	+	+	–	–	+	+						+			+	+	+	+	+	–			+	+
TECAFORM™	Acetal Copolymer		–	⊕	+	+	⊕	⊕	+	+			+	+	+	+	+	+		+	+	+			+	+	+	+	+	+	+	–	+	+		–	
DELRIN®	Acetal Homopolymer		–	–	+	+	–	+	+	+			+	+	+	+	+	–		+	+	+			+	+	+	+	+	+	+	+	+	+		–	
TECARAN™ ABS	ABS (Acrylonitrile-Butadiene-Styrene)		–	⊕	+	–	+	–				–			–	–	–				–	–	–		–		–		–	–		–	–				
NORYL®	PPO (Polyphenylene Oxide)		+	+	+	–	+	–							–		–	+		+	+	+		–	+		+	⊕	+	+		+		+		+	+
TECANAT™	Polycarbonate		–	+	+	–	–	–	–	+	–	+	+	–	–	–	–	+		+	–	⊕	–	+	⊕	–	⊕	–	+	⊕	–	–	–			+	–
TECASON™ S	Polysulfone		+	+	+	–	⊕	–			⊕		+		⊕		–	+			+				+		+			+	+	–					+
TECAFINE™ PP	Polypropylene		+	+	+	+	+	⊕		+	⊕	+	+	⊕	–	+	⊕	+			+	+	+		⊕	+	+	⊕		+		+	⊕	+	+	+	–
ULTEM®	Polyetherimide			+	+	+	–								+		–	+			+				+					+	+	⊕				+	+
TECAPEEK™	Polyetheretherketone		+	+	+	+	+	+		+		+		+	+	+					+				+	+			+	+		+				⊕	+
TECATRON™	PPS (Polyphenylene Sulfide)		+	+	+	+	+	+		+	+		+	+	+		+	+		+	+	+	+		+		+	+	+	+	+	+	+	+		+	+
TECAFLON™ PVDF	PVDF (Polyvinylidene Fluoride)	+	+	+	+	–	+	+		+	+	+	+	+	+	+	+	+		+	+	+	+		+	–		⊕	+	+	+	⊕	+	+		+	⊕

Trade Name	Raw Material Group	Fruit Juices	Fuel Oil	Gasoline	Glycerine	Glycol	Glysantin 40%	Heptane/Hexane	Hydrochloric Acid 36%	Hydrochloric Acid 2%	Hydrofluoric Acid	Hydrogen Peroxide 30%	Hydrogen Peroxide 0.5%	Hydrogen Sulphide	Ink	Isooctane	Isopropanol	Lactic Acid 90%	Lactic Acid 10%	Linseed Oil	Methanol	Methyl Ethyl Ketone	Methylene Chloride	Milk	Motor Oil/Engine Oil	Nitric Acid 2%	Nitrobenzene	Oxalic Acid 10%	Ozone	Paraffin Oil	Perchlorethylene	Petroleum White Spirit	Phenol, Aqueous	Phosphoric Acid 10%	Potassium Hydroxide Solution 50%	Potassium Hydroxide Solution 10%	Potassium Dichromate 10%
TECAST™	Cast Nylon 6	+	+	+	+	+	+	+	–	–	–	–	–	–	+	+	+	–	⊕	+	+	+	⊕	+	+	–	⊕	⊕	–	+	+	+	–	–	⊕	+	⊕
TECAMID™ 6/6	Nylon 6/6	+	+	+	+	+	+	+	–	–	–	–	–	–	+	+	+	–	⊕	+	+	+	⊕	+	+	–	⊕	⊕	–	+	+	+	–	–	⊕	+	⊕
TECAPET™ PET	PET (Polyethylene Terephthalate)	+	+	+	+	+	+	+	–	+	⊕	+	+		+		⊕			+	+	+	–		+	+				+	⊕	+	⊕	+	–	⊕	+
TECAFORM™	Acetal Copolymer	+	+	+	+	+	+	+	–	–	–	–	–	⊕		+	+	–	⊕	+	+	+	⊕	+	+	–	+	⊕	⊕	+	+	+	–	–	+	+	+
DELRIN®	Acetal Homopolymer	+	+	+	+	+	+	+	–	–	–	–	–	–		+	+	–	⊕	+	+	+	+	+	+	–	⊕	⊕	–	+	+	+	–	–	–	–	⊕
TECARAN™ ABS	ABS (Acrylonitrile-Butadiene-Styrene)	⊕	–	–	+	–		+	+	+					–		–				–	–	–	–		+					–	–	–				
NORYL®	PPO (Polyphenylene Oxide)	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	–		+	+	+		+		+		+		+	+	+	+
TECANAT™	Polycarbonate	+	+	⊕ to –	⊕	+	+	+	+	+	⊕	+	+	+	+		⊕	+	+	+	–	–	–	+		+	–	+	+	+	⊕	–	–	+	–	–	+
TECASON™ S	Polysulfone			+	+	+	+	+	⊕	+	⊕	⊕	+			+	⊕				+	–	–		+	+		+			–			+			
TECAFINE™ PP	Polypropylene	+	⊕		+	+		+	+	+	+	+	+	+		+	+	+	+	+	+	+	⊕	+		⊕	+	+	⊕	+	⊕		+	+	+	+	
ULTEM®	Polyetherimide	+	+	+		+		+	+	+							+				+	⊕	–		+	+					+	+	⊕	+		+	
TECAPEEK™	Polyetheretherketone	+	+	+	+	+		+	+	+	–	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+
TECATRON™	PPS (Polyphenylene Sulfide)	+	+	+	+	+		+	+	+	+	–	+	+			+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+
TECAFLON™ PVDF	PVDF (Polyvinylidene Fluoride)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	–	+	+	+	+	+	+	+	+	+	+	+	+	–	⊕	+

Trade Name	Raw Material Group	Potassium Permanganate 1%	Propanol	Pyridene	P3-Solution, Aqueous	Salicylic Acid	Silicone Oil	Soap Solution	Soda Solution 10%	Sodium Bisulphite	Sodium Carbonate 10%	Sodium Chloride 10%	Sodium Hydroxide Solution 50%	Sodium Hydroxide Solution 5%	Sodium Nitrate 10%	Sodium Thiosulphate	Styrene	Sulphuric Acid 98%	Sulphuric Acid 2%	Tar	Tartaric Acid	Tetrahydrofuran	Tetrahydronaphthalene	Tincture of Iodine (alc.)	Toluene	Triethanolamine	Trichloroethylene	Trilon B 10%	Urea Aqueos	Vaseline	Water, Cold	Water, Hot	Wax, Molten	Wine, Brandy	Xylene	Zinc Chloride 10%
TECAST™	Cast Nylon 6	–	+	+	+	+	+	+	+	+	+	+	–	–	+	+	+	–	⊕	+	+	+	+	–	+	+	+	+	+	+	+	⊕	+	+	+	⊕
TECAMID™ 6/6	Nylon 6/6	–	+	+	+	+	+	+	+	+	+	+	–	–	+	+	+	–	⊕	+	+	+	+	–	+	+	+	+	+	+	+	⊕	+	+	+	⊕
TECAPET™ PET	PET (Polyethylene Terephthalate)	+	⊕				+	+	+	+	+	+	–	⊕	+	+		–	+			⊕	+		+		⊕			+	+	+	+		+	
TECAFORM™	Acetal Copolymer	+	+	+			+	+		–	+	+	+	+	+	+		–	–		⊕	+	+		+	+	+		+	+	+	+	+	+	+	+
DELRIN®	Acetal Homopolymer	+	+	+			+	+		–	+	+	–	–	+	+		–	–		⊕	+	+		+	⊕	+		+	+	+	+	+	+	+	
TECARAN™ ABS	ABS (Acrylonitrile-Butadiene-Styrene)		–				–	+				+	+	+			–		+						–					+	+		–		–	
NORYL®	PPO (Polyphenylene Oxide)	+	+				+	+			+	+	+	+			–	+	+		+			+			–		+		+	+	+	+	–	+
TECANAT™	Polycarbonate	+	+	–	–		+	+	+	+	+	+	–	–			–	–	+		+	–	–	⊕	–	–	–		+	+	+	⊕	+	+	–	+
TECASON™ S	Polysulfone							+				+		+				–	+						–		–				+	⊕			–	
TECAFINE™ PP	Polypropylene	+	+	⊕			+	+	+	+	+	+	+	+	+	+		–	+		+	–	–		⊕	+	⊕		+	+	+			+	–	+
ULTEM®	Polyetherimide		+											+					+						⊕		–				+	+			⊕	+
TECAPEEK™	Polyetheretherketone		+				+	+	+		+	+	+	+			+	–	+	+			⊕	+			+			+	+	+	+	+	+	+
TECATRON™	PPS (Polyphenylene Sulfide)	+	+				+	+				+	+	+	+	+	+		⊕	+	+	+	+		+	+	+		+	+	+	+		+	+	+
TECAFLON™ PVDF	PVDF (Polyvinylidene Fluoride)	+	+	+		+	+	+	+	+	+	+	–	–	+	+		+	+		+	⊕			+	+	+		+	+	+	+	+	+	+	+

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The above results are the summary of several tests. The better resistance of the high-crystalline semi-finished products in comparison to injection molded thin parts which have been cooled rapidly and the smaller swelling of the EP-plastics are the result of Ensinger's special manufacturing process.

+ = good
⊕ = fair
– = poor

Test-Temperature 20°C

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