

Chemical Resistance

A : No change (Rate of weight change: below 1 %; holding rate of tensile strength at break: more than 95 %; appearance: no change)

B : Slight change (Rate of weight change: 1 % to 10 %; holding rate of tensile strength at break: 95 to 70 %; appearance: change)

C : Substantial change (Rate of weight change: more than 10%; holding rate of tensile strength at break: less than 70%; appearance: substantial change)

D : Dissolved

	Kind of chemical	Teonex	PET	PC	PBT	PBN	PPS	PES
Inorganic chemicals	Hydrogen peroxide	A	A	A	A	A	A	A
	Concentrated sulfuric acid	D	D	—	D	D	—	D
	Nitric acid	D	D	—	D	D	D	D
	Hydrochloric acid	A	B	—	B	A	A	B
	Sodium hydroxide 10%	A	B	B	A	A	A	A
	Sodium hydroxide 30%	A	B	C	B	A	A	A
	Saturated sodium chloride solution	A	A	A	A	A	A	A
	Sodium hypochlorite	A	A	B	A	A	A	A
	Ammonia water (28%)	C	D	D	A	A	A	A
Organic chemicals	Acetic acid	A	B	B	B	A	A	A
	Ethylenediamine	C	D	D	D	A	A	D
	Ethylene glycol	A	A	A	A	A	A	A
	Methanol	A	A	B	B	A	A	B
	Ethanol	A	A	A	A	A	A	A
	Ethyl acetate	A	B	C	B	A	A	B
	Chloroform	C	C	D	C	B	A	D
	Toluene	A	A	C	B	A	A	A
	Acetone	B	C	C	B	A	A	D
	Xylene	A	A	C	A	A	A	A
Formic acid	C	C	B	C	A	A	B	
Oils	Gasoline	A	A	B	A	A	A	A
	Gasohol M30	A	A	B	B	A	A	B
	Gasohol E10	A	A	B	A	A	A	A

Test method for chemical resistance

Immersion conditions in chemical

Immerse JIS #3 dumbbell specimen in relevant chemical for 500 hours at normal temperature.

Evaluation method for chemical resistance

- (1) Change of weight: Take out the sample from the chemical, wipe any chemicals off the sample, and measure the weight.
- (2) Change of appearance: Take out the sample from the chemical, observe the appearance.
- (3) Tensile strength: Take out the sample from the chemical, adjust the humidity (23°C×50%), and measure the tensile strength (tensile speed: 50mm/min; distance between chucks: 30mm).

Permeability to Gases

Teonex provides gas barrier property approximately four times higher than that of PET.

Status	Kind of gas	Kind of resin	
		Teonex	PET
Extended	O ₂	5.9	23
	CO ₂	24	105
	Water vapor	7	21
Not extended	O ₂	18	53
	CO ₂	59	263
	Water vapor	15	60

Sample form: Sheet

Extension rate of extended sample : 3.5×3.5

Temperature at measurement : 30°C

Unit for permeability of O₂ and CO₂ : cc · 100 μm / m² / 24hr / atm

Unit for permeability of water vapor : g · 25 μm / m² / 24hr