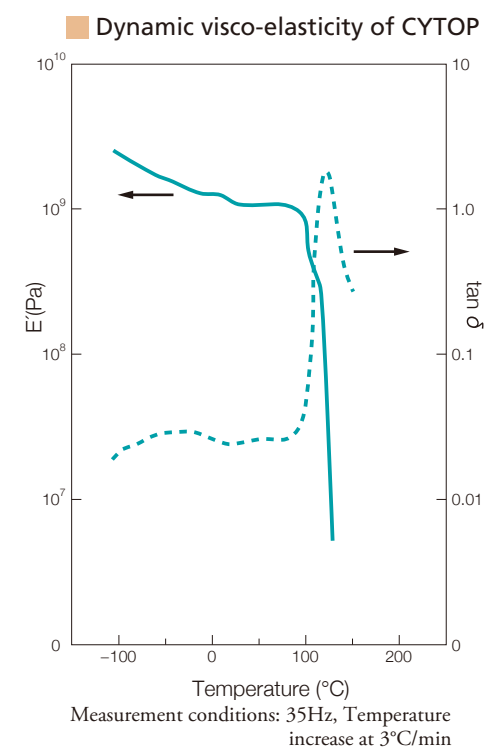
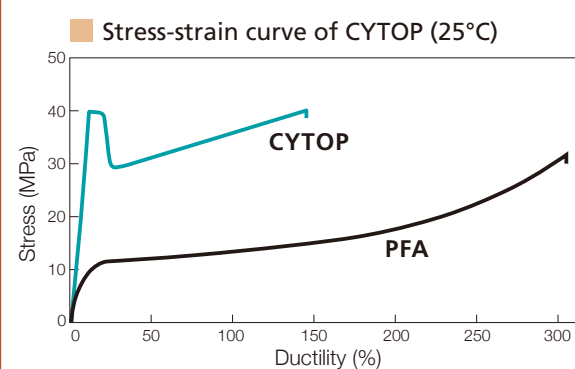


# M

## Mechanical Characteristics

	CYTOP	PTEE	PFA	PMMA
Tensile strength (MPa)	41 ~ 49	14 ~ 32	28 ~ 32	65 ~ 73
Tensile extension ratio (%)	162 ~ 192	200 ~ 400	280 ~ 300	3 ~ 5
Yield strength (MPa)	40	11 ~ 16	10 ~ 15	(65)
Tensile modulus (MPa)	1400 ~ 1600	400	580	3000



# C

## Chemical Resistance

Reagent	Change of weight (%)	Change of appearance	Remark
Acid	35% HCl	0.0	No change
	96% H <sub>2</sub> SO <sub>4</sub>	0.0	No change
	50% HF	0.0	No change
Alkaline	10% NaOH	0.0	No change
	44% NaOH	0.0	No change
	48% KOH	0.0	No change
	2.38% TMAH	0.0	No change
Organic solvent	Hexane	0.0	No change
	IPA	0.0	No change
	Acetone	0.0	No change
	Methyl ethylene	0.0	No change

Test piece: 20 × 30 × 0.2 mm

## List of Data

	Unit	Characteristic value	Remarks
Specific gravity		2.03	ASTM D792
Glass-transition temperature	°C	108	DSC
Melting point	°C	not observed	
Contact angle (water)	degree	112	Contact angle gauge
Contact angle (normal hexadecane)	degree	53	Contact angle gauge
Critical surface tension $\gamma_c$	mN/m	19	
Water absorptivity	%	>0.01	
Yield strength	MPa	40	Tensiron
Yield strain	%	5.0	Tensiron
Tensile strength	MPa	41~49	Tensiron
Tensile elongation	%	162~192	Tensiron
Tensile modulus	MPa	1400~1600	Tensiron
Bending strength	MPa	70	ASTM D790
Bending modulus	MPa	2000	ASTM D790
Compression strength	MPa	30	ASTM D695
Compression modulus	MPa	2900	ASTM D695
Poisson's ratio		0.42	
Durometer hardness		HDD81	JIS K7215
Izod impact strength	kPa·m	40	JIS K7110
Thermal deformation temperature	°C	90	1.82MPa Deflection temperature under load
		100	0.45MPa Deflection temperature under load
Specific heat	kJ/(kg·K)	861	JIS K7123
Thermal conductivity	W/(m·K)	0.12	Laser flash method
Linear expansion coefficient	ppm/°C	115 ~ 120	TMA(0 ~ 80°C)
Volume resistivity	$\Omega$ ·cm	>10 <sup>17</sup>	JIS K6911
Dielectric constant		2.0 ~ 2.1	100 Hz to 1 MHz, Room temperature, JEC-6150
		2.04 ~ 2.05	1 GHz to 25 GHz, Room temperature
Dielectric loss tangent		1 ~ 8 × 10 <sup>-4</sup>	100 Hz to 1 MHz, Room temperature, JEC-6150
		3 ~ 4 × 10 <sup>-4</sup>	1 GHz to 25 GHz, Room temperature, Triplate rail resonance method
Dielectric strength	kV/mm	20	2.3 mm in thickness, JIS C2110
		10	0.14 mm, JIS C2110, Triplate rail resonance method
Arc resistance	Sec	200<	JIS K6911
Refractive index		1.34	Abbe's refractometer, JIS K7142, 25°C or higher
Photoelastic coefficient	$\times 10^{-12} \text{Pa}^{-1}$	6.5	
Photo-elastic sensitivity	$\times 10^{-6} \text{m/N}$	0.108	