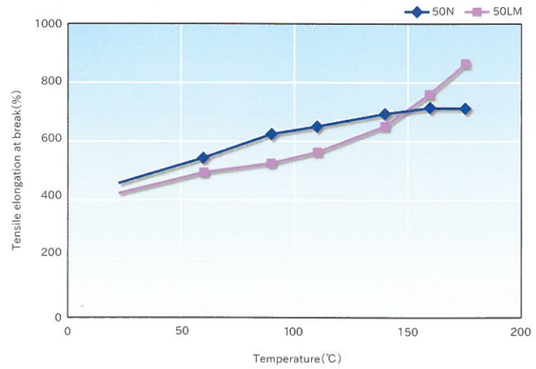
General properties

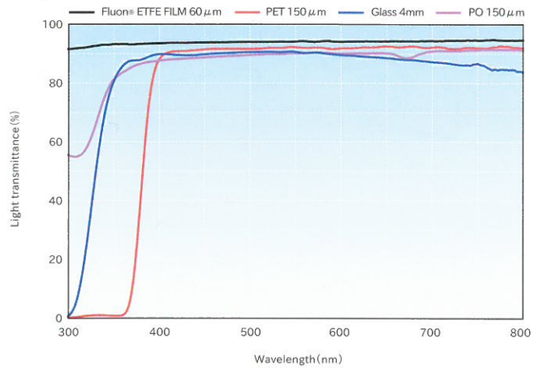
	Item	Unit	Test method	Fluon® ETFE FILM
Physical properties	Specific gravity	-	ASTM D792	1.74-1.76
	Tensile strength at break	MPa	JIS K7127	>39
	Tensile elongation at break	%	JIS K7127	200-510
Thermal properties	Melting point	°C	-	260*1
	Linear thermal expansion coefficient	10^{-5}/°C	ASTM D696	9.4
	Flammability	-	UL	94VTM-0*2
	Thermal resistance	°C	UL746B	150*3
Chemical properties	Water absorption (23°C, 24hr)	%	ASTM D570	0.03
	Chemical resistance	-	ASTM D543	Excellent
	NaOH 10%		60°C, 1week	Excellent
	HCl 35%			
	Xylene			
	Toluene			
	Releasability (Water contact angle)	°	-	100-110
Electrical properties	Volume resistivity	Ω・cm	ASTM D257	10^{17}
	Dielectric constant (23°C, 1MHz)	-	ASTM D150	2.6
	Dielectric tangent	-	ASTM D150	
	60Hz			0.0006
	1KHz			0.0008
	1MHz			0.005
	1GHz			0.01
	Breakdown voltage	kV/0.1mm	ASTM D149	12
	Arc resistance	sec	ASTM D495	120

*1 LM: 225 *2 25-150μm
*3 Continuous retention temperature (tensile strength at break, tensile elongation at break and breakdown voltage are over 50% of initial value after 100,000 hours)

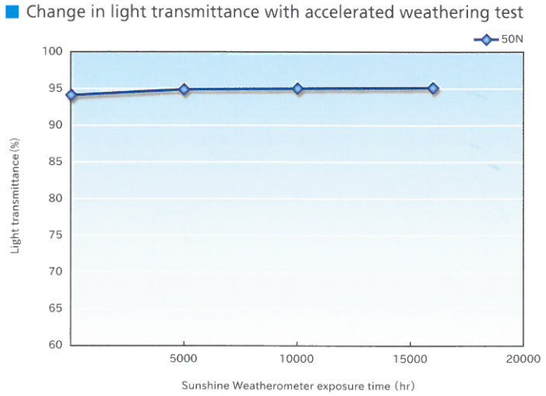
Temperature dependence of tensile elongation at break



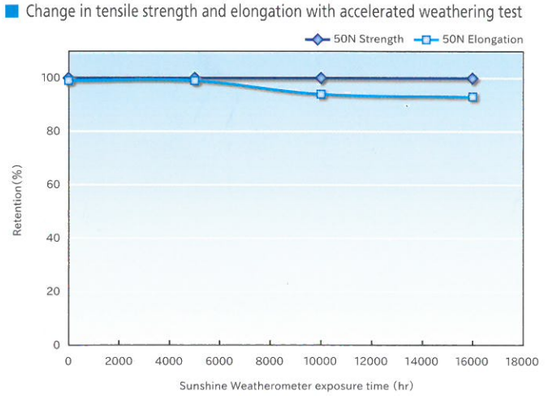
Light transmittance



Change in light transmittance with accelerated weathering test



Change in tensile strength and elongation with accelerated weathering test



Grades

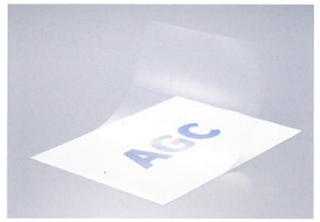
Thickness (μm)	Grade	Width (mm)	Surface treatment	Roll length (m)
12	N	1020	S	2100
25	N	1250	NT	1200
40	N	1250	NT	500
50	N	1250	NT	500
100	N	1250	NT	250
200	NJ	1550/1600	NT/S	250
250	NJ	1550/1600	NT/S	200
250	WT	1550/1600	NT/S	200
250	TB	1550/1600	NT/S	200
300	NJ	1550/1600	NT/S	170
25	MW	1250	NT	1000
50	HK/KN	1600	NT	530
50	MW	1250	NT	530
25	LM	1250	NT	1020
50	LM	1280	NT	515
75	LM	1280	NT	515
50	HL/KL	1250	NT	530

*These are representative grades and sizes. We have many other sizes and colours. Please contact us.

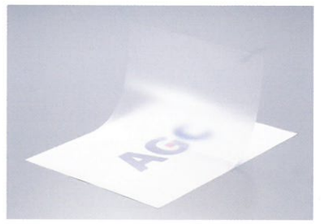
■ Grades
N Natural (clear)
NJ Natural (clear, thick)
MW Double side matte (clear)
HK Matte on outside of the roll (clear)
KN Matte on inside of the roll (clear)
LM Natural (clear, low melting point)
HL Matte on outside of the roll (clear, low melting point)
KL Matte on inside of the roll (clear, low melting point)
WT For membrane structure (white)
TB For membrane structure (blue)

■ Surface treatment
NT No treatment
S Single sided corona treatment
D Double sided corona treatment
CS Special surface treatment

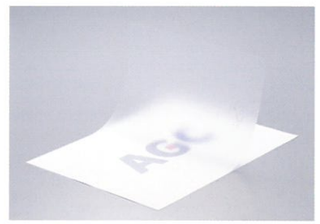
Illustrations of Various Grades



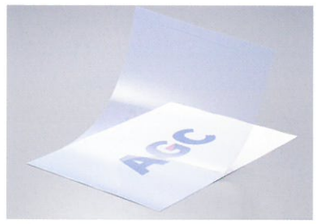
N (Clear)



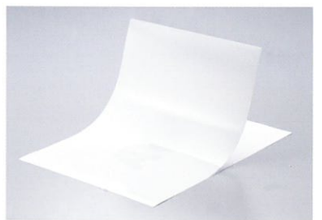
HK/KN (Single side matte, clear)

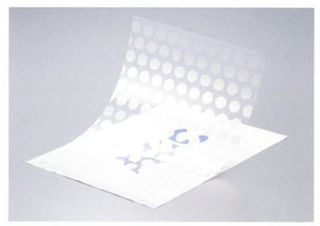


MW (Double side matte, claer)



TB (Blue)


WT (White)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Fluoropolymers as an Environment-Symbiotic Technology

Environmental protection is regarded as the highest priority in every industrial field. Fluoropolymers and fluoroelastomers have been used in environmentally-friendly products and processes. The properties typical of fluoropolymers and fluoroelastomers, such as weatherability, non-flammabilityand chemical resistance, give longer life to various products and save resources and reduce industrial waste. One example is the use of Fluon® ETFE in automotive fuel hose to reduce fuel permeation. Another is F-CLEAN™ ETFE film used as a covering for commercial greenhouses because of its exceptionally long service life. AGC assists with continuous environmental protection efforts, through development, improvement, and enhancing these type of products. AGC, as a manufacturer of fluorine chemicals, continuously strives to establish recycling techniques and anti-pollution process techniques in current production sites, in an effort to reduce the environmental load of fluorine products. AGC believes that fluoropolymer technology offers advantages and more possibilities to contribute to solve environmental issues and plays an important role in realising a safe and comfortable society of an environment-symbiotic type.