

8. ELECTRICAL PROPERTIES

AFLAS exhibits excellent electrical properties which all other vinylidene fluoride-type fluororubbers can not offer.

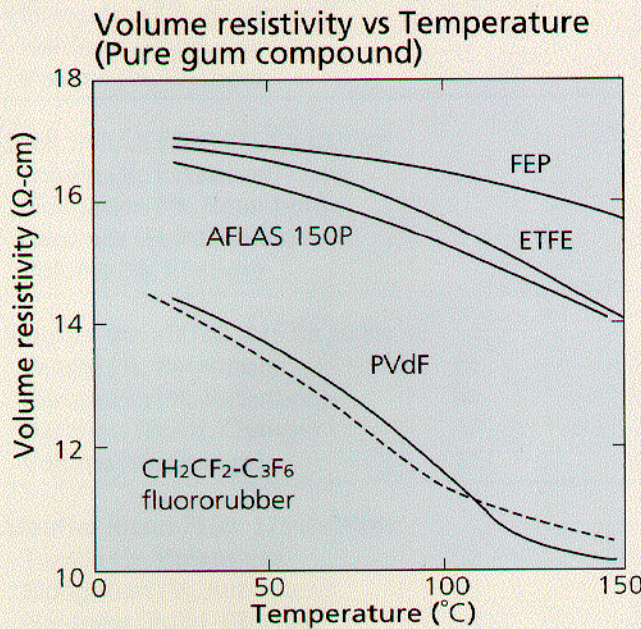
● Electrical Resistance

	Volume resistivity	Dielectric constant	Dielectric loss	Dielectric strength
AFLAS	$2 \times 10^{16} \Omega \cdot \text{cm}$	3	0.05	25kv/mm
CH ₂ CF ₂ -C ₃ F ₆ fluororubber	2×10^{13}	17	0.03	20
Ethylene propylene rubber	5×10^{16}	2	0.0015	40
Silicone rubber	5×10^{15}	3~4	0.007	25
Butyl rubber	1×10^{15}	3	0.005	30
Styrene-butadiene rubber	1×10^{15}	2~3	0.006	25
Chloroprene rubber	2×10^{13}	7	0.04	15

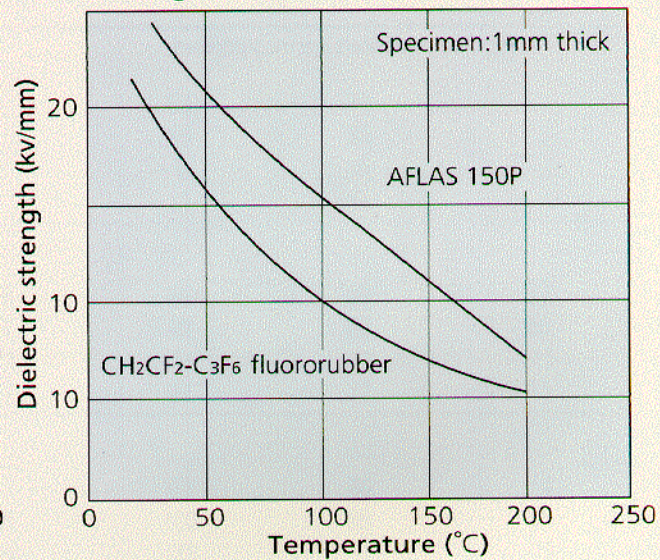
Pure gum compound R.T.

* ; Cure promoters are incorporated.

Electrical resistance vs. temperature



Dielectric strength vs temperature (Pure gum compound)



● Electrical Properties of Aflas*

	#100/#150	MZ201
Volume resistivity, $\Omega \cdot \text{cm}$	3×10^{16}	4×10^{15}
Dielectrical constant at 1kHz	2.8	5.9
Dielectric loss at 1kHz	3×10^{-2}	3.3×10^{-2}
Dielectric strength, kV/mm	23	16

* : Cured by peroxide and TAIC, with the non-filler compound. Measured at 23°C.

● Fundamental Properties of the AFLAS Vulcanizate by Electron Beam*

Grade	#100S	#150E	#150C	#150CS
Specific gravity	1.55	1.55	1.55	1.55
Hardness (JIS-A)	50	39	52	51
100% Modulus, MPa	1.5	1.1	1.5	1.4
Tensile strength, Mpa	18	9	19	17
Elongation at break, %	330	460	400	360
Volume resistivity at 23°C., $\Omega \cdot \text{cm}$	$> 10^{16}$	$> 10^{16}$	$> 10^{16}$	$> 10^{16}$
Dielectric constant at 1kHz, 23°C	2.8	2.8	2.8	2.8
Dielectric strength at 23°C, kV/mm	25	23	24	23

*Cured by 100 kGy of electron beam (EB) irradiation, without any ingredients formulated.