

diX Comprehensive Property Sheet

Test Items	Unit	Type of film								Testing method (ASTM)
		diX N	diX D	diX C	diX HR	diX SR	diX NR	diX SF	diX CF	
Density	g/cm ³	1.11	1.42	1.31	1.28	1.28	1.12	1.616	1.654	D1505
Refractive Index	—	1.66	1.65	1.65	1.65	1.65	1.67	-	-	D542
Tensile Modulus	Gpa	2.4	5.6	3.2	3.4	4.0	3.8	2.6	3.6	D882
Tensile Strength	psi	6800	11860	9800	8520	8480	8180	7495	6871	
	Mpa	46.9	81.8	67.6	58.7	58.5	56.4	51.7	47.1	
Yield Strength	psi	7250	—	9500	7250	7640	5740	7683	7071	
	MPa	50.0	—	65.5	50.1	52.7	39.6	53.0	48.5	
Elongation to Break	%	30	9	270	226	190	7.9	7.3	13.9	
Yield Elongation		2.5	—	3.6	3.2	2.7	1.6	3.7	1.8	
Rockwell Hardness	—	R85	—	R80	-	-	-	-	-	D785
Pencil Hardness	—	3B	2H	2H	-	-	-	-	-	JIS K5600-5-4
Hardness (nano indent)	Gpa	0.34	0.42	0.27	0.30	0.30	-	-	-	—
Contact angle	°	79	97	87	-	-	-	-	-	—
Coefficient of Friction (Static)	—	0.25	0.44	0.29	0.57	0.61	0.36	0.3	0.43	D1894
Coefficient of Friction (Dynamic)	—	0.25	0.39	0.29	0.41	0.48	0.34	0.28	0.37	
Dielectric Constant	60Hz	—	2.65	2.90	3.10	3.33	3.34	2.69	2.19	D150
	1KHz	—	2.65	2.87	2.83	3.04	3.06	2.67	2.18	
	1MHz	—	2.67	2.83	2.87	2.67	2.70	2.65	2.16	
Dissipation Factor	60Hz	—	0.0002	0.0066	0.027	0.0536	0.0508	0.0027	0.0029	
	1KHz	—	0.0002	0.0047	0.015	0.046	0.0442	0.0015	0.0027	
	1MHz	—	0.0009	0.0024	0.014	0.0145	0.0142	0.0016	0.0028	
Dielectric Strength	kV/mm	275.6	265.0	271.7	259.1	250.0	268.9	—	182.0	D149
Volume Resistivity	Ω·cm	1.40E+17	3.10E+16	6.90E+16	2.50E+16	2.50E+16	7.40E+15	4.10E+16	1.00E+17	D257
Surface Resistivity	Ω	1.00E+13	3.00E+16	2.20E+15	2.10E+16	1.20E+16	5.20E+15	1.20E+16	4.70E+13	
Water Absorption (24hrs)	%	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	D570
Moisture Vapor Transmission (37°C)	g·mm/m ² ·24h	0.63	0.05	0.09	0.07	0.09	0.62	0.21	0.28	F1249
O ₂ Transmission (23°C)	cm ³ ·mm/m ² ·24h·atm	81.1	1.0	2.1	1.9	2.0	15.0	32.2	38.9	D3985
Melting Point	°C	420	354	291	305.5	303.2	434.6	450°C< *2	433.7	D3417
Coefficient of liner Expansion (-50~36°C) (*1)	1E-6/°C	69.0	29.0	30.1	37.0	46.0	46.6	43.7	44.6	—

*diX-C,N,D,HR,SR,NR,CF, films are examined of about 25μm layer. diX-SF film is examined of 10-18μm layer. The figures shown above are typical values only.