ZEON

ZeonorFilm®

Isotropic, low birefrigence optical grade Cyclo-Olefin Polymer (COP) film with superior optical properties. Commonly used in polarizer and touch sensor constructions for smart phones, tablets, and TVs.

Property	Unit	Test Standard	ZF14-series	ZF16-series
Physical Properties				
Specific gravity (25 °C)	--	JIS Z8807	**1.03**	**1.04**
Water absorption	%	ASTM D570	**< 1**	**< 1**
Optical Properties				
Refractive index (Spectroscopic ellipsometry reflected light 590 nm)	--	--	**1.534**	**1.534**
Light transmittance	%	JIS K7361	**91.5**	**91.5**
Haze	%	JIS K7136	**< 0.1**	**< 0.1**
Retardation (AxoScan: 590 nm)	nm	--	**< 10**	**< 6**
Electrical Properties				
Dielectric constant (1 MHz)	--	ASTM D150	**2.4**	**2.4**
Mechanical Properties				
Tensile strength (10 mm/min)	MPa	ASTM D412	**70**	**80**
Tensile elongation (10 mm/min)	%	ASTM D412	**50**	**20**
Pencil hardness	--	JIS K5600-5-4	**3B**	**3B**
Thermal Properties				
Glass transition temperature* (1 Hz, 2 °C/min)	°C	ASTM D4065	**140**	**170**
Linear expansion coefficient (25 °C - 100 °C)	ppm/°C	ASTM E831	**70**	**70**
Available Grades				
50 µm thickness	µm	--	**ZF14-50**	**ZF16-50**
100 µm thickness	µm	--	**ZF14-100**	**ZF16-100**
188 µm thickness	µm	--	**ZF14-188**	**--**

Properties established at 100 µm thickness.
Typical properties. Not to be used for purposes of establishing specification(s).
*Glass transition temperature was defined as the temperature at which there was a change in the storage modulus (E').

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