TECHNICAL DATA SHEET

PC 414XP

Luvantix
Optical Solution Provider

MATERIAL DESCRIPTION

PC 414XP coating a radiation-curable acrylate useful for polymer cladding, especially has no POFA & POFS similar chemicals to meet TSCA regulation. PC 414XP coating has suitable glass transition temperature, rapid cure property, non- yellowing, thermal resistance, high oxidative and hydrolytic (moisture) stability, which are required by optical fiber industry applications.

MATERIAL PROPERTIES

LIQUID

Viscosity at 25℃	6300 cPs ± 500
Density at 24℃	1.50 ~ 1.55 g·cm^{-3}
Refractive Index at 25℃	1.405 ± 0.005(589nm)

CURED

Refractive Index at 852nm	1.414 ± 0.005
Secant Modulus at 2.5% Strain	20.0 ~ 30.0 kgf/mm2
Tensile Strength at Break	1.0 ~ 2.0 kgf/mm2
Elongation at Break	15 ~ 25 %
Glass Transition Temperature	90 ℃ at Tan_delta Max
Coefficient of Expansion	On testing
Shrinkage on Cure	< 6.0 %

CURING CONDITION

Minimum UV dose of PC 414XP for complete cure is 1,000 mJ/cm^2 under a nitrogen environment. However, the minimum dosage is dependent upon the thickness of the PC layer.

STORAGE CONDITION

PC 414XP polymer cladding coating can polymerize under improper storage conditions. Store materials away from direct sunlight and presence of oxidizing agents and free radicals. Storage temperature range is between 15℃ to 27℃.

PRECAUTION

PC 414XP polymer cladding coating materials can cause skin and eye irritation after contact. Therefore, avoid direct contact with these materials. If contact occurs, immediately rinse affected areas copiously with water.

Date of Issue: 1st Jan. 2015 / The Term of Validity: 1st Jan 2015 ~ 31st Dec. 2015

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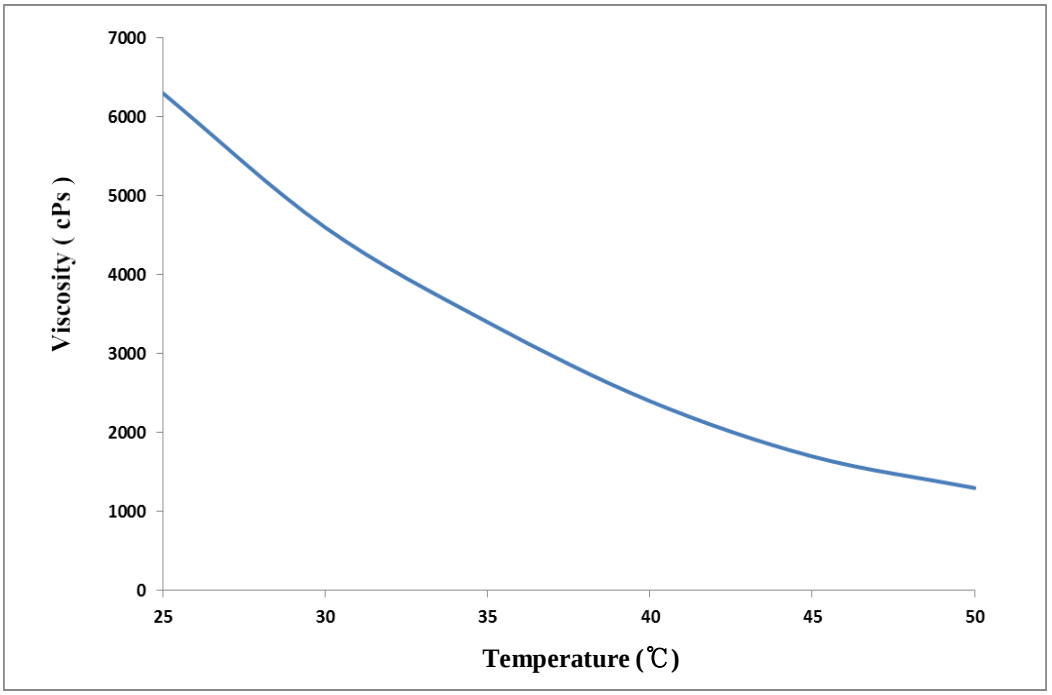
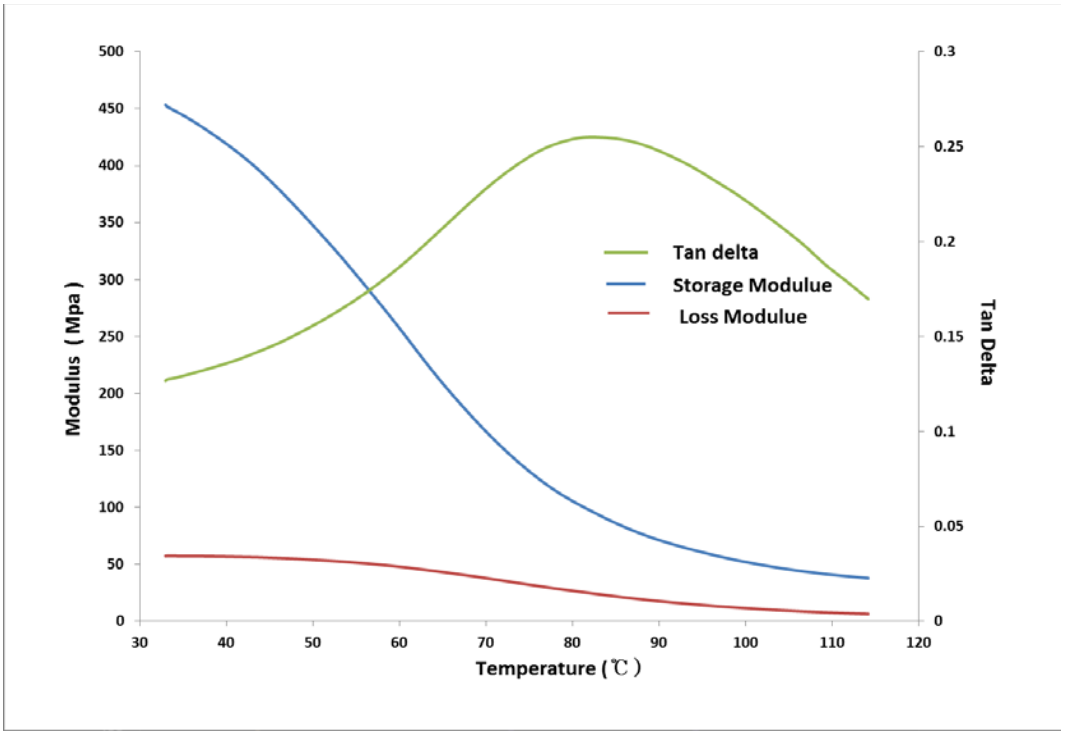
Viscosity Reference



DMTA Analysis Data



** The information contained herein is believed to be reliable but is not to be taken as a representation, warranty or Guarantee. Customers are urged to perform their own process and QC tests.*

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APPENDIX

TEST EQUIPMENT

	Test Equipment
Viscosity (cPs)	Brookfield DV II+ or DV III+
Refractive Index (uncured)	Abbe Refractometer
Density (g/cm^3)	Pycnometer
Refractive Index (cured)	Prism Coupler / Abbe Refractometer
Shrinkage On Cure	Pycnometer
Secant Modulus (kgf/mm^2)	Instron 4443 UTM
Elongation (%)	Instron 4443 UTM
Tensile Strength (kgf/mm^2)	Instron 4443 UTM

TEST METHOD

Viscosity (cPs)	ASTM D-1084 Method B	V = fs
V=Viscosity of sample in centipoises f=Scale factor furnished with instrument s = Scale reading of viscometer		
Refractive Index (uncured)	ASTM D 542-50	
Density (g/cm^3)	ASTM 1475	D = (W - w)/V
V =Volume of container(mL) W = Weight of the filled container w = Weight of the empty container D = Density (g/mL)		
Shrinkage On Cure	ASTM D-792	X = (a x d) / (b + a - m) % Shrinkage =(X-d)/d
a=Sample Weight d=Specific Gravity of Uncured Sample b=Weight of Pycnometer and water m= Weight of Water and Sample in Pycnometer e=Weight of Pycnometer		
Secant Modulus (kgf/mm^2)	ASTM D-638	
Elongation (%)	ASTM D-638	(L - L_0) / L_0 X 100
L_0 = Length of initial L=Length at break point		
Tensile Strength (kgf/mm^2)	ASTM D-638	P/ (T X W)
T = Film Thickness, P=Tensile pull to rupture W= Width of Film		

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