

TECHNICAL DATA SHEET

PC 400LC



MATERIAL DESCRIPTION

PC 400LC coating is a radiation-curable acrylate useful for a large area anti-reflection (AR) coatings, especially has strong adhesion to glass and PET film for unique long term reliability. PC 400LC coating has suitable glass transition temperature, rapid cure property, non- yellowing, thermal resistance, high oxidative and hydrolytic (moisture) stability, which are required by optical film industry applications.

MATERIAL PROPERTIES

LIQUID

Viscosity at 25°C	1,500 cPs ± 200
Density at 24°C	1.20 - 1.30 g·cm ⁻³
Refractive Index at 25°C	1.384 ± 0.005 (589nm)

CURED

Refractive Index at 852nm	1.395 ± 0.005
Secant Modulus at 2.5% Strain	NA
Tensile Strength at Break	NA
Hardness	67D
Glass Transition Temperature	78 ± 5 C
Coefficient of Expansion	NA
Shrinkage on Cure < 5.0 %	

CURING CONDITION

Minimum UV dose of PC 400LC for complete cure is 1,000 mJ/cm² under a nitrogen environment. However, the minimum dosage is dependent upon the thickness of the PC layer.

STORAGE CONDITION

PC 400LC 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°C to 27°C.

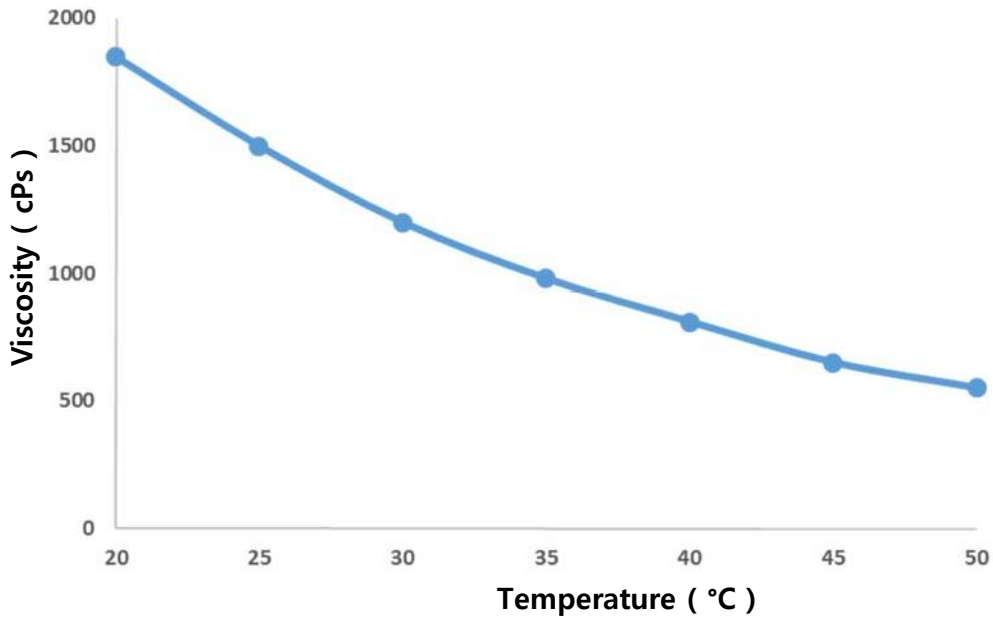
PRECAUTION

PC 400LC polymer cladding coatings 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.

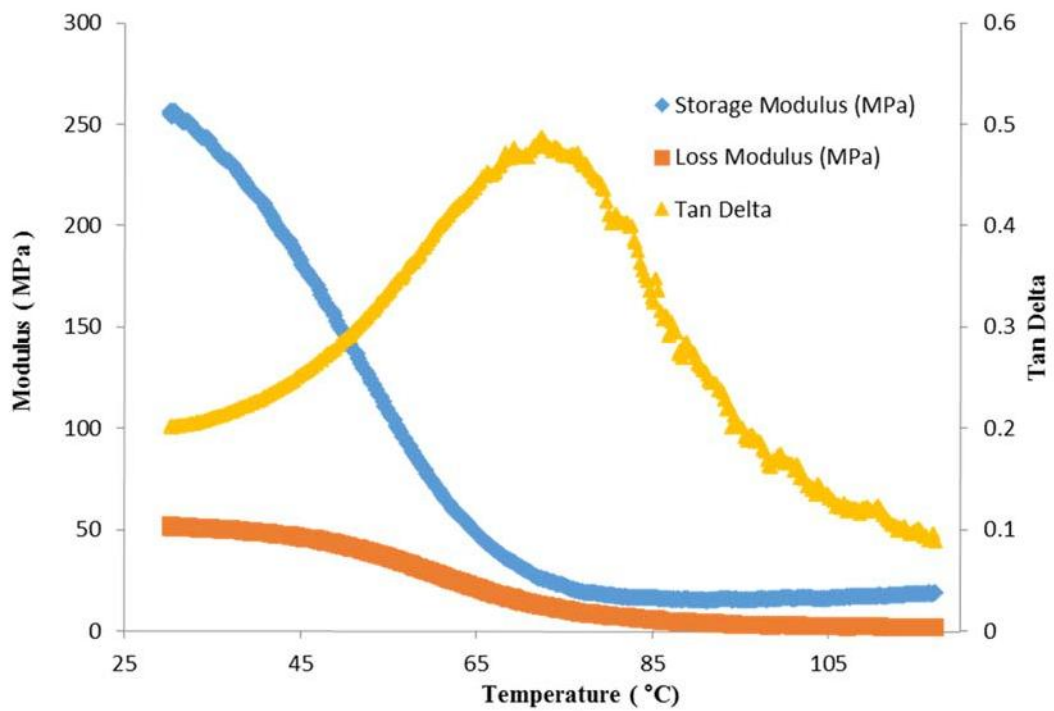
** The information contained herein is believed to be reliable but is not to be taken as a representation, warranty or guarantee. Customers are urged to perform their own process and QC tests.*

PC 400LC

Viscosity Reference



DMTA Analysis Data



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The Term of Validity: 1st Jan. 2016 ~ 31st Dec. 2016

PC 400LC

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	$V = fs$
<i>V=Viscosity of sample in centipoises f=Scale factor furnished with instrument s = Scale reading of viscometer</i>		
Refractive Index (uncured)	ASTM D 542-50	
Density (g/cm ³)	ASTM 1475	$D = (W - w)/V$
<i>V =Volume of container(mL) W = Weight of the filled container w = Weight of the empty container D = Density (g/mL)</i>		
Shrinkage On Cure	ASTM D-792	$X = (a \times d) / (b + a - m)$ % Shrinkage = $(X-d)/d$
<i>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</i>		
Secant Modulus (kgf/mm ²)	ASTM D-638	
Elongation (%)	ASTM D-638	$(L - L_0) / L_0 \times 100$
<i>L₀ = Length of initial L=Length at break point</i>		
Tensile Strength (kgf/mm ²)	ASTM D-638	$P / (T \times W)$
<i>T = Film Thickness, P=Tensile pull to rupture W= Width of Film</i>		

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