

TECHNICAL DATA SHEET

PC 515HT



MATERIAL DESCRIPTION

PC 515HT coating is a radiation-curable siloxane acrylate useful for protective coating of polymer cladding, especially has thermal stability up to 360°C (5% weight loss) and has no POFA & POFS similar chemicals to meet TSCA regulation. PC 515HT coating has 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°C	2,900 cPs ± 500
Density at 24°C	1.18 ~ 1.22 g·cm ⁻³
Refractive Index at 25°C	1.480 ± 0.005(589nm)

CURED

Refractive Index	1.500 ± 0.005 (589nm) 1.515 ± 0.005 (852nm)
Secant Modulus at 2.5% Strain	NA
Tensile Strength at Break	NA
Elongation at Break	NA
Glass Transition Temperature	NA
Shore Hardness	> 40D
Shrinkage on Cure < 8.0 %	

CURING CONDITION

Minimum UV dose of PC 515HT 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 515HT 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.

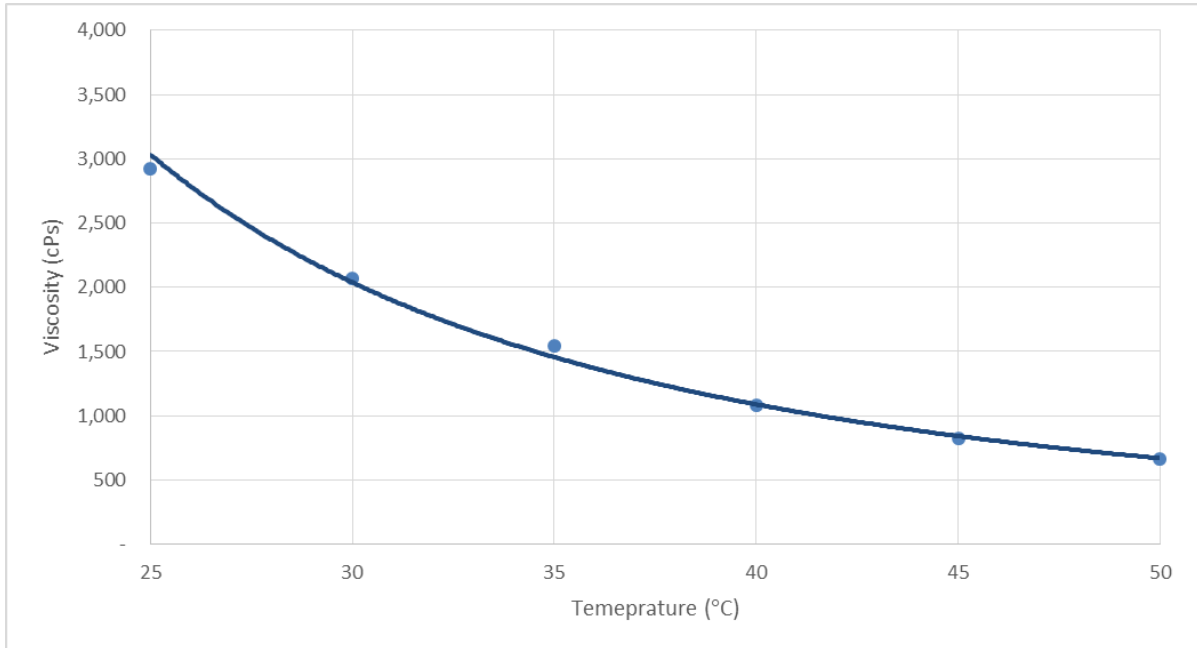
PRECAUTION

PC 515HT 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.

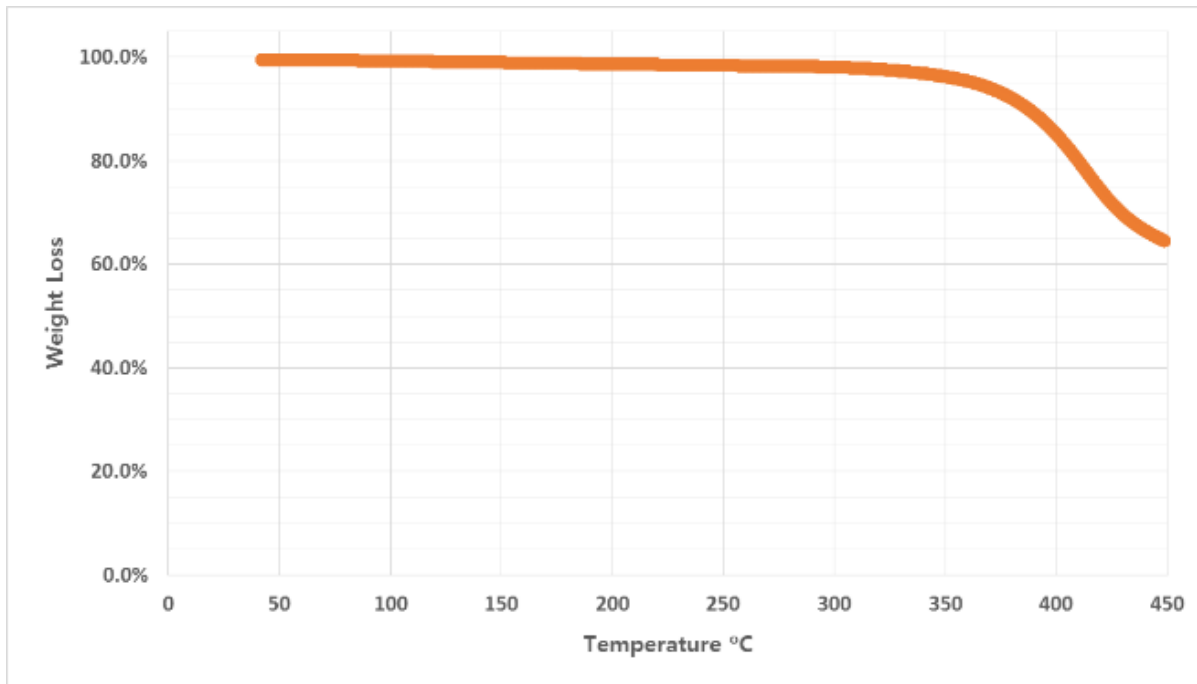
** The information contained herein is believed to be reliable but is not to be taken as a representation, warranty or Guarantee. Customers are urged to perform their own process and QC tests.*

PC 515HT

Viscosity Reference



TGA Analysis Data



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Rev I Revised Date: 1st Jun. 2015 / The Term of Validity: 1st Jun. 2015 ~ 31st Dec. 2015

PC 515HT

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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