

# TECHNICAL DATA SHEET

## SH 380HT



### MATERIAL DESCRIPTION

SH 380HT coating is a radiation-curable siloxane acrylate useful for polymer cladding, especially has thermal stability up to 360°C (5% weight loss) and has no POFA & POFs similar chemicals to meet TSCA regulation. SH 380HT 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	2,000 cPs ± 500
Density at 25°C	1.6 g·cm <sup>-3</sup> ± 0.1
Refractive Index at 25°C	1.37 ± 0.01 (589nm)

#### CURED

Refractive Index	1.38 ± 0.01 (589nm)
Secant Modulus	NA
Tensile Strength at Break	NA
Elongation at Break	NA
Shore Hardness	> 30 D

### CURING CONDITION

Minimum UV dose of SH 380HT for complete cure is 1,000 mJ/cm<sup>2</sup> under a nitrogen environment. However, the minimum dosage is dependent upon the thickness of the PC layer.

### STORAGE CONDITION

SH 380HT 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 25°C.

It is recommended to be used within 6 weeks.

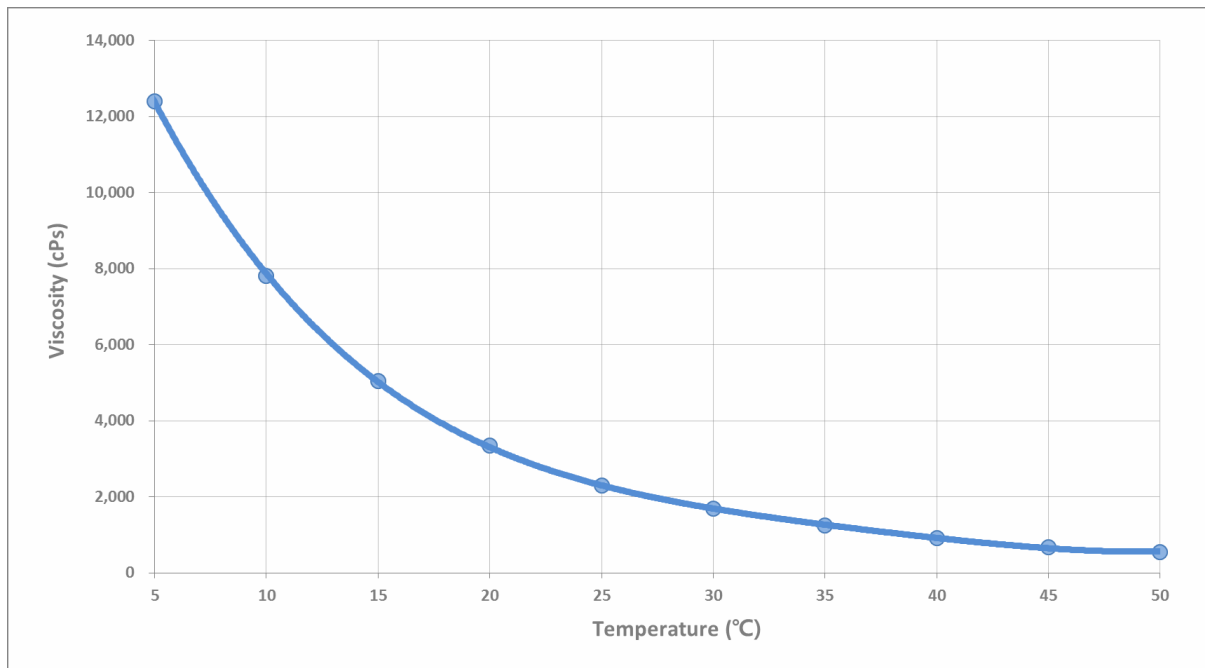
### PRECAUTION

SH 380HT 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.

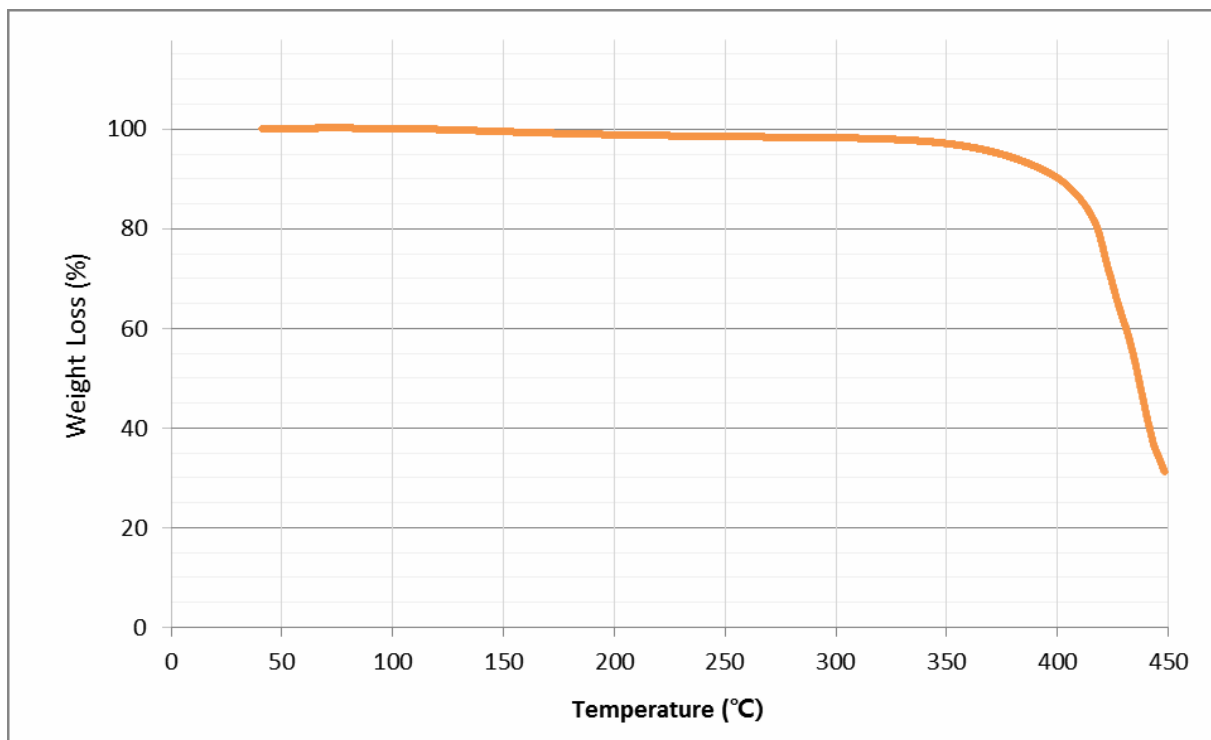
*\* The information contained herein is believed to be reliable but is not to be taken as a representation, warranty or Guarantee. Customers are urged to perform their own process and QC tests.*

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## Viscosity Reference



## TGA Analysis Data



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## APPENDIX

### TEST EQUIPMENT

	Test Equipment
Viscosity ( cPs )	Brookfield DV II+ or DV II+ Pro
Refractive Index (uncured)	Abbe Refractometer
Density ( g/cm <sup>3</sup> )	Pycnometer
Refractive Index (cured)	Prism Coupler / Abbe Refractometer
Shore Hardness	Shore D Durometer (Type A)
Secant Modulus ( kgf/mm <sup>2</sup> )	Instron 4443 UTM
Elongation ( % )	Instron 4443 UTM
Tensile Strength ( kgf/mm <sup>2</sup> )	Instron 4443 UTM

### TEST METHOD

Viscosity ( cPs )	ASTM D-1084	$V = fs$
<i>Method B</i> <i>V=Viscosity of sample in centipoises</i> <i>f=Scale factor furnished with instrument</i> <i>s = Scale reading of viscometer</i>		
Refractive Index (uncured)	ASTM D 542-50	
Density ( g/cm <sup>3</sup> )	ASTM 1475	$D = ( W - w ) / V$
<i>V = Volume of container(mL)</i> <i>W = Weight of the filled container</i> <i>w = Weight of the empty container</i> <i>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</i> <i>d=Specific Gravity of Uncured Sample</i> <i>b=Weight of Pycnometer and water</i> <i>m= Weight of Water and Sample in Pycnometer</i> <i>e=Weight of Pycnometer</i>		
Secant Modulus ( kgf/mm <sup>2</sup> )	ASTM D-	
Elongation ( % )	ASTM D-	$( L - L_0 ) / L_0 \times 100$
<i>L<sub>0</sub> = Length of initial</i> <i>L=Length at break point</i>		
Tensile Strength ( kgf/mm <sup>2</sup> )	ASTM D-638	$P / ( T \times W )$
<i>T = Film Thickness,</i> <i>P=Tensile pull to rupture</i> <i>W= Width of Film</i>		

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