

# PRO-SET®

## Technical Data

# HTP-187

# HTP-287

The New  
Standard

## HIGH TEMPERATURE SURFACE COAT EPOXY

**EPOXIES** for  
Laminating  
Infusion  
Tooling  
Assembly

### Wessex Resins & Adhesives

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ISO9001:2015 Certified

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& Adhesives

### COMBINED FEATURES

**High-temperature, high-performance** epoxy formulation for synthetic composite parts and tooling manufacture. Black in colour.

**Tg as high as 150°C** with proper post cure. Provides excellent temperature stability and great part cosmetics.

**Slow cure speed** hardener provides 6 to 8 hours of working time at 22°C. A typical application gels in 12 to 15 hours at room temperature.

**Medium viscosity** enables brush application and air release. Easily applied with a short bristle brush.

**Thixotroped** to prevent runs and sags at a thickness of 0.25 - 0.30 mm

**Elevated temperature cure is required.**

Parts can be pulled after 24-48 hours at room temperature or sooner after a mild initial cure of 30-40°C. See chart for post cure information.

### HANDLING PROPERTIES

Property	Standard	Units	22°C
150g Pot Life	ASTM D2471	minutes	150
500g Pot Life	ASTM D2471	minutes	110
Viscosity Mixed	ASTM D2196	mPas	11260
Viscosity (resin)	ASTM D2196	mPas	24000
Viscosity (hardener)	ASTM D2196	mPas	52

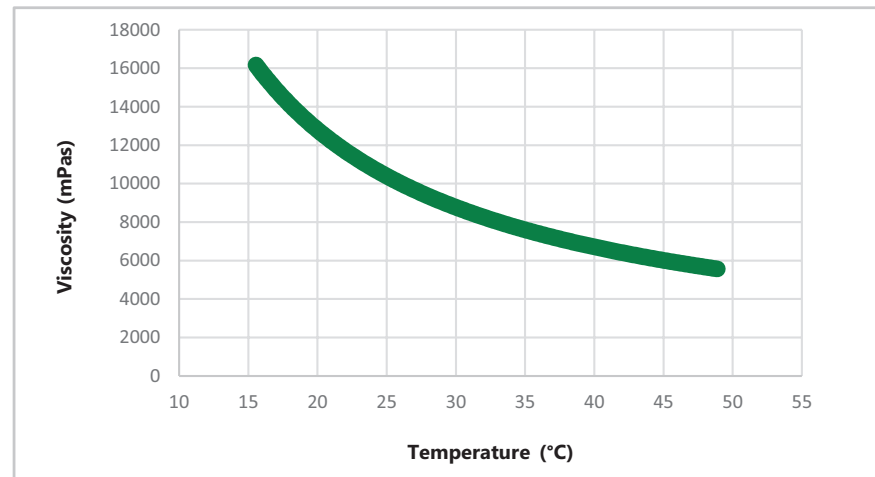
### MIX RATIO

Method	Resin:Hardener	Resin:Hardener
Weight	6.83:1	100:14.6
Volume	5.00:1	100:20.0

### DENSITY

State	Units	22°C
Cured	gcm <sup>-3</sup>	1.21
Resin	gcm <sup>-3</sup>	1.29
Hardener	gcm <sup>-3</sup>	0.94

### VISCOSITY VS TEMPERATURE



Test specimens were neat epoxy (without fibre reinforcement).  
Typical values not to be construed as specification.

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### MECHANICAL PROPERTIES

Property	Standard	Units	RT Gelation + (60°C x 2 hr) + (135°C x 12hr)	
Hardness	ASTM D2240	Shore D	92	
Compression Yield	ASTM D695	MPa	103	
Tensile Strength	ASTM D638	MPa	44	
Tensile Modulus	ASTM D638	GPa	3.43	
Tensile Elongation	ASTM D638	%	1.5	
Flexural Strength	ASTM D790	MPa	83	
Flexural Modulus	ASTM D790	GPa	3.32	
Coefficient of Thermal Expansion	ASTM E831	µm/(m*°C)	50.17	-30°C - 30°C
			72.16	30°C - 120°C

### THERMAL PROPERTIES

Property	Standard	Units	RT Gelation + (60°C x 2 hr) + (135°C x 12hr)	
T <sub>g</sub> DMA Peak Tan Delta	ASTM E1640*1	°C	162	
T <sub>g</sub> DMA Onset Storage Modulus	ASTM E1640*1	°C	150	
T <sub>g</sub> DSC Onset - 1st Heat	ASTM E1356	°C	150	
Heat Deflection Temperature	ASTM E1356	°C	140	

### APPLICATION TIPS

- Always evaluate mould release on a test panel that is characterised with your post-cure schedule.
- Apply product using stiff bristle brush. Cut bristles to half of their original length to increase brush stiffness.
- When applying, brush in an alternating pattern of 0 and 90 degrees to a thickness of 0.25 - 0.30 mm.
- Let surface coat cure between each application and prior to lamination. Wash with water and a Scotch Brite Pad to remove amine blush. **IMPORTANT! Blush may not be visible and can occur while product is still tacky.**
- To repair finished molds, grind away damaged Surface Coat and grind a "Vee" into any cracks. Sand areas with 80-grit sandpaper and fill with Surface Coat. Post-cure as required.

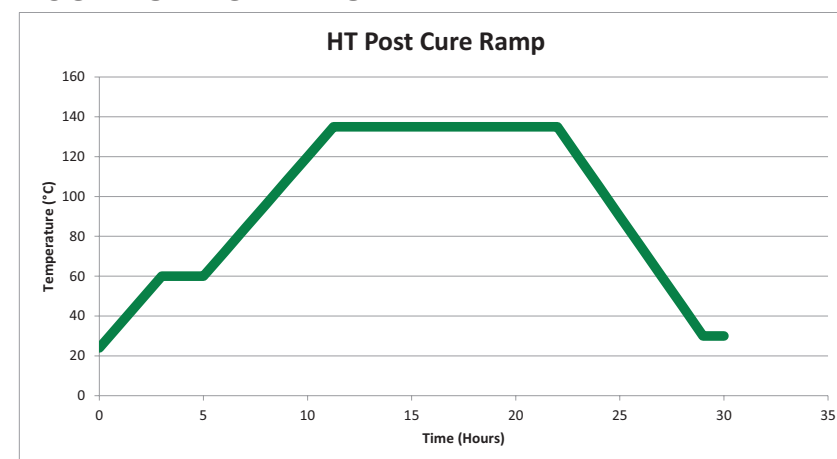
\*1 1Hz, 3°C per minute.

Test specimens were neat epoxy (without fibre reinforcement).

These are typical properties and cannot be construed as a specification. The end users should test the products to ensure the products are suitable for the intended application. Any information, data, advice or recommendation published by Wessex Resins or obtained from Wessex Resins by other means and whether relating to Wessex Resins' materials or other materials, is given in good faith and believed to be reliable.

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### POST CURE SCHEDULE



Post cure 60°C x 2 hr + 135°C x 12 hr with ramp rates no greater than 12°C/hr, to achieve maximum properties. For larger parts, additional dwells may be required.