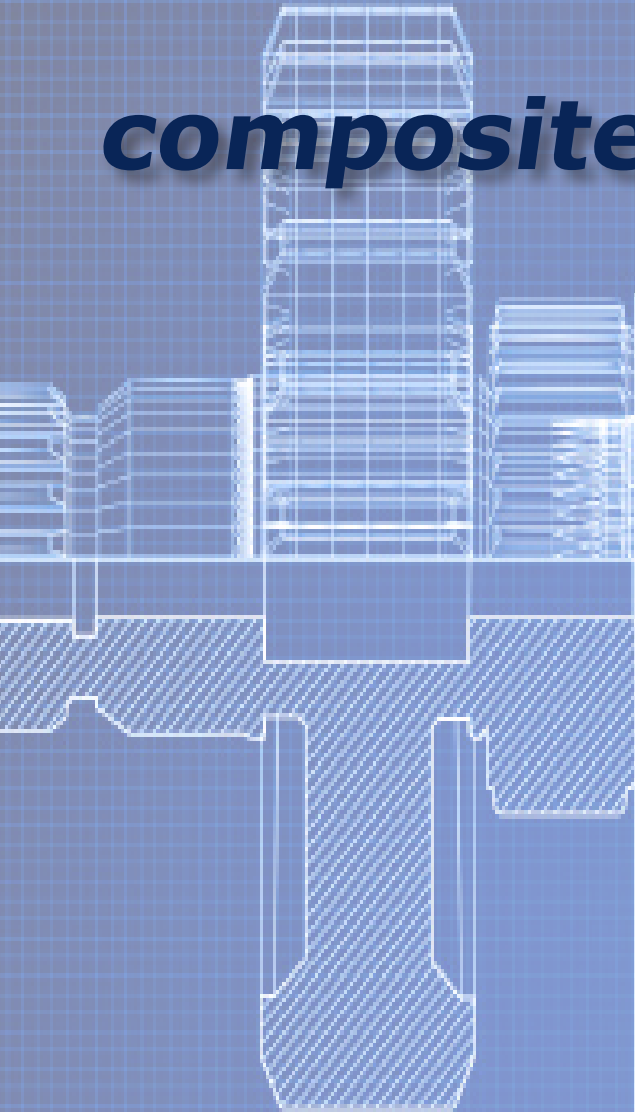




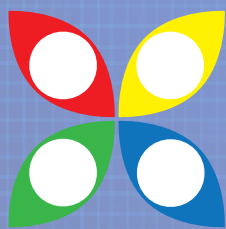
# *composite engineering*



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# Compset

universal epoxy system

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## Compset Universal epoxy composite engineering resin

**Compset Universal** system is a high performance infusion and laminating epoxy.

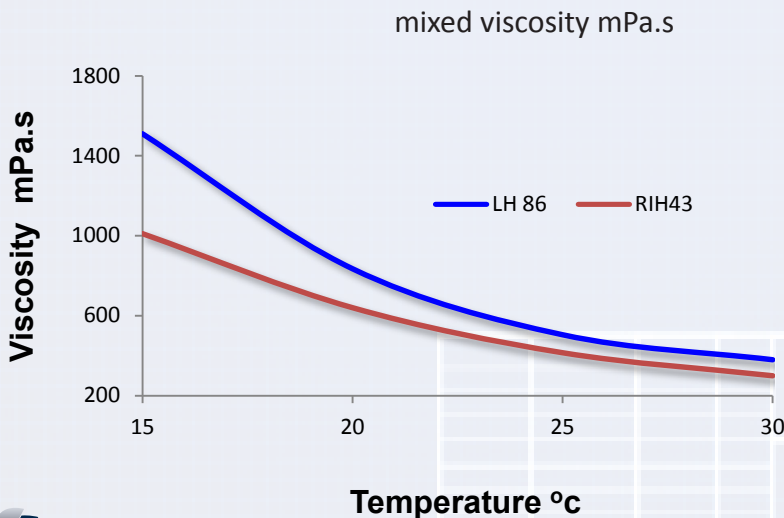
The system functions with one universal epoxy resin **Epopol B175**, combining with three curing agent options.

- **Epmlink LH86** colored blue for **hand laminating**. Low mixed viscosity and long working time for wetting out heavyweight fabrics and complex shapes. Excellent ambient cured properties.
- **Epmlink RIH43** colored green for **Vacuum Infusion Process**. Low surface tension and fast flow enable safe wet out of composite structure via capillary action. High mechanical properties can be obtained from both ambient and moderate 60°C cures.
- **Epmlink FH84** colored red for **accelerating** the process times of both hand laminating and infusion or solely for **fast curing** applications. Can be blended at any ratio with **Epmlink LH86** or **Epmlink RIH43** before adding 4 Parts of the **Compset Universal epoxy resin** to 1 part of the combined hardener mixture.

This enables one resin system to accomplish two complex shop tasks in one. Color coding of the curing agents enables easy identification of which system to be used for particular moulding objects.

### application data

Hardener Grade	Laminating LH 86	Infusion RIH 43	Fast Curing FH 84
Mixing ratio weight OR volume Resin : Hardener	4 parts : 1 part	4 parts : 1 Part	4 parts : 1 Part
Mixed Viscosity mPa.s 25°C	500	300	350
Work time 25°C	70 minutes	90 minutes	15 minutes



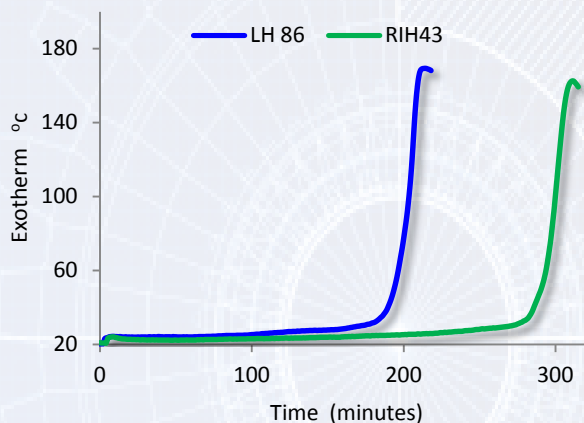
Significant changes in pot life occur with varying volumes and temperature. When difficult laminations are encountered, smaller mixers may be required. Laminate design including fibre type and content, core size and thickness will significantly influence pot life.

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# curing data

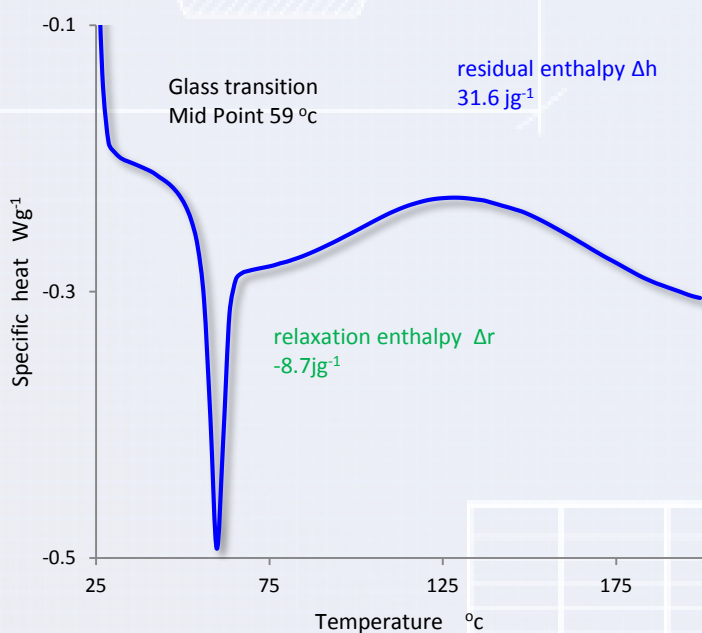
Post cure 16hrs 40°C	Laminating LH86	Infusion RIH 43
Tg first pass °c	57	59
Tg ultimate °c	77	87
Δr residual jg-1	-6.7	-8.7
Δh residual jg-1	23.7	31.6
Post cure 16hrs 60°C	Laminating LH86	Infusion RIH43
Tg first pass °c	76	80
Tg ultimate °c	80	92
Δr residual jg-1	-4.2	-6.9
Δh residual jg-1	3.8	14.6

Pot life exotherm 1 kilo mix (water bath)



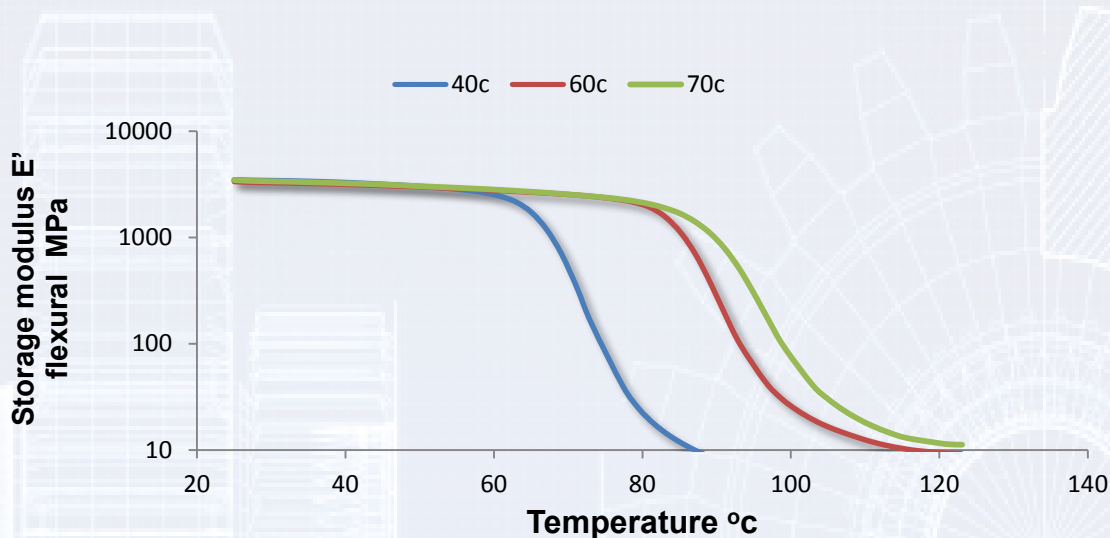
## Referenced test methods

- Viscosity ISO 2555
- Epoxy Equivalent weight ISO 3001
- Determination of amine nitrogen content ISO 9702
- Reactivity dynamic ISO 11357-5
- Tg ISO 111357-3
- Tg Enthalpy ISO 111357-5
- Flexural Properties ISO 178
- Tensile Properties ISO 527
- Heat Deflection Temperature ISO 75
- Compressive Properties ASTM D695
- Dynamic Mechanical Properties ASTM D5418
- DMA flexural vibration ISO 6721
- DMA shear ISO 6721



# engineering data

## dynamic flexural properties laminating LH 86



### Flexural properties

E' storage modulus MPa  
 E'' loss modulus max  
 Tan  $\alpha$   
 Tg Tans Delta  $\delta$

	40°C	60°C
E' storage modulus MPa	3525	3385
E'' loss modulus max	67°C	85°C
Tan $\alpha$	86°C	99°C
Tg Tans Delta $\delta$	79°C	93°C

### static mechanical properties

Post cure 16hrs 60°C	Laminating LH86	Infusion RIH 43
Flexural strength MPa	115	120
modulus	2860	2690
Tensile strength MPa	59	74
elongation %	9.5	15.2

Post cure 16hrs 40°C	Laminating LH86	Infusion RIH 43
Flexural strength MPa	100	118
modulus	2825	2970
Tensile strength MPa	34	38
elongation %	7.5	9.2

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