epoxpol

300 series trowel epoxy

epoxpol 305

epolink 391

epolink 3155

Epopol 305 system is specially formulated as a 4-6 mm floor topping suitable for general purpose use. The product is characterised by the ease of handling and speed of application.

The system comprises of two curing agents

- Epolink 3155 low viscosity sand filled , patching and screeding
- Epolink 391 "spread and sprinkle technique" broadcast slurries

The system offers, solvent free, very low odour, high mechanical strength, and abrasion resistance to concrete substrates.

Depending on application, graded Silica quartz sand is added between 1.5 and 1:10 by weight to the resin +hardener mixture.

Typical use is for on concrete as a tough hard wearing, corrosion and slip-resistant flooring system. Ideally suited for food and beverage storage and processing areas, workshops, warehouses, machine shops etc.

Application :mixing ratio by volume

Epopol 305 Resin	3 Parts	Epolink 3155	1 parts
Epopol 305 Resin	2 Parts	Epolink 391	1 part

Typical mortar mix

Epopol Resin + Epolink Hardener combined	6 litres
Silica Quartz Sand	40 kilo

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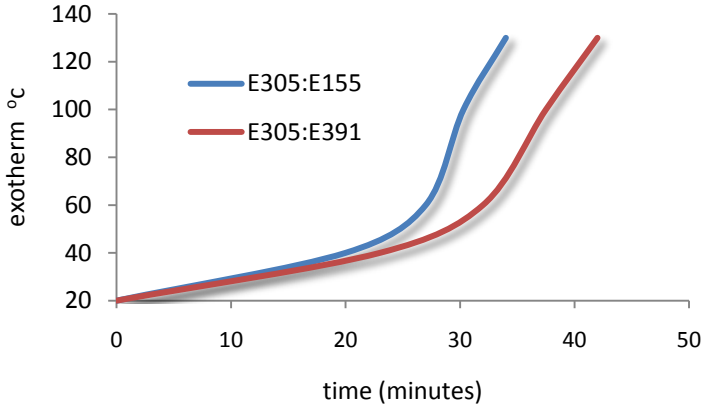

Significant changes in pot life occur with varying volumes and temperature. When difficult infusions are encountered smaller mixes may be required. Laminate design including fibre type and content, core size and thickness will significantly influence PotLife

Application : Curing Times

Epopol 305 : Epolink 3155	10°c	20°c	30°c
PotLife 6 litre epoxy mix	45 mins	20 mins	15 mins
Foot Traffic	7 hrs	4 hrs	3 hrs
Light use	2 days	1 day	1 day
Full mechanical use	8 days	5 days	3 days

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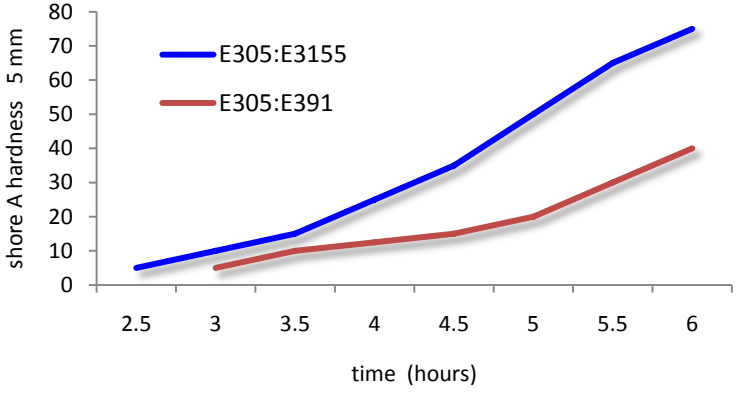
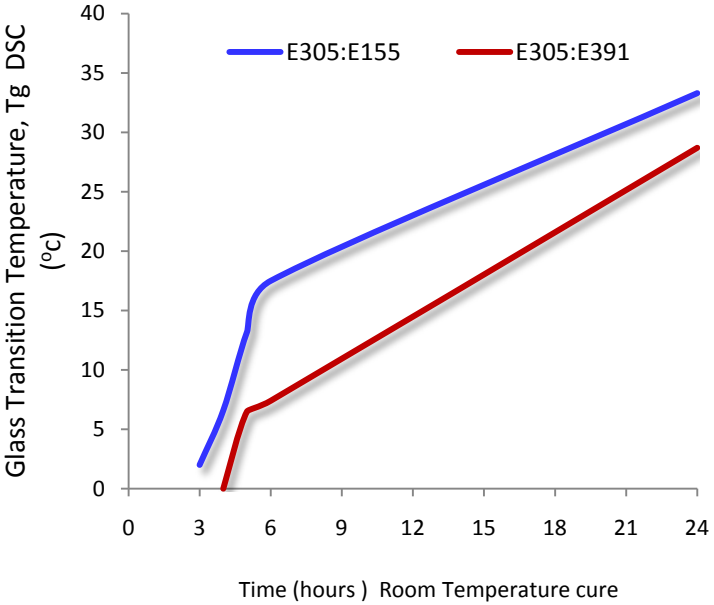
Epopol 305 : Epolink 391	10°c	20°c	30°c
PotLife 6 litre epoxy mix	60 mins	30 mins	20 mins
Foot Traffic	10 hrs	6 hrs	4 hrs
Light use	2 day	1 day	1 day
Full mechanical use	8 days	5 days	3 days



Epopol 305 : Epolink 3155 combination exhibits fast cure cycle and able to withstand foot traffic in a very short time. This makes the system ideal for fast curing mortars and patching repairs.

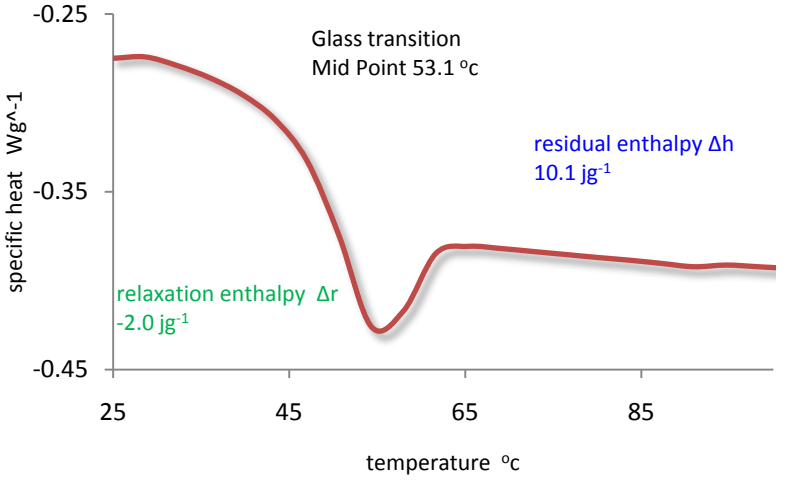
Epopol 305 : Epolink 391 has long working time, enabling broad cast floor technique. It has excellent cure in thin film making this system suitable for cure in adverse conditions as well as pigmented finishing coats.

Curing properties : Tg Differential Scanning Calorimeter



The DSC measures changes in specific heat or heat flow characteristics of a polymer.
From this we can determine the Glass Transition temperature Tg, the "B-staging" or Tg enthalpy and the ΔH enthalpy which indicates how much heat is required to post-cure the finished composite to full physical properties.
Most physical properties show changes around the Tg as the material changes from "glass like" to "liquid like".

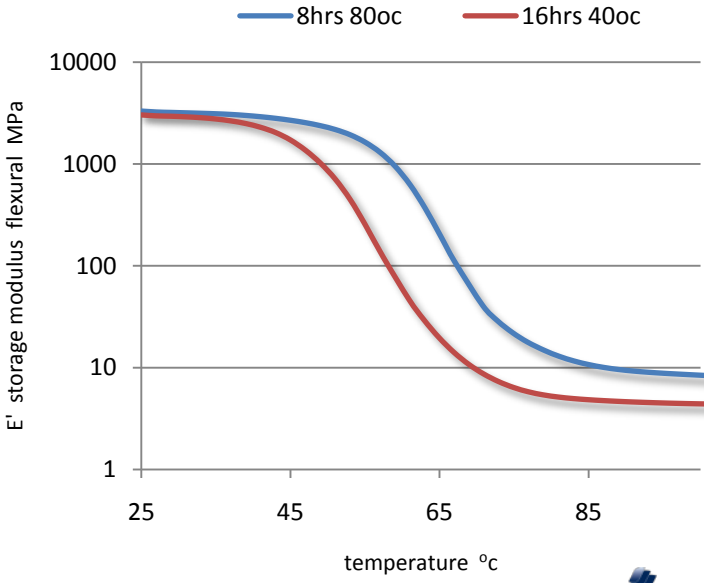
Cured properties : Tg Differential Scanning Calorimeter



	16 hrs 40 °c		8 hrs 80 °c	
	E 3155	E 391	E 3155	E391
Tg 1st pass	40	36	54	49
Tg 2nd pass	53	55	60	58
Δr enthalpy	-2.0	-2.1	-1.8	2.0
Δh enthalpy	10.1	15.2	0.0	0.0

Cured properties : dynamic mechanical properties

The **storage modulus E'** is a measure of the stiffness or elastic properties of a material.
The **loss modulus E"** represents energy lost under deformation or force.
The **loss factor tans delta (tan δ)** is the ratio of loss modulus to storage modulus and is a measure of energy lost, and represents mechanical dampening.



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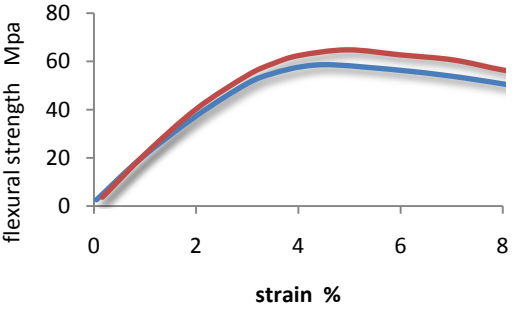
Cured properties : static mechanical analysis



		16 hrs 40 °c		8 hrs 80 °c	
		3155	391	3155	391
E_f	Modulus $_{MPa\ \Delta\ 0.020\ -\ 0.010}$	1850	1670	2400	2260
Flex σ_{fM}	Max Flex strength $_{MPa}$	65	60	82	77
Flex ε_{fM}	strain at Flex σ_{fM} %	5.1	5.2	4.6	4.8
Flex σ_{fC}	stress $_{MPa\ conv\ point\ 3.5\%}$	60	55	77	72
Flex σ_{fB}	Ultimate strength $_{MPa}$	48	43	71	61
Flex ε_{fB}	strain at Flex σ_{fB} %	10.8	10.6	7.1	7.9
E_c	Modulus Compressive	860	985	1055	985
Comp σM	Comp Strength	75	65	90	75

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The below Chemical Resistance results are based on a spot test under a water glass sealed with paraffin wax at 25ºC. Coating samples were cured for 7 days at 25º C.

DEFINITIONS:

"SHORT" refers to an 8 hour test exposure, equivalent to clean up after a single shift.

"LONG" refers to a 24 hour test exposure, equivalent to clean up after a single day.

The rating system for these tests is as follows: E = Excellent G= Good F= Fair NR= Not Recommended

ORGANIC ACIDS			
		Rating	
Reagent	Conc.	Short	Long
Acetic	5%	E	E
Acetic	10%	E	E
Acetic	20%	G	F
Acetic	Glacial	F	F
Butyric	10%	E	F
Citric	10%	F	F
Citric	50%	F	NR
Cresylic	10%	F	F
Formic	10%	E	E
Lactic	10%	G	G
Lactic	25%	F	F
Maleic	30%	F	F
Maleic	60%	F	F
Malic	50%	F	F
Monochloro Acetic	5%	F	F
Monochloro Acetic	10%	F	F
Oleic	Sat.	E	E
Oxalic	Sat.	E	E
Picric	Sat.	E	G

INORGANIC ACIDS			
		Rating	
Reagent	Conc.	Short	Long
Boric	30%	G	G
Boric	Sat.	G	G
Chromic	2%	E	F
Chromic	10%	E	F
Chromic	15%	G	G
Hydrochloric	10%	G	F
Hydrochloric	37%	F	F
Hydrochloric	Conc.	G	F
Hydrofluoric	10%	E	G
Hydrofluoric	24%	G	G
Hypochlorous	5%	G	G
Nitric	10%	G	G
Nitric	30%	G	NR
Nitric	Over 40%	G	NR
Nitric	Conc.	NR	NR
Perchloric	35%	F	F
Phosphoric	10%	G	F
Phosphoric	35%	G	F
Phosphoric	75%	F	F
Sulphuric	25%	F	F
Sulphuric	50%	F	F
Sulphuric	70	NR	NR
Sulphuric	Conc.	NR	NR

KETONES - ESTERS			
		Rating	
Reagent	Conc.	Short	Long
Acetone	100%	G	F
Amyl Acetate	100%	E	E
Butyl Acetate	100%	G	G
Ethyl Acetate	100%	G	F
Methyl Ethyl Ketone	100%	G	G
Methyl Isobutyl Ketone	100%	NR	NR
PM Acetate	100%	E	F

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AUTO-BRAKE - HYDRAULIC FLUIDS			
		Rating	
Reagent	Conc.	Short	Long
Brake Fluid	100%	F	F
Hy-Jet Fuel #3	100%	F	F
Motor Oil	100%	E	E
Skydrol Type IV	100%	F	F
Skydrol Type V	100%	F	F
Transmission Fluid	100%	E	F

ALKALIES AND SALTS			
		Rating	
Reagent	Conc.	Short	Long
Aluminium Chloride	50%	E	E
Ammonium Chloride	50%	E	E
Ammonium Hydroxide	10%	E	E
Ammonium Hydroxide	20%	E	E
Ammonium Hydroxide	50%	E	E
Ammonium Nitrate	Sat.	E	E
Ammonium Persulphate	Sat.	E	E
Ammonium Sulphate	Sat.	E	E
Calcium Chloride	50%	G	G
Calcium Hydroxide	Sat.	E	E
Calcium Hypochlorite	15%	F	F
Ferric Chloride	Sat.	E	E
Ferric Sulphate	Sat.	G	G
Potassium Hydroxide	40%	F	F
Sodium Bicarbonate	Sat.	E	E
Sodium Bisulphate	Sat.	E	E
Sodium Carbonate	Sat.	E	E
Sodium Chloride	20%	E	E
Sodium Hydroxide	10%	E	E
Sodium Hydroxide	50%	E	E

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

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