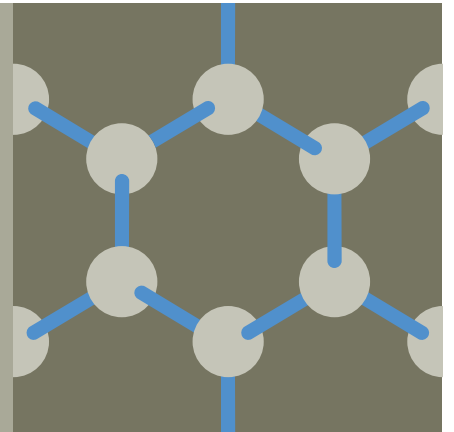




Cardura E10P  
**The Unique  
Reactive Diluent**



## Cardura™ Glycidyl Ester E10P

### Characteristics:

Carbon Durable Glycidyl Ester with 10 carbon atoms backbone:

- Epoxy equivalent weight approximately: 240 g/mol
- Epoxy group content approximately: 4170 mmol/kg
- Boiling range: 251 – 278 °C (5 – 95 %)
- Low viscosity (23 °C): 7 mPa·s
- High flame / flash point
- Low colour
- Low vapour pressure
- EINECS and TSCA listed
- Mild odour

### Applications:

*Cardura E10P* is used as reactive diluent for epoxy resins. Typical applications for *Cardura E10P* diluted resins include compositions for the building and civil engineering industries (e.g. flooring compounds, adhesives, mortars and grouts), for laminating binders, solvent-free and high solids coatings.

### Properties:

The addition of *Cardura E10P* results in an improved flexibility. For example, coatings have better impact resistance and floorings have lower flexural moduli. Compared to many other diluents, *Cardura E10P* imparts good wetting characteristics, better crystallization resistance and improved chemical resistance in the diluted resin.

*Cardura* is the glycidyl ester of *Versatic acid 10*, a highly branched carboxylic acid containing 10 carbon atoms.

### Structural Features:

- Epoxy group

### Performance Characteristics:

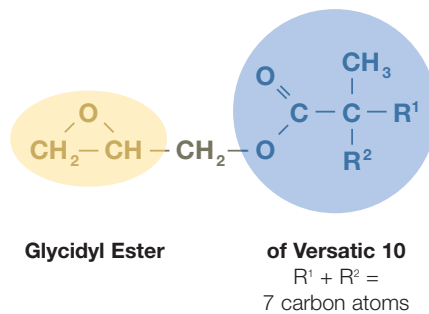
- Highly reactive towards amines, acids, alcohols
- Enhanced metal adhesion

### Structural Features:

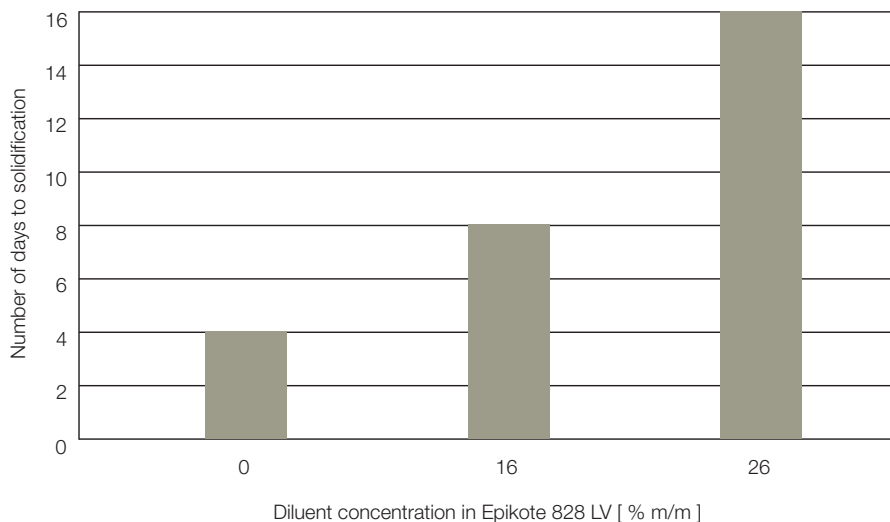
- Sterically protected ester group
- Bulky structure

### Performance Characteristics:

- Excellent compatibility with polar solvents
- Excellent acid and alkali resistance
- Superior outdoor durability
- Improved gloss
- Improved pigment utilization
- High solid resins
- Low resin VOC
- Improved polar solvent resistance
- Excellent solubility in aliphatic solvents



Crystallization resistance of Cardura E10P blends

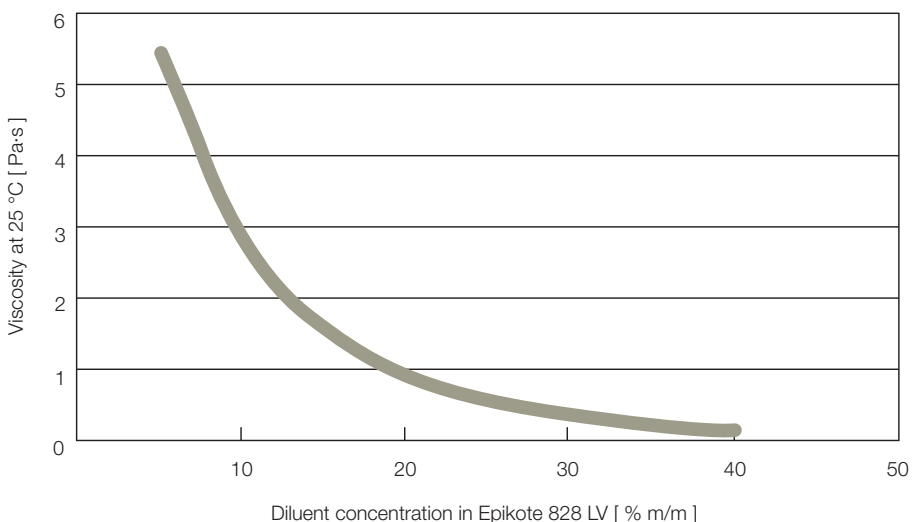


### Viscosity Reduction:

*Cardura E10P* can be used as a reactive diluent to reduce the viscosity of liquid epoxy resins based on bisphenol A, bisphenol F or blends of these two. It offers ease of handling, improved workability and ease of formulating.

The viscosity of liquid resin blends containing *Cardura E10P* will depend on the amount of diluent added. As with all diluents, the properties of the cured resin system will also depend on the amount of diluent added. Therefore, diluent concentration should be carefully chosen to obtain the optimum properties required by the particular end-use.

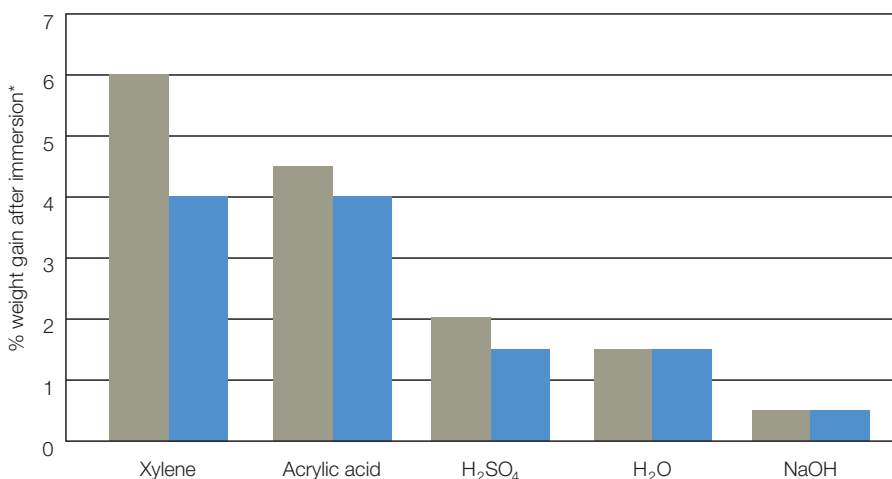
### Viscosity cutting power of Cardura E10P



### Crosslinking:

The addition of *Cardura E10P* decreases the epoxy group content of the system. This allows to use less curing agent which results in a lower formulation cost. Resin / *Cardura E10P* blends can be cured with the usual polyamine or polyamide curing agents which are used in the formulation.

### Chemical resistance of Cardura E10P



\*After 10 weeks immersion.

The amounts of reactive diluents were optimized in order to achieve equivalent blend viscosity.

■ Epikote 828 / 12% C12-C14 Glycidyl Ether  
 ■ Epikote 828 / 16% Cardura

In addition to *Cardura E10P*, several epoxy resin blends diluted with *Cardura E10P* are available to respond to various market requirements. The epoxy resins blends mentioned below are based on bisphenol A resin diluted with *Cardura E10P*, except for *EPIKOTE Resin 818* which is a blend of bisphenol A/F resins diluted with *Cardura E10P*.

### Features:

- Good to excellent crystallization resistance
- Good level of reactivity
- Good mechanical and chemical resistance
- Very good self-levelling in flooring
- Good pigment and filler wetting
- Improved gloss
- Good resistance to filler settling

Properties			
Resin	Applications	Blend viscosity [ Pa·s ]	EGC [ mmol / kg ]
<i>Epikote 816</i>	Decorative system - Top coat	1.5 – 2.1	5000 – 5300
<i>Epikote 816 MV</i>	Trowellable flooring and grouting Self levelling flooring	0.9 – 1.1	5000 – 5300
<i>Epikote 816 LV</i>	Concrete Primer and impregnation	0.4 – 0.6	4900 – 5200
<i>Epikote 818*</i>	Potable water systems	0.9 – 1.1	5140 – 5440
<i>Epikote 255</i>	Waterborne system	1.5 – 2.1	5000 – 5300

\* *Epikote 818* has no tendency to crystallize, even at sub zero conditions.

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