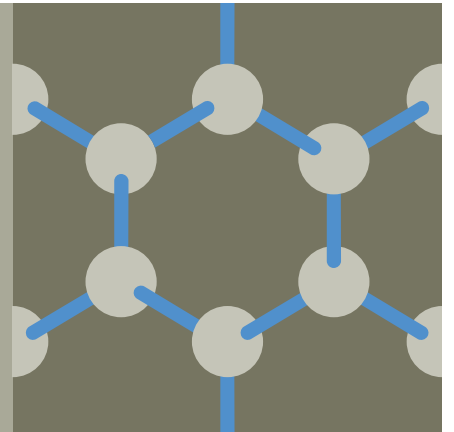




Cardura N10  
**The Unique  
Reactive Diluent**



## Cardura™ Glycidyl Ester N10

### Characteristics:

Carbon Durable Glycidyl Ester with 10 carbon atoms backbone:

- Epoxy equivalent weight approximately: 248 g/mol
- Epoxy group content approximately: 4032 mmol/kg
- Boiling range: 251 – 278 °C (5 – 95 %)
- Low viscosity (23 °C): 7 mPa·s
- High flame / flash point
- Low color
- Low vapor pressure
- EINECS and TSCA listed
- Mild odor

### Applications:

*Cardura N10* is used as reactive diluent for epoxy resins. Typical applications for *Cardura N10* 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 N10* results in an improved flexibility. For example, coatings have better impact resistance and floorings have lower flexural moduli. Compared to many other diluents, *Cardura N10* 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:

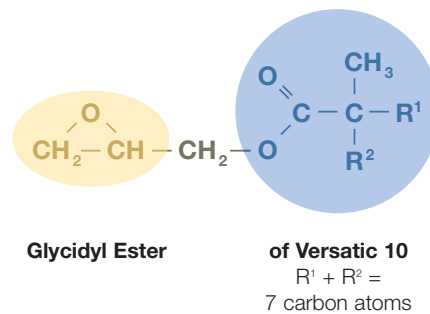
- Highly reactive towards amines, acids, alcohols
- Enhanced metal adhesion

### Structural Features:

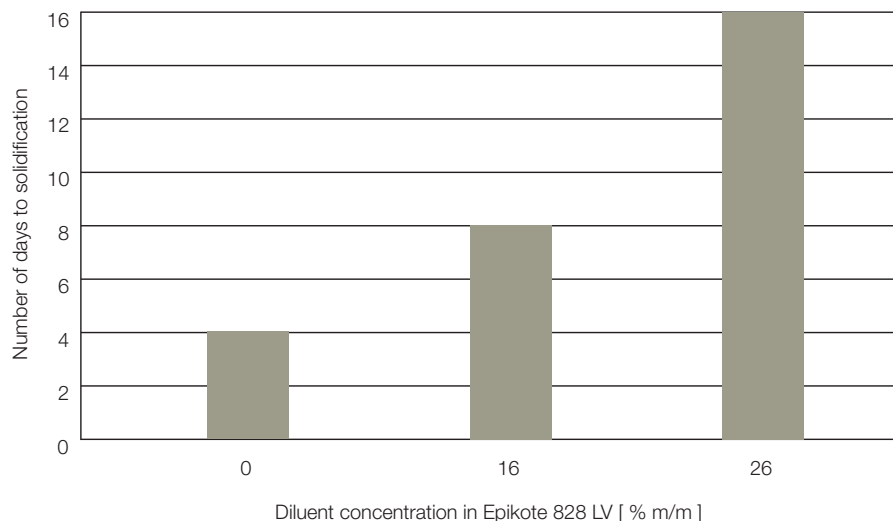
- Sterically protected ester group
- Bulky structure

### 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 N10 blends

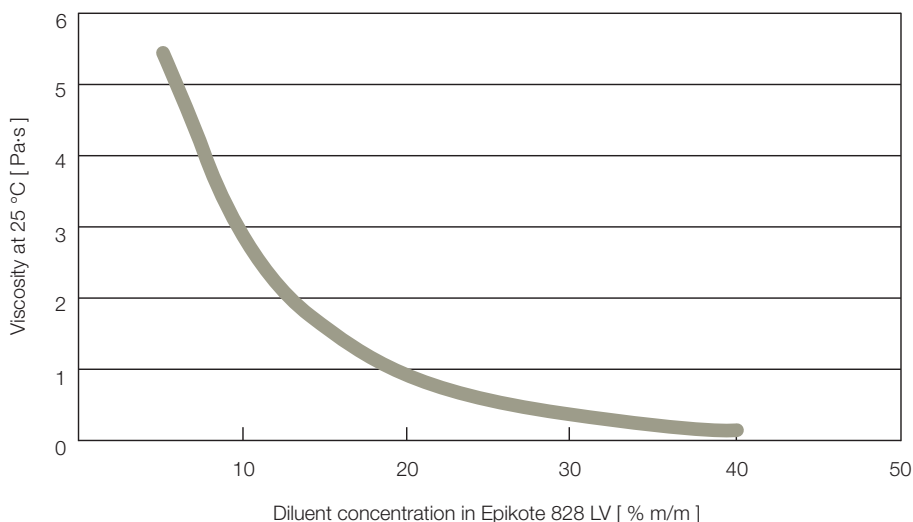


### Viscosity Reduction:

*Cardura N10* 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 N10* 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.

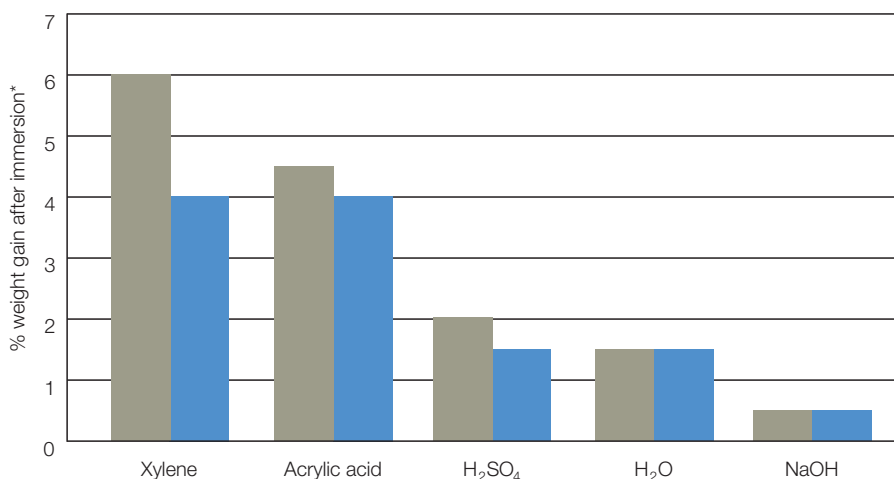
### Viscosity cutting power of Cardura N10



### Crosslinking:

The addition of *Cardura N10* decreases the epoxy group content of the system. This allows you to use less curing agent which results in a lower formulation cost. Resin / *Cardura N10* blends can be cured with the usual polyamine or polyamide curing agents which are used in the formulation.

### Chemical resistance of Cardura N10



\*After 10 weeks immersion.

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

Legend: Grey bar = Epikote 828 / 12% C12-C14 Glycidyl Ether; Blue bar = Epikote 828 / 16% Cardura

In addition to *Cardura N10*, several epoxy resin blends diluted with *Cardura N10* are available to respond to various market requirements. The epoxy resins blends mentioned below are based on bisphenol A resin diluted with *Cardura N10*, except for *EPIKOTE Resin 818* which is a blend of bisphenol A/F resins diluted with *Cardura N10*.

### 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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