

QPL 8: EPOXY RESIN SYSTEMS

GENERAL

This evaluation procedure outlines the Department’s approval process for epoxy resin systems used as outlined below:

Type I:	For use in non-load bearing applications for bonding hardened concrete to hardened concrete and other materials, and as a binder in epoxy mortars or epoxy concrete.
Type II:	For use in non-load bearing applications for bonding freshly mixed concrete to hardened concrete.
Type III:	For use in bonding skid-resistant materials to hardened concrete, and as a binder in epoxy mortars or epoxy concrete used on traffic bearing surfaces (or surfaces subject to thermal or mechanical movements).
Type IV:	For use in load bearing applications for bonding hardened concrete to hardened concrete and other materials and as a binder for epoxy mortars and concrete.
Type V:	For use in load bearing applications for bonding freshly mixed concrete to hardened concrete.
Type VI:	For bonding and sealing segmental pre-cast elements with internal tendons and for span-by-span erection when temporary post tensioning is applied.
Type VII:	For use as a non-stress carrying sealer for segmental pre-cast elements when temporary post tensioning is not applied as in span-by-span erection.

Grade 1:	Low viscosity
Grade 2:	Medium viscosity
Grade 3:	Non-sagging consistency

Class A:	For use below 40°F (4.5°C) the lowest allowable temperature to be defined by the manufacturer of the product.
Class B:	For use between 40°F and 60°F (4.5°C and 15.5°C).
Class C:	For use above 60°F (15.5°C) the highest allowable temperature to be defined by the manufacturer of the product.
Class D:	For use between 40°F and 65°F (4.5°C and 18.0°C).
Class E:	For use between 60°F and 80°F (15.5°C and 26.5°C).
Class F:	For use between 75°F and 90°F (24.0°C and 32.0°C).

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SPECIFICATIONS

- ASTM C881 – Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete
- ASTM C882 – Standard Test Method for Bond Strength of Epoxy-Resin Systems Used with Concrete By Slant Shear
- AASHTO M235 – Standard Specification for Epoxy Resin Adhesives
- NTPEP Review – <http://www.ntpep.org/Pages/ERB.aspx>

PROCEDURES

A completed Product Evaluation Form, Safety Data Sheet, and product information must be submitted to the Division of Materials and Tests. The manufacturer must also submit a certification that their product meets ASTM C881 for the type specified and a sample of the product.