Technical Datasheet

DERAKANE™ MOMENTUM 411 T Series Epoxy Vinyl Ester Resins

DERAKANE MOMENTUM 411 T series epoxy vinyl ester resins are bisphenol-A epoxy resins. These resins offer the pedigree of the industry standard vinly ester resin and include a thixotrope for improved handling. DERAKANE MOMENTUM 411 T series resins wet out reinforcements rapidly and resist sag when applied to vertical surfaces. Their exceptional "wettability" combined with their low color speeds the lamination process by making roll-out faster and by making it easier to see and eliminate air from the laminate. Different gel time versions are formulated to accommodate seasonal variations.
Ingredient(s) used to make (resin name) are not all listed as acceptable per FDA regulation 21 CFR 177.2420 covering materials intended for repeated use in contact with food. Where applications require compliance with this regulation, consider DERAKANE SIGNIA™ 411 Resin.

APPLICATIONS AND USE

DERAKANE MOMENTUM 411 T series resins are designed for ease of fabrication using hand lay up, spray-up and other similar processes. These resins are well suited for the manufacture of spas, factory made swimming pool liners and other applications requiring the superior blister resistance of an epoxy vinyl ester resin. They are also recommended for the construction of load bearing or mechanically demanding structures.

DERAKANE MOMENTUM 411 T Series epoxy vinyl ester resins may also be used for a variety of corrosion resistant equipment applications. As a general rule, resins including thixotropes like this series of resins should not be used in the corrosion barrier without consulting the resin manufacturer. Use of thixotropes when the composite will be exposed to alkaline media or sodium hypochlorite is not recommended. For details, contact derakane@altapm.com

TYPICAL LIQUID RESIN PROPERTIES

Property(1) at 23°C (75°F)	Value	Unit
Viscosity RVT#3 spindle @ 10 rpm	1400	mPa·s (cps)
Viscosity RVT#3 spindle @ 100 rpm	700	mPa·s (cps)
Thix Index (5/50 rpm)	2.2	
Styrene Content	49	%

(1) Properties are typical values, based on material tested in our laboratories, but varies from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

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TYPICAL CURING CHARACTERISTICS

DERAKANE MOMENTUM	411 T-25 Resin	411 T-35 Resin
Gel Time(2)	25 minutes	35 minutes

(2) Gel time measured at 23°C on 100 gms resin + 1.5 gms methyl ethyl keytone peroxide (MEKP).

DERAKANE MOMENTUM 411 T Series epoxy vinyl ester resins should be homogenized before use to address possible settling of thixotropic additives. This resin is pre-accelerated. It cures after addition of 1 to 2% of MEKP. The resin color will change immediately after the addition of the MEKP, from violet to greenish brown. It is essential to thoroughly mix the peroxide into the resin before application.

Typical(1) Mechanical Properties

The properties in the table below are measured from a postcured(3) clear resin casting.

Property	Value (SI)	Method
Tensile Strength	86 MPa	ISO 527
Tensile Modulus	3200 MPa	ISO 527
Tensile Elongation at Yield	5-6%	ISO 527
Flexural Strength	150 MPa	ISO 178
Flexural Modulus	3400 MPa	ISO 178
Heat Distortion Temperature(4)	105 °C	ISO 75
Barcol Hardness	35	EN 59
Density	1.12 g/cm^3	ISO 1183

(3) Cure schedule: 24 hours at room temperature and 2 hours at 120°C (250 °F).
(4) Maximum stress: 1.8 MPa (264 psi)

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CERTIFICATES AND APPROVALS

The manufacturing, quality control and distribution of products, by ALTA Performance Materials, comply with one or more of the following programs or standards: ISO 9001, ISO 14001 and OHSAS 18001 by .

HANDLING AND STORAGE

Standard Package: 55-Gallon (208 liter) Drum, Non-Returnable, Net Wt. 205 kgs (452 Lbs.)
Dot Label Required: Flammable Liquid

Drums - It is highly recommended that all material is stored at stable temperatures below 25°C (77 °F). Avoid exposure to heat sources such as direct sunlight or steam pipes. To avoid contamination of product with water, do not store outdoors. Keep sealed to prevent moisture pick-up and monomer loss. Rotate stock.

Bulk - See ALTA Performance Materials's Bulk Storage and Handling Manual for Polyesters and Vinyl Esters. Acopy of this may be obtained from ALTA Performance Materials at +1.614.790.9299.

When stored in accordance with the above conditions, ALTA Performance Materials warrants this product to remain within specifications for three (3) months from date of manufacture. All things being equal, higher storage temperature will reduce product stability and lower storage temperature will extend product stability.

Notice

All information presented herein is believed to be accurate and reliable, and is solely for the user's consideration, investigation and verification. The information is not to be taken as an express or implied representation or warranty for which ALTA Performance Materials assumes legal responsibility. Any warranties, including warranties of merchantability, fitness for use or non-infringement of intellectual property rights of third parties, are herewith expressly excluded.

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ALTA Performance Materials requests that the user reads, understands and complies with the information

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contained herein and the current Material Safety Data Sheet.

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