

**DION® 9100-710**

Bisphenol-A Epoxy based Vinyl Ester Resin

**DESCRIPTION**

DION® 9100-710 is a thixotropic and preaccelerated Bisphenol-A epoxy based vinylester resin. The chemical resistance is good, particularly towards acids, alkalies and oxidizing agents. The resin offers optimum security towards blistering due to osmoses.

The outstanding adhesive properties, toughness and good mechanical properties make it suitable for production of tanks, process equipment and constructions subjected to high static and dynamic loads.

**APPLICATION**

The incorporated accelerator system combined with NORPOL PEROXIDE 11 minimize the foaming normally occurring when using MEKP, and gives relative short gel time and rapid curing. Recommended laminate thickness applied wet-on-wet is 1-5 mm.

DION® 9100-710 is especially formulated for hand lay-up and spray-up requirements and impregnates both glass and aramide fibres rapidly. It is easily worked and will minimize drain off, making it ideal for large, vertical applications like boat and swimming pool walls.

**FEATURES**

- Epoxy based vinyl ester resin
- High strength and good toughness
- Excellent hydrolytic stability
- Low viscosity
- Good curing

**BENEFITS**

- Excellent chemical resistance to a wide variety of corrosive environments
- High mechanical properties
- High elongation and good crack resistance
- Good fatigue resistance
- Very low water resistance
- Improved glass fibre wet-out
- Good final cure even with relatively long gel times

The information herein is general information designed to assist customers in determining whether our products are suitable for their applications. Our products are intended for sale to industrial and commercial customers. We require customers to inspect and test our products before use and to satisfy themselves as to contents and suitability for their specific applications. We warrant that our products will meet our written specifications. **Nothing herein shall constitute any other warranty express or implied, including any warranty of merchantability or fitness for a particular purpose**, nor is any protection from any law or patent to be inferred. All patent rights are reserved. The exclusive remedy for all proven claims is limited to replacement of our materials and in no event shall we be liable for special, incidental or consequential damages.

**TYPICAL PROPERTIES**
**PHYSICAL DATA IN LIQUID STATE AT 23°C**

Properties	Unit	Value	Test method
Viscosity			
- Brookfield LVF sp. 2/12 rpm	mPa·s(cP)	1000-1300	ASTM D 2196-86
- Cone & Plate	mPa·s(cP)	300-330	ISO 2884-1999
Density	g/cm <sup>3</sup>	1.02-1.06	ISO 2811-2001
Acid Value	mgKOH/g	max 9	ISO 2114-1996
Styrene Content	% weight	46-50	B070
Flash Point	°C	32	ASTM D 3278-95
Gel time: 2% Trigonox 239 (NORPOL PEROXIDE 24)	minutes	20-35	G020
Storage Stability from date of manufacture	months	4	G180

**TYPICAL CLEAR CASTING PROPERTIES AT RT**

Properties	Unit	Value	Test method
Density	g/cm <sup>3</sup>	1.12	ISO 2811-2001
Tensile Strength	MPa	80	ISO 527-1993
Tensile Modulus	MPa	3400	ISO 527-1993
Tensile Elongation	%	5	ISO 527-1993
Flexural Strength	MPa	145	ISO 178-2001
Flexural Modulus	MPa	3200	ISO 178-2001
Heat Distortion Temperature	°C	100	ISO 75-1993
Hardness, Barcol 934-1	-	35	ASTM D 2583-99
Water Absorption	%	0.55	ISO 62-1999

**TYPICAL LAMINATE PROPERTIES AT RT**

Properties	Unit	CSM 450	Combi mat 800/M300	Test method
Glass Content	%	33	50	ISO 1172-1996
Tensile Strength	MPa	125	230	ISO 527-1993
Tensile Modulus	MPa	7800	14000	ISO 527-1993
Tensile Elongation	%	2.1	2.1	ISO 527-1993
Flexural Strength	MPa	200	350	ISO 178-2001
Flexural Modulus	MPa	7300	11500	ISO 178-2001

\* The mechanical datas are based on 5 mm laminates made with Ahlstrom M510-450 (CSM) and Ahlstrom 9622/M300 (combi mat) respectively.

**AGITATION**

Thixotropic vinyl esters resins are prone to settle more than thixotropic polyester resins, and agitation of the resin prior to use is therefore recommended.

**STORAGE**

To ensure maximum stability and maintain optimum resin properties, resins should be stored in closed containers at temperatures below 24°C/75°F and away from heat ignition sources and sunlight. Resin should be warmed to at least 18°C/65°F prior to use in order to assure proper curing and handling. All storage areas and containers should conform to local fire and building codes. Copper or copper containing alloys should be avoided as containers. Store separate from oxidizing materials, peroxides and metal salts. Keep containers closed when not in use. Inventory levels should be kept to a reasonable minimum with first-in, first-out stock rotation.

Additional information on handling and storing unsaturated polyesters is available in Reichhold's application bulletin "Bulk Storage and Handling of Unsaturated Polyester Resins." For information on other Reichhold resins or initiators, contact your sales representative or authorized Reichhold distributor.

**SAFETY****READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET BEFORE WORKING WITH THIS PRODUCT**

Obtain a copy of the material safety data sheet on this product prior to use. Material safety data sheets are available from your Reichhold sales representative. Such information should be requested from suppliers of all products and understood prior to working with their materials.

**DIRECTLY MIXING ANY ORGANIC PEROXIDE WITH A METAL SOAP, AMINE, OR OTHER POLYMERIZATION ACCELERATOR OR PROMOTER WILL RESULT IN VIOLENT DECOMPOSITION**