



EPOXY

EPOXY PRODUCTS FOR EMEA CIVIL ENGINEERING APPLICATIONS



Set New Standards for Civil Engineering with Olin Epoxy Products

Civil engineering projects worth doing right are worth protecting right. With a robust portfolio of resins, diluents and curing agents developed with the building and construction industry in mind, Olin Epoxy can help formulators meet evolving specific civil engineering application requirements across Europe and beyond.

Olin Epoxy products enable formulators to provide a complete binder system: high performance along with value-added features like exceptional sustainability, broad application parameters and economical lifetime costs.

Olin leadership in epoxy technology spans more than 60 years. Our legacy of innovative technology, high quality products and attention to customer service is evident in today's portfolio. Low emission curing agents, products developed for curing under challenging conditions and products with improved UV stability for enhanced aesthetics are examples of the pioneering technology resulting from Olin's continued investment in research and development.

And, as always, our commitment to providing exceptional epoxy solutions to the building and construction industry is based on adherence to the highest standards for safety in the manufacture, storage, transport, use and disposal of epoxy products.





Building a Better World, Side by Side

Beyond technology development, Olin Epoxy is your technical support partner. Our experts are dedicated to helping you apply our solutions effectively so your customers achieve their desired results.

Our comprehensive European service model combines sales and technical service with our technical center in Baltringen, Germany. This collaboration provides access to local know-how and support backed by world-class technical resources.

Sustainable Performance Across the Board

Olin epoxy solutions help formulators develop solutions that provide:

- Excellent resistance to acids, organic solvents and other chemicals for long-term durable performance and easy maintenance
- High mechanical strength and toughness properties to stand up to heavy loads and to resist impact damage and other abuse
- High flexural strength to withstand elongation, compressive and bending forces
- Low temperature and rapid curing capabilities along with good pot life to extend the floor application season and speed project completion
- Exceptional environmental performance with low emission products to improve air quality
- Long-lasting, appealing aesthetics with enhanced UV stability and excellent long-term resistance to wear

The high mechanical strength and toughness properties of flooring systems formulated using epoxy products from Olin provide the high load-bearing properties necessary in many industrial environments. Flexural strength properties can be enhanced to increase toughness, protecting flooring surfaces from impact damage, abrasive wear and other abuse.

For more information about any of the products listed in this brochure, or to learn more about how Olin Epoxy can provide the products and support you need to strengthen your system differentiation and competitive position, contact your Olin Epoxy representative.

REACH Compliance

In accordance with Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH), all REACH-relevant substances manufactured or imported into the European Union by Olin and contained in our Epoxy products have been registered or will be registered within the current deadlines. In Olin's opinion, REACH represents an extraordinary opportunity for the chemical industry, its suppliers and customers to work together to protect the environment and to ensure a future for the chemical industry in Europe.

Olin Curing Agent Innovations

Low Emissions

Olin's commitment to responsible stewardship of the environment, human health and safety extends to the products we offer. Our innovative product line of emission-minimized D.E.H.™ hardeners can be used to formulate primer and top-coat floorings while meeting the most stringent emission regulations.

Following are the latest generation of emission-minimized hardeners. We also offer products that do not contain alkyl phenols, benzyl alcohol or VOCs.

Product Characteristics

- No VOC
- No benzyl alcohol
- No alkyl phenols
- Passed AgBB evaluation scheme when cured with epoxy resins
- Label A+ according to French legislation when cured with epoxy resins

Technologies Used

- Non-VOC, non-reactive diluent
- 100% reactive hardeners
- Waterborne hardeners
- Non-VOC containing hardeners

Grade		Primer	Self-Leveling Flooring	Roller Coat Flooring
D.E.H.™ 1911	Low emission curing agent particularly suited for the development of primers whenever the substrate is wet or difficult to adhere to.	•		
D.E.H. 2920	Low emission curing agent. Offers a long working time (long pot life) and a quick Shore D hardness development	•		
D.E.H. 2955	Offers very rapid curing and is highly suitable for anchoring systems or as accelerator. Suitable for primers if curing is required at temperatures down to -5 °C.	•		
D.E.H. 4911	Fully reactive curing agent containing no VOC and no alkyl phenol. Good mechanical properties.		•	•
D.E.H. 4912	Fully reactive curing agent containing no VOC and no alkyl phenol. Shows low exothermic reaction.		•	•
D.E.H. 804	Aqueous polyamine adduct solution with emulsification capability. Offers visible end of pot life, fast drying, low odor. Suitable for thick layer self-leveling applications.		•	
D.E.H. 805	Aqueous polyamine adduct solution with emulsification capability. Offers visible end of pot life, low odor, fast drying and through hardening.	•		•

Low Viscosity Epoxy and Novolacs

Heavy-duty coating and flooring performance requirements call for high-performance epoxy solutions. Solvent-free, low-viscosity resins from Olin Epoxy can be used to achieve both high volume solids and high pigment concentration (PVC), while maintaining good application and metal protection properties.

Olin Epoxy's low viscosity epoxies and novolacs are suited for applications in challenging environmental conditions such as low temperatures and high humidity. They can be used to formulate coatings for marine use, as well as for linings in chemical tanks. All of these are low viscosity liquid epoxy resins modified with a cycloaliphatic polyglycidyl ether (free of any organic solvent) that facilitate high solids coating formulations with low volatile organic compound (VOC) emissions, while minimizing compromises in performance. They can be cured with multiple types of curing agents (hardeners).

Low Viscosity Epoxy and Novolacs Benefits

- Solvent-free formulation capability
- Enables primers with excellent balance of:
 - Application properties
 - Corrosion resistance
 - Chemical resistance
- High achievable volume solids and PVC
- High sprayability
- Long pot life
- Exceptional cured coating properties
- DLVNE products have higher chemical and thermal resistance

Olin Epoxy low-viscosity technologies can overcome many of the disadvantages inherent in current high-solids systems. In particular, Olin Epoxy technologies can combine ease of application using conventional spray equipment and demonstrate similar performance compared to traditional epoxy systems.

Typical Properties¹

Grade	EEW (gr/eq)	Viscosity @25 °C (mPa·s)	Description
DLVE™ 18	160-175	400-1,000	Low viscosity liquid epoxy resin modified with a cycloaliphatic polyglycidyl ether for high solids coating formulations with ultra low volatile organic compound (VOC) emissions and ease of application. Excellent corrosion protection and chemical resistance. Can be cured with multiple types of curing agents (hardeners).
DLVE 19	185-200	2,600-4,200	Low viscosity epoxy resin modified with a cycloaliphatic polyglycidyl ether for high solids coating formulations with low volatile organic compound (VOC) emissions, excellent application, corrosion and chemical resistance. Can be cured with multiple types of curing agents (hardeners).
DLVE 52	165-180	350-550	Ultra low viscosity epoxy resin modified with a cycloaliphatic polyglycidyl ether (free of any organic solvent) for high solids coating formulations with low volatile organic compound (VOC) emissions, excellent application, corrosion and chemical resistance. This resin is more hydrophobic and can provide better surface wetting. Can be cured with multiple types of curing agents (hardeners).
DLVNE 59	160-175	2,000-4,000	Low viscosity novolac resin modified with a cycloaliphatic polyglycidyl ether (free of any organic solvent) for high solids coating formulations with low volatile organic compound (VOC) emissions. Balance of properties similar to solvent-borne novolac.
DLVNE 60	166-176	1,100-1,900 ²	Low viscosity novolac resin modified with a cycloaliphatic polyglycidyl ether (free of any organic solvent) that facilitates high solids coating formulations with low volatile organic compound (VOC) emissions, improved application, and strong chemical and thermal resistance.
DLVNE 61	155-170	4,500-6,500	Medium low viscosity novolac resin modified with a cycloaliphatic polyglycidyl ether (free of any organic solvent) that facilitates high solids coating formulations with low volatile organic compound (VOC) emissions, improved application, and strong chemical and thermal resistance.

¹All grades are 100% solids

²cSt @ 51.7 °C

Low Temperature / Fast Cure

The Olin Epoxy curing agent portfolio includes several products that allow cure at temperatures around 5 °C (D.E.H. 622 to 0 °C), in addition to those offering rapid cure at and below room temperature. As shown in the following tables, these products enable an extended season for flooring installation and use, providing a short back-to-service time.

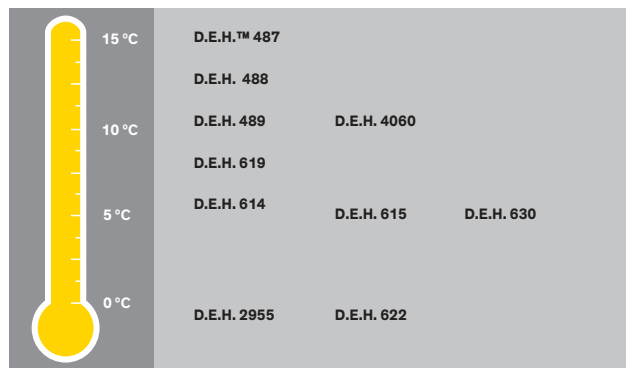
Low Temperature Curing Data¹

Curing Agent	AHEW (gr/eg)	Viscosity @25 °C (mPa·s)	Mixing Ratio (gr/100g Resin)	Resin	Pot Life (min)	Tg1 (°C)	Shore D 7 °C/65%r.H/24h
D.E.H.™ 614	85	600	50	D.E.R. 3581	14.0	62	73
D.E.H. 615	75	500	40	D.E.R. 3531	20.0	59	76
D.E.H. 622	60	590	35	D.E.R. 3571	6.0	91	67
D.E.H. 622	60	590	33	D.E.R. 331	6.0	101	73
D.E.H. 630	73	800	38	D.E.R. 3531	14.0	NA	74

¹Typical properties, not to be construed as specifications



Temperature Recommendation Ranking



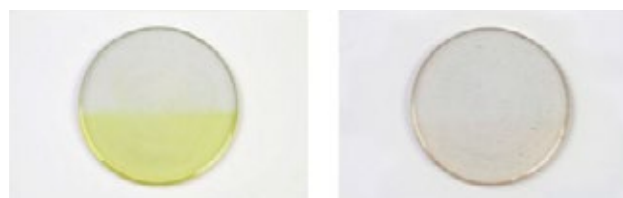
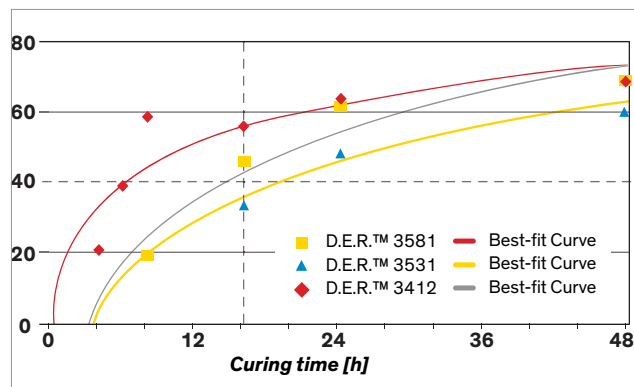
Industrial Hygiene

Many fast curing agents are based on condensation products of amine, formaldehyde and some alkyl phenol compound, so-called Mannich base curing agents. Most of the alkyl phenol compounds are to be labeled with Risk-phrase R-62: "Possible Risk of Impaired Fertility."

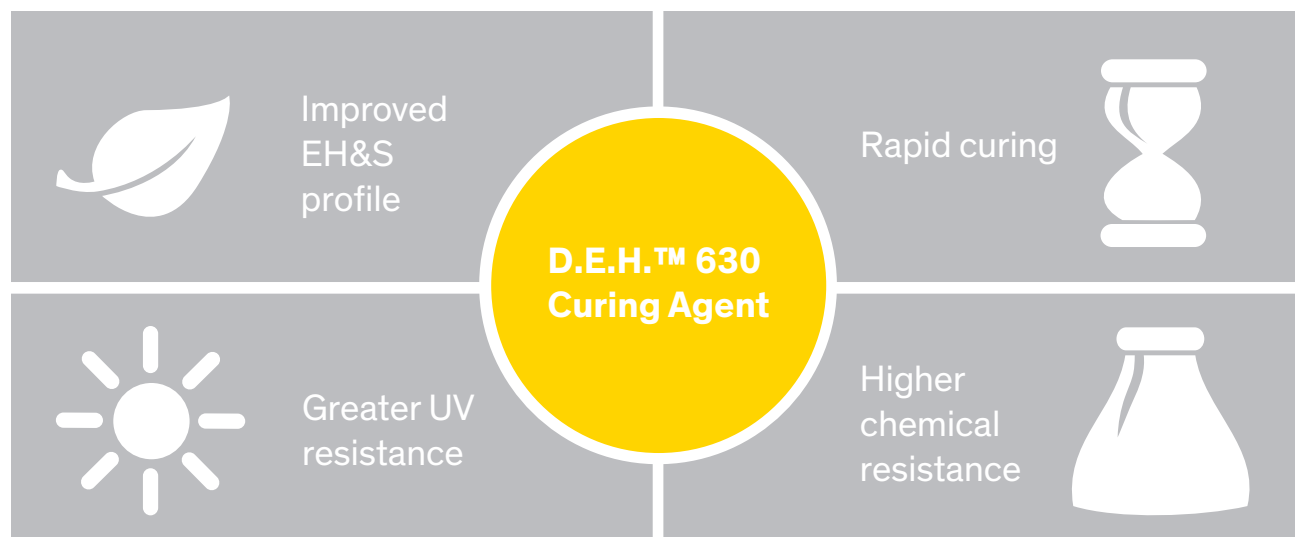
In order to overcome exposure risk for employees working with such types of Mannich base curing agents, Olin Epoxy offers D.E.H.™ 630 curing agent. D.E.H. 630 curing agent is a special grade of low temperature curing agent that is also completely VOC- and alkyl phenol-free while meeting low emission standards.

As Mannich base hardeners are based on phenolic raw material, color and color stability upon UV exposure is often a problem. D.E.H. 630 curing agent offers not only low emission, favorable labeling and fast cure but also improved chemical resistance and UV resistance as shown below.

Shore D Hardness Development of D.E.H.™ 622 at -5 °C with Different D.E.R.™ Epoxy Resins



On the left is a typical clear casting based on liquid epoxy resin and cured with D.E.H. 614 curing agent partially exposed to UV radiation (lower portion). On the right, similar testing is shown using D.E.H. 630 curing agent resulting in almost no discoloration.



Setting Projects Up for Success

Curing Agents for Your Building & Construction Applications

Olin's epoxy products are available for a wide range of civil engineering, infrastructure and other building and construction applications. Selection of the proper epoxy curing agents is the starting point for development of formulations with the viscosity, reactivity, pot life, cure rate, chemical resistance, wear resistance, adhesion, flexibility and other properties required to meet your specific formulating, application and end-use requirements. Use this chart to identify curing agents best suited for your application needs.

EMEA Curing Agents Selection Guide

	Impregnation/Primers	Mortars & Grouts	Roller Coat Flooring	Self-leveling Flooring	Structural Adhesive	Crack Injection & Sealing	Chemical Anchoring
Modified Polyamide Curing Agents							
D.E.H.™ 1450	•				•		
D.E.H. 1501		•					
D.E.H. 1911	•				•		
Modified-Amine Curing Agents							
D.E.H. 2102		•					
D.E.H. 2112		•					
D.E.H. 2122		•					
D.E.H. 2132		•					
D.E.H. 2450	•	•			•		
D.E.H. 2497	•	•		•			
D.E.H. 262	•	•					
D.E.H. 2920	•	•					
D.E.H. 2955	•						•
Modified Epoxy - Amine Adducts							
D.E.H. 4043		•	•	•			
D.E.H. 4060			•				
D.E.H. 4147	•						
D.E.H. 4353	•	•	•	•			
D.E.H. 4354	•	•	•	•			
D.E.H. 444		•	•	•			
D.E.H. 445		•	•	•			
D.E.H. 4702		•	•	•			
D.E.H. 4712			•	•			
D.E.H. 4723	•						
D.E.H. 487	•	•	•	•			
D.E.H. 488	•		•	•			
D.E.H. 489	•	•	•	•			
D.E.H. 4911		•	•	•			
D.E.H. 4912		•	•	•			
Low Temperature Curing Agents							
D.E.H. 614	•						
D.E.H. 615	•		•	•			
D.E.H. 619	•		•	•			
D.E.H. 622	•					•	•
D.E.H. 630	•		•	•			
Waterborne Epoxy Curing Agents							
D.E.H. 800	•		•				
D.E.H. 804				•			
D.E.H. 805	•		•				
D.E.H. 806			•				
D.E.H. 813	•		•				
D.E.H. 860	•		•				

Olin Curing Agent Portfolio

For Civil Engineering Applications Available in EMEA

Grade	AHEW (gr/eq)	Viscosity @25 °C (mPa·s)	Pot Life min. (with Reference Resin)	Reference Resin	Description
Modified Amine Curing Agents					
D.E.H.™ 2102	41	8-18	125	D.E.R.™ 3272	Recommended for mineral castings or heavy-filled mortars. Offers low exothermic reaction and high heat resistance.
D.E.H. 2112	45	8-18	26	D.E.R. 3271	Recommended system, with D.E.R. 3271 epoxy resin, for mineral castings or heavy-filled mortars. Offers low exotherm and high heat resistance.
D.E.H. 2122	45	15-35	110	D.E.R. 3271	Recommended for mineral castings or heavy-filled mortars. Offers low exothermic reaction and high heat resistance.
D.E.H. 2132	45	5-25	>120	D.E.R. 331	Very slow, low exotherm curing agent for mineral castings, composites and highly filled mortars.
D.E.H. 2450	58	13-23	30	D.E.R. 3113	Fast curing for crack-injection systems D.E.R. 3113 epoxy resin.
D.E.H. 2497	76	30-100	100	D.E.R. 331	Low viscosity; offers long pot life. It is used as a blending/ curing agent.
D.E.H. 262	87	30-70	25	D.E.R. 331	Low viscosity, alkyl phenol-free curing agent for highly filled mortars, coatings and screeds.
Modified Epoxy Amine Adducts					
D.E.H. 4043	115	290-450	40	D.E.R. 331	Offers good color and light stability, as well as tack-free surfaces and excellent early water resistance. D.E.H. 4702 has similar performance properties but is nonyl-phenol-free.
D.E.H. 4060	122	5,000-7,000	30	D.E.R. 331	Offers best-in-class chemical resistance in combination with food contact compliance.
D.E.H. 4147	75	150-300	30	D.E.R. 331	Offers very good UV-stability with only a low tendency to yellowing. Especially suitable for color quartz and paints.
D.E.H. 4353	93	80-180	50	D.E.R. 331	Universal curing agent offering a long pot life. Suitable for adhesives, highly filled coating systems, mortars and screeds. D.E.H. 487 is a nonyl-phenol-free version.
D.E.H. 4354	95	150-350	25	D.E.R. 331	Universal curing agent offering a faster reactivity. D.E.H. 488 and D.E.H. 489 are equivalent nonyl-phenol-free versions.
D.E.H. 444	93	160-220	105	D.E.R. 331	Longer pot life curing agent with good UV stability.
D.E.H. 445	105	370-570	45	D.E.R. 331	Low viscosity curing agent with good UV stability and overall mechanical and chemical resistance properties.
D.E.H. 4702	115	370-470	40	D.E.R. 331	Excellent early water-spot resistance combined with high acid and solvent resistance.
D.E.H. 4712	87	1,600-2,400	20	D.E.R. 3581	Offers systems with good UV stability for paints and coatings, as well as floorings.
D.E.H. 4723	120	750-1,150	55	D.E.R. 3911	Recommended for elastic intermediate layers, especially when used in combination with D.E.R. 3911. Provides very high flexibility with elongation at break around 200%.
D.E.H. 487	93	170-270	41	D.E.R. 331	Longer pot life version of D.E.H. 488 curing agent.
D.E.H. 488	93	280-380	25	D.E.R. 331	Low viscosity curing agent for liquid epoxy resins. Good blush resistance and general chemical resistance.
D.E.H. 489	93	210-290	20	D.E.R. 331	Accelerated version of D.E.H. 488 curing agent.



Grade	AHEW (gr/eq)	Viscosity @25 °C (mPa·s)	Pot Life min. (with Reference Resin)	Reference Resin	Description
Modified Polyamide Curing Agents					
D.E.H.™ 1450	115	600-1,400	60	D.E.R.™ 331	Excellent adhesion on critical (badly prepared or wet/humid) substrates. Contains alkyl phenol.
D.E.H. 1501	63	70-170	70	D.E.R. 331	Formulated polyamide for washable tile-grouts.
Low Emission Curing Agents					
D.E.H. 1911	115	1,100-1,700	70	D.E.R. 3531	Low emission curing agent particularly suited for the development of primers whenever the substrate is wet or difficult to adhere to.
D.E.H. 2920	76	40-120	50	D.E.R. 3531	Low emission curing agent. Offers a long working time (long pot-life) and a quick Shore D hardness development.
D.E.H. 2955	82	1,400-1,700	6	D.E.R. 3581	Offers very rapid curing and is highly suitable for anchoring systems or as accelerator. Suitable for primers if curing is required at temperatures down to -5 °C.
D.E.H. 4911	82	360-460	50	D.E.R. 3531	Fully reactive curing agent containing no VOC and no alkyl phenol. Good mechanical properties.
D.E.H. 4912	84	280-480	40	D.E.R. 3531	Fully reactive curing agent containing no VOC and no alkyl phenol. Shows low exothermic reaction.
Low Temperature Curing Agents					
D.E.H. 614	85	450-750	15	D.E.R. 331	Solvent-free, Mannich base curing agent curing down to about 0 °C. High water and chemical resistance.
D.E.H. 615	75	400-500	15	D.E.R. 331	Low viscosity version of D.E.H. 614 curing agent. Over-coatable after 4 hours (industrial coatings).
D.E.H. 619	92	820-1,200	52	D.E.R. 3261	VOC-free, modified Mannich base curing agent for improved chemical resistance.
D.E.H. 622	60	490-690	6	D.E.R. 331	Modified amine curing agent with extreme high reactivity. Cures down to -5 °C.
D.E.H. 630	73	700-900	14	D.E.R. 3531	Highly reactive (non-Mannich base) curing agent with an improved EH&S profile, better chemical resistance and UV stability over traditional Mannich base curing agents.

Experience the Benefits of Waterborne Epoxy Technology

Olin Epoxy is pushing waterborne technology to new levels. The solvent-free nature of these products can help formulators meet stringent VOC regulations, including ultra-low-VOC formulations, in the development of high-performance coatings.

Olin waterborne epoxies perform almost as well as solvent-borne technologies, providing formulators with the opportunity to approach solvent-level performance while also meeting environmental goals.

Waterborne epoxy product benefits include:

- Solvent-free formulation capability
- Easy mixing with other waterborne components
- Manufactured without the use of APEO1 surfactants
- Low odor
- Shear stable
- Easy water clean-up
- High gloss
- Early hardness
- Good abrasion
- Chemical resistance
- Freeze stable (curing agents)

Typical Properties – Waterborne Epoxy Resin Emulsions and Dispersions Available in EMEA

Olin offers various epoxy resin dispersions and emulsions that are available as 100% VOC-free waterborne product with very low particle size and very narrow distribution. The standard shelf-life of Olin's epoxy resin emulsions and dispersions is 12 months when stored appropriately (see SDS).

Grade	EEW (gr/eq) on Solids	Viscosity @25 °C (mPa·s)	Solids (wt%)	Description
D.E.R.™ 913	167-193	100-400	67	Liquid epoxy resin emulsion with improved reactivity, designed for 2-component coating systems.
D.E.R. 915	475-500	3,000-9,000	47	Waterborne dispersion of "1-type" solid epoxy resins for 2-component coating systems. Offers good corrosion protection on steel as well as fast-drying on mineral substrates.
D.E.R. 917	193-204	3,000-9,000	64	Liquid epoxy emulsion designed for use in waterborne 2-pack coating systems. Also used as cross-linking agent for other aqueous (acrylic) systems.

Typical Properties – Waterborne Epoxy Curing Agents Available in EMEA

All Olin waterborne epoxy curing agents are solutions in water and subsequently freeze stable when stored under appropriate conditions (see SDS).

Grade	AHEW (gr/eq) on Solids	Viscosity @25 °C (mPa·s)	Solids (wt%)	Description
D.E.H.™ 800	150	5,000-10,000	50	Aqueous polyamine adduct solution with emulsification capability. Offers visible end of pot life, excellent chemical, corrosion resistance and excellent gloss potential.
D.E.H. 804	123	5,000-11,000	70	Aqueous polyamine adduct solution with emulsification capability. Offers visible end of pot life, fast drying, low odor. Suitable for thick layer self-leveling applications.
D.E.H. 805	143	10,000-18,500	65	Aqueous polyamine adduct solution with emulsification capability. Offers visible end of pot life, low odor, fast drying and through hardening.
D.E.H. 806	160	9,500-15,500	80	Aqueous polyamine adduct solution with emulsification capability. Designed for anti-corrosion applications in combination with epoxy dispersions. Compatible with zinc-phosphate anti-corrosion pigments.
D.E.H. 813	140	5,000-10,000	70	Aqueous polyamine adduct solution with emulsification capability. Designed for fast drying anti-corrosion applications in combination with epoxy dispersions. Compatible with zinc-phosphate anti-corrosion pigments.
D.E.H. 860	105	25,000-50,000	50	Aqueous polyamide solution with emulsification capability. Suitable for impregnation and sealing of concrete substrates.

Olin Epoxy Resins for Building and Construction Available in EMEA

Mechanical Strength and Increased Flexibility

Olin offers a full range of liquid epoxy resins for room temperature curing applications on mineral substrates.

Below is an overview of the liquid epoxy resins used in the building and construction industry and available in EMEA. Corresponding technical and Safety Datasheets will be provided upon request.

Grade	EEW (gr/eq)	Viscosity @25 °C (mPa·s)	Description
Bisphenol A Epoxy Resins			
D.E.R.™ 330	176-185	7,000-10,000	Lower viscosity bisphenol A epoxy resin allowing the use of fewer diluents or more fillers in the formulation. Offers longer pot life versus the standard resin and slightly improved resistance properties when used in heat curing (composite) applications.
D.E.R. 330-EL	176-185	7,000-10,000	Lower viscosity bisphenol A epoxy resin with very low hydrolysable chloride content (<100 ppm). Specifically suitable for electrical, electronic and encapsulation applications.
D.E.R. 331	182-192	11,000-14,000	Industry standard bisphenol-A-based liquid epoxy resin. Offers excellent mechanical, thermal and chemical resistance properties in multiple applications. Shows improved reactivity and wetting properties versus competitive alternatives.
D.E.R. 331-EL	182-192	11,000-14,000	Standard bisphenol-A epoxy resin with very low hydrolysable chloride content (<150 ppm). Specifically suitable for electrical, electronic and encapsulation applications.
D.E.R. 336	181-185	9,400-11,000	Standard liquid bisphenol A epoxy resin of intermediate viscosity and equivalent weight with narrow specification limits.
D.E.R. 336-EL	181-185	9,400-11,000	Intermediate viscosity epoxy resin with very low hydrolysable chloride content (<150 ppm). Specifically suitable for electrical, electronic and encapsulation applications.
Modified Bisphenol A Epoxy Resins			
D.E.R. 3113	178-197	250-350	Extreme low viscosity resin for crack injection and sealing.
D.E.R. 321	180-188	500-700	Very low viscosity resin allowing large amounts of fillers. Cure rate similar to undiluted resins. Improved acid resistance can be observed. For floorings, grouting, concrete reinforcement, structural adhesives, crack injection and castings.
D.E.R. 3221	187-208	700-1,000	Liquid epoxy resin especially suitable for use in waterborne epoxy binder systems.
D.E.R. 324	195-204	600-800	Offers low viscosity and low surface tension to wet the surface better, giving better adhesion and slightly lower viscosity at any given filler loading. The diluent increases pot life, flexibility (impact resistance) and acid resistance, but limits the solvent resistance. Prone to crystallization.
D.E.R. 3271	156-170	250-450	Offers low viscosity and low surface tension to wet the surface better, giving better adhesion and slightly lower viscosity at any given filler loading. The diluent increases pot life, flexibility (impact resistance) and acid resistance, but limits the solvent resistance.
D.E.R. 3274	160-180	1,300-1,500	Very low viscosity epoxy resin designed for mineral castings in combination with, e.g., D.E.H. 2112 epoxy curing agent.
D.E.R. 3282	173-183	900-1,100	Reactive diluent containing epoxy resin offering low viscosity, good mechanical properties as well as solvent resistance.
D.E.R. 3284	173-185	2,400-2,900	Medium viscosity liquid epoxy resin with di-functional reactive diluent. Especially suited for lamination purposes where it shows excellent wetting of the fabric and gives outstanding mechanical properties.
Bisphenol A/F Epoxy Resins			
D.E.R. 351	169-181	4,500-6,500	Bisphenol A/F resin with very low tendency to crystallize. Applications include solvent-free coating, tank- and pipe-linings, concrete reinforcements and also floorings, adhesives, electrical insulation and filament winding.
D.E.R. 352	172-181	5,700-7,700	Higher viscosity and more economical bisphenol A/F liquid epoxy resin. Recommended base for many modified bisphenol A/F epoxy resins.
D.E.R. 356	176-183	6,500-8,000	Economical bisphenol A/F epoxy resin with enhanced reactivity.

Grade	EEW (gr/eq)	Viscosity @25 °C (mPa·s)	Description
Modified Bisphenol A/F Epoxy Resins			
D.E.R.™ 3531	183-199	750-1,150	Low crystallization resin with low vapor pressure; hydrophobic in nature. Offers low viscosity and good wetting properties and is suitable for casting resin coatings and adhesives.
D.E.R. 3532	181-200	500-900	Low crystallization resin with low vapor pressure; hydrophobic in nature. Offers very low viscosity and good wetting properties. Similar to D.E.R. 3531 in nature.
D.E.R. 3533	187-200	450-550	Low crystallization resin with low vapor pressure; hydrophobic in nature. Offers extremely low viscosity and good wetting properties. Similar to D.E.R. 3531/3532 in nature.
D.E.R. 3551	184-193	700-1,100	Low crystallization tendency modified bisphenol-A/F liquid epoxy resin. Offers excellent wetting and is recommended for floorings, mortars, grouts and adhesives.
D.E.R. 3552	167-178	400-600	Very low viscosity epoxy modified epoxy resin with fast cure and good mechanical properties. For highly fillers systems, crack injection systems or low viscous primers.
D.E.R. 3572	164-176	600-900	Liquid epoxy resin, modified with a di-functional reactive diluent. Offers improved reactivity, better mechanical properties as well as solvent resistance versus mono-functional aliphatic diluents.
D.E.R. 3581	169-180	900-1,400	Liquid epoxy resin, modified with a lower vapor pressure di-functional reactive diluent. Offers improved reactivity, better mechanical properties as well as solvent resistance versus mono-functional aliphatic diluents.
Accelerated Epoxy Resins			
D.E.R. 3411	185-205	4,500-5,500	Accelerated, crystallization-stable liquid epoxy resin.
D.E.R. 3412	187-207	850-1,150	Accelerated modified bisphenol A/F epoxy resin of low viscosity.
Flexible Epoxy Resins			
D.E.R. 3911	374-416	6,500-9,500	Flexible hybrid epoxy resin with elongation around 200% in combination with D.E.H.™ 4723. Recommended for elastic intermediate layers.
D.E.R. 3912	550-650	21,000-29,000	Aliphatic liquid epoxy resin flexibilizer for high solids or solvent-free coatings.
D.E.R. 3913	345-365	7,500-9,500	Flexible epoxy resin that offers high elongations at break at room temperature as well as at -20 °C. Can be used with standard epoxy amine adduct curing agents for flooring formulations in (freezing) cold areas.
D.E.R. 732 (P)	310-330	60-70	Longer chain length polyglycol diepoxide liquid resin. Applications include coatings and adhesives for improved flexibility, elongation and impact resistance.
D.E.R. 736 (P)	175-205	30-60	Shorter chain polyglycol diepoxide liquid resin for improved flexibility, elongation and impact resistance in coatings and adhesives.
Epoxy Resin Solutions			
D.E.R. 671-X75	430-480 ²	7,500-11,500	Solution of D.E.R. 671 in xylene. Industry standard for heavy duty anti-corrosion paints.
D.E.R. 684-EK40	2,800 min. ²	600-2,500 ¹	Solution of an ultra-high molecular weight epoxy resin. It has essentially no epoxy functionality and provides coatings with outstanding physical and chemical resistance properties by solvent evaporation alone. Main applications include maintenance- and flash-primers, shop coats, wire enamels, road markers and clear coatings for brass, chrome and aluminum.

¹ cSt ²On solids

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