



D.E.R.[™] 6508

Solid Epoxy Resin

Description D.E.R.[™] 6508 Solid Epoxy Resin has been developed for high-performance, fusion bonded epoxy coatings for demanding functional coating applications. It also has excellent chemical and corrosion resistance coupled with outstanding heat performance.

Introduction D.E.R. 6508 Epoxy Resin is a 2-functional epoxy resin which has been chemically modified to allow the formulation of highly crosslinked, heat-resistant systems capable of withstanding temperatures in excess of 160°C. Unlike other resins used in high performance applications, D.E.R. 6508 Resin achieves an excellent balance of properties using commonly available, commercial crosslinkers and normal processing conditions.

In addition, D.E.R. 6508 Solid Epoxy Resin is compatible with bisphenol A and novolac-modified epoxy resins, allowing the formulation of systems having an optimized balance of mechanical and thermal properties while still providing good corrosion resistance to a wide range of chemicals.

Typical Applications This product is suitable for use in powder coatings.

Typical Properties

Property ⁽¹⁾	Value	Method
Epoxy Equivalent Weight (g/eq)	380 – 420	ASTM D-1652
Epoxy Percentage (%)	10.2 – 11.3	ASTM D-1652
Epoxy Group Content (mmol/kg)	2380 – 2630	ASTM D-1652
ICI Melt Viscosity @ 150°C (mPa·s)	2800 – 4200	ASTM D-4287
Softening Point (°C)	95 – 105	ASTM D-3104
Shelf Life (Months)	24	

(1) Typical properties, not to be construed as specifications.

Typical Clearcoat Formulation

Component	Formulation 1 (pbw)	Formulation 2 (pbw)
D.E.R. 6508 Epoxy Resin	100	100
D.E.H. [™] 85 Epoxy Curing Agent	-	52.6
DICY	4.4	-
2-methylimidazole	0.3	0.3
Modaflo ^{**} 2000 flow modifier	0.6	0.6

^{**} Trademark of Solutia Inc.

Product Performance in Formulated Clearcoat

Properties as Formulated	Formulation 1	Formulation 2
Gel Time @ 180°C (sec)	53	45
T _g of Coating (°C)	152	127
Impact Resistance (in-lbs)		
Forward	50	160
Reverse	32	160
Acetone Double Rubs	>200	100
Cure Schedule @ 230°C	6 Minutes	6 Minutes

Product
Performance in
Filled Systems

Component	Formulation 1 (pbw)	Formulation 2 (pbw)	Formulation 3 (pbw)
D.E.R.™ 6508 Epoxy Resin	77.6	46.6	50.4
D.E.R. 642U Epoxy Resin		31.0	
Casamid*** 783 Curing Agent	2.4	2.4	
D.E.H.™ 85 Epoxy Curing Agent			29.2
2-methylimidazole			0.4
Titanium Dioxide	5	5	5
Barium Sulphate	14	14	14
BYK**** 360P acrylate additive	1	1	1
Properties as Formulated			
Gel Time @ 180°C (sec)	72	58	33
Tg of Coating (°C)	161	143	126
Impact resistance (in-lbs)			
Forward	50	100	160
Reverse	50	50	160
Flexibility, 6 mm panels	15°	30°	50°
Cure Schedule @ 220°C	3 Minutes	3 Minutes	3 Minutes

*** Trademark of Thomas Swan & Company, Ltd.

**** Trademark of Byk-Gulden Lomberg Chemische Fabrik GmbH.

Safety and
Handling

The Dow Chemical Company provides its customers with a product specific Material Safety Data Sheet (MSDS) or Safety Data Sheet (SDS) to cover potential health effects, safe handling, storage, use and disposal information. Dow strongly encourages its customers to review the MSDS or SDS on its products and other materials prior to their use.

This low molecular weight solid epoxy resin is supplied as solid flakes in 25 kg polyethylene bags and should retain its chemical properties for a period of at least 24 months. For further handling information consult the Dow brochure entitled, *DOW Epoxy Resins Product Stewardship Manual, Safe Handling and Storage*, Form No. 296-00312 and the Dow technical bulletin, *Product Coding, Shelf-life and Storage Stability*, Form No. 296-01657.

Product
Stewardship

The Dow Chemical Company has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis of our Product Stewardship philosophy by which we assess the health and environmental information on our products and then take the appropriate steps to protect employee and public health and the environment. The Dow Chemical Company has enduring commitments to Responsible Care® in the management of chemicals worldwide. Our Product Stewardship program rests with every individual involved with Dow products from the initial concept and research to the manufacture, sale, distribution, and disposal of each product.

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D.E.R. 6508 Solid Epoxy Resin

Form No. 296-01357-0109X-TD

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Dow will not knowingly sell or sample any product or service ("Product") into any commercial or developmental application that is intended for:

- (a) permanent (long term) contact with internal body fluids or internal body tissues. Long term is a use which exceeds 72 continuous hours;
- (b) use in cardiac prosthetic devices regardless of the length of time involved (cardiac prosthetic devices include, but are not limited to, pacemaker leads and devices, artificial hearts, heart valves, intra-aortic balloons and control systems and ventricular bypass assisted devices);
- (c) use as a critical component in medical devices that support or sustain human life; or
- (d) use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction.

Additionally, all Products intended for use in pharmaceutical applications must pass the then current Pharmaceutical Liability Guidelines. For additional information please contact your regular Dow representative.

Food Contact Applications

This modified solid epoxy resin will NOT comply with the U.S. Food, Drugs and Cosmetics Act as amended under Food Additive Regulation 21 CFR 175.300.

If your applications include food contact requirements, please contact your Dow representative for further information and forthcoming EC regulations.

Regulatory Status

This solid epoxy resin is regarded as a polymer according to Council Directive 92/32/EEC of 30 April 1992; the 7th Amendment of Council Directive 67/548/EEC, and is, therefore, exempt from the European Inventory of Existing Chemical Substances (EINECS). In addition, Dow confirms that the chemicals and intentional additives that form the basis of this product are listed on EINECS.

For more information on the regulatory status of this product, please refer to the MSDS or SDS for this product.

Chemical Inventory Listing

CAS Number ⁽¹⁾	60684-77-7	
Europe	EINECS	Polymer
United States	TSCA	60684-77-7
Canada	DSL	60684-77-7
China	SEPA	60684-77-7

(1) Please refer to the MSDS or SDS for this product to ensure this CAS number is consistent with the product(s) you use.

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