

Technical Data Sheet

EPON™ Resin 58901

Product Description

EPON™ Resin 58901 is an elastomer modified epoxy functional adduct formed from the reaction of EPON Resin 828 and a carboxylated butadiene-acrylonitrile elastomer. Elastomer content is approximately 5% by weight. The primary use of EPON 58901 is in the modification of conventional epoxy systems to increase flexibility and impart tack to provide early green strength to adhesive systems.

Benefits

- Broad compatibility with conventional bisphenol A epoxies
- High viscosity
- Imparts tack and early green strength into adhesive systems

Sales Specifications

Property	Value	Unit	Test Method
Acidity as KOH	0.2 max.	mg/g	ASTM D1639
Color	5 max.	Gardner	ASTM D1544
Epoxide Equivalent Weight	195 - 210	g/eq	ASTM D1652
Solids	99.0 min.	% wt.	ASTM D1259
Viscosity at 25°C	1000 - 5000	P	ASTM D2196

Typical Properties

Property	Value	Unit
Density at 25°C	9.3	lb/gal
Specific gravity	1.12	g/mL

Performance Properties

Table 1 / Effect of EPON™ Resin 58901 Concentration on Handling and Adhesive Properties of an Epoxy System

EPON Resin 58901
<https://www.hexion.com/en-US/product/epon-resin-58901>

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	Method	Units	A	B	C	D
EPON Resin 58901		pbw	100	80	60	40
EPON Resin 828		pbw	---	20	40	60
Triethylenetetramine		pbw	11.6	11.9	12.1	12.3
Handling Properties @ 25°C						
Resin Blend Viscosity		cP	338,000	208,000	132,000	70,000
System Viscosity		cP	27,500	20,200	13,600	6,800
Gel Time, 100 gram mass ¹		minutes	39	36	29	25
Cure Schedule						
		wk/°C	1/25	1/25	1/25	1/25
Cured State Properties ²						
Hardness		Shore D	85	86	85	85
Tensile Shear Strength	ASTM D638					
Aluminum/Aluminum ³		psi	1,165	1,060	1,175	1,105
Steel/Steel ⁴		psi	3,665	3,450	3,640	3,675
90° Peel Strength						
Aluminum/Aluminum ⁵		lbs/inch	10-11	10-11	10-11	10-11

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¹ Cured incompatible in mass.

² Determined at 23°C following one week cure at 25 °C.

³ Acid etched 2024T3 aluminum coupons.

⁴ Sandblasted cold-rolled steel coupons.

⁵ 5 mil aluminum foil bonded to 2024T3 backing-both acid etched.

Table 2 / Effect of EPON™ Resin 58901 Concentration on Handling and Adhesive Properties of an Epoxy System

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	Method	Units	A	B	C	D
EPON Resin 58901		pbw	100	80	60	40
EPON Resin 828		pbw	---	20	40	60
EPIKURE™ Curing Agent 3072		pbw	31.1	31.9	32.5	33.0
Handling Properties @ 25°C						
System Viscosity		cP	33,000	29,600	21,000	15,000
Gel Time, 100 gram mass		minutes	47	50	48	42
Cure Schedule		wk/°C	1/25	1/25	1/25	1/25
Cured State Properties ¹						
Hardness		Shore D	78	84	84	84
Tensile Shear Strength	ASTM D638					
Aluminum/Aluminum		psi	820	1,345	1,520	925
Steel/Steel		psi	3,113	3,280	3,080	3,108
90° Peel Strength						
Aluminum/Aluminum		lbs/inch	10-11	10-11	10-11	10-11

¹ Determined at 23°C following one week cure at 25 °C.

Table 3 / Effect of EPON™ Resin 58901 Concentration on Handling and Adhesive Properties of an Epoxy System

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	Method	Units	A	B	C
EPON Resin 58901		pbw	80	80	---
EPON Resin 828		pbw	20	20	100
EPIKURE Curing Agent 3484		pbw	24	---	---
Dicyandiamide		pbw	---	6	6
Sparmite (Calcium Carbonate)		pbw	100	100	100
B-Stage at 325°F, Tack ¹					
15 minutes		psi	---	Tack 7	Tack 2.5
20 minutes		psi	---	Tack 9	Tack 2.5
Cure Schedule		hrs/°F	2/200 2/300	1/350	1/350
Cured State Properties					
Hardness		Shore D	90	90	90
Tensile Shear Strength	ASTM D638				
Aluminum/Aluminum		psi	2,545	3,035	2,165
Steel/Steel		psi	4,550	5,206	5,010

¹ Tack tested on flexible aluminum with adhesive applied to both sides, B-staged, then made into a sandwich and fully cured. Tested in 180° T Peel.

General Information

Concentration of this modifier required for optimum performance is dependent upon such factors as resin type, curing agent type, and specific performance requirements.

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Typical handling and adhesive properties, when cured with a representative aliphatic amine, and accelerated amidoamine, a modified cycloaliphatic amine, and a non-MDA based aromatic amine are listed in Tables 1, 2 and 3.

Safety, Storage & Handling

Please refer to the MSDS for the most current Safety and Handling information.

Please refer to the Hexion web site for Shelf Life and recommended Storage information.

Exposure to these materials should be minimized and avoided, if feasible, through the observance of proper precautions, use of appropriate engineering controls and proper personal protective clothing and equipment, and adherence to proper handling procedures. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheet (MSDS) for these and all other products being used are understood by all persons who will work with them. Questions and requests for information on Hexion Inc. ("Hexion") products should be directed to your Hexion sales representative, or the nearest Hexion sales office. Information and MSDSs on non-Hexion products should be obtained from the respective manufacturer.

Packaging

Available in bulk and drum quantities.

Contact Information

For product prices, availability, or order placement, please contact customer service:

www.hexion.com/Contacts/

For literature and technical assistance, visit our website at: www.hexion.com

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