

An Emerald Performance Materials Company

ERISYS® GE-24

Polyglycol Diglycidyl Ether

CAS NO. 026142-30-3

EINECS - Polymer (Monomers Listed)

DESCRIPTION

ERISYS GE-24 is the diepoxide of an aliphatic polyglycol. Its low viscosity, relatively high equivalent weight and aliphatic structure suggest use as a diluent and/or flexibilizer in high viscosity, brittle epoxy formulations. As a diluent, GE-24 lowers viscosity for improved substrate wetting and/or higher filler loading. As a flexibilizer, ERISYS GE-24 improves elongation, peel strength, resistance to thermal cycling and impact. Depending on the concentration of GE-24, your formulation may experience some decrease in chemical and heat resistance.

TYPICAL PROPERTIES

Appearance	Clear, Clean
Viscosity @ 25°C, cps	60 - 70
Epoxide Equivalent Weight, g/eq	310 - 330
APHA Color, max	60
Residual Epichlorohydrin, max ppm	10
Hydrolyzable Chloride, max %	0.10
Weight per Gallon, @ 25°C lbs.	8.83 ± 0.1
Flash Point, °C (°F)	>150 (>300)
Solvent Content, max %	0.1 (volatiles)

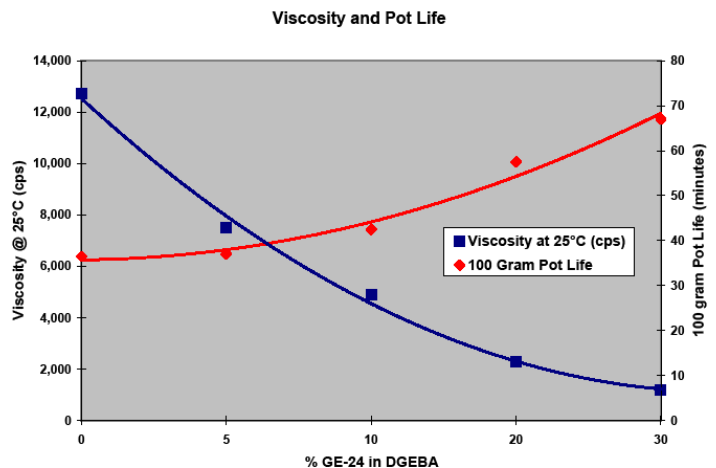
APPLICATIONS

- Casting
- Grouts
- Floor Coatings
- Electric Potting
- Adhesives
- Encapsulation

HANDLING PROPERTIES

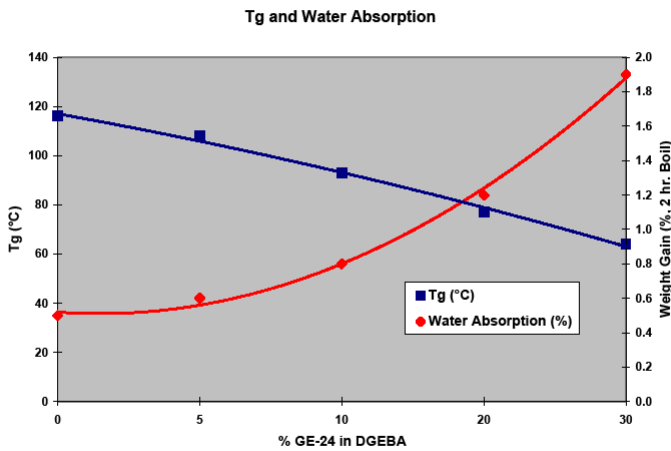
The use of ERISYS GE-24 will effect the handling and cured properties of resin formulations. The effects of these changes are shown below.

VISCOSITY AND POT LIFE

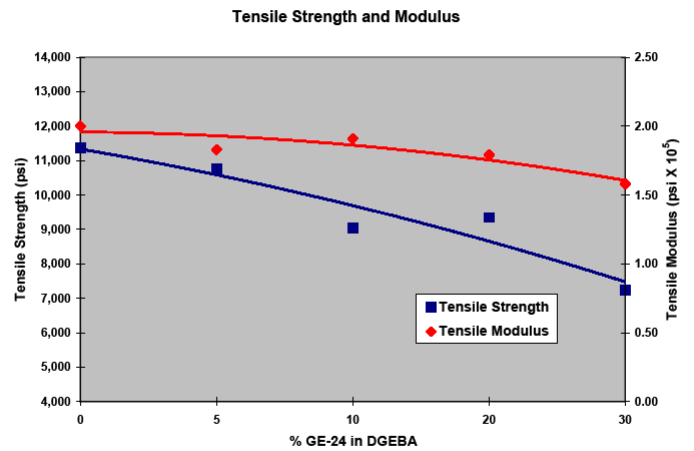


THE EFFECT OF ERISYS GE-24 ON THE CURED PROPERTIES OF LIQUID EPOXY RESIN (EEW 188) CURED WITH TETA

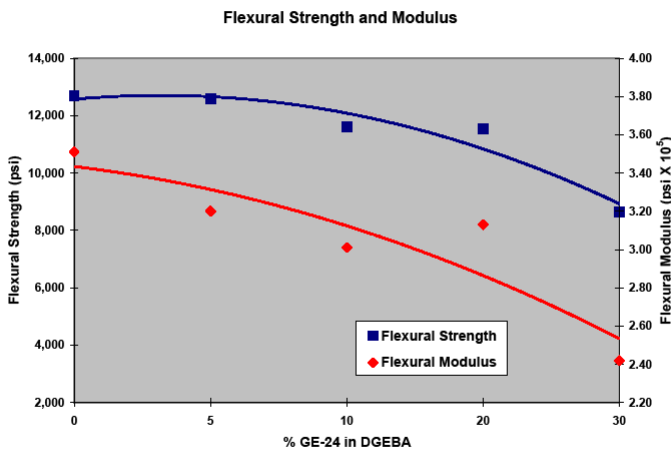
Tg and WATER ABSORPTION



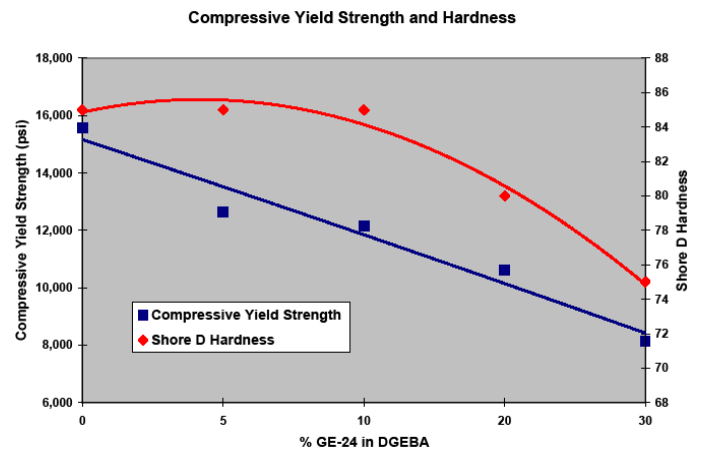
TENSILE PROPERTIES



FLEXURAL PROPERTIES



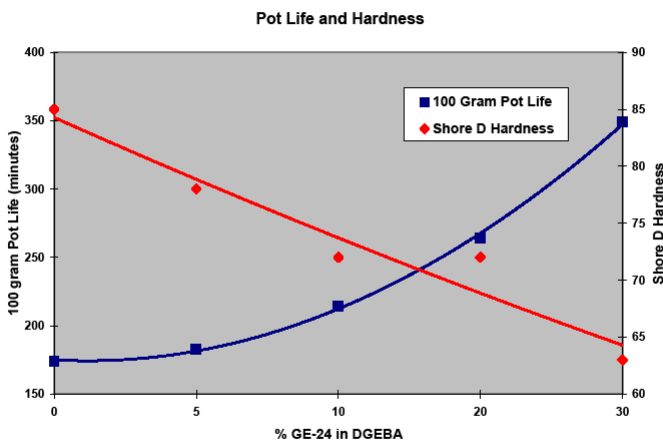
COMPRESSIVE STRENGTH and HARDNESS



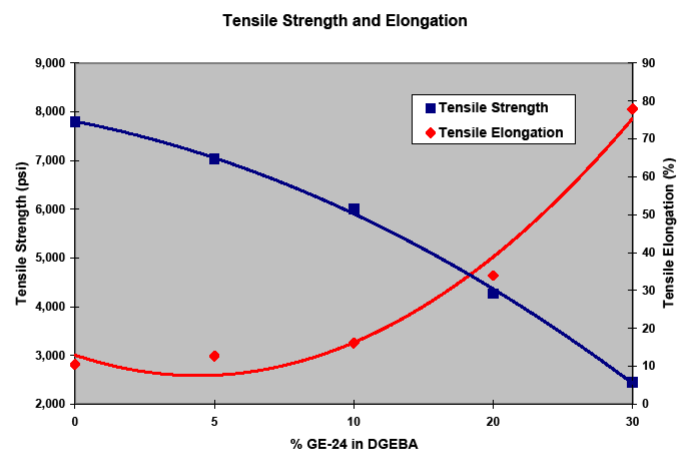
Physical Properties Report		ERISYS GE-24 in EPALLOY 7190			
Epalloy 7190	100	95	90	80	70
Erisys GE-24	0	5	10	20	30
TETA	13	12.7	12.4	11.9	11.4
Resin Viscosity @ 25°C (cps)	12700	7500	4900	2300	1175
100 gram gel time	37	37	43	58	67
Peak Exotherm					
Tensile Strength (psi)	11,357	10,752	9,049	9,345	7,239
Tensile Elongation (%)	8.1	9.6	6.2	8.5	13.3
Tensile Modulus (psi x 10 ⁵)	2.00	1.83	1.91	1.79	1.58
Flexural Strength (psi)	12,687	12,594	11,605	11,551	8,655
Flexural Modulus (psi x 10 ⁵)	3.51	3.2	3.01	3.13	2.42
Compressive Yield Strength	15,552	12,646	12,139	10,627	8,130
Compressive Modulus (psi x 10 ⁵)	2.29	2.19	1.99	1.89	1.73
Shore D Hardness	85	85	85	80	75
Tg (°C)	116	108	93	77	64
Water Absorption (28 days @ RT)	0.4	0.5	0.7	1.0	1.6
Water Absorption (2 hour boil)	0.5	0.6	0.8	1.2	1.9

THE EFFECT OF ERISYS GE-24 ON THE CURED PROPERTIES OF LIQUID EPOXY RESIN (EEW 188) CURED WITH ANCAMIDE 502 FOR A FLEXIBILIZED FORMULATION

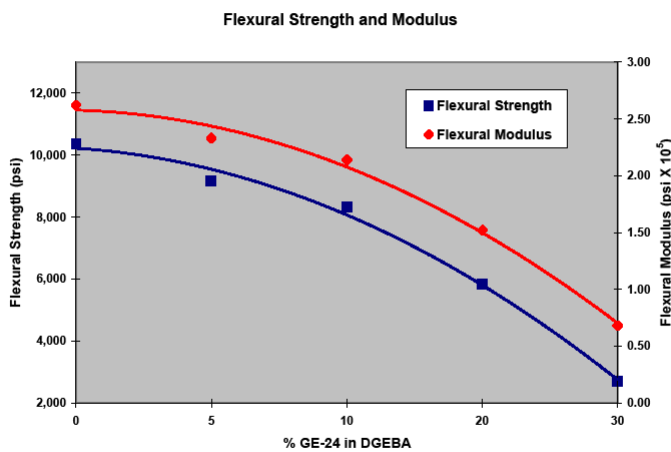
POT LIFE and HARDNESS



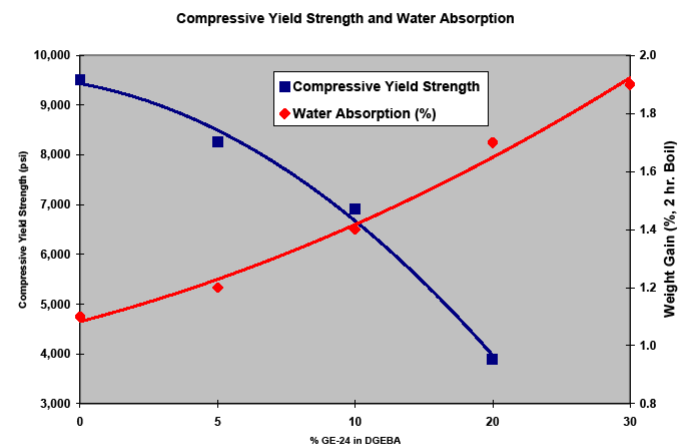
TENSILE PROPERTIES



FLEXURAL PROPERTIES



COMPRESSIVE STRENGTH and WATER ABSORPTION



Physical Properties Report	ERISYS GE24 with Ancamide 502				
Epalloy 7190	100	95	90	80	70
Erisys GE-24	0	5	10	20	30
Ancamide 502	48.6	47.6	46.6	44.7	42.7
Resin Viscosity @ 25°C (cps)	12,700	7,500	4,900	2,300	1,175
100 gram gel time (mins)	174	183	214	264	349
Tensile Strength (psi)	7,803	7,023	6,001	4,266	2,453
Tensile Elongation (%)	10.4	12.7	16.1	33.9	77.9
Tensile Modulus (psi x 10 ⁵)	1.41	1.32	1.14	0.82	0.35
Flexural Strength (psi)	10,370	9,152	8,337	5,833	2,685
Flexural Modulus (psi x 10 ⁵)	2.62	2.33	2.14	1.52	0.68
Compressive Yield Strength	9,511	8,255	6,913	3,893	x
Compressive Modulus (psi x 10 ⁵)	1.91	1.82	1.42	0.78	0.14
Shore D Hardness	85	78	72	72	63
Water Absorption (28 days @ RT)	0.9	1.2	1.5	1.9	2.5
Water Absorption (2 hour boil)	1.1	1.2	1.4	1.7	1.9

HEALTH & SAFETY PRECAUTIONS

ERISYS GE-24 is not a primary skin irritant or sensitizer. However, as with any epoxy material, irritation can result from repeated or prolonged contact. The symptoms of this irritation may appear as a mild reddening or a more pronounced rash. It is, therefore, important to avoid skin contact where possible. Chemical resistant gloves, full eye protection and protective clothing are recommended.

Refer to **CVC Thermoset Specialties** Safety Data Sheet on ERISYS GE-24 for additional safety and health information. The SDS is revised as new data becomes available.

PACKAGING & AVAILABILITY

ERISYS GE-24 is available in 55 gal. non-returnable steel drums (net weight 480 lbs.) and 5 gal. plastic pails (40 lbs. net). Bulk shipments are available with adequate lead-time. Drum inventory is available at most CVC regional warehouses. Check with your local sales representative for the shipping location nearest you.

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