

## Advanced Materials

# ERISYS® GE35<sup>#</sup>

### Low-Viscosity, Flexibilizing Epoxy Resin (Castor Oil Triglycidyl Ether)

#### DATA SHEET

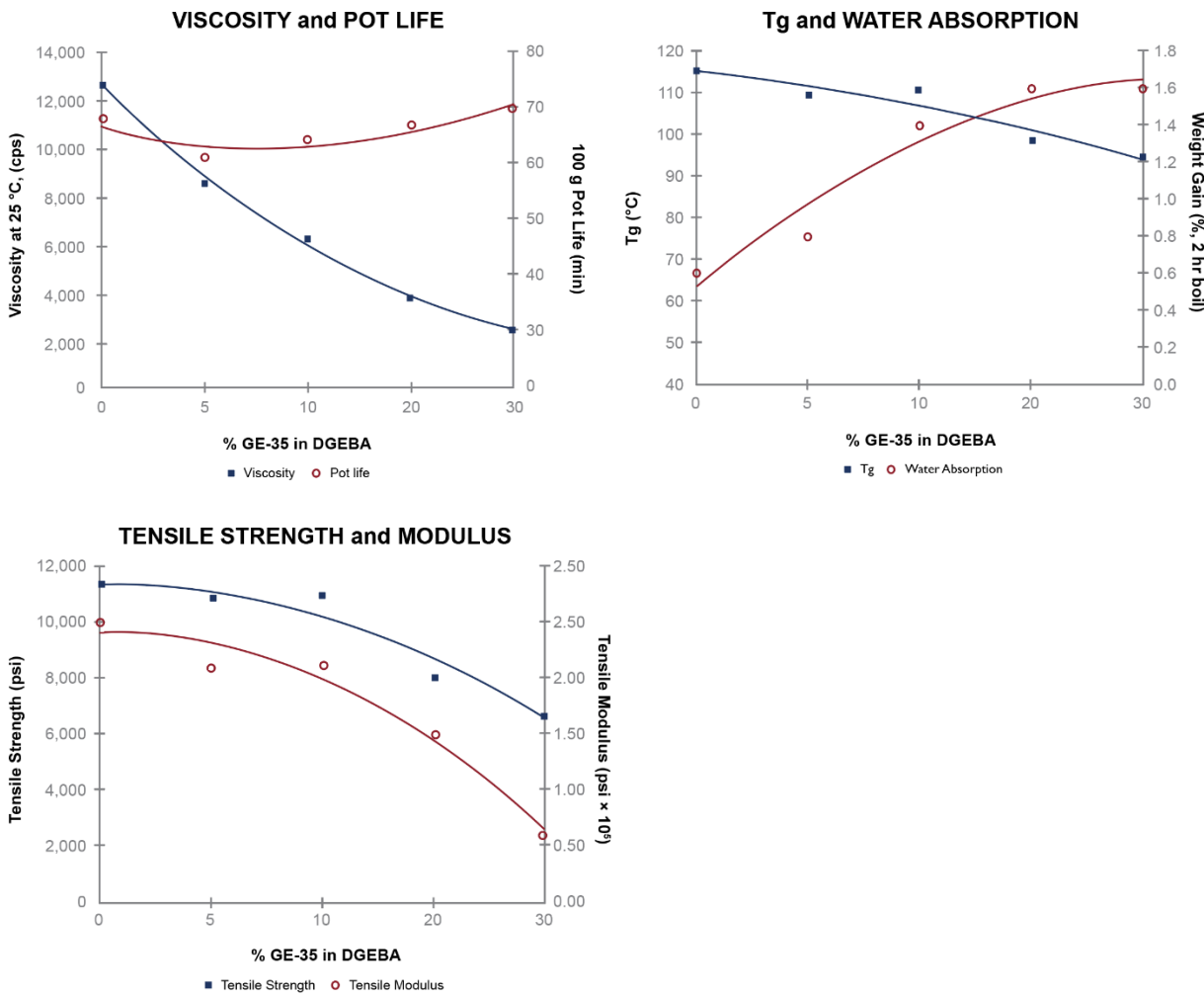
	ERISYS® GE-35 resin a triglycidyl ether of castor oil. It is a low-viscosity polyepoxide resin that imparts flexibility, impact resistance and thermal shock resistance to epoxy formulations.		
Applications	<ul style="list-style-type: none"><li>• Concrete patching compounds</li><li>• Floor coatings</li><li>• Adhesives</li><li>• Bridge decking compounds</li><li>• Joint sealants</li></ul>		
Properties	ERISYS® GE-35 resin is universally compatible with standard bisphenol A epoxy resins. It has a low vapor pressure and a mild non-offensive odor. Increasing the concentration of ERISYS® GE-35 resin in epoxy formulations reduces viscosity and lengthens pot life while imparting stress relief after cure.		
Key data	Specified key data		
	Appearance (visual)	clear	
	Epoxy Equivalent Weight (Titration)	550 - 650	[g/eq]
	Viscosity at 25 °C (Brookfield)	300 - 500	[mPa s]
	Gardner Color	<8	
	Water content (Karl fischer titration)	<0.1	[%]
	Specified key data are individually checked throughout and guaranteed.		
	Typical key data		
	Medium epoxy equivalent weight (ISO 3001)	600	[g/eq]
	Residual Epichlorohydrin, max	≤ 10	[ppm]
	Flash point	≥ 93	[°C]
	As-supplied form	liquid	
Odour	slight		
Shelf life (at storage temperature between 2 - 40 °C) (see expiry date on original container)	3 years		
Hazardous decomposition products (when disposed of in fire)	carbon monoxide, carbon dioxide and other toxic gases and vapours		
Disposal	regular procedures approved by local authorities		
Typical key data are spot checked; the values are typical for the product and are indicated for information only. The values are not guaranteed.			

<sup>#</sup> In addition to the brand name product denomination may show different appendices, which allows us to differentiate between our production sites: e.g. BD = Germany, US = United States, IN = India, CI = China, etc. These appendices are in use on packaging, transport and invoicing documents. Generally, the same specifications apply for all versions. Please address any additional need for clarification to the appropriate Huntsman contact.

# Performance Data

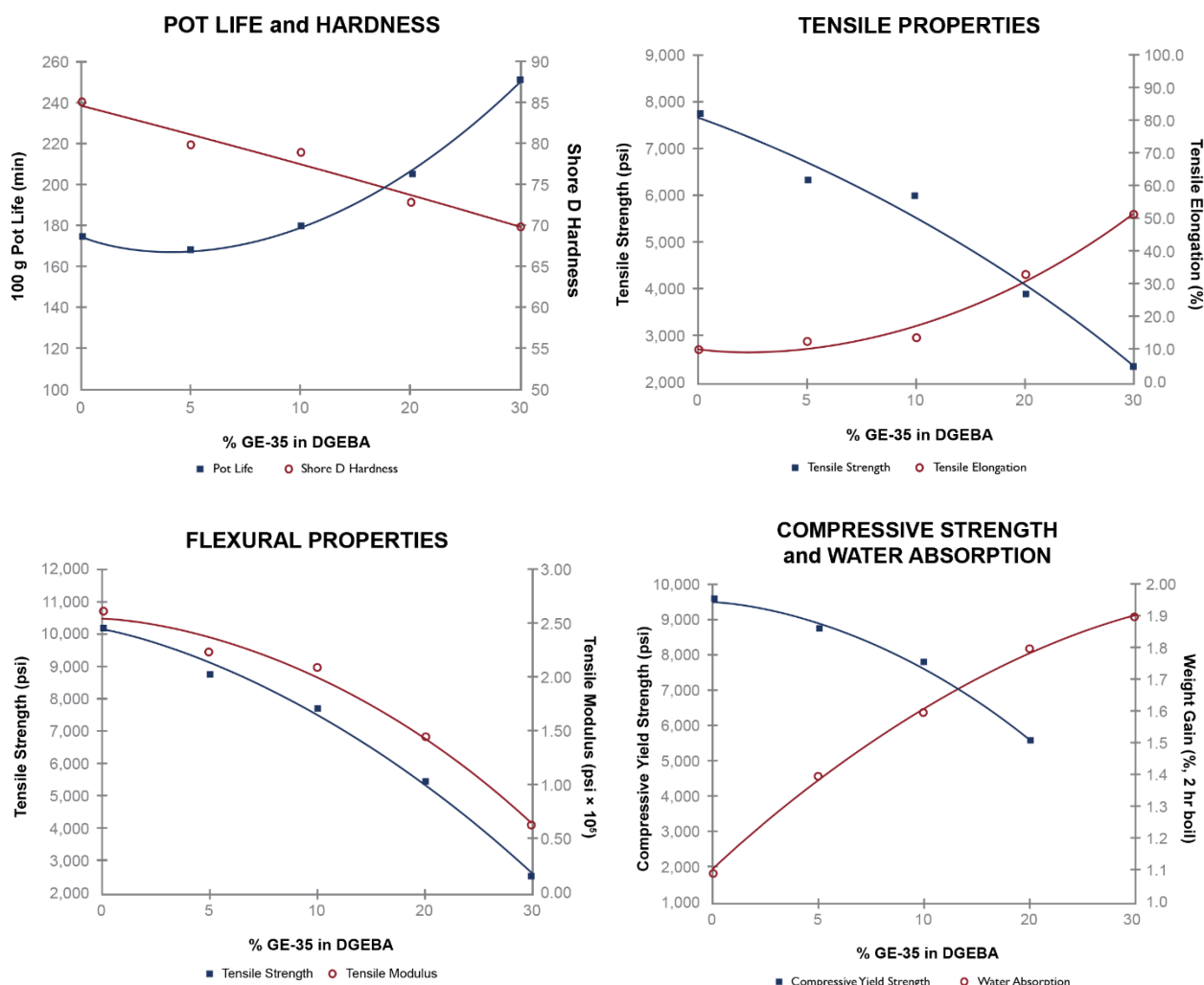
The use of ERISYS® GE-35 will affect the handling and cured properties of resin formulations. The effects of these changes are shown below.

The effect of ERISYS® GE-35 on the cured properties of ARALDITE® cured with ARADUR® HY 951.



Physical Properties Report		ERISYS® GE-35 in ARALDITE® GY 260			
ARALDITE® GY 260	100	95	90	80	70
ERISYS® GE-35	0	5	10	20	30
ARADUR® HY 951	13.0	12.5	11.8	10.9	10.0
Resin Viscosity at 25 °C (mPa.s)	12,700	8,500	6,250	3,750	2,375
100 g Gel Time (min)	48	41	44	47	50
Tensile Strength (MPa)	78	75	76	55	47
Tensile Elongation at break (%)	8.1	8.1	11.1	7.0	15.4
Tensile Modulus (MPa)	1379	1269	1276	1103	855
Flexural Strength (MPa)	87	96	92	82	59
Flexural Modulus (MPa)	2420	2392	2220	1896	1393
Compressive Yield Strength (MPa)	107	98	94	76	x
Compressive Modulus (MPa)	1579	1551	1365	1317	896
Shore D Hardness	86	85	85	82	74
Tg (°C)	116	109	111	98	95
Water Absorption (28 days at RT) %	0.7	0.7	0.8	1.0	1.3
Water Absorption (2 hours boil) %	0.6	0.8	1.4	1.6	1.6

The effect of ERISYS® GE-35 resin on the cured properties of ARALDITE® GY 260 cured with reactive Polyamidoamine (typically blend of ARADUR® 350 and ARADUR® 370) for a flexibilized formulation.



Physical Properties Report	ERISYS GE-35 in ARALDITE® GY 260				
ARALDITE® GY 260	100	95	90	80	70
ERISYS GE-35	0	5	10	20	30
Reactive Polyamidoamine blend	48.6	47.7	45.2	41.8	38.3
Resin Viscosity @ 25 °C (mPa.s)	12,700	7,900	5,500	3,200	1,400
100 g Gel Time (min)	174	160	167	186	220
Tensile Strength (MPa)	54	43	42	27	17
Tensile Elongation at break (%)	10.4	13.5	14.3	33.5	51.5
Tensile Modulus (MPa)	972	861	814	545	282
Flexural Strength (MPa)	71	60	54	38	17
Flexural Modulus (MPa)	1806	1544	1455	1000	448
Compressive Yield Strength (MPa)	66	59	52	35	x
Compressive Modulus (MPa)	1317	1303	1145	689	386
Shore D Hardness	85	80	79	73	70
Water Absorption (28 days @ RT) %	0.9	1.3	1.4	1.8	1.9
Water Absorption (2 hours boil) %	1.0	1.4	1.6	1.8	1.9

<b>Storage</b>	ERISYS® GE35 should be stored in a dry place, preferably in the sealed original container, at temperatures between 2 and 40 °C. The product should not be stored exposed to direct sunlight.
<b>Handling precautions</b>	Mandatory and recommended industrial hygiene procedures should be followed whenever our products are being handled and processed. For additional information please consult the corresponding product safety data sheets and the brochure "Hygienic precautions for handling plastics products".

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