

Advanced Materials

ERISYS® GS 120

Specialty components

DATA SHEET

Dimer Acid Diglycidyl Ester, reactive diluent for epoxy resins

Applications

ERISYS® GS-120 is the diepoxide of a long chain aliphatic dimer acid. GS-120 is expected to find utility as a reactive additive which imparts a degree of flexibility to normally rigid epoxy systems. The low viscosity of GS-120 will reduce the viscosity of your formulation, allowing for increased filler loading and improved handling. ERISYS® GS-120 will increase toughness and tensile elongation and improve impact and thermal shock resistance. Improvements in tensile shear and peel adhesion will also be realized. These benefits are achieved, however, with some sacrifice in elevated temperature performance and chemical resistance.

- Floor coatings
- Adhesives
- Potting compounds
- Laminating
- Filament winding
- Grouts
- Joint Sealants

Properties

ERISYS® GS-120 is typically used as a flexibilizing diluent with liquid DGEBA resins such as ARALDITE® GY260.

Key data

Specified key data

Appearance (visual)	clear liquid	
Colour (Gardner)	≤ 9	
Water content (Karl Fischer titration)	< 0.1	[%]
Epoxy equivalent (Titration)	390 - 470	[g/Eq]
Viscosity at 25 °C (Brookfield)	400 – 900	[mPa s]
Solvent content	< 0.1	[%]

Specified key data are individually checked throughout and guaranteed.

Typical key data

Medium epoxy equivalent composition (ISO 3001)	430	[g/Eq]
Flash point	>93	[°C]
Easily Hydrolysable Chloride	<0.3	%
Epichlorohydrin max	50	ppm
As-supplied form	liquid	
Odour	slight	
Shelf life (at storage temperature between 2 - 40 °C) (see expiry date on original container)	several years	

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.

Hazardous decomposition products
(when disposed of in fire)

Disposal

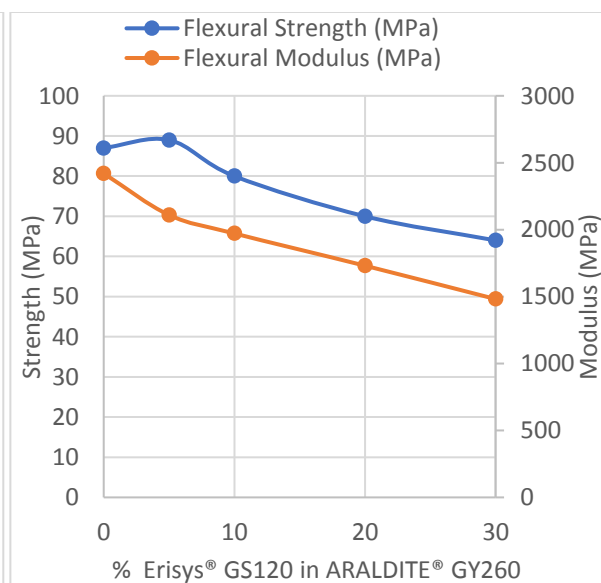
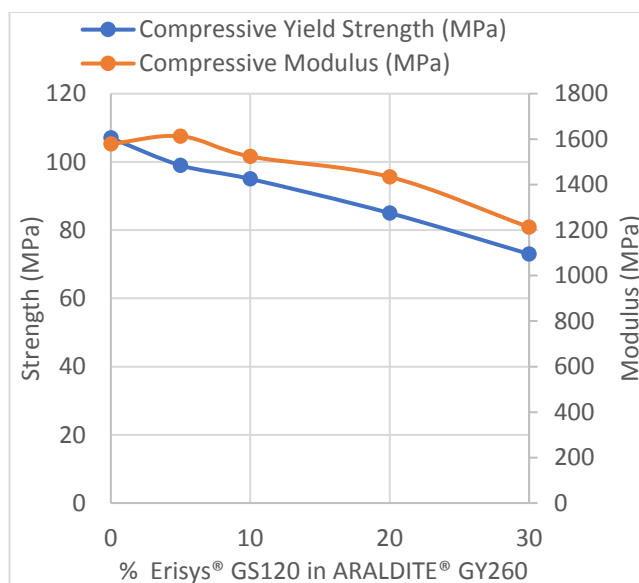
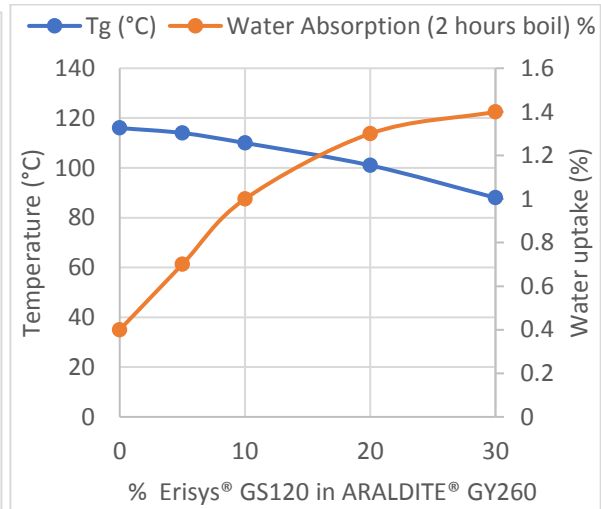
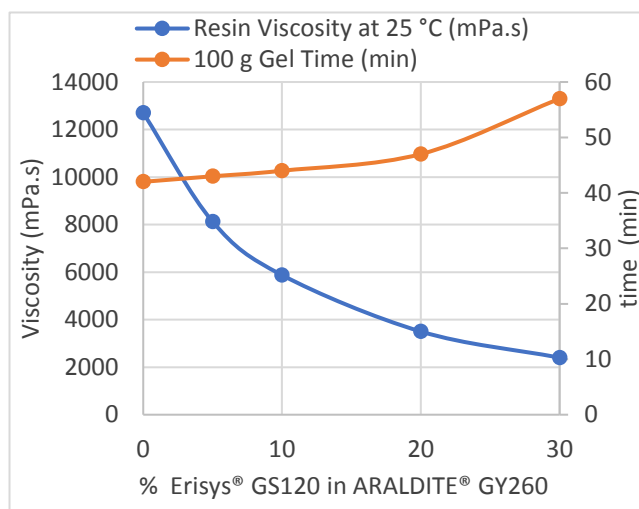
carbon monoxide, carbon
dioxide, nitrogen oxides and
other toxic gases and vapours
regular procedures approved by
local authorities

Typical key data are spot checked; the values are typical for the product and are indicated for information only. The values are not guaranteed.

Performance Data

The use of ERISYS® GS 120 will affect the handling and cured properties of resin formulations. The effects of these changes are shown below.

The effect of ERISYS® GS 120 on the cured properties of ARALDITE® cured with ARADUR® HY 951.



Physical Properties Report		ERISYS® GS120 in ARALDITE® GY 260			
ARALDITE® GY 260	100	95	90	80	70
ERISYS® GS120	0	5	10	20	30
ARADUR® HY 951	13.0	12.6	12.3	11.6	10.9
Resin Viscosity at 25 °C (mPa.s)	12,700	8,125	5,875	3,500	2,400
100 g Gel Time (min)	42	43	44	47	57
Tensile Strength (MPa)	78	63	62	61	50
Tensile Elongation at break (%)	8.1	6.8	6.1	8.8	13.4
Tensile Modulus (MPa)	1379	1241	1269	1096	938
Flexural Strength (MPa)	87	89	80	70	64
Flexural Modulus (MPa)	2420	2110	1972	1731	1482
Compressive Yield Strength (MPa)	107	99	95	85	73
Compressive Modulus (MPa)	1579	1613	1524	1434	1213
Shore D Hardness	85	83	81	83	81
Tg (°C)	116	114	110	101	88
Water Absorption (28 days at RT) %	0.3	0.7	0.8	1	1.1
Water Absorption (2 hours boil) %	0.4	0.7	1.0	1.3	1.4

Storage

ERISYS® GS 120 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.

Handling precautions

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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