Tooling & Composites

Temporary Technical Data Sheet
Issued 12/2006

Biresin® CR82

Composite resin system

1.1 Description of system

- **Biresin® CR82** resin
- Hardeners with different reactivity: **Biresin® CH80-1, Biresin® CH80-2, Biresin® CH80-6, Biresin® CH80-10**
- Uniform mixing ratio of 100 : 27
- The reactivity can be adapted by mixing the hardeners.

1.2 Application

- For wet lay-up, pultrusion and filament winding processing
- Specially for applications when curing temperatures of ≥ 75 °C can not be implemented

1.3 Properties

- Because of optimized mixed viscosity good impregnation and good non draining properties
- Glass transition temperatures up to 80°C dependent on curing conditions

1.4 Physical Data of Individual Components (approx.-values)

		Resin	Hardener			
		Biresin® CR82	**Biresin® CH80-1**	**Biresin® CH80-2**	**Biresin® CH80-6**	**Biresin® CH80-10**
Description		translucent	colourless to yellowish			
Viscosity, 25°C	mPas	1,600	50	45	< 10	< 10
Density, 25°C	g/ml	1.11	1.00	0.99	0.95	0.95

2.1 Processing Conditions of Resin-Hardener-Mixtures

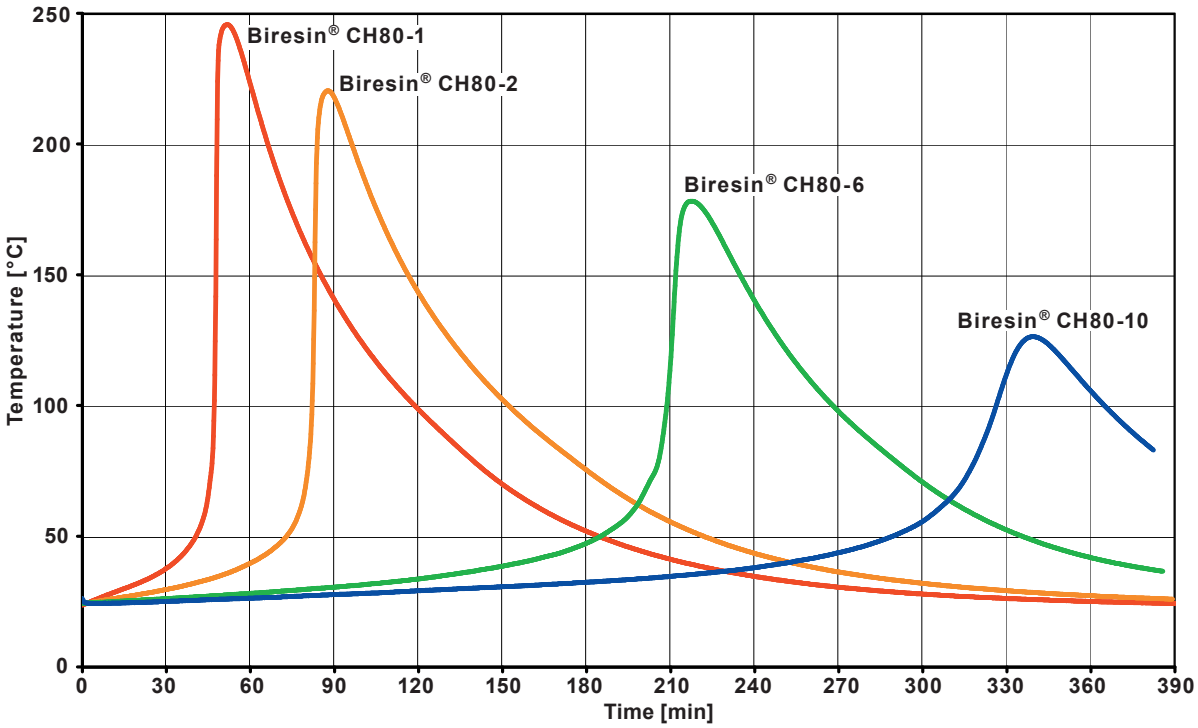
Biresin® CR82 resin	with hardener	**Biresin® CH80-1**	**Biresin® CH80-2**	**Biresin® CH80-6**	**Biresin® CH80-10**
Mixing ratio	in parts by weight	100 : 27			
Potlife, 100 g / RT, approx. values	min	30	60	180	300
Mixed viscosity, 25°C	mPas	740	600	400	390

2.2 Processing

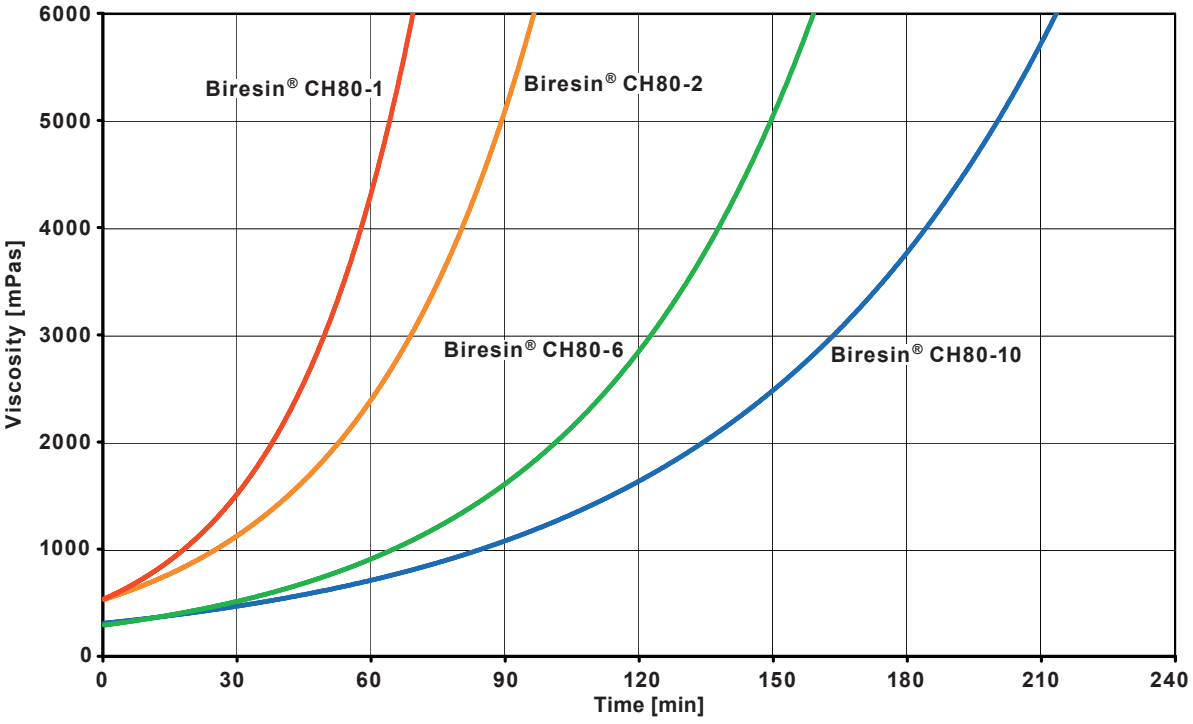
- The material and processing temperatures should be 18 - 25°C and must not fall below 10°C.
- Higher temperatures results in lower mixed viscosity.
- The potlife is halved by a 10°C increase in temperature.
- With the hardeners **Biresin® CH80-1** and **Biresin® CH80-2** a room temperature curing is possible.
- With the hardeners **Biresin® CH80-6** and **Biresin® CH80-10** a curing at slightly elevated temperature is necessary.
- To clean brushes or tools immediately Sika Reinigungsmittel 5 is recommended.

Tooling & Composites

2.3 Development of Exotherm of Biresin® CR82-Resin-Hardener-Mixtures, 100 g / RT, insulated,



2.4 Development of Viscosity of Biresin® CR82-Resin-Hardener-Mixtures, 25°C



3. Mechanical Data

3.1 Neat resin specimen (approx. values after 12 h / 80°C)

Biresin® CR82 resin		with hardener	**Biresin® CH80-1**	**Biresin® CH80-2**	**Biresin® CH80-6**	**Biresin® CH80-10**
Density	ISO 1183	g/cm³	1.15	1.15	1.14	1.14
Shore hardness	ISO 868	-	D 85	D 85	D 85	D 85
Flexural E-Modulus	ISO 178	MPa	2,800	2,800	2,900	2,800
Tensile E-Modulus	ISO 527	MPa	2,900	2,900	2,900	2,900
Flexural strength	ISO 178	MPa	120	123	127	118
Compressive strength	ISO 604	MPa	107	110	110	110
Tensile strength	ISO 527	MPa	78	78	84	82
Elongation at break	ISO 527	%	6.1	6.5	6.4	6.2
Impact resistance	ISO 179	kJ/m²	68	70	55	56

3.2 Neat resin specimen (approx. values after 14 d / RT)

Biresin® CR82 resin		with hardener	**Biresin® CH80-1**	**Biresin® CH80-2**	**Biresin® CH80-6**	**Biresin® CH80-10**
Density	ISO 1183	g/cm³	1.15	1.15	1.14	1.14
Shore hardness	ISO 868	-	D 83	D 83	D 83	D 83
Flexural E-Modulus	ISO 178	MPa	3,300	3,400	3,200	3,200
Tensile E-Modulus	ISO 527	MPa	3,500	3,500	3,400	3,400
Flexural strength	ISO 178	MPa	120	111	104	103
Compressive strength	ISO 604	MPa	121	120	113	119
Tensile strength	ISO 527	MPa	67	69	64	56
Elongation at break	ISO 527	%	2.1	2.2	2.1	1.8
Impact resistance	ISO 179	kJ/m²	21	21	26	24

4. Thermal Data

4.1 Neat resin specimen (approx. values after 12 h / 80°C)

Biresin® CR82 resin		with hardener	**Biresin® CH80-1**	**Biresin® CH80-2**	**Biresin® CH80-6**	**Biresin® CH80-10**
Heat distortion temperature	ISO 75B	°C	84	78	81	78
Glass transition temperature	DIN 53765	°C	83	79	80	78

Delivery

Individual components	**Biresin® CR82** resin	200 kg; 11,1 kg net
	Biresin® CH80-1 hardener	180 kg; 3.0 kg net
	Biresin® CH80-2 hardener	180 kg; 3.0 kg net
	Biresin® CH80-6 hardener	180 kg; 3.0 kg net
	Biresin® CH80-10 hardener	180 kg; 3.0 kg net

Tooling & Composites

Storage

- Minimum shelf life of Biresin® CR82 resin is 24 month and of Biresin® CH80-1 hardener, CH80-2 hardener, CH80-6 hardener and CH80-10 hardener is 12 month under room conditions (18 - 25°C), when stored in original unopened containers.
- Containers must be closed tightly immediately after use to prevent moisture ingress. The residual material needs to be used up as soon as possible.

Precautions

For information and advice on the safe handling and storage of products, users should refer to the current Safety Data Sheet containing physical, ecological, toxicological and other safety related data.

Disposal considerations

Product
Recommendations: Must be disposed of in a special waste disposal unit in accordance with the corresponding regulations.
Packaging
Recommendations: Completely emptied packagings can be given for recycling. Packaging that cannot be cleaned should be disposed of as product waste.

Sika Deutschland GmbH
Stuttgarter Str. 139
D - 72574 Bad Urach
Germany

Tel.: +49 (0) 7125 940 492
Fax: +49 (0) 7125 940 401
e-Mail: tooling@de.sika.com
Internet: www.sika.de
www.sika-tooling.com