Technisches Datenblatt

Lange Ritter
Faserverstärkte Kunststoffe

EPIKOTE RESIN MGS RIMR426

EPIKURE Curing Agent MGS RIMH433, RIMH434, RIMH435, RIMH936

Content

Characteristics

Application	Low viscous infusion resin system for carbon fibre infusion
Operational temperature	-30°C to + 120°C after heat treatment
Processing	At temperatures between 20°C and 40°C
Features	Pot life 30 – 240 min. at RT Low viscosity enables rapid infusion of carbon fibers at RT with fast cure and very good Tg development.
Storage	Shelf life of 24 month in originally sealed containers

Lange Ritter+
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Specifications

		Resin RIMR426
Density 1)	[g/cm³]	1.14 – 1.18
Viscosity 1)	[mPa.s]	500 - 900
Epoxy equivalent 1)	[g/equivalent]	158 - 172
Refractory index 1)	[-]	1.5530 – 1.5560

	CURING AGENT			
	RIMH433	RIMH434	RIMH435	RIMH936
Density 1) [g/cm³]	0.930 - 0.965	0.930 - 0.960	0.930 - 0.960	0.920 – 0.970
Viscosity 1) [mPa.s]	5- 40	5 – 40	5- 40	10 - 50
Refractory Index 1) [-]	1.4830 – 1.4860	1.4830 – 1.4860	1.4830 – 1.4860	1.4850 – 1.4920
Potlife 2) [min]	25 – 55	60 – 90	95 – 145	240 - 300
Amine Value 1) [mg KOH/g]	750 – 800	700 – 750	620 – 680	550 - 650
Tg midpoint [°C]	≥ 80	≥ 90	≥ 95	≥ 115

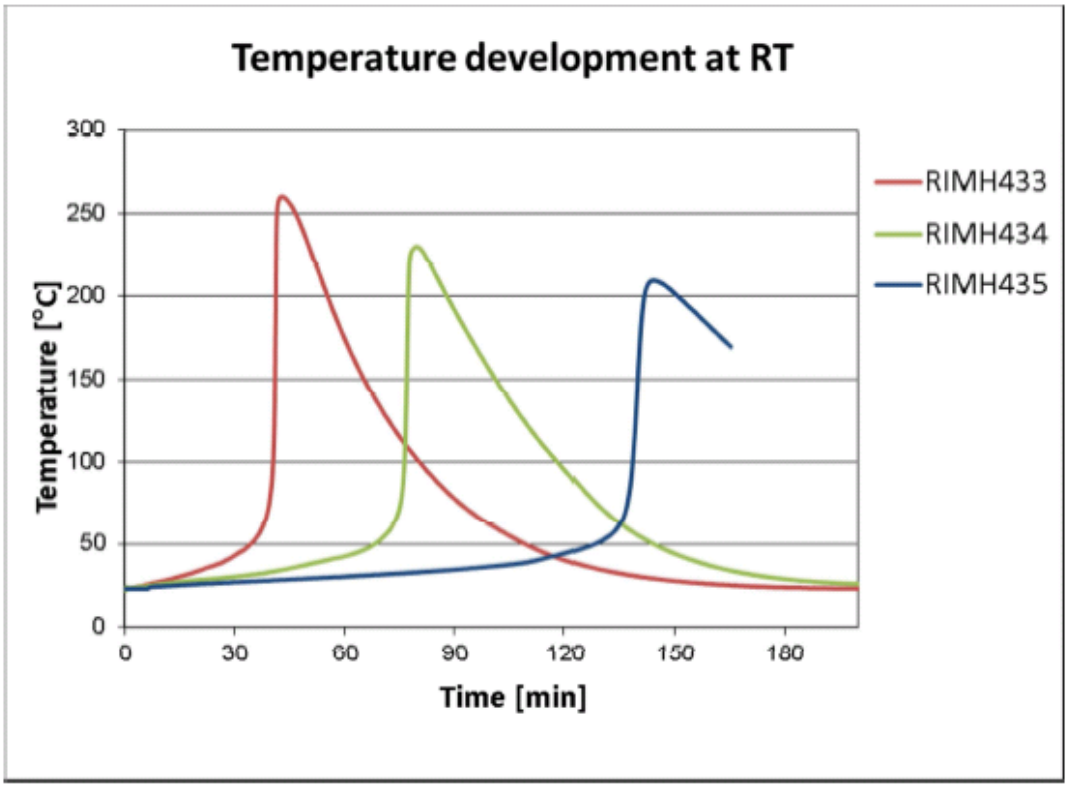
Measuring conditions: 1) measured at 25°C
2) measured at 23°C

Mixing ratio

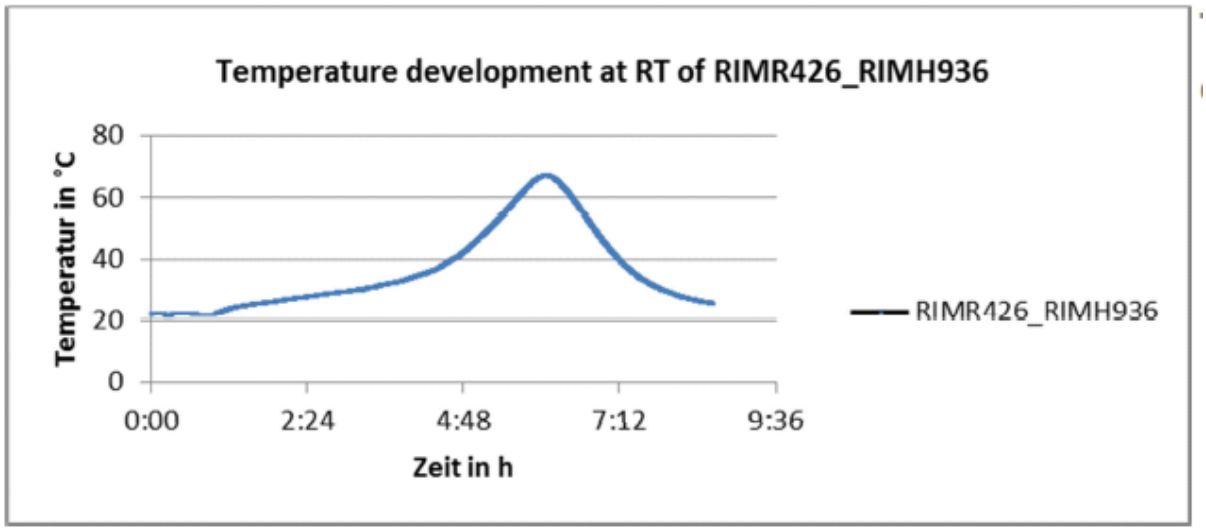
	RIMR426			
	RIMH433	**RIMH434**	**RIMH435**	**RIMH936**
Parts by weight	100 : 26 ± 2			
Parts by volume	100 : 32 ± 2			

The mixing ratio stated must be observed very carefully. Adding more or less curing agent will not result in a faster or slower reaction – but in incomplete curing which cannot be corrected in any way. Resin and curing agent must be mixed very thoroughly. Mix until no clouding is visible in the mixing container. Pay special attention to the walls and bottom of the mixing container

Temperature development



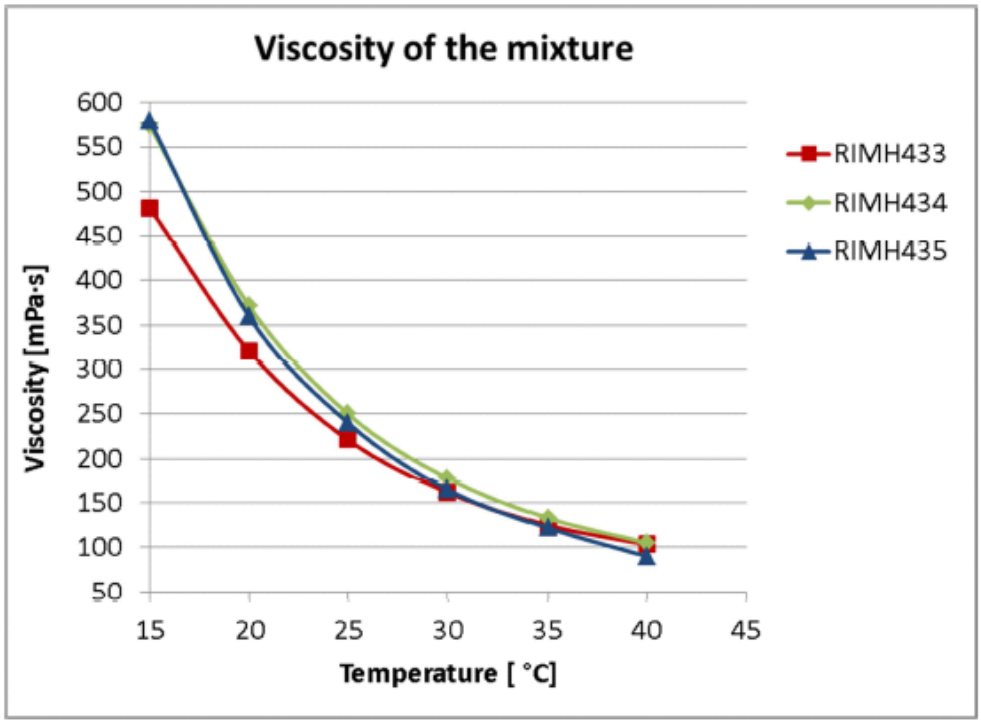
Measuring conditions: 100g at 23°C



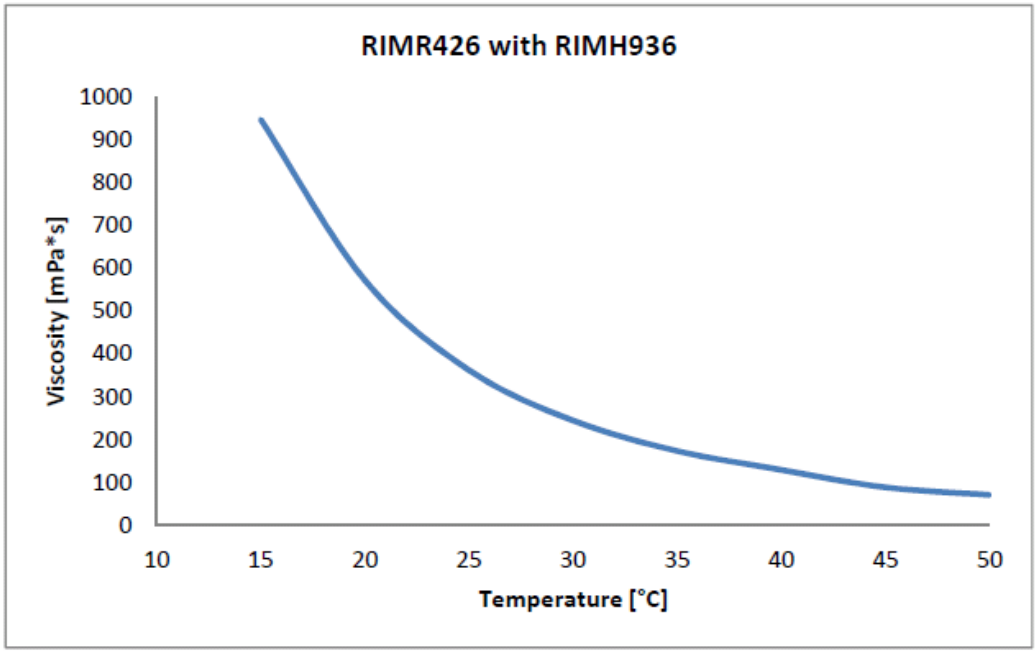
Measuring conditions: 100g at 23°C

The optimum processing (mixing) temperature is in the range of 20 to 35°C. Higher temperatures are possible, but will shorten pot life. A temperature increase of 10°C will halve the pot life. Water (e.g. high humidity or contained in additional fillers) causes an acceleration of the resin/curing agent reaction. Different temperatures and humidities during processing are not known to have significant impact on the mechanical properties of the cured product.

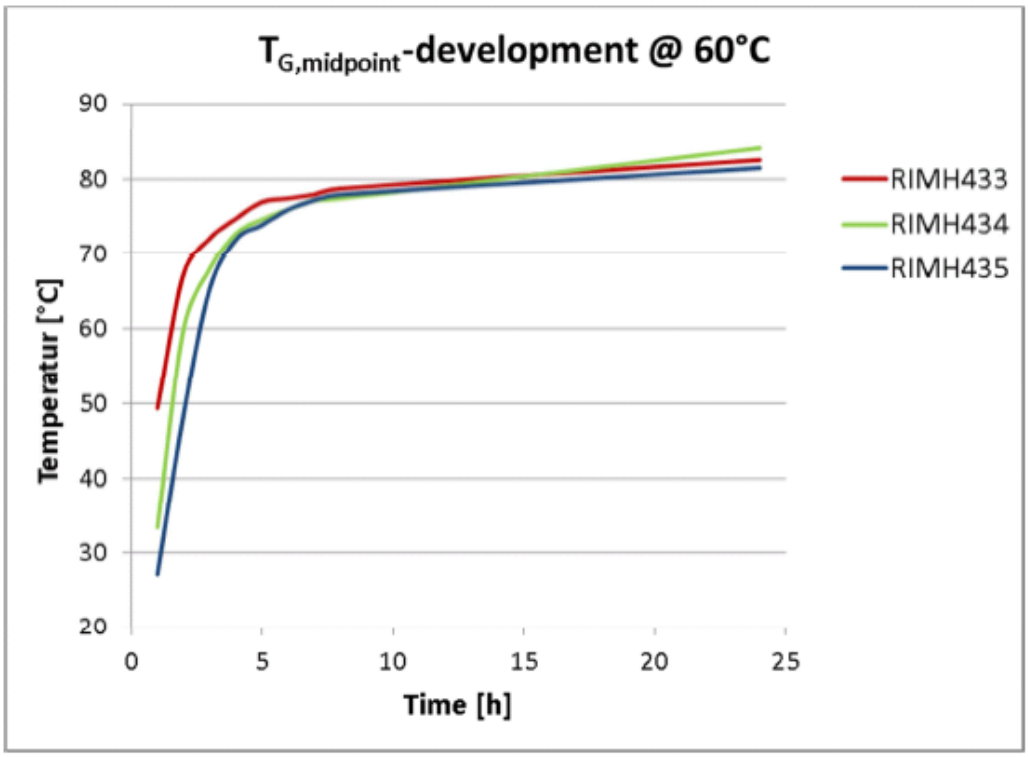
Do not mix large quantities – particularly of highly reactive systems – at elevated processing temperatures. As the heat dissipation in the mixing container is very slow, the contents will be heated up by the reaction heat (exothermic resin-curing agent reaction) rapidly. This can result in temperatures of more than 200°C in the mixing container, which may cause smoke-intensive burning of the resin mass.

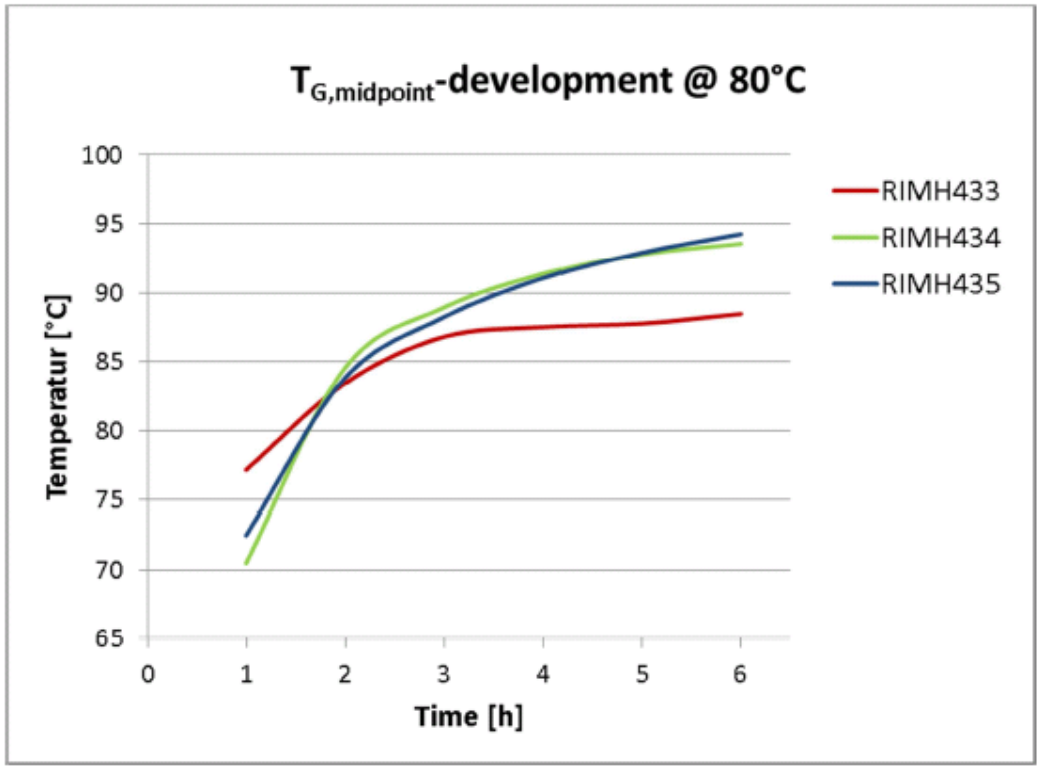


Measuring conditions: rotation viscosimeter, cone-plate configuration, measuring gap 0.1mm



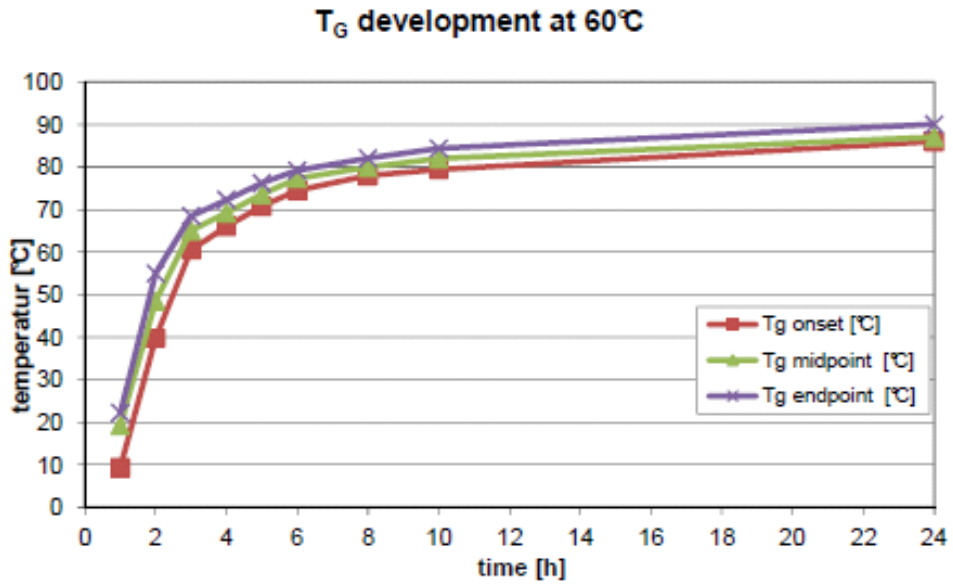
Measuring conditions: rotation viscosimeter, cone-plate configuration, measuring gap 0.1mm

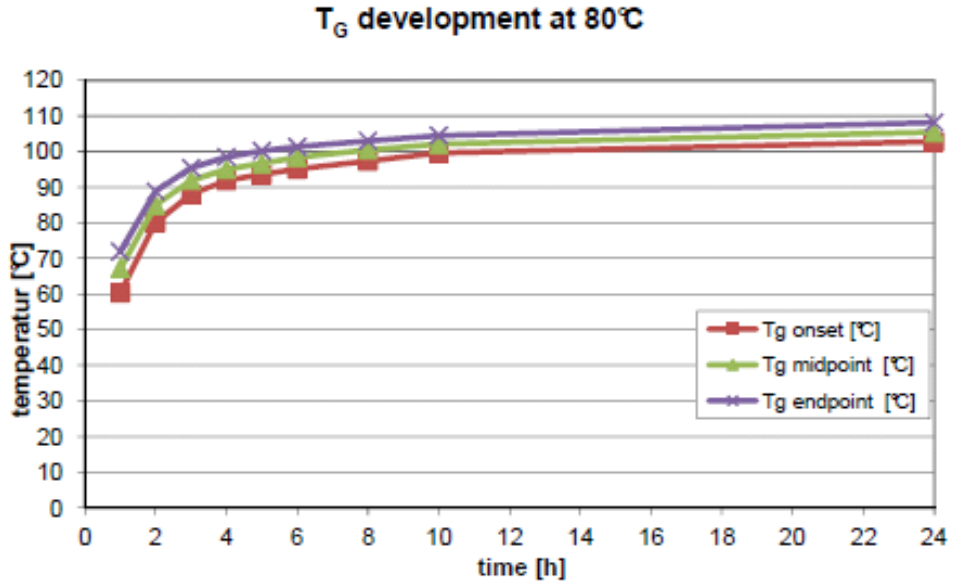




Measuring conditions: DSC, acc. DIN EN ISO 11357

EPIKOTE RESIN MGS RIMR426 + RIMH936





Measuring conditions: DSC, acc. DIN EN ISO 11357

Mechanical data RIMR 426 with curing agent RIMH433			
Curing		23°C/14d	80°C/10h
Flexural strength DIN EN ISO 178	[MPa]	106	104
Modulus of elasticity DIN EN ISO 178	[GPa]	3.3	2.7
Tensile strenght DIN EN ISO 527-2	[MPa]	69	65
Elongation at break DIN EN ISO 527-2	[%]	4	13

Mechanical data RIMR 426 with curing agent RIMH434			
Curing		23°C/14d	80°C/10h
Flexural strength DIN EN ISO 178	[MPa]	109	113
Modulus of elasticity DIN EN ISO 178	[GPa]	3.4	2.7
Tensile strenght DIN EN ISO 527-2	[MPa]	69	71
Elongation at break DIN EN ISO 527-2	[%]	2.4	13.5

Die Angaben auf diesem Merkblatt entsprechen dem heutigen Stand unserer Kenntnisse und sollen über die Produkte und deren Anwendungsmöglichkeiten informieren. Sie haben nicht die Bedeutung, bestimmte Eigenschaften oder deren Eignung für einen konkreten Einsatzzweck zuzusichern.