



Technical Data Sheet

NM Infusion 664

Utg: 2004-11-22

Ers: 2011-05-02

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General Description

NM Infusion 664 is an extremely low viscosity two pack epoxy system, suitable for all kind of infusion processes.

The system is based on the latest development within the epoxy technology, which means that low viscosity can be combined with a high T_G (glass transition temperature) even at room temperature curing.

Wetting and adhesive properties are very good to all kind of fibres.

NM Infusion 664 has a very low vapour pressure and can be considered as odourless. Vacuum causes no gas bubbles.

Processing Instructions

The mixture of components is very important, poor mixing may result in soft spots.

Mix thoroughly in a container, transfer the mixture into a clean container and mix further. Dosage should always be made on a scale with sufficient accuracy or a well calibrated dosage system.

NM Infusion 664 has a low reactivity and the viscosity increases very slowly during the infusion process. Large and complex structures can be infused without problems.

NM Infusion 664 is not suitable for open mould processes, due to the low viscosity. For such applications, **NM Laminering 625** or **NM Laminering 650** are recommendable.

Surface Preparation

Film forming release agent is recommended, for example Marbocote 220. Wax-based release agents are normally not recommended and test should be performed before use of these types.

Curing

Curing can take place at room temperature or as a post-curing at elevated temperature.

The low reactivity involves a long demoulding time at room temperature curing. T_G should as a minimum reach room temperature before demoulding.

T_G development at +23°C/73°F curing temperature can be seen in the table below typical properties.

An increase or decrease of the curing temperature with 10°C gives a halved resp. doubled demoulding time.

NM Infusion 664 should first cure at room-temperature (20 – 23°C / 68 – 73°F) for 16 - 24 hours before post-curing.

A typical curing cycle could be one day at 23°C / 73°F and then a post-cure at 50°C / 122°F for 16 hours, or alternatively four hours at 100°C / 212°F.

It is important that the temperature is ramped up slowly to the final curing temperature. Normal increases are between 0.1 - 0.3°C per minute. It is often a combination of thickness and laminate structure, which determines the speed. The optimum cure cycle must be determined for each case.

NM Infusion 664 can be stored for a longer period at room-temperature and be post-cured later.

Completion Work

A dry surface must be sanded to ensure adhesion to the next layer.

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Typical Properties

Resin NM Infusion 664
Hardener NM Härdare 650 B

Mixing ratio:

Resin – Hardener 100 – 35 by weight

Density: 1096 kg/m³
Viscosity: 0.275 Pa·s
Dry content: 100%
Potlife 100g 20°C: >180 minutes

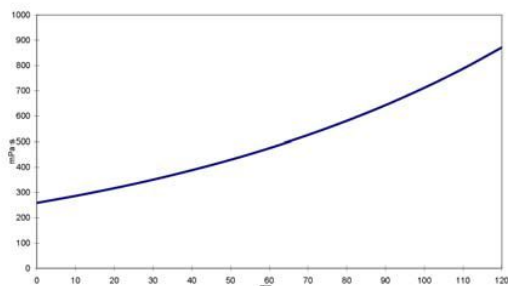
T_G development at +23°C/73°F

16 hours at 23°C/73°F: 3°C / 37.4°F
20 hours at 23°C/73°F: 12°C / 53.6°F
24 hours at 23°C/73°F: 22°C / 71.6°F
40 hours at 23°C /73°F: 38°C / 100.4°F

T_G development at different temperatures

12 hours, 35°C/95°F: 53°C / 127°F
7 days, 23°C/73°F: 55°C / 131°F
7 weeks, 23°C/73°F: 71°C / 160°F
16 hours, 50°C/122°F: 71°C / 160°F
16hours, 60°C/140°F: 81°C / 178°F
16hours, 60°C/140°F +
2hours, 100°C/212°F: 101°C / 214°F

Viscosity development at 25°C/77°F



Flexural strength

7 days, 23°C / 73°F: 91.5 MPa
16 hours, 50°C / 122°F: 116 MPa
16hours, 60°C / 140°F: 123 MPa

E-modulus

7 days, 23°C / 73°F: 3.3 GPa
16 hours, 50°C / 122°F: 2.9 GPa
16hours, 60°C / 140°F: 2.9 GPa

Tensile strength

7 days, 23°C / 73°F: 69 MPa
16 hours, 50°C / 122°F: 70 MPa
16hours, 60°C / 140°F: 72 MPa

Elongation at break

7 days, 23°C / 73°F 6.4 %
16 hours, 50°C / 122°F 6 %
16hours, 60°C / 140°F: 6 %

Water absorption

Sample cured 7 days at 23°C / 77°F
24hours: +0.13 %
7days: +0.43 %

Sample cured 16 hours at 50°C / 122°F
24hours: +0.09 %
7days: +0.37 %

Sample cured 16 hours at 60°C / 140°F
24hours: +0.11 %
7days: +0.40 %

Colour: Transparent
Normal packing:: 6.75 kg

Cleaning solvent: Acetone

Flexural strength and E-modulus according to ISO 178.
Tensile strength and elongation at break according to ISO 527.
Water absorption according to ISO 62.
T_G measured according to DSC 20K/min

Disclaimer

This product's technical specifications are developed by experience in field and laboratory by us.

We reserve the right to change products as well as data. Current data sheets are available at our website and with us. We cannot assume responsibility for use in areas that we do not know. The user shall always evaluate products for their intended use and we guarantee only the material properties. For every product we offer reference objects separately.

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