



# Technical Data Sheet

## NM FW 3070

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### General Description

**NM FW 3070** is an anhydride-free epoxy system for Filament Winding.

The system is easy to use and has a good wetting to fibres.

Due to the long opening time, larger works can be carried out without any major time pressure.

The viscosity and gel time of the system are completely controlled by the temperature in the epoxy bath.

Maximum operating temperature is  $T_G - 30^\circ\text{C}$ .

Life expectancy can be set to over 10 years.

### Application

The mixture of components is very important.

A poor mixing results in soft spots in the cured system.

Mix thoroughly in a vessel, transfer the mixture into a clean vessel and mix further. Dosage should always be done on a scale with sufficient accuracy.

### Release agents

We recommend film forming release agents such as Marbocote 220.

Wax-based release agents are generally not recommended. For this, trials must be done first.

### Curing

NM FW 3070, which has been cured in accordance with the following curing cycles, has a very good aging resistance.

For an operating temperature up to  $130^\circ\text{C}$ , the following curing cycle is recommended:

Ramp up to  $150^\circ\text{C}$  at about  $0.4^\circ\text{C} / \text{min}$ .

Then cure for four hours at  $150^\circ\text{C}$ .

This gives a  $T_G$  of  $160^\circ\text{C}$ .

### Post work

It is important to further treatment as laminating, filling, etc. occurs when the surface is still like a tacky tape. A dry surface has to be sanded to ensure adhesion to the next layer.

## Typical Properties

**Resin** NM FW 3070  
**Hardener** NM Härdare 510 B

### Mixing ratio

Resin – Hardener 100 – 26 by weight

*Density, 20°C:* 1100 kg/m<sup>3</sup>  
*Pot life 100g 20°C:* approx. 48 hours

### Viscosity

25°C:	2655 mPa·s
30°C:	1530 mPa·s
35°C:	800 mPa·s
40°C:	450 mPa·s
50°C:	230 mPa·s
60°C:	125 mPa·s

### Viscosity build up at +40°C

To 1500 mPa·s	23 hours
To 3000 mPa·s	30 hours

### Gel-time:

80°C:	310 minutes
100°C:	120 minutes
120°C:	60 minutes
140°C:	40 minutes
160°C:	20 minutes

*Tensile strength:* 77 MPa

*E-modulus [Tensile]:* 2.7 GPa

*Elongation at break:* 4.9 %

*T<sub>g</sub>:* Up to 160°C

*Colour:* Transparent

*Normal packing:* 6.3 kg

*Cleaning solvent:* Acetone

*Tensile strength, E-modulus and Elongation at break measured according to ISO 527*

*T<sub>g</sub> measured according with DSC 20K/min*

## Disclaimer

This product's technical specifications are developed by experience in field and laboratory by us. Fully cured will take place at seven days at +23°C and 50 % RF.

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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