CR MUF30 RESIN and MXF30 HARDENER

General properties

CR MUF-30 resin is a liquid melamine-urea formaldehyde resin. When used in conjunction with the MXF30 hardener, the adhesive complies with the SANS 10183-2 specification to produce finger-jointed timber.

The SANS 10183-2 classification

The system is certified as a **Service Class S3** adhesive, for use in exterior applications. It therefore imparts both water proof and water resistant properties to the glue-line.

Typical properties

Resin		Hardener	
pH	8.5 - 9.5	pH	acidic
Appearance	milky white	Appearance	clear
Brookfield viscosity (25°C)	300 – 1400cP		

Packaging and Storage

The following pack sizes are supplied:

- Resin - 225kg steel drums and 1100kg flow bins
- Hardener – 25kg containers, 200 kg plastic drums and 1000kg flow bins

The shelf-life of the CR MUF30 is 4 months when stored at 25°C. Due to ambient temperature variations, the shelf-life may be shorter.

The shelf life of the CR MXF30 is 12 months at 25°C – the expiry date at these conditions is 12 months from the date of manufacture.

Cleaning

Use cold soapy water. Alternatively, use a blend of methylated spirits and water.

Handling

Use in well ventilated areas.

Preparation of timber

Timber surfaces to be glued shall be machined just prior to the application of the adhesive. The profile shall comply with the specifications of SANS 10096 (Paragraphs 4.2 and 5.1). Surfaces shall be clean.

Assembly times

Assembly times are influenced by the prevailing climatic conditions in addition to the spread-rates. The following table provides a guide based on adhesive that is freshly mixed according to the recommended mixing ratios:

Ambient temperature (°C)	15	20	25	30	35
Maximum open assembly time (min)	25	15	10	5	3

Additional Information: Process for handling should the temperature be <3°C

The timber can be joined at temperatures <3°C (the joint strength being related to the interference fit). The timber cannot be disturbed until such time that:

- It reaches 3°C or more and subsequent to this it is maintained for a further 5 hours at 3°C or more.

Full cure time

Full cure is reached after 24hours

Post curing period associated with preservative treatment

It is compulsory that bonded material is left for a minimum of 7 days before preservative treatment can commence. An extended time may be required when colder climates prevail.

Group 1 application method - for application methods including

- Mechanical comb
- Finger profiled timber
- Nylon brush
- Gravity low pressure spray gun with 3mm nozzle
- Mixon or equivalent system with static mixer

Adhesive spread rates

Spread rates are influenced by various factors – temperature, humidity, type of timber and moisture content of the timber. The following spread rates are recommended:

- Single spread - 240 to 300g/m^2
- Double spread - 130 to 150 g/m^2

Mixing instructions

Accurately weigh the required mass of resin and hardener. Start mixing and ensure that the system is homogenous.

Low speed mechanical mixing is recommended.

Mixing guidelines (not relevant to mechanical applicators)

Hand Application

The following resin and hardener ratios are recommended for application at different temperatures

Temperature range (°C)	Mass of resin (g)	Mass of hardener (g)
3 - 9	1000	150
10 - 19	1000	130
20 and >	1000	50 - 110

Mechanical Application

The resin and hardener ratio for all temperature is fixed at:

Mass of resin (g)	Mass of hardener (g)
1000	140 - 170

Handling time

This adhesive yields rapid strength development. This allows for handling and machining after a few hours of curing dependant on plant operating procedures in addition to prevailing climatic conditions.

The following guideline can be used for timelines for adequate curing before timber can be disturbed, provided mixing ratios are adhered to:

Temperature range (°C)	Recommended mixing ratio (resin / catalyst)	Minimum time (hrs)
3 - 9	1000 / 150	5
10 - 19	1000 / 130	4
20 and >	1000 / 110	2
20 and >	1000 / 50	4

Pot life of mixed adhesive

The pot-life of the mixed adhesive at different temperatures is shown below. The results are for a 3kg batch of resin. The use of mechanical glue spreaders reduces the pot-life of the mix by approximately 15 - 20%.

The pot life for mechanical applicators is not applicable due to mixing at point of application.

POT LIFE DATA (not relevant to mechanical applicators)

Mass resin (g)	Mass catalyst (g)	Pot life (min)			
		5°C	15°C	21°C	35°C
1000	50	90	86	50	28
1000	100	44	38	30	not recommended
1000	110	41	35	29	not recommended
1000	130	34	29	26	not recommended
1000	150	31	26	25	not recommended

Group 2 application method – for a 1:1 application

The components are applied at 2 profiling heads with a profiled roller on each. Each component is pumped from a pan underneath the roller, to the top of the roller. An adjustable plate with the same profile as the roller is used to control the spread rate. The level of the pan is not critical as long as the pump does not run dry. Filters are used to remove any sawdust or chips from the product.

Adhesive spread rates

Spread rates are influenced by various factors – temperature, humidity, type of timber and moisture content of the timber. The following spread rates are recommended:

- 130 to 150 g/m^2 of resin to one face
- 130 to 150 g/m^2 of catalyst to the other face

Handling time

This system allows for handling and machining after a few hours of curing dependant on plant operating procedures in addition to prevailing climatic conditions.

The following guideline can be used for timelines for adequate curing before timber can be disturbed

Temperature range (°C)	Minimum time (hrs)
3 - 9	5
10 - 19	4
20 and >	2

Full cure is reached after 24 hours.

Post curing period associated with preservative treatment

A reduced (from the standard 7 days) time period for bonded material to be left, before treatment can commence, was tested. Material treated 36 hours after bonding, performed successfully.

The optimum time before treatment can commence is plant specific and may range from 36 hours to 7 days or more. Successful performance when a reduced time is used, will depend on factors such as climate (humidity and temperature), and type and characteristics (e.g. moisture) of the wood species being used. It is recommended that this time be evaluated with trials prior to being introduced into standard production.

An extended time may be required when colder climates prevail.

Contact Details

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This Technical Data Sheet supersedes all previous issues. Please destroy all previous copies.