MT-UF RESIN POWDER

TDS-UF-800

Application Areas:

Self-hardening urea-formaldehyde (UF) powder resin adhesive with integrated latent hardener and organic thickeners. Designed for bonding wood veneer (natural veneer, decor paper, HPL, CPL), plywood, chipboard, and MDF in warm and hot presses, also suitable for solid wood bonding, door manufacturing, and high-frequency (HF) curved press systems.

Features and Directions for Use:

Formulated with precisely dosed latent hardener and organic thickeners; no additional hardener required. Features exceptionally low free formaldehyde emissions (fully compliant with E1 and CARB standards). Prevents bleed-through and glue penetration on fine and porous veneers. Can be applied with spatula, hand roller, or automated glue spreaders on one side. For difficult or stiff veneers, the glue can be mixed with 10 to 20 % Mayer PVAc dispersion (MT-WB 400 D3) to enhance flexibility and tack. Can be coloured with water-based stains or mineral pigments free of alkali. Prepare mixture in non-metallic or stainless steel containers.

Mixing Ratio and Preparation (2:1 by Weight):

Mixing Ratio: 2 parts Powder Resin : 1 part Water by weight (e.g., 10 kg MT-UF Powder + 5 kg lukewarm water [18 – 22 °C], or 10 L powder + approx. 3 L water). Water content can be adjusted by ± 5 % depending on desired working viscosity. Mixing Procedure: Add approx. half of the water to the resin powder and stir until a smooth, lump-free paste is formed. Then gradually add the remaining water and mix thoroughly until a homogeneous, free-flowing glue is achieved.

Application and Processing Parameters:

Processing Parameter	Specification / Operational Value
Mixing Ratio (by weight)	2 : 1 (100 kg Powder Resin : 50 kg Water)
Pot Life at 20 °C	< 3 – 4 hours (at 15 °C: ~8-14 hours)
Minimum Pressing Temperature	20 °C (Cold and hot pressing methods)
Application Amount	100 – 150 g/m² (Foils/Laminates: 60-100 g/m², Typical: 135 ± 15 g/m²)
Open Assembly Time (20 °C)	approx. 10 – 15 minutes
Wood Moisture Content	6 – 10 %
Pressing Pressure	> 0.5 N/mm² (5 kg/cm²)
Water Resistance Class	DIN EN 204 C3 / D3 equivalent water-resistant durable joint

Pressing Temperature and Minimum Pressing Times:

Press Temperature (°C)	Minimum Pressing Time	Description & Application Type
15 °C	14 hours	Cold pressing at low room temperature
20 °C	180 minutes (~3 hours)	Standard cold block & curved press bonding
30 °C	65 minutes	Lukewarm press bonding
60 °C	16 minutes	Low-heat hot press bonding
70 °C	3 minutes (180 seconds)	Hot press veneer & panel lamination
80 °C	4 minutes (240 seconds)	Thick panel / solid wood bonding
100 °C	40 – 120 seconds	~40 s for 0.6 mm veneer; extend by 30-90 s per +1 mm thickness

Technical Data:

Technical Property	Specification Value
Chemical Base	Urea-formaldehyde (UF) powder resin with integrated latent hardener
Appearance / Color	Beige / Off-White Homogeneous Powder
Powder Bulk Density	approx. 610 g/l (0.61 g/cm³)
Resin Solids Content	approx. 70 % (100% reactive in cured matrix)
Viscosity (2:1 solution @ 20°C)	40,000 – 80,000 mPa·s (Brookfield)
pH Value (2:1 solution @ 20°C)	6.0 – 7.5
Formaldehyde Emission Class	E1 Class Compliant (Very Low Free Formaldehyde)

Performance Evaluation:



Cleaning, Packaging and Storage Conditions:

Cleaning: Machines and application equipment can be cleaned with cold or warm water immediately after use while wet. After cleaning, steel press platens should be treated with Mayer Release Agent to prevent rusting.
Storage: Store in properly closed original containers in a dry and cool place (15 – 25 °C). Protect from direct sunlight, humidity, and excessive heat. Higher temperatures and humidity reduce shelf life. Reseal opened bags tightly to prevent moisture absorption. Shelf Life: 12 months.
Packaging: Kraft paper bag with PE moisture-proof inner liner, 25 kg net.