

Ultra One D

PRODUCT DESCRIPTION

Ultra One is a single-coat low temperature cure powder coating mainly developed for Medium Density Fibreboard (MDF) and other similar types of engineered wood substrates.

The product gives the powder coated MDF surface an outstanding finish and helps to protect the coated surface from moisture and food stains.

The product is an environmentally friendly alternative to traditional surface coating technologies.

Application areas

This product is recommended for interior use only.

Typical application areas are MDF furniture, including:

- Kitchen cabinets
- Bathroom furniture
- Office furniture
- Home furniture
- Children's furniture
- Shop fittings

POWDER PROPERTIES

Property	Standard	Result
Specific gravity	Calculated	Typically $1.65 \pm 0.15 \text{ g/cm}^3$

Storage

Keep in a dry cool area. Storage time 6 months at maximum temperature $\leq 17 \text{ }^\circ\text{C}$. Maximum relative humidity 60 %. When transporting, the product must be kept at a temperature of $\leq 17 \text{ }^\circ\text{C}$.

APPLICATION

Pretreatment

The overall quality of the coating system is largely dependent on the type of MDF, the quality of the substrate preparation and the coating application line. Since there are many grades of MDF available in the market which can differ in moisture and resistance content, density profile, internal bond strength etc., it is recommended that the coater determines which grade of MDF will best achieve the desired quality according to powder application procedures.

The MDF surface must be clean and free from dust, grease, adhesive and loose MDF fibres. The MDF may need to be sanded in order to homogenize the surface to be coated. The edges should also be rounded and made smooth (minimum 1.5 degrees radius). For best results, the moisture content of the MDF should be between 5 and 7 %.

MDF board should have a certain level of conductivity in order to attract and hold the electrostatically charged powder coating particles. In order to ensure that correct coating properties are achieved, preconditioning of the board to secure the correct moisture content will be necessary. This will enable good earthing to be achieved and therefore ensure the correct level of surface conductivity for coating. If in doubt, please seek advice from your Jotun technical service advisor.

When handling more porous MDF boards, alternative surface and edge preparation techniques such as thermo-smoothing and/or edge banding may be considered.

Powder application

Infrared heating or a combination of infrared and convection heating is recommended.

Curing schedule	Object temperature	Time
Ultra One D	130 °C	3 minutes

Note! The exact curing conditions are dependent on the curing oven configuration, condition, and the substrate.

A fully cured film has to be reached in order to assure the correct film properties. An inadequately cured film (or prepared board) may result in film failure, e.g. edge cracking (especially when the board is subjected to environments with different humidity content), reduced chemical resistance and/or a sticky surface. Failure of this nature may appear a few hours after application as well as several months after application.

Recommended film thickness (µm): 80-150

Equipment

Suitable for Corona charging equipment.

APPEARANCE

Colour

The product is available in a wide variety of colours. Custom requested colours are available upon technical approval.

Gloss

Smooth 25 ± 5
Fine texture 5-25

Finish

Smooth and fine texture.

If the significant surface is too small or unsuitable for the gloss to be measured with the glossmeter, the gloss should be compared visually with the reference sample (from the same viewing angle).

Higher gloss values are available upon technical approval.

PERFORMANCE

The technical data provided below are typical for this product when applied as follows:

Substrate	Suitable MDF board
Substrate thickness (mm)	15
Film thickness (µm)	80-150

Typical values when tested.

Property	Standard	Result
Water	EN 12720	5
Fat	EN 12720	5
Coffee	EN 12720	5
Alcohol	EN 12720	5
Dry heat	EN 12722	Rating 5 (no change) at 70°C
Wet heat	EN 12721	Rating 5 (no change) at 85 °C
Scratch resistance	ISO 1518-1/SIS 83 91 17	≤ 0.5 mm wide scratch at 5 N load having a hemispherical hard-metal tip of radius 0.5 mm
Water resistance test	Ledro swelling test - 48 hours	Pass

Ultra One D meets the Möbelfakta requirements, category 5, of the furniture industry. A certificate is available upon request. Descriptive numerical rating code. 1: Strong change; 5: No change

Sustainability

Powder coating is applied in air-and-powder mix in a strictly controlled factory process using electrostatic gun and a high temperature curing oven to create film. Virtually no VOCs are released in the process compared to traditional liquid paints. Unused or oversprayed powder can be recycled with minimal wastage. In addition, all Jotun Powder Coatings' products do not contain intentionally added lead.

Disclaimer

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.