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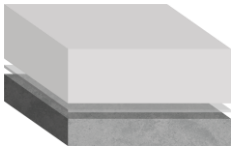

MasterCoat® ULTRA RT

Polyurethane Based, High Performance, Matt and Textured Finish Polyurethane Concrete Coating

Material Description

MasterCoat® ULTRA RT is a heavy-duty, trowelapplied polyurethane concrete flooring system that delivers a seamless, matt, and textured finish.
MasterCoat® ULTRA RT is ideal for demanding industrial settings where both chemical resistance and mechanical durability are essential.
Engineered for environments with aggressive chemical exposure, it offers outstanding resistance to a wide range of substances including organic acids, dilute mineral acids, animal and vegetable fats, petroleum-based oils, and solvents.

Areas of Application

Applications include dairies, food and beverage manufacturing, chemical and pharmaceutical plants, and laboratory environments.

Technical Properties	
Structure of the Material **MasterCoat® ULTRA RT** Part A **MasterCoat® ULTRA RT** Part B **MasterCoat® ULTRA RT** Part C **MasterCoat® ULTRA RT** Part D	 Polyurethane Resin Polyurethane Hardener Special Filler Liquid Pigment
Color	Red, Yellow, Green, Blue, Light Grey, Mid Grey, Dark Grey
Density	2.00 g/cm^3
BS 8204-6 (FeRFA)	Type 8
Temperature Resistance	Resistant to cleaning processes up to 120°C at 9.0 mm
Impact Resistance (EN 13813)	>4 Nm (IR4)
Compressive Strength (EN 196/ ASTM C109)	50 N/mm^2
Tensile Strength (EN 196/ ASTM C109)	10 N/mm^2
Flexural Strength (EN 196/ ASTM C109)	20 N/mm^2
Adhesion (EN ISO 4634)	>1,5 N/mm^2
Slip Resistance (DIN 51130) (>R10)	Dry > 70 Wet > 21
Abrasion Resistance (EN 13892-4) (BS 8204-2)	AR 0.5 (Special Class)
Co-efficient of Thermal Expansion (ASTM C531)	5.8 x 10-^{5} °C^{-1}
Shore D Hardness (28 days)	80
Pot Life (25°C)	15 - 20 min. (usable working life of material following mixing and immediate spreading as per the application instructions).
Fire Resistance (EN13501: Bölüm 1)	$B_{FL}S1$
Low Emissions (ISO 1600-3,6,9)(EN 16516)	Compliant
VOC Content	1.76 g/l

The physical properties listed above are based on tests conducted under controlled laboratory conditions at 20°C. Performance results from site-applied samples may vary depending on environmental and application factors. Slip resistance values are influenced by site conditions and application methods, and may diminish over time due to inadequate maintenance, surface wear, or contamination. Consistent and effective cleaning practices are essential to maintain surface performanced.

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Colors

*Please note, the applied colours may differ from the examples shown. MasterCoat® ULTRA RT systems may exhibit a yellowing effect over time resulting from thermal, UV or chemical exposure. This will be more pronounced on light grey or blue shades, *Colours marked with an asterix will incur an additional supplement.*

HACCP Certification

MasterCoat® ULTRA systems have been HACCP International certified as food-safe for use in facilities operating a food safety management system based on HACCP principles. These systems are seamless, monolithic, impervious and non-porous, as such they do not support microbial growth.

Application Temperature Range

~10 – 30°C is recommended. Outside of this range, heating or cooling equipment should be used to achieve ambient conditions.
The substrate, before priming, should be at least 3°C above the dew point to reduce the risk of condensation or blooming.
This should be maintained for 48 hours after application.

Processing Method

(A) Surface

Surface Requirements

MasterCoat® ULTRA RT systems are suitable for application on cementitious substrates and suitable polymer modified screeds.
All surfaces must be load bearing, free from cracks and voids, free from dirt, oil, grease, dust and other contaminants.
The substrate surface must provide a minimum compressive strength of 25 N/mm^2 and pull-off strength of 1.5 N/mm^2.

Surface Preparation

Concrete or suitable polymer modified screed substrates should be mechanically prepared using captive vacuum enclosed shot blasting, or by appropriate diamond grinding to remove surface cement based laitance and previous surface treatments leaving an open textured mechanically prepared surface.
Weak concrete / polymer modified screed must be removed and repaired using recommended MBT Tech products. In order to ensure the installed system remains fully bonded to the substrate it is recommended that all terminating edges are rebated to produce a cross-section “anchor chase” of 5.0 mm deep by 5.0 mm wide, stepped out at 150.0 mm from and parallel with the walls i.e. day joints, movement joints, floor edges, door thresholds, upstands, plinths, etc.

(B) Mixing

The contents of the MasterCoat® ULTRA RT Part D should be drained into the MasterCoat® ULTRA RT Part A component and the two materials thoroughly mixed until homogenous before adding the contents of MasterCoat® ULTRA RT Part B .

The mixed liquid should then be poured into a clean suitably sized separate mixing container and the MasterCoat® ULTRA RT Part C aggregate component slowly added under constant mixing using a suitable slow speed electric mixer fitted with either a single or double mixing paddle or by using a forced action (rotary drum) type compulsory mixer until a uniform free flowing consistency has been achieved.

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(C) Processing

Primer

The Priming of the substrate is required, scratch-coat the surface with MasterCoat® ULTRA MF unpigmented at 1.90 kg/m^2.
For non-ground resting slabs, solvent-free epoxy primer can be used at 0.25 kg/m^2 providing the substrate moisture is no greater than 75% RH.
Allow to cure 12 to 16 hours before applying the MasterCoat® ULTRA RT screed.

Ground Floor

Apply the mixed MasterCoat® ULTRA RT screed by serrated / notched trowel, or pin rake to the required thickness.
Within approximately 10 minutes roll the MasterCoat® ULTRA RT with a spike roller to deaerate the material. When the material is sufficiently cured existing joints in the substrate must be carried through into the MasterCoat® ULTRA RT finish.
Ensure to maintain continuity of wet material between pours (max. 5 – 7 minutes). For cleaning of tools and other contaminants use a suitable tool cleaner.

Overcoating

Overcoating should be carried out within 24 hours of application. If longer than 24 hours it will be necessary to lightly grind the surface by mechanical means before overcoating is carried out.

Consumption

The recommended coverage of MasterCoat® ULTRA RT is 12.00 kg/m^2 at 6.0 mm or 18.00 kg/m^2 at 9.0 mm.

Point to Consider

- The installed floor should be protected from other trades using. Kraft paper or similar breathable material e.g. Correx sheet. Polythene should not be used.
- Protect the installed floor finish from damp, condensation, and water for at least 24 hours at 20°C.
- Ensure that the ambient temperature remains above 10°C for at least 24 hours after installation.
- As with all aromatic based polyurethane products light colours exposed to UV light, MasterCoat® ULTRA systems will be prone to cosmetic discolouration (yellowing of the surface), however this does not affect the physical or chemical resistance properties of the installed product.

Cleaning and Maintenance

The cleaning and maintenance of **MasterCoat® ULTRA** systems must be considered a vital and integral part of an overall hygiene program covering all areas of the processing plant. Regular cleaning and maintenance will ensure that the floor maintains the performance profile listed below. The method of cleaning and choice of cleaning equipment and / or agent should match the soil conditions and level of sanitation required.

All **MasterCoat® ULTRA** systems will withstand water wash down processes at continuous sanitising temperatures as well as fumigation. The **ULTRA MF system** can not be steam cleaned.

Cleaning of Tools

MasterCoat® Tool Cleaner should be used for cleaning tools and equipment after application.

Packaging

MasterCoat® ULTRA RT	Part A	Part B	Part C	Part D
Mixing Ratio	2,85 kg	3,15 kg	28,82 kg	0,18 kg

Shelf Life

6 months after the production date under appropriate storing conditions. Opened packages should be stored under appropriate storage conditions and used within one week.

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Storage

Store in original drums under dry conditions and a temperature between 10 - 30°C. Do not expose to direct sun-light and prevent the temperature from falling below the above mentioned range.

Further Information

Information relating to the safe handling of this product can be found in the Material Safety Data Sheet. Local regulations concerning the safe handling of resin-based coating materials must be observed. Suitable protective clothing including suitable eye protection must be worn at all times.

All consumptions listed are for recommendation purposes only. Detailed application instructions and system build-up advice can be provided on request through our Technical Services team.

MasterCoat® systems and products are guaranteed against defective material and manufacture and are sold subject to its standard Terms and Conditions of Sale, copies of which can be obtained on request.

MasterCoat® accepts no responsibility for liability claims based on the suggested practices and data values listed on product data sheets. Product data sheets are regularly updated and it is the user's responsibility to ensure they obtain the most recent version.

Health and Safety

It is dangerous to approach the application sites. During the application, a protective apparel, protective gloves, goggles and masks which comply with the Occupational Health and Safety Rules should be used. Due to the irritation effect of the uncured materials, the mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water and soap; in case of swallowing, a physician should be consulted immediately. No food or beverages should be brought to the application area. The product should be stored and kept out of reach of children. For detailed information please consult the Material Safety Data Sheet.

Disclaimer

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. MBT Teknik Yapı Kimyasalları Sanayi ve Ticaret A.Ş. is only responsible for the quality of the product MBT Teknik Yapı Kimyasalları Sanayi ve Ticaret A.Ş. is not responsible for results that may occur because the product is used other than advised and/or out of instructions regarding the place and the method of use. This technical form is valid only till a new version is implemented and nullifies the old ones.

Contact

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DOP NO: 1102007	
EN 13813 SR-B2.0-AR0.5-IR20	
MasterCoat® ULTRA RT	
TS EN 13813 İç mekan kullanımı için tasarlanmış çimento modifiyeli poliüretan döşeme malzemesi Cement modified polyurethane flooring material designed for interior use	
Aşınma Direnci Wear resistance	AR0.5
Bağ Dayanımı Bond strength	B2.0
Çarpmaya Direnç Impact resistance	IR20
Aşındırıcı maddelerin salınımı Release of corrosive substances	SR
Yangına Karşı Tepki Reaction To Fire	B_{fl}-s1,d0
Tehlikeli maddeler (Dangerous substances)	Güvenlik bilgi formu Safety data sheet