



Ultratop HD



**Ultra rapid-hardening
cementitious mortar with
high resistance to abrasion
for making and repairing
industrial floors**



WHERE TO USE

Ultratop HD mortar is made from special hydraulic binders and is used for making and repairing high strength, ultra rapid-hardening industrial floors. Thanks to its rapid application and hardening characteristics, floors made from **Ultratop HD** may be put into service extremely quickly.

Ultratop HD is the ideal product for surfaces subjected to high mechanical stresses and abrasion caused by the constant movement of wheeled vehicles in warehouses, production areas, logistics warehouses and areas used for loading and unloading goods.

Some application examples

- Patching up and repairing concrete industrial floors in warehouses, storage depots, logistics warehouses, shopping centres, supermarkets and areas used for loading and unloading goods where surfaces need to be put back into service within a few hours of starting work on the floor.
- Making industrial floors in storage areas, warehouses, storage depots, logistics warehouses, commercial areas and areas used for loading and unloading goods subjected to intense wheeled vehicle traffic and the movement of special loads.
- Making and repairing industrial floors in storage areas and partially covered waiting bays in areas used for loading and unloading goods.

TECHNICAL CHARACTERISTICS

Ultratop HD is a powdered mortar made from special rapid-setting and hydrating binders, graded silica sand, synthetic resins and special admixtures according

to a formulation developed in the MAPEI Research & Development laboratories.

When mixed with water, **Ultratop HD** forms a mortar easy to prepare in layers from 10 mm up to 40 mm thick using hand tools or a worm-screw rendering machine.

Immediately after applying the product and compacting the surface with a power float **Ultratop HD** reaches a high level of compressive and tensile strength and has high resistance to abrasion. It adheres perfectly to substrates and may be transited by service vehicles within just a few hours of being applied. Power-floating the surface of the mortar leaves a smooth finish.

Ultratop HD has the following characteristics:

- high resistance to abrasion;
- high compressive and flexural strength;
- ultra-rapid hardening;
- easy to prepare and apply;
- surfaces can be put back into service very quickly;
- suitable for both repair work and for making new industrial floors;
- may be used for internal floors;
- eco-friendly.

RECOMMENDATIONS

- Do not apply **Ultratop HD** on substrates with a water film on the surface or on concrete within 10 days of pouring.
- Do not apply **Ultratop HD** on dusty, crumbling or weak substrates.
- Do not apply **Ultratop HD** directly on surfaces with oil or grease stains.
- Do not add water to the mix once **Ultratop HD** starts to set.
- Do not add lime, cement, gypsum or other binders to **Ultratop HD**.
- Do not expose the mixed product to sources of heat.
- Do not use **Ultratop HD** for floating screeds. **Ultratop HD** must always be anchored to a solid, compact substrate.
- Do not apply **Ultratop HD** on metal or ceramic or on stone material in general.
- Do not apply **Ultratop HD** if the temperature is lower than +5°C or higher than +35°C.
- Floors made using **Ultratop HD** may have an uneven colour, typical of cementitious products. An uneven colour is normal with cementitious products, but it is also due to power-floating the surface which tends to highlight dark and light patches.
- Use suitable specific cleaning equipment and detergent to clean the floor, depending on the type of dirt or stain to be removed.
- The temperature of the substrate must be at least 3°C higher than the dew-point temperature.

APPLICATION PROCEDURE

Substrate preparation

The surface of concrete floors must be dry, clean and sound and have no crumbling or detached portions. The substrate concrete must be cured for at least 10 days, its compressive strength must be at least 25 N/mm² and its tensile strength must be at least 1.5 N/mm².

The strength of the substrate must always be suitable for its final use and the types of load to which it will be subjected.

The surface of the substrate must be prepared mechanically with a milling machine, and remove all traces of dirt, cement laitance and crumbling or loose portions and to make it sufficiently rough to enable the new cementitious layer to adhere perfectly.

Repair any cracks in the surface by filling them with **Eporip** and broadcasting the surface with quartz sand.

Before applying the primer, remove all traces of dust from the surface with a vacuum cleaner.

Application of the primer

Prime the substrate and seal the pores in the surface by applying **Mapecoat I 600 W**, two-component epoxy primer in water dispersion diluted 1:1 by weight with water.

Refer to the product Data Sheet for details on how to prepare and apply **Mapecoat I 600 W**. **Ultratop HD** may be applied just 2 hours after applying the primer when the surrounding temperature is around 20-23°C. At lower temperatures wait until the primer is dry, which is usually after just a few hours. For substrates that are not perfectly flat or that are particularly porous, as an alternative to **Mapecoat I 600 W**, verify also whether it would be more suitable to use **Primer SN** two-component, fillerized epoxy primer, which must be broadcast while still wet with **Quartz 1.2** until saturated (3-4 kg/m²). If **Primer SN** is used, the substrate must be dry or have a residual moisture content of less than 4%. For more details on how to prepare and apply **Primer SN** refer to the product Data Sheet.

If **Primer SN** is used to treat the substrate, only apply **Ultratop HD** once the primer has hardened (12 to 24 hours depending on surrounding temperature and level of humidity) and after removing any excess quartz sand from the surface and vacuuming the surface to remove all traces of quartz sand.

Preparation of the mix

Pour a 25 kg bag of **Ultratop HD** into a container with 3.25-3.5 litres of clean water while mixing and keep mixing with an electric mixer at low speed to form a smooth, lump-free mix.

Only prepare quantities of **Ultratop HD** which may be applied within 20 minutes of mixing at +23°C; its workability time varies according to the surrounding temperature and reduces as the temperature increases.

If larger quantities of the product are required for medium to large surfaces, we recommend mixing the product in a vertical mixer and then pumping the mix using a suitable rubber pipe.

When preparing the product in a mixer, the amount of water required for blending the product is the same as for manual mixing. Keep mixing the product until it is completely blended before spreading it on the surface.

Spreading the mix

Pour **Ultratop HD** onto the floor and spread it out evenly to the thickness required using smooth trowels and smooth rakes.

Application of the mix

After spreading the mix, level off the surface with straight edges before power-floating the surface.

Immediately after levelling off the mix, power-float the surface of **Ultratop HD** to form a compact, smooth finish with no bleeding. When laying the product, form expansion joints in the same pattern as the joints in the substrate.

Cleaning

Clean tools used to prepare and apply **Ultratop HD** immediately after use with running water. Once hardened the product may only be removed mechanically.

CONSUMPTION

Approximately 18 kg/m² per cm of thickness.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Consistency:	powder
Colour:	grey
Bulk density (kg/m³):	1,300
Dry solids content (%):	100
EMICODE:	EC1 Plus - very low emission

APPLICATION DATA (at +23°C - 50% R.H.)

Mixing ratio:	approx. 13-14 parts of water per 100 parts by weight of Ultratop HD
Thickness (mm):	from 10 to 40
Density of mix (kg/m³):	2,300
pH of mix:	11
Application temperature:	+5°C to +35°C
Workability time:	20 mins
Setting time:	40-80 mins
Set to foot traffic:	3 hours

FINAL PERFORMANCE

Main characteristics EN 13813:2002 CT - C50 - F10 - A6-A1 _{FL}	Test method	Requirements according to EN 13813 for cementitious screeds	Performance of product	
				+23°C
Compressive strength:	EN 13892-2	5 < N/mm ² < 80 (28 gg)		+23°C
			24 h	35
			72 h	40
			7 d	50
			28 d	55
Flexural strength:	EN 13892-2	1 < N/mm ² < 50 (28 gg)		+23°C
			24 h	4
			72 h	5
			7 d	8
			28 d	10
Abrasion resistance Böhme abrasion test:	EN 13892-3	1,5 < cm ³ /50 cm ² < 22	+23°C	
			6	
Reaction to fire:	EN 13501-1	Value declared by manufacturer	A1 _{FL}	

PACKAGING

Ultratop HD is available in 25 kg bags.

STORAGE

Ultratop HD remains stable for 12 months if stored in a dry place.

The product complies with the conditions of Annex XVII to Regulation (EC) N° 1907/2006 (REACH) - item 47.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Ultratop HD contains cement that, when in contact with sweat or other body fluids, causes irritant alkaline reactions and allergic reactions to those predisposed. It can cause damage to eyes.

During use wear protective gloves and goggles and take the usual precautions for handling chemicals. If the product comes in contact with the eyes or skin wash immediately with plenty of water and seek medical attention.

For further and complete information about the safe use of our product please refer to the latest version of our Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the

product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation.

The most up-to-date TDS can be downloaded from our website www.mapei.com.

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.



This symbol is used to identify Mapei products which give off a low level of volatile organic compounds (VOC) as certified by GEV (Gesellschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e.V.), an international organisation for controlling the level of emissions from products used for floors.

All relevant references for the product are available upon request and from www.mapei.com