

Torggler

UMAFIX

Premixed cement mortar, thixotropic, fast-setting and hardening and with high mechanical strength for various type of reparation.



- Quick setting and hardening
- High mechanical strength
- Extremely versatile in a wide range of applications
- Fast to prepare and use
- Use in thicknesses from 0 to 40 mm
- Perfect construction engineering finish



APPLICATION AREAS

- Rapid repair of damaged corners and edges on beams and pillars.
- Rapid repair of cracked and damaged flooring in industrial environments.
- Smoothing of small surfaces and rapid grouting of gravel pockets, spacer holes, etc.
- Fixing cramps, bolts, hooks and tie rods.
- Securing pipes, uprights and railings.
- Laying of manhole covers.

TYPES OF SUBSTRATE

- Prefabricated concrete laid on site.
- Cement floors.
- Cement mortars

MAXIMUM ATTAINABLE THICKNESSES

40 mm per coat on local surfaces.

FEATURES

Umafix is a grey, ready-to-use, single component, thixotropic, compensated shrinkage, cementitious mortar based on special hydraulic binders, selected aggregates and specific additives. The product is very resistant and fast setting. The special formula of the product, when mixed with water, ensures good workability and excellent thixotropy enabling even vertical application up to thicknesses of 40 mm. Once applied the product starts to set after approximately 20 minutes under normal conditions (20 °C). The time required for setting to start and final hardening is not subject to significant variations at lower temperatures. The hardened product is ready for loads after one hour and is resistant to water and frost. It is therefore ideal for indoor and outdoor applications and has a high level of impermeability. Umafix is a mortar designed for non-structural repairs. The product is type CC and in class R2 in compliance with EN 1504-3. Umafix conforms to principles 3 (concrete restoration) and 7 (preserving or restoring passivity) using methods 3.1 (applying mortar by hand), 7.1 (increasing cover to reinforcement with additional cementitious mortar or concrete) and 7.2 (Replacing contaminated or carbonated concrete) in compliance with EN 1504-9.

WARNINGS

- Do not use Umafix as foundation mortar for glass cement components.
- Do not apply Umafix on gypsum substrates or over gypsum based mortars, renderings and fillers.
- Do not apply Umafix on plastic renderings, painted substrates, wood or asbestos cement.
- Do not apply Umafix when the temperature is less than +5 °C and more than +35 °C.
- Do not mix the product with other binders such as cement, hydraulic lime, gypsum, etc.
- The mix cannot be diluted with water once it has started setting.
- Do not use the mixed product when it has already started to set. Therefore, always prepare quantities of mix which can be used within the pot life.
- Do not use the product for large-scale applications.

INSTRUCTIONS FOR USE

Preparation

The substrate must be solid and regular but well keyed, clean, in good condition and without any oil, grease, dust, loose material, dirt of any kind and any traces of old paint. The surfaces must also be sufficiently cured and free of significant shrinkage. Hammer and scrape the substrate to remove all loose, crumbling or non-cohesive material until a clean, resistant surface is revealed. Wet the surface to be treated until it is saturated and let the excess water evaporate or remove it with a sponge. Make sure you remove all the surface water.

Mixing the product

Mix Umafix with 17 – 18 % clean water (4,25 – 4,50 litres per 25 kg bag and 0,85 – 0,90 litres per 5 kg bag) using a mechanical mixer (low-speed drill with mixer attachment) until the mixture is smooth and free of lumps. The mixture prepared in this way has a pot life of about 15 minutes under normal conditions (20 °C). Higher temperatures reduce pot life. Always prepare quantities of mix which can be used within the pot life. Umafix is not subject to significant variations in setting times at low temperatures. In the event of low temperatures (around +5 °C), mix with warm water or keep the product in a heated room to maintain the same setting times. In the event of high temperatures (around 30 °C), mix with cold water and keep the product in the shade.

Application

Apply the mix quickly using a trowel or paddle. As soon as the mortar starts to set, wet the surface and smooth with a float. Keep the mortar moist for the first 8 hours after application. To fill large cavities, mix 10 kg of Umafix with approximately 5 kg of sharp sand. Firstly apply a keying coat of Umafix mixed with Neoplast Latex diluted in water (1 part product to 2 parts water) to obtain the consistency of a grout that can be applied with a brush.

Proceed as follows when restoring reinforced concrete:

- expose the outcropping reinforcing bars by completely freeing them from any carbonated concrete and turning them to "white" using a hydro-sandblaster or sandblaster.
- For effective anticorrosive protection, apply Restauero Ferri to any reinforcing bars present. After the anticorrosive protection has hardened, for better bonding of the Umafix coating apply a slurry of Umafix mixed with a 1:3 Neoplast Latex-water solution (1 part by volume of Neoplast Latex and 3 parts by volume of water) to the treated irons and surrounding concrete.
- On the fresh grout apply Umafix mixed only with water and possibly diluted with sand in the case of large cavities. As soon as the grout sets moisten the surface and finish with trowel.
- Keep the applied mortar moist in the first 24 hours.

Cleaning

The tools used for applying the mortar may be cleaned with water before it hardens. Once hardened, the mortar must be scraped off.

WAITING TIMES

Delay between application of one coat and the next: approximately 20-30 minutes. Delay before use: approximately 1 hour. Under normal conditions (approx. 20 °C) Umafix can be coated with water-based paint, such as ACS Pittura, approximately 4 hours after application.

TECHNICAL SPECIFICATIONS

MEASURED ON POWDER PRODUCT	
Consistency	Powder
Apparent density (according to MIT 13)*	1,20 kg/litre
Grain size (as per EN 12192-1)	0 – 0,5 mm
Chloride ion content (as per EN 1015-17)	< 0,05 %
Hazardous substances (as per EN 1504-3)	Conforms with point 5,4
MEASURED ON FRESH MIX	
Mixing water	17 – 18 % equal to 4,25 – 4,50 litres per 25 kg bag and 0,85 – 0,90 litres per 5 kg bag
Density of mix when fresh (according to DIN 18555/2)	2,100 kg/litre
Density of mix (according to EN 1015-6)	170 mm
Aspect of the mix	Thixotropic consistency
pH of the mix	> 12
Mix pot life	approximately 15 minutes under normal conditions (at +20 °C)
Setting times at +5 °C: Start / End	25 Minutes / 30 Minutes
Setting times at +10 °C: Start / End	20 Minutes / 25 Minutes
Setting times at +20 °C: Start / End	20 Minutes / 25 Minutes
Setting times at +25 °C: Start / End	15 Minutes / 20 Minutes
Setting times at +30 °C: Start / End	8 Minutes / 12 Minutes
Delay between application of one coat and the next	from 20 to 30 Minutes
Total curing time	28 days
Application temperature	from +5 °C to +35 °C
Operating temperature	from -20 °C to +90 °C

MEASURED ON HARDENED PRODUCT		REQUIREMENTS IN COMPLIANCE WITH EN 1504-3 – CLASS R2 MORTAR
Resistance to flexion (as per EN 12190) after 4 hours	3,00 MPa	None
Resistance to flexion (as per EN 12190) after 8 hours	3,00 MPa	

Resistance to flexion (as per EN 12190) after 16 hours	4,00 MPa	
Resistance to flexion (as per EN 12190) after 1 day	4,00 MPa	
Resistance to flexion (as per EN 12190) after 3 days	5,00 MPa	
Resistance to flexion (as per EN 12190) after 7 days	6,00 MPa	
Resistance to flexion (as per EN 12190) after 28 days	7,00 MPa	
Resistance to flexion (as per EN 12190) after 56 days	7,00 MPa	
Compression strength after 4 hours	10,00 MPa	
Compression strength after 8 hours	15,00 MPa	
Compression strength after 16 hours	20,00 MPa	
Compression strength after 1 day	25,00 MPa	≥ 15 MPa after 28 days
Compression strength after 3 days	32,00 MPa	
Compression strength after 7 days	37,00 MPa	
Compression strength after 28 days	40,00 MPa	
Compression strength after 56 days	45,00 MPa	
Compression modulus of elasticity (according to EN 13412)	18 GPa	None
Adhesion on concrete (according to EN 1542) on dry concrete	2,0 MPa	> 0,8 MPa
Adhesion on concrete (according to EN 1542) on wet concrete	2,1 MPa	
Adhesion on concrete (according to EN 12617-4) dry after 56 days	2,3 MPa	> 0,8 MPa
Adhesion on concrete (according to EN 12617-4) wet after 56 days	1,7 MPa	
Capillary absorption coefficient (according to EN 13057)	0,36 kg/m ² ·h ^{0.5}	5 < 0,5 kg/m ² ·h ^{0.5}
Fire reaction class (EN 13501-1)	Class A1	Value declared by the manufacturer
Consumption		18 kg/m ² per cm of thickness
Max attainable thickness		40 mm per coat

*Torggler Internal Methods (MIT) are available on request.

Packaging	bag
Pallet	40 cardboards, 50 bags
Color	Grey
Packaging size	4x5 kg, 25 kg

CONSUMPTION

The consumption of Umafix is approximately 18 kg/m² per cm of thickness or 1,8 kg/l of volume to be restored.

STORAGE

Store Umafix in a dry, protected place. Unopened in its original bags, the product can be stored for at least 6 months.

CERTIFICATIONS

Product classified R2 CC tested in compliance with EN 1504-3. The EC Declaration of Conformity, including copies of official test certificates, is available on request.

LEGEND OF CLASSIFICATION ACCORDING TO EN 1504-3	
CC	Hydraulic mortars and hydraulic concretes
PCC	Polymer hydraulic cement mortars or concretes
PC	Polymer binder-based mortar or concrete with calibrated aggregates
P	Reactive polymer binders
R1	Non-structural mortars with compressive strength \geq 10 Mpa
R2	Non-structural mortars with compressive strength \geq 15 Mpa
R3	Structural mortars with compressive strength \geq 25 Mpa
R4	Structural mortars with compressive strength \geq 45 Mpa

The information contained in this document is reported on the basis of our experience and knowledge; therefore, any recommendations and suggestions made are without any guarantee and must be verified before using the product by those who intend to use it, who assume all responsibility that may result from its use since the conditions of use are not under our direct control. In case of doubt, it is always advisable to make preliminary tests and/or ask for the intervention of our technicians. Torggler reserves the right to modify, replace and/or delete the items, as well as to change the product data in this document without prior notice; in this case the indications given here may no longer be valid. Always refer to the latest version of the data sheet, available at www.torggler.com. Version 10.08.2021.