

EpoFuga (MasterCrete® TIL ER 700)

Epoxy-Based, Two-Part, Chemical and Bacteria-Resistant Grout and Ceramic Adhesive

Material Description

EpoFuga is an epoxy reaction resin-based grout and adhesive material, used for bonding and grouting of ceramics, marble, granite, antacid ceramics, glass mosaics, and glass bricks. It is easy to apply, resistant to chemicals and bacteria, and can be cleaned with water.

Complies with EN 13888 - RG class (For grouting joints)
Complies with EN 12004 - R2T class (For ceramic adhesive)

RG: Reaction resin-based grouts
R2: Reaction resin-based adhesives with improved additional properties
T: Reduced sliding property

Areas of Application

- In indoor and outdoor areas, in vertical and horizontal applications,
- For filling the joints of ceramics, marble, granite, antacid ceramics, glass mosaics, and glass bricks adhered to existing surfaces,
- In beer, wine and raisin industries,
- In beverage and fruit juice industries,
- In milk, cheese and yogurt industries,
- In tomato paste, pickle and canned food industries,
- In meat and fish industries,
- In medicine, paint, paper, battery, and fertilizer industries,
- In printing houses, hotel kitchens, and laundries,
- In hospital laboratories, dining halls, wet spaces, and hygienic environments,

Technical Properties		
Structure of The Material EpoFuga Part A EpoFuga Part B	Epoxy Resin Epoxy Hardener	
Color	Grey, White	
Compressive Strength	≥45 N/mm ²	
Flexural Strength	≥30 N/mm ²	
Tensile Strength	≥2.5 N/mm ²	
Shear Adhesion Strength	≥2.0 N/mm ²	
Water Absorption	≤ 0.1 g (after 240 minutes)	WK
Service Temperature In dry conditions In continuous wet conditions	-20°C to +80°C -20°C to +50°C	
Application Surface Temperature	+5°C to +25°C	
Open Time	~20 minutes	
Working Time	~45 minutes	
Slip	None	
Walkable After	24 hours	
Open to Full Traffic After	7 days	

Values obtained at +23 °C and 50% relative humidity. Higher temperatures shorten these times, lower temperatures extend them.

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- In swimming pools and thermal pools,
- In wastewater and treatment plants,
- In shopping centers.

Characteristics and Benefits

- Resistant to chemicals, acids, alkalis, and oils
- Has antibacterial properties and prevents the formation of mildew, fungus.
- High abrasion resistance
- Applied EpoFuga is stain-resistant and easy to clean.
- Suitable for joint widths from 2 to 10 mm
- Resistant to short-term sudden temperature changes
- Freeze–thaw cycle resistant
- Can be used in contact with drinking water (complies with BS 6920 standard)

Processing Method

(A) Preparation of Substrate

Surface Preparation

The application surface must be sound, dry, load bearing, dust-free, clean, and level. The surface must be free from oil, release agents, and paraffin residues, and no loose particles should remain.

Ceramic Application

The substrate must be dry and have reached its 28-day strength. Depending on the ceramic size, a notched trowel with at least 4 mm teeth should be used to obtain an approximately 2 mm spread thickness. Grouting should be carried out the following day.

Surface Preparation for Grouting

Before filling the joints of ceramics, antacid ceramics, and granite, the adhesive must have gained sufficient hardness. Just before applying the grout, the surface must be cleaned with methods that will not damage the ceramics.

(B) Mixing

EpoFuga is pre-packaged in the required mixing proportions. If only part of the package is to be used, prepare the mixture in the ratio Part A : Part B = 100 : 4 (by weight). Mix the two components for at least 3 minutes with a mechanical mixer at 400–600 rpm until a homogeneous mixture is obtained.

Mixing Ratio

EpoFuga	Part A	Part B
Mixing Amount	5.00 kg	0.20 kg
Density of Mixture	1.70 kg/L	

(C) Processing

Trowel Application

Spread the prepared EpoFuga over the surface and fill the joints with a plastic or hard rubber trowel. Remove excess material from the joints with diagonal movements. (For deep joints, first wait for the material to settle and then repeat the procedure.) Depending on ambient and surface temperature, wait approximately 15–30 minutes. Then clean the surface with a suitable sponge and a warm detergent solution using circular movements and finish the joints. Replace sponges when they become dirty during cleaning.

Gun Application

Apply the prepared EpoFuga into the joints using a caulking gun. Remove excess material with a hard rubber trowel using diagonal movements. (For deep joints, first wait for the material to settle and then repeat the procedure.) Depending on ambient and surface temperature, wait approximately 15–30 minutes. Then clean the surface with a suitable sponge and a warm detergent solution using circular movements and finish the joints. Replace sponges when they become dirty during cleaning.

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Consumption

For ceramic adhesion, consumption is approximately 1.70 kg/m² for a thickness of 1 mm.

Ceramic Dimension	EpoFuga (g/m ²)						
	Coverage Table for Joint Widths (Calculated for 8 mm joint depth)						
	2 mm	3 mm	4 mm	5 mm	6 mm	8 mm	10 mm
10x10	600	900	1200	1500	1800	2400	3000
10x20	500	700	950	1150	1400	1850	2300
15x15	400	600	800	950	1150	1550	1900
15x20	350	550	700	900	1100	1400	1800
20x20	350	500	650	800	1000	1300	1650
20x25	300	450	600	750	900	1200	1500
20x30	300	400	550	700	800	1100	1400
30x30	250	350	450	550	650	900	1100

Cleaning of Tiles

The final film layer on the tiles should be cleaned 4–10 hours after application using a suitable sponge and a warm detergent solution with circular movements. For the final cleaning, 10% alcohol (spirit) should be added to the cleaning water and the surface wiped. EpoFuga is also suitable for filling with a polishing machine and cleaning with felt pads.

Points to Consider

- **EpoFuga** must be mixed with mechanical mixers and must not be mixed manually with a trowel.
- The pot life, overcoating time, and working time of resin-based systems depend on ambient and substrate temperature as well as relative humidity. At low temperatures, the chemical reaction slows down, extending pot life and overcoating time. At the same time, viscosity increases, and consumption rises. High temperatures accelerate the chemical reaction and shorten these times. To ensure proper curing, the ambient and substrate temperature must not fall below the permitted minimum value.
- **EpoFuga** should not be applied below +5°C or above +25°C, or under excessively hot, rainy, or windy conditions.

- In cold weather, to improve workability, packages should be conditioned at +20°C to +25°C before use.
- Do not add water or new material to an **EpoFuga** mixture that has started to harden.
- Cleaning must begin 15–30 minutes after application.
- The surface must not be cleaned with sawdust.
- To prevent water leakage beneath the tiles, joints between tiles, installations (pipe entries and exits), concrete and plaster, and corner or edge joints must be sealed with suitable mastics such as **MasterJoint™ NPRI 474**.

Cleaning of Tools

All tools and equipment must be cleaned with water immediately after application. Once hardened, **EpoFuga** can only be removed mechanically from the surface.

Packaging

5.20 kg tin set (A+B)

Shelf Life

12 months if stored in unopened containers under the manufacturer's instructions. Once opened, containers must be tightly sealed and used within one week.

Storage

Store in unopened original containers, in a dry and cool environment, and protect against frost. For short-term storage, do not stack more than 3 pallets and ensure first in, first out dispatch. For long-term storage, pallets should not be stacked.

Health and Safety

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 meet skin and eyes; in case of a contact, the affected area should be washed with plenty of water and

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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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25	
GDOP NO: 2301001	
TS EN 13888-1	
EpoFuga (MasterCrete® TIL ER 700)	
RG Epoksi Reçine Esaslı Derz Dolgu Malzemesi <small>Reaction Resin Grout</small>	
Flexural Strength After Dry Storage Kuru Depolamadan Sonra Eğilme Dayanımı	≥ 30 N/mm ²
Compressive Strength After Dry Storage Kuru Depolamadan Sonra Basınç Dayanımı	≥ 45 N/mm ²
Shrinkage Büzülme	≤ 1,5 mm/m
Abrasion Resistance Aşınma Direnci	≤ 250 mm ³
Reduced Water Absorption After 240 Minutes Azaltılmış Su emme, 240 Dakika Sonra	≤ 0,1 g

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26	
DOP NO: 2201006	
TS EN 12004- R2T	
EpoFuga (MasterCrete® TIL ER 700)	
Kayma özelliği azaltılmış, iç ve dış kullanım için uygun, geliştirilmiş reaksiyon reçine yapıştırıcı Tip ve Sınıf: R2T <i>Improved reaction resin adhesive for internal and external use with reduced slip properties Type and Class: R2T</i>	
Yangına Karşı Tepki (Reaction To Fire)	B-s1,d0
Başlangıç Çekme Yapışma Kuvveti (Initial tensile adhesion strength)	≥ 2,0 N /mm ²
Termal şok sonrası kesme yapışma mukavemeti (Shear adhesion strength after thermal shock)	≥ 2,0 N /mm ²
Suya daldırıldıktan sonra çekme yapışma kuvveti (Tensile adhesion strength after water contact)	≥ 2,0 N /mm ²
Enine şekil değiştirme (Transverse deformation)	≥ 2,5 mm and/ve < 5 mm
Kayma (Slip)	≤ 0,5 mm
Uzatılmış Açıkta Bekletme Süresi:Yapışma Mukavemeti(30 Dakika Sonra) (Extended Open Time: Tensile Adhesion Strength(After 30 Minutes))	≥ 0,5 N /mm ²

