

Selection Chart of Repair and Smoothing Mortars



MAPEI MORTARS FOR REPAIRING CONCRETE

REPAIRING CONCRETE WITH SHRINKAGE-COMPENSATED MORTAR

Mapegrout T40: Medium-strength (40 MPa) thixotropic mortar for repairing concrete. Class R3 EN 1504-3.

Mapegrout T60: Sulphate-resistant thixotropic fibre-reinforced mortar for repairing concrete. Class R4 EN 1504-3.

Mapegrout Easy Flow: One-component shrinkage-compensated sulphate-resistant thixotropic fibre-reinforced mortar particularly suitable for repairing concrete structures with a rendering machine class R4 EN 1504-3.

Mapegrout Fast-Set: Shrinkage-compensated rapid-setting and hardening fibre-reinforced mortar for repairing concrete. Class R3 EN 1504-3.

Mapegrout Hi-Flow: Shrinkage-compensated fibre-reinforced mortar for repairing concrete. Class R4 EN 1504-3.

Planitop Smooth & Repair R4: Structural R4-class, rapid-setting, shrinkage-compensated, thixotropic, fibre-reinforced, cementitious mortar, applied in a single layer between 3 and 40 mm thick, for repairing and smoothing concrete. Class R4 EN 1504-3 and EN 1504-2 coating (C) principles MC and IR. Certified GEV-EMICODE EC1 R Plus with very low emission level of volatile organic compounds (VOC).



** Non-stock item - available on special order*



Mapegrout SV: Rapid-setting and hardening shrinkage-compensated free-flowing mortar for repairing concrete and anchoring drains, manholes and highway coating materials. Class R4 EN 1504-3.

Mapegrout SV T*: Rapid-setting and hardening shrinkage-compensated thixotropic mortar for repairing concrete and anchoring drains, manholes and highway coating materials. Class R4 EN 1504-3.

Mapegrout Gunitite: One component, ready-to-use, multi-purpose, fibre-reinforced cementitious mortar applied using the dry spraying technique.

REPAIRING CONCRETE WITH CEMENTITIOUS BINDERS

Stabilcem*: Expansive super-fluid cementitious binder for mixing with injection slurry, mortar and concrete.

Stabilcem SCC*: Cementitious binder for mixing self-compacting, dimensionally-stable cement and concrete for repairing concrete structures.

PROTECTION OF REINFORCEMENT

Mapefer 1K: One-component, corrosion-inhibiting cement mortar for protection of reinforcement

* Non-stock item - available on special order

OVERVIEW OF MAPEI MORTARS FOR REPAIRING CONCRETE

		Protection	Normal-setting thixotropic mortars		
		Mapefer 1K	Mapegrout T40	Mapegrout T60	
Type of repair	Protection of reinforcement	●			
	Repair of the concrete cover		●	●	
	Structural repair		●	●	
Classification according to EN 1504-3 Standards			R3	R4	
Application	Trowel/gauging trowel		●	●	
	Continuous-mix rendering machine				
	Rendering machine with pre-mixing unit		●	●	
	By pouring				
Civil construction	Repairs to the corners of beams and pillars		●	●	
	Repairs to the edges of balconies		●	●	
	Repairs to ceilings		●	●	
	Repairs to gutters		●	●	
	Repairs to parapets		●	●	
Industrial construction	Fixing pillars in place				
	Repairs to buffer panels		●	●	
	Repairs to floors				
	Repairs to beams and pillars		●	●	
	Fixing machinery in place				
Infrastructure	Bridges and viaducts	Repairs to piles		●	●
		Repairs to beams		●	●
		Repairs to the face of internal floor slabs		●	●
		Repairs to the face of external floor slabs		●	●
		Repairs to pulvinoes		●	●
		Repairs to reinforced concrete bearing elements		●	●
		Repairs to kerbs			●
		Repairs to joints in motorways			
	Hydraulic construction	Repairs to walls			●
		Repairs to concrete beds			●
		Repairs to joints			●
		Repairs to upstream faces			●
		Repairs to downstream faces			●
		Repairs to overflow channels			●
Highway maintenance	Fixing inspection shafts, manholes and highway coating materials				

	Rapid-setting thixotropic mortars			Normal-setting high flow mortars	Rapid-setting high flow mortars	Cementitious binders	
Mapegrout Easy Flow	Mapegrout Fast-Set	Mapegrout SV T	Planitop Smooth & Repair R4	Mapegrout Hi-Flow	Mapegrout SV	Stabilcem	Stabilcem SCC
●	●	●	●	●		●	●
●	●		●	●		●	●
R4	R3	R4	R4	R4	R4	NA	NA
●	●	●					
●							
				●	●	●	●
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NORMAL-SETTING THIXOTROPIC MORTARS



Characteristics	Mapegrout T40	Mapegrout T60	Mapegrout Easy Flow
Class according to EN 1504-3	R3	R4	R4
Maximum size of aggregate	2.5 mm	2.5 mm	2.5 mm
Mixing ratio	15.5% - 16.5% water	16.5% - 17.5% water	16.5% - 17.5% water
Density of mix	2200 kg/m ³	2200 kg/m ³	2200 kg/m ³
Application temperature range	from +5°C to +35°C	from +5°C to +35°C	from +5°C to +35°C
Pot life of mix	approx. 1 hour	approx. 1 hour	approx. 1 hour
Compressive strength	> 40 MPa after 28 days	60 MPa after 28 days	> 60 MPa after 28 days
Flexural strength	> 7 MPa after 28 days	8 MPa after 28 days	> 8 MPa after 28 days
Compressive modulus of elasticity	25 GPa after 28 days	27 GPa after 28 days	27 GPa after 28 days
Adhesion to concrete according to EN 1766	> 2 MPa after 28 days	> 2 MPa after 28 days	> 2 MPa after 28 days
Thermal compatibility to freeze/thaw cycles with de-icing salts measured as adhesion according to EN 1542	> 1.5 MPa	> 2 MPa	> 2 MPa
Maximum thickness per layer	30-35 mm	40 mm	35 mm
Consumption	18.5 kg/m ² per cm of thickness	18.5 kg/m ² per cm of thickness	18.5 kg/m ² per cm of thickness



Mapegrout T40



- **Medium-strength (40 MPa) thixotropic fibre-reinforced mortar for repairing concrete.**

CONSUMPTION: 18.5 kg/m² per cm of thickness.

APPLICATION: trowel, gauging trowel or rendering machine.



Mapegrout T60



- **Sulphate-resistant thixotropic fibre-reinforced mortar for repairing concrete.**

CONSUMPTION: 18.5 kg/m² per cm of thickness.

APPLICATION: trowel, gauging trowel or rendering machine.



Mapegrout Easy Flow



- **One-component shrinkage-compensated sulphate-resistant thixotropic fibre-reinforced mortar applied with a rendering machine, particularly suitable for repairing concrete structures.**

CONSUMPTION: 18.5 kg/m² per cm of thickness if used as is and 14.5 kg/m² if mixed with 30% gravel size 3 to 6-8 mm.

APPLICATION: trowel, gauging trowel or rendering machine.

RAPID-SETTING THIXOTROPIC MORTARS



Characteristics	Mapegrout Fast-Set	Mapegrout SV T	Planitop Smooth & Repair R4
Class according to EN 1504-3	R3	R4	R4
Maximum size of aggregate	1 mm	2.5 mm	0.4 mm
Mixing ratio	15% - 16% water	12.5% - 13.5% water	16,5% - 17,5% water
Density of mix	2150 kg/m ³	2250 kg/m ³	2000 kg/m ³
Application temperature range	from +5°C to +35°C	from +5°C to +35°C	from +5°C to +35°C
Pot life of mix	approx. 10 mins.	approx. 10 mins.	approx. 15 mins.
Compressive strength	> 40 MPa after 28 days	45 MPa after 28 days	52 MPa after 28 days
Flexural strength	> 8 MPa after 28 days	6 MPa after 28 days	8 MPa after 28 days
Compressive modulus of elasticity	24 GPa after 28 days	25 GPa after 28 days	24 MPa after 28 days
Adhesion to concrete according to EN 1766	> 1.5 MPa after 28 days	> 2 MPa after 28 days	≥ 2 MPa after 28 days
Thermal compatibility to freeze/thaw cycles with de-icing salts measured as adhesion according to EN 1542	> 1.5 MPa	> 2 MPa	≥ 2 MPa
Maximum thickness per layer	20-25 mm	50 mm	40 mm
Consumption	18 kg/m ² per cm of thickness	20 kg/m ² per cm of thickness	17 kg/m ² per cm of thickness



Mapegrout Fast-Set

- Shrinkage-compensated rapid-setting and hardening fibre-reinforced mortar for repairing concrete.

CONSUMPTION: 18 kg/m² per cm of thickness.

APPLICATION: smooth trowel, gauging trowel.



Mapegrout SV T

- Rapid-setting and hardening shrinkage-compensated thixotropic mortar for repairing concrete and anchoring drains, manholes and urban features and highway coating materials.

COLOUR: available in black.

CONSUMPTION: 20 kg/m² per cm of thickness.

APPLICATION: smooth trowel, gauging trowel.



Planitop Smooth & Repair R4

- Structural R4-class, rapid-setting, shrinkage-compensated, thixotropic, fibre-reinforced, cementitious mortar, applied in a single layer between 3 and 40 mm thick, for repairing and smoothing concrete

CONSUMPTION: approx. 17 kg/m² per cm of thickness.

APPLICATION: smooth trowel, gauging trowel.



NORMAL-SETTING FLOWABLE MORTARS



Characteristics	Mapegrout Hi-Flow
Class according to EN 1504-3	R4
Maximum size of aggregate	2.5 mm
Mixing ratio	13% - 14% water
Density of mix	2350 kg/m ³
Application temperature range	from +5°C to +35°C
Pot life of mix	approx. 1 hour
Compressive strength	> 75 MPa after 28 days
Flexural strength	12 MPa after 28 days
Compressive modulus of elasticity	27 GPa after 28 days
Adhesion to concrete according to EN 1766	> 2 MPa after 28 days
Thermal compatibility to freeze/thaw cycles with de-icing salts measured as adhesion according to EN 1542	> 2 MPa
Maximum thickness per layer	40 mm
Consumption	approx. 21 kg/m ² per cm of thickness



Mapegrout Hi-Flow

► Shrinkage-compensated fibre-reinforced mortar for repairing concrete.

CONSUMPTION: approx. 21 kg/m² per cm of thickness.

APPLICATION: pouring into formwork.



RAPID-SETTING FLOWABLE MORTARS



Characteristics	Mapegrout SV
Class according to EN 1504-3	R4
Maximum size of aggregate	2.5 mm
Mixing ratio	12% - 13% water
Density of mix	2300 kg/m ³
Application temperature range	from +5°C to +35°C
Pot life of mix	from 15 mins. to 1 hour
Compressive strength	> 55 MPa after 28 days
Flexural strength	> 9 MPa after 28 days
Compressive modulus of elasticity	25 GPa after 28 days
Adhesion to concrete according to EN 1766	> 2 MPa after 28 days
Thermal compatibility to freeze/thaw cycles with de-icing salts measured as adhesion according to EN 1542	> 2 MPa
Maximum thickness per layer	50 mm
Consumption	20 kg/m ² per cm of thickness



Mapegrout SV

- **Rapid-setting and hardening shrinkage-compensated flowable mortar for repairing concrete and anchoring drains, manholes and urban features and fittings.**

COLOUR: available in grey and black.

CONSUMPTION:

- used as is: 20 kg/m² per cm of thickness;
- mixed with 40% gravel: 14.5 kg/m² per cm of thickness (5.7 kg/m² of GRAVEL 6-10).

APPLICATION: pouring into formwork.



CEMENTITIOUS BINDERS



Characteristics	Stabilcem
Mortar mixed with Stabilcem	Mixing water: 225 g Stabilcem: 450 g Normalized sand: 1350 g
Slump flow (UNI 7044-72) (%)	160-180
Density (kg/l):	2.23
Bleeding:	absent
Compressive strength (MPa):	> 62 after 28 days
Flexural strength (MPa)	> 9 after 28 days
Slurry made with Stabilcem:	Stabilcem: 2000 g water: 620 g
Flow-cone (EN 445):	20-30 seconds
Density (kg/l):	2-2.1
Compressive strength (MPa):	> 80 after 28 days
Flexural strength (MPa)	> 8 after 28 days
Expansion during plastic phase according to UNI 8996/89 (%):	≥ 0.3

Characteristics	Stabilcem SCC			
Amount of Stabilcem SCC (kg/m³)	515	550	600	655
Amount of aggregate (kg/m³)	1615	1530	1470	1435
Amount of water (kg/m³)	240	215	230	230
Density (kg/m³)	2367	2298	2303	2318
Water/binder ratio	0.47	0.39	0.38	0.35
Slump flow (cm):	71	74	72	76
Compressive strength after 28 days (MPa)	49	53	55	57
Shrinkage according to UNI 6555 (mm)	435	445	440	468
Impermeability to water according to EN 206-1	no	yes	yes	yes

Stabilcem

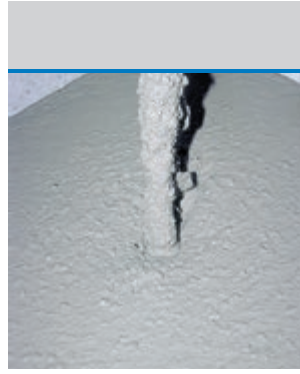


- ▶ Expansive super-fluid cementitious binder for mixing injection slurry, mortar and concrete.

CONSUMPTION:

- injection slurry: 1.6 kg/dm³ of cavities to be filled;
- mortar and cement: 350-550 kg/m³;
- concrete: 300-400 kg/m³.

Stabilcem SCC



- ▶ Cementitious binder for mixing self-compacting, volumetrically-stable cement and concrete for repairing concrete structures.

CONSUMPTION:

- cement: 600 kg/m³;
- concrete: 500-600 kg/m³.



MAPEI PRODUCTS FOR SMOOTHING CONCRETE

SMOOTHING THE SURFACE OF CONCRETE AND RENDER

Planitop 210: Water-repellent fine-textured cementitious smoothing mortar with a natural finish for concrete and plastic coverings.

Classified EN 1504-2 coating (C) principles MC and IR and EN 998-1 type GP mortar category CS IV.

Planitop Fast 330: Rapid-setting fibre-reinforced cementitious mortar applied in layers from 3 to 30 mm thick to even out interior and exterior horizontal and vertical substrates.

Classified EN 1504-2 coating (C) principles MC and IR and EN 998-1 type GP mortar category CS IV.

Planitop Smooth & Repair R4: Structural R4-class, rapid-setting, shrinkage-compensated, thixotropic, fibre-reinforced, cementitious mortar, applied in a single layer between 3 and 40 mm thick, for repairing and smoothing concrete.

Classified EN 1504-2 coating (C) principles MC and IR and class R4 EN 1504-3. Certified GEV-EMICODE EC1 R Plus with very low emission level of volatile organic compounds (VOC).





Mapelastic Smart: Two-component high-flexibility (crack-bridging > 2 mm) cementitious mortar applied by trowel or roller for waterproofing such as balconies, terraces, bathrooms and swimming pools.

Classified EN 1504-2 coating (C) principles PI, MC and IR, and EN 14891.

Mapelastic Guard: Two-component flexible cementitious mortar for protecting large concrete structures subjected to high stress.

Classified EN 1504-2 coating (C) principles PI, MC and IR.

MAPEI PRODUCTS FOR SMOOTHING CONCRETE

		Planitop 210	Planitop Fast 330
Type	Normal-setting	•	
	Rapid-setting		•
Classification		EN 1504-2 Principles MC - IR EN 998-1	EN 1504-2 Principles MC - IR EN 998-1
Application method	Trowel/gauging trowel	•	•
	Roller/brush		
Areas of use	Natural finish smoothing layer	•	
	Flexible smoothing layer		
	Smoothing out surface defects	•	•
	Localised repairs	•	•
	Resistant to abrasion		
	Protects against aggressive agents		
	Suitable for installing ceramics	•	•



Planitop Smooth & Repair R4	Mapelastick Smart	Mapelastick Guard
	•	•
•		
EN 1504-2 Principles MC - IR EN 1504-3 (R4) Emicode EC1 R Plus	EN 1504-2 Principles PI - MC - IR EN 14891	EN 1504-2 Principles PI - MC - IR
•		•
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MORTARS FOR SMOOTHING CONCRETE



	MORTARS FOR SMOOTHING CONCRETE		
Characteristics	Planitop 210	Planitop Fast 330	Planitop Smooth & Repair R4
EN 1504-2 certification principles	MC and IR	MC and IR	R4
Maximum size of aggregate	0.4 mm	1 mm	0.4 mm
Mixing ratio	21% - 24% water	18% - 20% water	16.5% - 17,5% water
Density of the mix	1740 kg/m ³	1750 kg/m ³	2000 kg/m ³
Application temperature range	from +5°C to +35°C	from +5°C to +35°C	from +5°C to +35°C
Pot life of mix	approx. 1 hour	approx. 20 mins.	approx. 15 mins.
Compressive strength	> 16 MPa after 28 days	> 20 MPa after 28 days	52 MPa after 28 days
Flexural strength	> 4 MPa after 28 days	–	8 MPa after 28 days
Adhesion to concrete according to EN 1766	≥ 1 MPa after 28 days	≥ 2 MPa after 28 days	≥ 2 MPa after 28 days
Thermal compatibility to freeze/thaw cycles with de-icing salts measured as adhesion according to EN 1542	≥ 1 MPa	–	≥ 2 MPa
Thickness applied	from 1 to 3 mm	from 3 to 30 mm	from 3 to 40 mm
Consumption	approx. 1.3 kg/m ² per mm of thickness	1.45 kg/m ² per mm of thickness	approx. 1.7 kg/m ² per mm of thickness

MORTARS FOR SMOOTHING CONCRETE



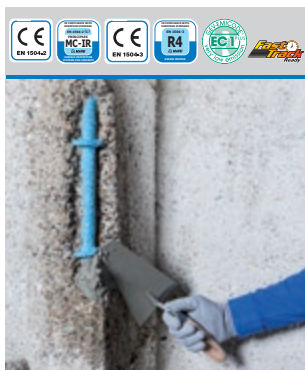
Planitop 210

- ▶ Water-repellent fine-textured cementitious smoothing mortar with a natural finish for concrete and plastic coverings.

COLOUR: grey or white.

CONSUMPTION: approx. 1.3 kg/m² per mm of thickness.

APPLICATION: smooth metal trowel.

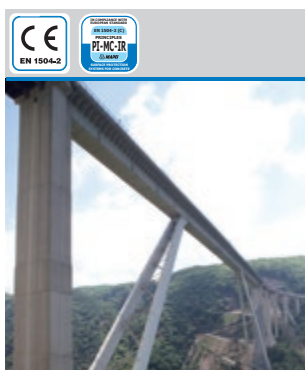


Planitop Smooth & Repair R4

- ▶ Structural R4-class, rapid-setting, shrinkage-compensated, thixotropic, fibre-reinforced, cementitious mortar, applied in a single layer from 3 to 40 mm thick, for repairing and smoothing concrete.

CONSUMPTION: approx. 17 kg/m² per cm of thickness.

APPLICATION: smooth trowel, gauging trowel.

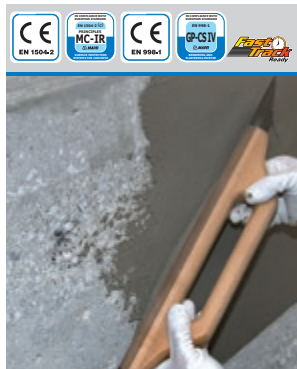


Mapelastic Guard

- ▶ Two-component elastic cementitious mortar for protecting large concrete structures subjected to high stress.

CONSUMPTION: approx. 1.7 kg/m² per mm of thickness (trowel); approx. 2.2 kg/m² per mm of thickness (spray).

APPLICATION: smooth trowel or spray.



Planitop Fast 330

- ▶ Rapid-setting fibre-reinforced cementitious mortar applied in layers from 3 to 30 mm thick to even out interior and exterior floors and walls.

CONSUMPTION: approx. 1.45 kg/m² per mm of thickness.

APPLICATION: smooth trowel.



Mapelastic Smart

- ▶ Two-component high-flexibility (crack-bridging > 2 mm) cementitious mortar applied by trowel or roller for waterproofing, balconies, terraces, bathrooms and swimming pools.

CONSUMPTION: approx. 1.6 kg/m² per mm of thickness (trowel or roller); approx. 2.2 kg/m² per mm of thickness (spray).

APPLICATION: roller, trowel or spray.

N.B.: component B may be sold separately from component A.

MORTARS FOR WATERPROOF SMOOTHING LAYERS ON CONCRETE

Characteristics	Mapelastic Smart	Mapelastic Guard
EN 1504-2 certification principles	PI, MC and IR	PI, MC and IR
Mixing ratio	Comp. A : Comp. B = 2 : 1	Comp. A : Comp. B = 3 : 1
Density of the mix	1600 kg/m ³	1700 kg/m ³
Density after application by spray	2200 kg/m ³	2200 kg/m ³
Application temperature range	from +5°C to +40°C	from +5°C to +35°C
Pot life of mix	1 hour	approx. 1 hour
Adhesion to concrete according to EN 1542	1.3 MPa	1 MPa
Thermal compatibility to freeze/thaw cycles with de-icing salts measured as adhesion according to EN 1542	0.9 MPa	0.8 MPa
Static crack-bridging capacity according to EN 1062-7 expressed as maximum width of crack	> 2.5 mm (+20°C)	> 0.5 mm (-20°C)
Dynamic crack-bridging capacity according to EN 1062-7	No failure of test sample after 20000 cracking cycles with movements of crack from 0.2 to 0.5 mm (+20°C)	—
Permeability to water vapour according to EN ISO 7783-1	S _D : 3.6 μ: 1800	S _D : 2.1 μ: 11600
Impermeability to water expressed as capillary absorption according to EN 1062-3 (kg/m ² ·h ^{0.5})	< 0.05	< 0.02
Permeability to carbon dioxide (CO ₂) according to EN 1062-6 – diffusion in an equivalent thickness of air S _{DCO2} (m)	> 50	> 50
Consumption	Manual application: approx. 1.6 kg/m ² per mm of thickness By spray: approx. 2.2 kg/m ² per mm of thickness	Manual application: approx. 1.7 kg/m ² per mm of thickness By spray: approx. 2.2 kg/m ² per mm of thickness

NOTES

NOTES



● **Technical documentation**

From the technical area menu you can view the technical documentation divided per product lines and type of document.

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