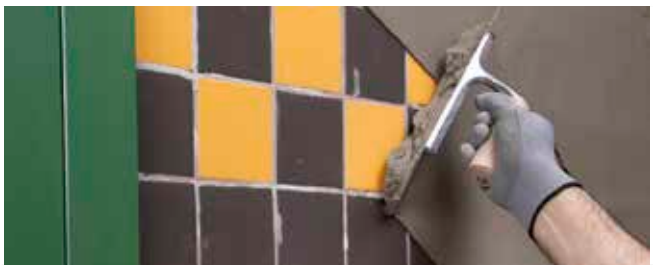
SELECTION CHART OF REPAIR AND SMOOTHING MORTARS








www.mapei.com.au

MAPEI®

ADHESIVES · SEALANTS · CHEMICAL PRODUCTS FOR BUILDING

MAPEI MORTARS FOR **REPAIRING CONCRETE**

REPAIRING CONCRETE WITH SHRINKAGE-COMPENSATED MORTARS

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

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

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

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

PROTECTION OF REINFORCEMENT

Mapefer 1K: One-component, corrosion-inhibiting cement mortar for protection of reinforcement. Classified according to EN 1504-7.

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

OVERVIEW OF MAPEI MORTARS FOR **REPAIRING CONCRETE**

			Protection
			Mapefer 1K
Type of repair		**Protection of reinforcement**	●
		Repair of the concrete cover	
		Structural repair	
Classification according to EN 1504-3 Standards			
Application		**Trowel/gauging trowel**	
		Continuous-mix rendering machine	
		Rendering machine with pre-mixing unit	
		By pouring	
		Dry-spraying machine (gunite)	
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**	

Normal-setting thixotropic mortars			*Rapid-setting thixotropic mortars*			*Normal-setting high flow mortars*	*Rapid-setting high flow mortars*
Mapegrout T40	**Mapegrout T60**	**Mapegrout Easy Flow**	**Mapegrout Fast-Set**	**Mapegrout SV T**	**Planitop Smooth & Repair R4**	**Mapegrout Hi-Flow**	**Mapegrout SV**
●	●	●	●	●	●	●	
●	●	●	●		●	●	
R3	R4	R4	R3	R4	R4	R4	R4
●	●	●	●	●			
●	●	●					
						●	●
●	●		●		●		
●	●		●		●		
●	●				●		
●	●				●		
●	●				●		
						●	●
●	●		●		●		
				●	●		●
●	●				●	●	
						●	●
●	●	●					
●	●	●					
●	●	●					
●	●	●					
●	●	●				●	●
●	●	●				●	●
	●	●				●	●
						●	●
	●	●		●			
	●	●		●		●	●
	●	●					
	●	●					
	●	●					
	●	●					
				●		●	●

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/m³	2250 kg/m³	2000 kg/m³
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/m² per cm of thickness	20 kg/m² per cm of thickness	17 kg/m² per cm of thickness

Mapegrout Fast-Set

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

CONSUMPTION: 18 kg/m^2 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/m^2 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/m^2 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/m^2 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 it is: 20 kg/m^2 per cm of thickness;

– mixed with 40% gravel: 14.5 kg/m^2 per cm of thickness (5.7 kg/m^2 of GRAVEL 6-10).

APPLICATION: pouring into formwork.

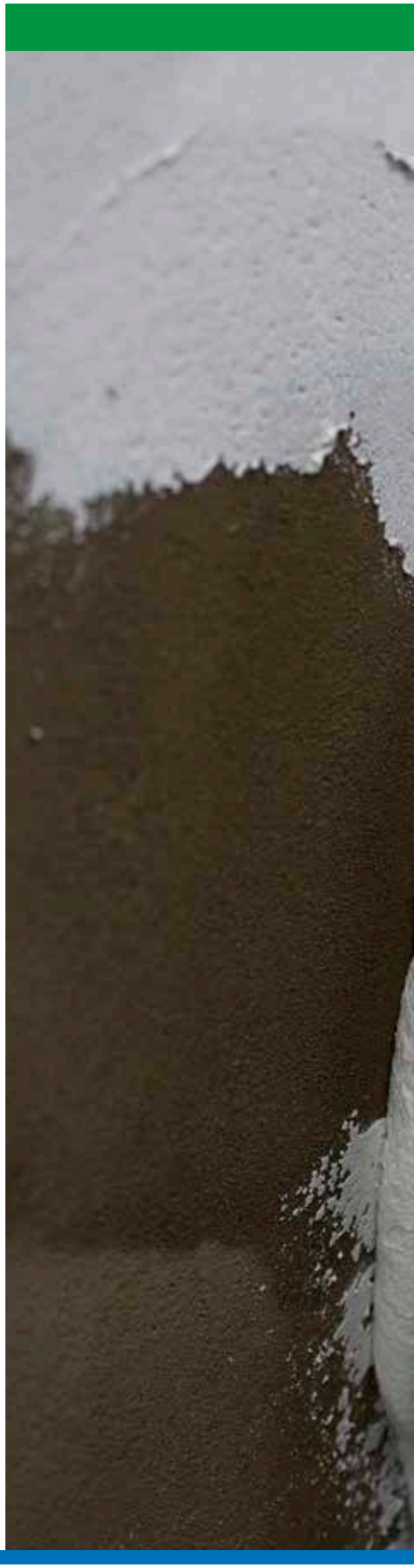
MAPEI PRODUCTS FOR **SMOOTHING CONCRETE**

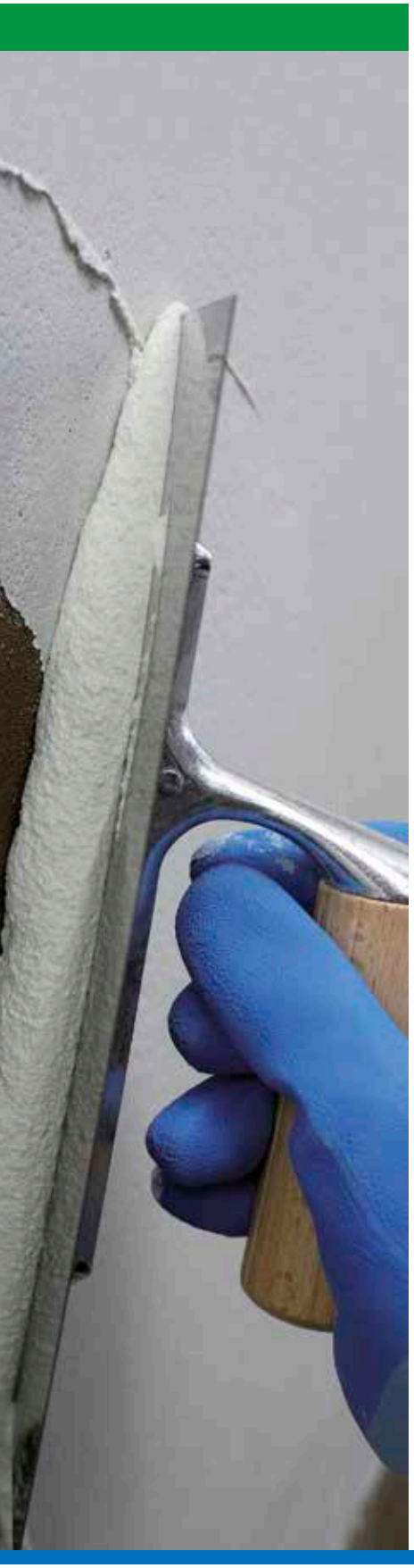
SMOOTHING THE SURFACE OF CONCRETE AND RENDER

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 Fine Finish: Ultra fine textured skimming mortar for concrete; recommended for exposed finish surfaces. Classified EN 1504-2 coating (C) principles MC and IR.





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 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	●	●
	Exposed finish smoothing layer		
	Localised repairs	●	●
	Resistant to abrasion		
	Protects against aggressive agents		
	Suitable for installing ceramics	●	●

Planitop Fine Finish	Planitop Smooth & Repair R4	Mapelastic Smart	Mapelastic Guard
		●	●
●	●		
EN 1504-2 Principles MC - IR	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
●	●		●
		●	
●	●		
		●	●
●	●		
●			
	●		
		●	●
		●	

MORTARS FOR **SMOOTHING CONCRETE**

	MORTARS FOR SMOOTHING CONCRETE			
Characteristics	Planitop 210	Planitop Fast 330	Planitop Fine Finish	Planitop Smooth & Repair R4
EN 1504-2 certification principles	MC and IR	MC and IR	MC and IR	R4
Maximum size of aggregate	0.4 mm	1 mm	0.2 mm	0.4 mm
Mixing ratio	21% - 24% water	18% - 20% water	40% - 42% water	16.5% - 17,5% water
Density of the mix	1740 kg/m^3	1750 kg/m^3	1600kg / m3	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	from +5°C to +35°C
Pot life of mix	approx. 1 hour	approx. 20 mins.	approx. 45 mins.	approx. 15 mins.
Compressive strength	> 16 MPa after 28 days	> 20 MPa after 28 days	>12MPa after 28 days	52 MPa after 28 days
Flexural strength	> 4 MPa after 28 days	–	3.5 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	>1 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	–	>1 MPa	≥ 2 MPa
Thickness applied	from 1 to 3 mm	from 3 to 30 mm	Feather to 3mm	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 1.2kg / m2 / mm of thickness	approx. 1.7 kg/m^2 per mm of thickness

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/m^2 per mm of thickness.

APPLICATION: smooth metal trowel.

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/m^2 per mm of thickness.

APPLICATION: smooth trowel.

Planitop Fine Finish

Ultra fine textured skimming mortar for concrete; recommemded for exposed finish surface.

COLOUR: light grey.

CONSUMPTION: approx. 1.2 kg/m^2 per mm of thickness.

APPLICATION: smooth metal or rubber 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/m^2 per cm of thickness.

APPLICATION: smooth trowel, gauging 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/m^2 per mm of thickness (trowel or roller); approx. 2.2 kg/m^2 per mm of thickness (spray).

APPLICATION: roller, trowel or spray.

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

Mapelastic Guard

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

CONSUMPTION: approx. 1.7 kg/m^2 per mm of thickness (trowel); approx. 2.2 kg/m^2 per mm of thickness (spray).

APPLICATION: smooth trowel or spray.

	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_{DCO_2} (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

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

MAPEI AUSTRALIA
180 Viking Drive
Wacol Qld 4076
Phone: 07 3276 5000
Fax: 07 3276 5076
Email: sales@mapei.com.au
Web: www.mapei.com.au

MAPEI NEW ZEALAND
30 Fisher Crescent
Mt Wellington Auckland New Zealand
Phone: +64 9 921 1994
Fax: +64 9 921 1993
Email: enquiries@mapei.co.nz
Web: www.mapei.co.nz

C.P. MK 728430 (AUS)_MAR-18

MAPEI®