

MORTAR FOR DRINKING WATER APPLICATIONS

TW05 SCREEDING COMPOUND FOR DRINKING WATER APPLICATIONS (0-0.5 mm)

TW10 MORTAR FOR DRINKING WATER APPLICATIONS (0-1.0 mm)

TW20 MORTAR FOR DRINKING WATER APPLICATIONS (0-2.0 mm)

TW40 MORTAR FOR DRINKING WATER APPLICATIONS (0-4.0 mm)

TW05 SCREEDING COMPOUND FOR DRINKING WATER APPLICATIONS white (0-0.5 mm)

TW10 MORTAR FOR DRINKING WATER APPLICATIONS white (0-1.0 mm)

TW20 MORTAR FOR DRINKING WATER APPLICATIONS white (0-2.0 mm)

TW40 MORTAR FOR DRINKING WATER APPLICATIONS white (0-4.0 mm)

TEST CERTIFICATES AND SUPPORTING DOCUMENTS

- › Test acc. to DVGW Technical Rules, Work Sheets W 270 and W 347
- › Test acc. to DVGW Technical Rules, Work Sheet W 300 (**TW20 - TW40** and **TW20 white**)
- › Product acc. to DIN EN 1504-3 "Concrete replacement product for statically relevant and irrelevant repair"
- › Product acc. to DIN EN 13813 "Cement-based screed for wearing layers" (**TW10 - TW40**)
- › Factory production control acc. to DIN EN 1504-3 and DIN EN 13813
- › Company certification acc. to DIN EN ISO 9001:2015

PROPERTIES

- › Microbiologically suitable for use in drinking water applications
- › Promotes neither microbial growth nor does it have any bactericidal or fungicidal properties
- › Microsilica-modified
- › Applicable at vertical and horizontal areas
- › Suitable for dense phase wet spraying applications
- › Use of the MAWO nozzle for dense phase wet spraying application ensures marginal rebound and very little dust
- › Meets the recommendation of the team "drinking water matters" of the KTW Commission of the German Federal Public Health Department for container materials with regard to the water behaviour (**TW weiss**)

AREAS OF APPLICATION

- › Coating of wall, floor and ceiling areas in the drinking water sector and water treatment plants
- › Repair of concrete, plaster and screed
- › Drinking water containers, pipes
- › Coatings used in the food industry

TECHNICAL DATA

TYPE			TW05	TW10	TW20	TW40
Area of application			Screed	Fine mortar*	Spray mortar	Mortar
Grain size		mm	0-0.5	0-1	0-2	0-4
Layer thickness		mm	2-6	5-10	10-30	20-40
Amount of water	max.	%	16	13	13	12
Fresh mortar raw density approx.		kg/m ³	2,000	2,100	2,100	2,150
Consumption approx.		kg/(m ² · mm)	1.85	1.9	1.9	1.9
Processing time approx.		min	30	30	30	30
Compressive strength**	24 h	N/mm ²	≥ 15	≥ 25	≥ 25	≥ 25
	7 d	N/mm ²	≥ 35	≥ 45	≥ 45	≥ 45
	28 d	N/mm ²	≥ 45	≥ 55	≥ 55	≥ 60
Adhesive pull strength	7 d	N/mm ²	≥ 1.5	≥ 2.0	≥ 2.0	≥ 2.0
E-Module (static)	28 d	N/mm ²	≥ 15,000	≥ 20,000	≥ 20,000	≥ 20,000

* Also suitable for use as a bonding agent

** DIN EN 196-1-compliant compressive strength testing

Note: The surface properties and their visual appearance are affected by the addition of the water during mixing, by the way it is applied and finished. It is therefore possible that colour deviations may occur.

TW MORTARS FOR DRINKING WATER APPLICATIONS are no decorative coatings. We do not accept any liability for any partial discolourations and efflorescences caused through adverse influences such as weather, water and chemicals.

Blooming and discolourations can be avoided to the largest possible extent, if the last layer of the overall layer thickness is carried out with the application of the **TW05 SCREEDING COMPOUND FOR DRINKING WATER APPLICATIONS** in the MAWO PAGEL DENSE PHASE WET SPRAYING APPLICATION METHOD in a layer thickness of 5 mm.

Storage: 12 months. Cool, dry, free from frost. Unopened in its original container.

Delivery form: 25-kg bag, Euro pallet 1,000 kg

Delivery form: Non-hazardous material, observe information on packaging.

GISCODE: ZP1

PAGEL PRODUCT COMPOSITION:

Cement: acc. to DIN EN 197-1

Aggregate: acc. to DIN EN 12620

Additions: acc. to DIN EN 450, general building inspection approval (abZ),
DIN EN 13263 (fly ash, microsilica, etc.)

MOISTURE CLASSES BASED ON CONCRETE CORROSION FROM ALKALI-SILICIC ACID REACTIONS

Moisture class	WO	WF	WA	WS
TW	•	•	•	•

The aggregates in PAGEL®'s products comply with the requirements of alkali sensitivity class E1 from non-hazardous sources specified under DIN EN 12620.

EXPOSURE CLASS ALLOCATION ACC. TO: DIN EN 206-1 / DIN 1045-2 / DVGW W 300-4

	XO	XC	XD	XS	XF	XA*	XM	X _{TWB}
	123	123	123	123	1234	123	123	
TW05	•	••••	•	•	•	•	•	
TW10	•	••••	••••	••••	••••	••	••	
TW20	•	••••	••••	••••	••••	••	••	•
TW40	•	••••	••••	••••	••••	••	••	•

* TW10, TW20, TW40: Having sulfate attack up to 600 mg/l

TECHNICAL DATA

TYPE			TW05 white	TW10 white	TW20 white	TW40 white
Area of application			Screed	Fine mortar*	Spray grout	Mortar
Grain size	mm		0-0,5	0-1	0-2	0-4
Layer thickness	mm		2-6	5-10	10-30	20-40
Amount of water	max.	%	16	13	13	13
Fresh mortar raw density		kg/m ³	2,000	2,100	2,100	2,150
Consumption approx.		kg / (m ² · mm)	1.85	1.9	1.9	1.9
Processing time approx.		min	30	30	30	30
Compressive strength**	24 h	N/mm ²	≥ 15	≥ 20	≥ 20	≥ 25
	7 d	N/mm ²	≥ 30	≥ 40	≥ 35	≥ 35
	28 d	N/mm ²	≥ 40	≥ 50	≥ 45	≥ 45
Bending tensile strength	24 h	N/mm ²	≥ 3	≥ 4	≥ 4	≥ 4
	7 d	N/mm ²	≥ 5	≥ 6	≥ 6	≥ 6
	28 d	N/mm ²	≥ 6	≥ 8	≥ 8	≥ 8
Adhesive pull strength	7 d	N/mm ²	≥ 1.5	≥ 2.0	≥ 2.0	≥ 2.0
E-Module (static)	28 d	N/mm ²	≥ 15,000	≥ 20,000	≥ 20,000	≥ 20,000

* Also suitable for use as a bonding agent

** Testing of bending tensile and compressive strengths in accordance with DIN EN 196-1

Note: The surface properties and their visual appearance are affected by the addition of the water during mixing, by the way it is applied and finished. It is therefore possible that colour deviations may occur.

TW white MORTARS FOR DRINKING WATER APPLICATIONS are no decorative coatings. We do not accept any liability for any partial discolourations and efflorescences caused through adverse influences such as weather, water and chemicals.

Blooming and discolourations can be avoided to the largest possible extent, if the last layer of the overall layer thickness is carried out with the application of the **TW05 white** SCREEDING COMPOUND FOR DRINKING WATER APPLICATIONS in the MAWO PAGEL DENSE PHASE WET SPRAYING APPLICATION METHOD in a layer thickness of 5 mm.

Storage: 12 months. Cool, dry, free from frost. Unopened in its original container.

Delivery form: 25-kg bag, Euro pallet 1,000 kg

Hazard class: Non-hazardous material, observe information on packaging.

GISCODE: ZP1

PAGEL PRODUCT COMPOSITION:

Cement: acc. to DIN EN 197-1

Aggregate: acc. to DIN EN 12620

Additions: acc. to DIN EN 450, general building inspection approval (abZ),
DIN EN 13263 (fly ash, microsilica, etc.)

MOISTURE CLASSES BASED ON CONCRETE CORROSION FROM ALKALI-SILICIC ACID REACTIONS

Moisture class	WO	WF	WA	WS
TW white	•	•	•	•

The aggregates in PAGEL's products comply with the requirements of alkali sensitivity class E1 from non-hazardous sources specified under DIN EN 12620.

EXPOSURE CLASS ALLOCATION ACC. TO: DIN EN 206-1 / DIN 1045-2 / DVGW W 300-4

	XO	XC	XD	XS	XF	XA*	XM	X _{TWB}
	123	123	123	1234	123	123		

TW05 white • • • • • • • • • •

TW10 white • • • • • • • • • •

TW20 white • • • • • • • • • •

TW40 white • • • • • • • • • •

* TW10 white, TW 20 white, TW 40 white:

Having sulfate attack up to 600 mg/l

APPLICATION

SUBSTRATE PREPARATION:

Remove loose and unsound material such as cement slurry and dirt etc. using suitable methods, e.g. shot-blasting or similar until the underlying solid grain structure has been exposed. A sufficient average tear strength ($\geq 1.5 \text{ N/mm}^2$, KEW $\geq 1.0 \text{ N/mm}^2$) must be ensured.

Prewetting:

Prewet the concrete substrate to capillary saturation for approx. 6-24 hours.

Reinforcing steel:

Blast all rust off exposed reinforcement bars until the underlying metal has been exposed acc. to purity grade SA 2 ½ in accordance with DIN EN ISO 12944-4.

CORROSION PROTECTION: Apply two complete coats of **TW05** SCREEDING COMPOUND FOR DRINKING WATER APPLICATIONS to the derusted reinforcing steel using a brush.

MIXING: The dry mortar is supplied ready to use and only needs to be mixed with water. Fill the specified amount of water apart from a residual amount into a clean and suitable mixing device (e.g. compulsory mixer).

Add the dry mortar and mix for at least 3 minutes. Add the remaining water and mix for at least another 2 minutes until it forms a homogeneous mass.

APPLICATION:

Manual application:

BONDING LAYER: TW10 FINE MORTAR FOR DRINKING WATER APPLICATIONS.

Use a brush or broom, and brush onto the prewetted, matt-moist concrete substrate until it has penetrated right down into the pores and without leaving any gaps. The next mortar layer must be applied immediately wet on wet.

Apply **TW** MORTAR FOR DRINKING WATER APPLICATIONS compressively to the bonding layer before it starts setting using conventional tools, distribute and smoothen.

Mechanical application:

TW MORTAR FOR DRINKING WATER APPLICATIONS in the MAWO-PAGEL DENSE PHASE WET SPRAYING APPLICATION METHOD:

The spraying of the mortar can be carried out with conventional screw feed pumps with a variable speed drive suitable for this application. Hold the nozzle preferably at a right angle with a distance of approx. 50 cm to the area to be coated. The first layer of spray mortar is sprayed on with a high compressed air flow to support the bonding layer. The application of the additional spray layers is carried out with a conveying speed correspondingly adapted to the position of the respective structural component and adapted compressed air support. The follow-up treatment and the smoothing of the surfaces can be carried out immediately after the completion of the spray works.

Air compressor:	5 m ³ /min, 5 bar
Conveying hose:	DN 35 max. 40 m with end reduction DN 25, max. 5 m
Temperature range:	+ 5 °C to + 35 °C
Mixing water:	Drinking water quality

FOLLOW-UP TREATMENT:

Fresh mortar areas must be protected from premature water evaporation (from wind, draughts, direct exposure to sun, etc.) immediately on completion of the work for a period of 3-5 days.