

## PRODUCT DATA SHEET

# SikaEmaco® T 800 DUO

(formerly MEmaco T 800DUO)

Dual-consistency high-strength, quick drying, shrinkage compensated screed and horizontal repair mortar, EN 1504-3 class R4

## DESCRIPTION

SikaEmaco® T 800 DUO is a one component, quick drying, shrinkage compensated screed and horizontal repair mortar meeting class R4 requirements according to EN 1504-3.

SikaEmaco® T 800 DUO is a ready-to-use material that contains special hydraulic binders, well graded sands and specifically selected polymers.

Depending on the mixing water amount, the consistency of the resulting mortar can be damp/tixotropic or fluid/pourable:



## USES

SikaEmaco® T 800 DUO can be used for repairing concrete floors, cement screeds, concrete constructions, stairs and industrial floors both internally as well as externally in thickness from 10 to 100 mm.

SikaEmaco® T 800 DUO is suitable for exposure classes XC1-4, XF1-4, XD1-3, XS1-3, XA1-2 and XM1 as described in EN 206.

Due to its fast-drying properties, it can be quickly covered with resin-based coatings, waterproofing slurries as well as ceramic tiles.

## FEATURES

- Dual consistency: damp/tixotropic or fluid/pourable – simply by changing the mixing water amount.
- Excellent workability and finishing properties in all consistencies.
- Universal use: can be applied inside and outside, on all horizontal surfaces, in dry and wet environments.
- Wide application thickness: 10 to 100 mm for bonded constructions, 40 to 100 mm as floating screed.
- Quick drying - allows early covering even with vapour-tight resin coatings.
- Minimised shrinkage, independent of allowed water demand; meets shrinkage requirement SW1 according to DIN 18560-1.
- Weatherproof and frost resistant.
- Sulphate and chloride resistant.
- Meets class CT-C60-F7-A12 of EN 13813.
- CE-certified as class R4 according to EN 1504-3
- Very low emission (EC1 plus according to EMICODE).

## PRODUCT INFORMATION

Packaging	SikaEmaco® T 800 DUO is available in 25 kg paper bags and 1000 kg big bags.	
Appearance and colour	Grey powder	
Shelf life	8 months after date of production if stored at below mentioned storage conditions.	
Storage conditions	Store at ambient temperatures, out of direct sunlight, in cool, dry warehouse conditions and clear of the ground on pallets protected from rainfall prior to application. No permanent storage over +30° C.	
Maximum grain size	approx. 2 mm	
Total chloride ion content	≤ 0.03 %	(EN 1015-17)

## TECHNICAL INFORMATION

Abrasion resistance	Böhme abrasion <sup>1</sup>		class A12 (≤ 12cm <sup>3</sup> /50 cm <sup>2</sup> )	(EN 13892-3)
Compressive strength	Age	damp <sup>1</sup>	fluid <sup>2</sup>	(EN 13892-2)
	16 hours	≥ 50 N/mm <sup>2</sup>	≥ 15 N/mm <sup>2</sup>	
	1 day	≥ 55 N/mm <sup>2</sup>	≥ 25 N/mm <sup>2</sup>	
	3 days	≥ 60 N/mm <sup>2</sup>	≥ 30 N/mm <sup>2</sup>	
	7 days	≥ 70 N/mm <sup>2</sup>	≥ 35 N/mm <sup>2</sup>	
	28 days	≥ 80 N/mm <sup>2</sup>	≥ 55 N/mm <sup>2</sup>	
	All data determined at +23 °C.			(EN 13892-2)
	Cold temperature performance:			
	Age	damp <sup>1</sup>	fluid <sup>2</sup>	
	16 hours	≥ 30 N/mm <sup>2</sup>	≥ 4 N/mm <sup>2</sup>	
	1 day	≥ 50 N/mm <sup>2</sup>	≥ 15 N/mm <sup>2</sup>	
	3 days	≥ 60 N/mm <sup>2</sup>	≥ 30 N/mm <sup>2</sup>	
	7 days	≥ 65 N/mm <sup>2</sup>	≥ 35 N/mm <sup>2</sup>	
	28 days	≥ 70 N/mm <sup>2</sup>	≥ 40 N/mm <sup>2</sup>	
	All data determined at +5 °C.			
	Modulus of elasticity in compression	Elasticity Modulus <sup>1</sup> (static)		
Flexural-strength	Age	damp <sup>1</sup>	fluid <sup>2</sup>	(EN 13892-2)
	16 hours	≥ 6.0 N/mm <sup>2</sup>	≥ 2.5 N/mm <sup>2</sup>	
	1 day	≥ 6.5 N/mm <sup>2</sup>	≥ 4.0 N/mm <sup>2</sup>	
	3 days	≥ 7.0 N/mm <sup>2</sup>	≥ 5.0 N/mm <sup>2</sup>	
	7 days	≥ 7.5 N/mm <sup>2</sup>	≥ 5.5 N/mm <sup>2</sup>	
	28 days	≥ 8.0 N/mm <sup>2</sup>	≥ 7.0 N/mm <sup>2</sup>	
	All data determined at +23 °C.			(EN 13892-2)
	Cold temperature performance:			
	Age	damp <sup>1</sup>	fluid <sup>2</sup>	
	16 hours	≥ 4.0 N/mm <sup>2</sup>	≥ 1.0 N/mm <sup>2</sup>	
	1 day	≥ 6.0 N/mm <sup>2</sup>	≥ 2.0 N/mm <sup>2</sup>	
	3 days	≥ 6.5 N/mm <sup>2</sup>	≥ 3.5 N/mm <sup>2</sup>	
	7 days	≥ 7.0 N/mm <sup>2</sup>	≥ 4.0 N/mm <sup>2</sup>	
	28 days	≥ 8.0 N/mm <sup>2</sup>	≥ 5.0 N/mm <sup>2</sup>	
	All data determined at +5 °C.			

<b>Shrinkage</b>	Shrinkage after 84 days <sup>1</sup>	0.13 mm	(EN 13892-9)
	Shrinkage class <sup>1</sup>	SW1	(DIN 18560-1)
<b>Tensile adhesion strength</b>	Adhesion to concrete after 28 days <sup>1</sup>	≥ 3.0 N/mm <sup>2</sup>	(EN 1542)
	Adhesion to Concrete after freeze-thaw (50 cycles with salt) <sup>1</sup>	≥ 3.0 N/mm <sup>2</sup>	(EN 13687-1)
<b>Reaction to fire</b>	Class A1		(EN 13501-1)
	<sup>1</sup> Material mixed with approx. 100 ml water pro kg powder. <sup>2</sup> Material mixed with approx. 140 ml water pro kg powder.		
<b>Freeze thaw de-icing salt resistance</b>	CDF testing <sup>1</sup>	≤ 100 g/m <sup>2</sup> (class1)	(CEN TS 12390-9)
<b>Sulfate resistance</b>	Dimensional change after 120 days in 10% Na <sub>2</sub> SO <sub>4</sub> -solution <sup>1</sup>	passed (diff. < 0.2 mm/m)	(Wittekindt method)
<b>Capillary absorption</b>	≤ 0.5 kg·m <sup>-2</sup> ·h <sup>-0.5</sup>		(EN 13057)
<b>Carbonation resistance</b>	dk ≤ Ref. Concrete		(EN 13295)
<b>Service temperature</b>	-30 °C to +80 °C		
<b>Salt resistance</b>	Dimensional change after 120 days in 10% NaCl-solution <sup>1</sup>	passed (diff. < 0.2 mm/m)	(Wittekindt method)

## APPLICATION INFORMATION

<b>Mixing ratio</b>	damp consistency:	2.0 – 2.5 l water per 25kg bag
	fluid consistency:	3.0 – 3.6 l water per 25kg bag
<b>Consumption</b>	Approx. 2,000 kg powder is needed to prepare 1 m <sup>3</sup> of fresh mortar. One 25 kg bag will yield approximately 12 to 13 litres of mortar (depending on the consistency used).	
<b>Layer thickness</b>	bonded constructions:	10 to 100 mm
	as floating screed:	40 to 100 mm
<b>Ambient air temperature</b>	+5 °C to +30 °C	
<b>Substrate temperature</b>	+5 °C to +30 °C	
<b>Pot Life</b>	damp consistency:	approx. 10 to 15 minutes*
	fluid consistency:	approx. 40 to 50 minutes*
	Note: the less water is used, the shorter the pot life of SikaEmaco® T 800 DUO.	
<b>Waiting time to overcoating</b>	For subsequent waterproofing slurries, tile adhesives and similar:	
	damp consistency:	approx. 6 hours*
	fluid consistency:	approx. 12 hours*
	* Hardening times are measured at 21±2 °C and 60±10 % relative humidity. Higher temperatures will reduce these times and lower temperature will extend them.	
<b>Applied product ready for use</b>	CM-humidity after 24 hours (at +23 °C):	
	damp consistency:	1.6 %
	fluid consistency:	3.3 %

<b>Setting time</b>	damp consistency:	approx. 45 minutes*
	fluid consistency:	approx. 180 minutes*
Note: the more water is used, the longer the setting time of SikaEmaco® T 800 DUO.		
<b>Fresh mortar density</b>	approx. 2.2 kg/l	

## BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## IMPORTANT CONSIDERATIONS

- Do not apply SikaEmaco® T 800 DUO at temperatures below 5 °C nor above +30 °C.
- Mix only as much mortar as can be applied during the pot life of the product.
- Do not add cement, sand or other substances that could affect the properties of SikaEmaco® T 800 DUO.
- Never add water or fresh mortar to a mortar mix which has already begun to set.

## ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

### SUBSTRATE PREPARATION

The substrate must be clean, structurally sound, open pored, absorbent and sufficiently rough. It must be strong enough to take loads for the intended use.

Extremely smooth substrates and layers not able to take loads (by e.g. contamination, coating residues, curing agents, hydrophobing agents or cement slurries) as well as damaged concrete surfaces must be removed by suitable means, e.g. blasting with solid abrasives or high-pressure water jetting. When reprofiling any surface ruptures (mortar fillings), the edge zones must be laid at an angle of 30° to 60° leaving a rough joint.

#### Working with Bonding Slurry (all consistencies):

The prepared substrate should be saturated with water, preferably for 12 hours, but at least 2 hours before applying SikaEmaco® T 800 DUO. The surface must be mat-damp, but without standing water.

#### Working with Primer (for fluid consistency only):

Alternatively to the bonding slurry application, the fluid version of SikaEmaco® T 800 DUO can also be applied onto a primed surface. In this case prime the prepared dry and dust-free surface with Sikafloor P 644 (diluted 1:1 with water) using a roller. Allow the primer to dry overnight (min. 16 hours).

### MIXING

#### Bonding Slurry:

Fill approx. 3.3 to 3.6 litres of cool tap water in a clean mixing bucket, add one bag of SikaEmaco® T 800 DUO and mix for at least 2 minutes until free of lumps using a suitable paddle attached to a powerful electric drill.

#### Damp/tixotropic consistency:

Fill approx. 2.0 to 2.5 litres of cool tap water in a clean mixing bucket, add one bag of SikaEmaco® T 800 DUO and mix with a suitable paddle attached to a powerful electric drill. For larger amounts the use of a forced action mixer is recommended.

#### Fluid/pourable consistency:

Fill approx. 3.0 to 3.6 litres of cool tap water in a clean mixing bucket, add one bag of SikaEmaco® T 800 DUO and mix for at least 2 minutes to the desired flowable and lump-free consistency using a suitable paddle attached to a powerful electric drill. For larger amounts the use of a forced action mixer is recommended.

Note: Add water if necessary but never exceed the maximum water demand!

### APPLICATION

Temperatures during application and for the next 12 hours must be between +5 °C and +30 °C.

#### Bonding Slurry:

Apply the mixed SikaEmaco® T 800 DUO bonding slurry immediately to the prepared surface and work in thoroughly using a hard broom or brush. Make sure that the entire surface area is covered with the bonding slurry. Do not allow the bonding slurry to dry! SikaEmaco® T 800 DUO mortar must be applied immediately wet-on-wet.

#### Damp/tixotropic consistency:

Apply mixed SikaEmaco® T 800 DUO mortar to the substrate – wet on wet – and spread to the required layer thickness (minimum: 10 mm). Compact the mortar using a vibrating tamper or trowel. Go over the surface with a levelling board and rub down with a wooden board. Smooth surface with a finishing trowel if necessary.

**Fluid/pourable consistency:**

Pour mixed SikaEmaco® T 800 DUO into spaces to be filled – wet on wet on the bonding slurry or onto the primed surface. Compact and smooth the mortar with a suitable tool.

Machine application of fluid SikaEmaco® T 800 DUO mortar is easy and efficient when using powerful worm-driven pumps like e.g. M-Tec duo-mix or similar. Please contact our local technical service for support.

**CURING TREATMENT**

Freshly applied SikaEmaco® T 800 DUO must be protected for approx. 6 hours against rapid drying in case of hot weather, strong winds or if used outdoors.

**CLEANING OF EQUIPMENT**

Tools and mixer must be cleaned immediately after use with water. Cured material can only be removed mechanically.

**LOCAL RESTRICTIONS**

Please note that as a result of specific local regulations the declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

**LEGAL NOTES**

Any information or suggestions for use concerning Sika's products, which we either in writing or orally have given buyers or end-users of the product, have been given in good faith based on our own experiences and based on approved praxis and the technological and scientific knowledge on the time of giving such suggestions and information, which are given without any type of guarantees, and which do not lead to any further responsibility from Sika Danmark A/S, besides what is stated in the sales agreement in question. The buyer or end-user should themselves investigate or otherwise make sure, that our products are suitable for the use in question and further make sure that the products are kept and used correct and in agreement with the published rules and considering the actual conditions in order to avoid damages or less satisfactory results. Any order is accepted and any deliverance is affected according to the general terms of sales and delivery from Sika Danmark A/S, which are considered known and accepted, and which could be handed out when asked for. Our catalogues are not up-dated automatically. The present product data sheet is only for use in Denmark. Values stated in the present product data sheet should be seen as recommended, unless stated otherwise.

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**PRODUCT DATA SHEET**

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