



SikaCem® 810

Modified SBR Polymer Admixture

Technical Data Sheet

DESCRIPTION

SikaCem 810 is a patented one component water based blend of modified SBR emulsion, plasticisers and silica fume. When diluted it produces a gauging solution for improving cementitious mixes.

USES

SikaCem 810 is added to water then mixed with cement and sand/aggregate to produce:

- * Bond coat/slurry.
- * Pourable micro concrete.
- * Renders.
- * Screeds with enhanced mechanical properties.

ADVANTAGES

- * Reduced shrinkage and cracking.
- * Reduced permeability.
- * Improved workability.
- * Improved mechanical properties.
- * Improved resistance to freeze/thaw.
- * Just add water.
- * Suitable for contact with potable water.
- * More durable than SBR and latex mixes.
- * Water based.
- * Solvent free.
- * Non toxic.
- * Chloride free.
- * Non flammable.
- * Compatible with all cement types.
- * Good mechanical properties.
- * Better workability than unmodified SBR and acrylic emulsions.
- * Easier to finish.

Technical Data (typical)

Mixed colour:	Light grey
Specific gravity:	1.1 kg/litre
Application temperature:	In accordance with render/screed/concrete standards. 5°C (guide only) (Substrate and ambient)

MECHANICAL PROPERTIES

28 days @ 20°C	RH 65%	
1 : 3 cement : sand mortar mix		
	Unmodified control	SikaCem 810 modified 1 : 2 solution

Compressive strengths:

1 day	20 N/mm ²	33 N/mm ²
3 days	33 N/mm ²	45 N/mm ²
7 days	42 N/mm ²	56 N/mm ²
28 days	55 N/mm ²	63 N/mm ²

Bond strengths: (tensile)

28 days	1.0 N/mm ²	>2.0 N/mm ²
With bond coat: (failure mode)	bondline/substrate	bondline/substrate

Bond strength can be improved by using **SikaDur® 32** or **SikaTop® Armatec 110 EpoCem®** as a bond coat resulting in a failure mode within the substrate (depending on preparation).

Notes:

- * Final mechanical properties and strength gain will be dependent on temperature, aggregate/sand type, moisture content and curing regime.
- * More accurate information regarding workability, mechanical strengths and strength gains should be obtained from site trials and appropriate strength/bond tests.
- * Bond strength will be dependent on condition of substrate, preparation techniques and application.
- * Where increased open times and bond strength are required for bond coat/slurry use **SikaTop Armatec 110 EpoCem** or **SikaDur 32**.

Approved for potable water contact.
Details available on request.

All above values are approximate.

CONCRETE SUBSTRATE PREPARATION

Concrete substrates must be suitably prepared using mechanical or abrasive blast cleaning techniques such as scabbling, needle gunning, grit blasting and to provide a clean, sound surface free of laitance, surface contaminants such as oil and grease and loosely adhering particles.

MIXING

SikaCem 810 should be mechanically mixed using a forced action mixer or in a clean drum using a drill and paddle. A normal concrete mixer is NOT suitable.

Mix **SikaCem 810** with water to produce a gauging solution in the correct ratio for 90 seconds. Add gauging solution to cement/aggregate mix until desired consistency is achieved.

APPLICATION

The prepared substrate should be thoroughly soaked with clean water until uniformly saturated leaving no standing water. Always apply mix "wet on wet" to bonding bridge/coat. Re-apply if surface dries.

Bond coat:

Work mix vigorously with a stiff brush onto pre-dampened substrate.

Screed, render, mortar:

Apply mix to wet bond coat. If bond coat dries, reapply.

IMPORTANT CONSIDERATIONS

CURING

Correct curing procedures should be carried out immediately after application to ensure full cement hydration and to minimise cracking. Use polythene sheeting or other approved methods in accordance with render/screed standards.

- * **SikaCem 810** must be diluted with water and mixed with cement for all applications
- * Do not add water over recommended dosage.
- * Apply only to prepared, sound substrates.
- * Due allowance must be made for the moisture content of the sand to ensure the correct quantity of **SikaCem 810** is used as given in the standard mixes. In some circumstances this will result in the addition of undiluted **SikaCem 810** to the mix.
- * When sand is mixed wet the quantity of water added **must** in all cases be reduced to compensate.
- * Protect freshly applied material from freezing.
- * Do not add additional admixtures without prior consultation with **Sika Limited**.

CLEANING

Remove **SikaCem 810** from tools and equipment with water.

PACKAGING

Refer to latest price list.

STORAGE AND SHELF LIFE

Minimum 1 year in unopened original sealed containers stored in dry warehouse conditions (+5°C - +25°C).

Standard Mix Design and Consumption Guide

Use	Mix Design Ref	Gauging Solution SikaCem 810:water litres	Dry Mix cement:sand:Agg kg	Thickness layer range mm	Approx 28 day strength N/mm ²	Approx Yield litres (m ³)	Notes
Bond coat for: floor screeds, rendering	A	1 : 1	1 : 1 : 0	-	-	-	-
Normal duty floor screed	B	10 : Upto 10	50 : 150 : 0	12 - 25	Upto 60	100 (0.10)	Use bond coat.
Heavy duty floor screed	C	7.2 : Upto 14	50 : 75 : 75 gravel/agg 3-6	20 - 25	Upto 65	100 (0.10)	Apply semi dry. Use bond coat.
Render	D	7.2 : Upto 14	50 : 130 : 0	10 - 25	Upto 55	100 (0.10)	Use bond coat
Pourable micro concrete	E	7.2 : 12.5 : 0.5*	50 : 85 : 110 gravel/agg 5-10 mm	25 - 100	Upto 50	100 (0.10)	Flow trials recommended
Sand to BS 882 1992 Grade M		Aggregates are calculated as dry		Cement type: Ordinary portland cement		* For micro concrete use Sikament® N in gauging solution	

Handling Precautions

Sika products are generally harmless provided that certain precautions normally taken when handling chemicals are observed. The materials must not, for instance, be allowed to come in contact with foodstuffs or food utensils and measures should also be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The use of protective clothing, goggles, barrier creams and rubber gloves is required. The skin should be thoroughly cleaned at the end of each working period either by washing with soap and warm water or by using a resin-removing cream - the use of powerful solvents is to be avoided. Disposable paper towels - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. In case of accidental eye or mouth contact, flush with water - consult a doctor immediately. Health and Safety information on Sika Products is available and we strongly advise that this is read prior to their use. Sika products are for professional use and should be stored in sealed containers away from the reach of children.

Important Note

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

Please consult our Technical Sales Department for further information

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