BUILDING TRUST

PRODUCT DATA SHEET

Feb® FebSET® 45

RAPID High Strength Repair Mortar

PRODUCT DESCRIPTION

Feb® FebSET® 45 is a specially formulated repair mortar, based on magnesia-phosphate cement pre-mixed with selected aggregates, which gives controlled, extremely high early strengths in temperatures ranging from -20 °C up to over +30 °C. Feb® FebSET® 45 can be modified with 10 mm aggregate for use in depths over 100 mm. Feb® FebSET® 45 provides a repair material for concrete slabs which reaches an adequate strength for trafficking, or other use, at a very early age. It is also suitable for use as a repair medium at low ambient temperatures. When Feb® FebSET® 45 is added to the gauging water and mixed, an exothermic chemical reaction commences and a chemical setting process takes place within approximately 15 minutes (at +20 °C). The material hardens to give sufficiently high early strength to receive heavy traffic within a period of less than one hour at +15 to +20 °C.

USES

For use in concrete repair situation where the minimum delay and work disruption is of the utmost importance.

- Cold store floor areas.
- Roads and nosing's, bridge decks, Quays/crane rails.
- Industrial floor areas, loading bays and warehouses.
- Around fixing bolts.
- Raising and levelling manhole covers, gratings, hydrants etc.

CHARACTERISTICS / ADVANTAGES

- High strength at a very early age (45 minutes).
- Minimum delay to traffic and production. When used to repair concrete pavings, it permits early re-opening to traffic - within 45 minutes at +20 °C.
- Ready for use. Only requires the addition of water (see Mixing).
- High bond strength. No secondary bonding agents required.
- Highly durable. Excellent resistance to de-icing salts.
- Can be placed in sub-zero temperatures.
- Non-shrink.

APPROVALS / STANDARDS

EN1504-3 Class R4

PRODUCT INFORMATION

Packaging	25 kg Paper Sack
Shelf Life	6 months from date of manufacture when stored in accordance with the manufacturer's instructions.
Storage Conditions	Store in moderate (+5 to +30 °C), dry conditions.
Appearance / Colour	Grey
Density	2200 kg/m³

TECHNICAL INFORMATION

Compressive Strength	1 Hour after placement - 25 N/mm² 2 Hours after placement - 30 N/mm² 24 Hours after placement - 40 N/mm² 28 Days after placement - 52 N/mm²
Shrinkage	Zero (shrinkage compensated grade)

APPLICATION INFORMATION

Mixing Ratio	Mix Proportions: Mortar mix (standard): Feb® FebSET® 45 25 kg; Water 1.5 L Concrete mix (large areas>100 mm deep):Coarse Aggregate 10 kg (max) Water 1.5 L Feb® FebSET® 45 25 kg Small Batches: 60 ml Water per 1 kg Feb® FebSET® 45
Yield	Per 25 kg (mixed as directed): Approximately 11.6 L when mixed as directed. Addition of 10 kg coarse aggregate/25 kg Feb® FebSET® 45 will increase yield by approximately 30 %.
Layer Thickness	20 mm-100 mm – for greater than 100 mm in depth, a 10 mm single sized coarse aggregate (to EN12620) may be added up to 10 kg per 25 kg of Feb® FebSET® 45.
Initial set time	15 minutes at +20 °C 35 minutes at +8 °C
Final set time	approx 45 minutes

VALUE BASE

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

LIMITATIONS

Any aggregate added must not contain chalk, dolomite or other carbonates.

ECOLOGY, HEALTH AND SAFETY

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

All surfaces should be thoroughly sound and uncontaminated by dirt, oil or grease. The minimum thickness of repair should not be less than 10 mm. The boundaries of the repair must be square cut. Under no circumstances should “feather edging” be used.
Priming: Although secondary bonding agents are not required, the area to be repaired must be thoroughly pre-wetted with clean water. Care should be taken, however, to ensure that all standing water is removed.

MIXING

The following sequence must be followed at all times when mixing Feb® FebSET® 45:
1. A suitable mixer (i.e. tilting drum) should be located as near as possible to the area of work.
2. The amount to be mixed should never exceed that which can be transported, placed, compacted and finished within ten minutes.
3. Wet down the mixer and drain off the free water.
4. Pour the correctly measured amount of clean water into the mixer first. Do not add the water to Feb® FebSET® 45.
5. When adding coarse aggregates, these must be added to the water before the addition of Feb® FebSET® 45 into the mixer.
6. Empty the full contents of the Feb® FebSET® 45 bag into the mixer. Minimum mixing time is 1 minute.
Workability: Although stiff at the outset, workability will improve as mixing continues, to give the desired flow characteristics. On no account must further water be added. It is also essential that no admixtures are included.
Placing and Finishing: Pre-wet the area to be treated and remove surplus water. Always ensure correct compaction and level surface by ruling with a firm, straight edged tamping bar.
Cold Weather Working: Below +5 °C down to cold store temperature of -20 °C, pre-warm the mixer and equipment with warm water before batching. The mixing water should be warmed to a temperature of +25 °C to +30 °C.
Hot Weather Working: Where the temperature is above +30 °C, the use of chilled water in the mix will extend open time. Keep mixing equipment cool via use of cold water etc.
Wet Weather Working: Protect areas for 30 mins minimum via tenting etc.
Thickness: The thickness of Feb® FebSET® 45 should not be less than 10 mm at all times. For depths greater than 100 mm, a 10 mm single sized coarse pre-wetted

aggregate, complying with EN12620, may be added up to a rate of 10 kg per 25 kg Feb® FebSET® 45.

CLEANING OF TOOLS

Clean all equipment quickly with water, do not allow to set

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

LEGAL NOTES

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 accordance with Sika's recommendations. 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 user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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