

# TECHNICAL DATA SHEET

# MegaFlex Rapid S2

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Kelmore's MegaFlex Rapid S2 is a highly polymer modified, extremely flexible, rapid setting, cementitious tile adhesive for walls and floors. This highly deformable adhesive has excellent bond strength and flexibility ensuring numerous types of tiles, such as porcelain, ceramic, and natural stone can be confidently fixed to a wide range of backgrounds, including those subject to limited movement and vibration. Allowing bed depths up to 15mm, MegaFlex Rapid S2 has a pot life of 45 minutes, an open time of 25 minutes and is set and ready for grouting after 3 hours. This truly versatile, high performance adhesive can be used on green cementitious screeds and concrete, in wet areas, including swimming pools, and for interior and exterior applications. MegaFlex Rapid S2 has been manufactured to the highest of standards using unique technologies, extensive knowledge and outstanding raw materials. When compared to the production of traditional cementitious adhesives, this results in a significant reduction in CO<sub>2</sub> emissions.



## MegaFlex Rapid S2

Classification (EN 12004)		C2 F S2
Pack Size		20kg
Colour		Grey
Water required per 20kg bag		Approximately 4.0 litres
Application Temperature (air and background)		≥ 5°C
Bed Thickness		Up to 15mm
@20°C	Set Time (Grout After)	3 hours
	Pot Life	45 minutes
	Open Time	25 minutes
Consumption per mm bed thickness		Approximately 1.25kg /m <sup>2</sup>
Temperature Resistance (cured adhesive)		-30°C to 90°C

### Areas of Use

Walls	Interior	Wet Areas	Domestic	Water Piped Underfloor Heating	Limited Movement/Vibration
Floors	Exterior	Dry Areas	Commercial	Electric Underfloor Heating	

### Suitable Tiles

Porcelain	Ceramic	Natural Stone	Agglomerate	Terrazzo	Brick Slips
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Suitable Wall Backgrounds					PRIMER REQUIRED
<b>A</b> Cement:Sand Render	<b>A</b> Concrete Blockwork	<b>A</b> Plaster (Finish Coat)	<b>A</b> Plasterboard	<b>A</b> Tile Backer Boards	<b>PrimeMore Universal</b>
Suitable Floor Backgrounds					PRIMER REQUIRED
<b>A</b> Cement:Sand Screed (inc. Heated)	<b>A</b> Concrete	<b>A</b> Plywood Overlay (Class 3)	<b>A</b> Tile Backer Boards		<b>PrimeMore Universal</b>
<b>B</b> Asphalt (Flooring Grade)	<b>B</b> Epoxy DPM	<b>B</b> Existing Ceramic, Porcelain, and Natural Stone Tiles	<b>B</b> Existing Vinyl Flooring	<b>B</b> Metal (Steel)	<b>PrimeMore Grip</b>
<b>C</b> Calcium Sulphate/Anhydrite Screed (inc. Heated)					<b>PrimeMore CS</b>
Green Cementitious Screed and Concrete					NONE REQUIRED
<b>A</b> Prime with one coat of PrimeMore Universal diluted 1:3 with water. Depending on the porosity of the background, additional diluted coats may be required.			<b>B</b> Prime with one neat, undiluted coat of PrimeMore Grip.	<b>C</b> Prime with one neat, undiluted coat of PrimeMore CS.	

The primer must be allowed to dry before applying tile adhesive.

## BACKGROUND AND SURFACE PREPARATION

Backgrounds must be sufficiently dry and strong enough to carry the total weight being applied. All surfaces must be clean, sound, flat and free from contaminants that could inhibit adhesion, such as dust, dirt, oil, grease, laitance, and curing agents. Timber bases must be adequately ventilated and able to carry the additional static and dynamic load without deflection. Moisture sensitive backgrounds in wet locations will need protecting using Kelmores's waterproofing systems.

## Guidance notes on suitable wall backgrounds

Prime the following backgrounds with one coat of PrimeMore Universal diluted 1:3 by volume with clean water (1 part PrimeMore Universal to 3 parts clean water).

\*Depending on the porosity of the background, additional diluted coats of PrimeMore Universal may be required.

All priming coats must be allowed to dry before applying additional coats and before applying tile adhesive.

**\*CEMENT:SAND RENDER:** Must be true and firmly bonded to the background. It should be prevented from rapid drying before being allowed to air dry in good conditions for a minimum of 2 weeks.

**\*CONCRETE BLOCKWORK:** Must be true and flat and be allowed to dry for a minimum of 6 weeks.

**PLASTER:** Tiles should be fixed only to a finish coat of plaster. Ensure it is dry, sound, free from any loose or weak material and well adhered. If a backing coat as well as a finish coat has been applied, this must be allowed to dry for a minimum of 4 weeks. Plaster that has been overly trowelled should always be brushed down with a stiff brush. Maximum permitted weight when tiling on plaster is 20kg/m<sup>2</sup>.

**PLASTERBOARD:** Boards fixed to timber studwork must be of sufficient thickness, securely fixed and rigid. Where boards are directly bonded to solid walls, allow the board adhesive to fully set before tiling. Maximum permitted weight when tiling onto bare plasterboard is 32kg/m<sup>2</sup>.

**\*TILE BACKER BOARDS:** Ensure the boards are installed as instructed by the manufacturer. Boards fixed to timber studwork must be of sufficient thickness, securely fixed and rigid. Where boards are directly bonded to solid walls, ensure the adhesive has fully set and that any mechanical fixings, as instructed by the manufacturer, have been used. Proprietary boards will have varying weight limits - check with the manufacturer.

## Guidance notes on suitable floor backgrounds

Prime the following backgrounds with one coat of PrimeMore Universal diluted 1:3 by volume with clean water (1 part PrimeMore Universal to 3 parts clean water).

**\*Depending on the porosity of the background, additional diluted coats of PrimeMore Universal may be required.**

**All priming coats must be allowed to dry before applying additional coats and before applying tile adhesive.**

**\*CEMENT:SAND SCREED:** Allow newly installed screeds to dry for a minimum of 3 weeks. Direct fixing of agglomerate and some natural stone tiles will require extended drying times. *For preparation and drying times of proprietary cementitious screeds, follow the guidance of the manufacturer.*

**\*HEATED CEMENT:SAND SCREED:** New heated screeds must be commissioned from 3 weeks after screed installation and before work commences. The screed should be heated slowly at a maximum rate of 5°C per day until the maximum operating temperature (as recommended by the heating manufacturer) is reached. Hold this temperature for 3 days before allowing the screed to cool. The underfloor heating should be turned off or in cold weather run so that the screed is held at a maximum 15°C whilst tiling commences. *All proprietary cementitious screeds should be commissioned and prepared in accordance with the recommendations of the screed manufacturer.*

**\*CONCRETE:** Allow new concrete to cure before being subjected to continuous air drying in good conditions for a minimum of 6 weeks. Power floated concrete should be mechanically prepared by suitable means to provide a clean, sound, micro-textured, dust free surface.

**PLYWOOD OVERLAY (CLASS 3):** Ensure the subfloor is rigid, flat, dry and adequately ventilated. The plywood must be a minimum 15mm thick and be conditioned to the appropriate moisture content for the environment. Screw fix at a maximum 300mm centres.

**\*TILE BACKER BOARDS:** Ensure the boards are installed as instructed by the manufacturer and that they are securely fixed to rigid, suitable, prepared bases. Where the boards have been installed on solid bases using tile adhesive, ensure the adhesive has fully set before commencing tiling.

**Prime the following backgrounds with one neat, undiluted coat of PrimeMore Grip. Allow the primer to dry before applying tile adhesive.**

**FLOORING GRADE ASPHALT:** Must be hard, sound and firmly adhered.

**EPOXY DPM:** Must be a flooring grade that is compatible with cementitious products. Ensure that it is hard, sound and firmly adhered.

**EXISTING CERAMIC, PORCELAIN, AND NATURAL STONE TILES:** Must be in good condition, free from contaminants and well bonded. Ensure the existing structure can take the additional weight of the new tiling.

**EXISTING VINYL FLOORING:** Only hard vinyl can be tiled over (cushion vinyl is not suitable and will need to be removed). Ensure it is in good condition, free from contaminants and well bonded.

**METAL (STEEL):** Must be rigid, corrosion-free, clean and free from contaminants that could inhibit adhesion, including oil and grease.

**Prime calcium sulphate/anhydrite screeds with one neat, undiluted coat of PrimeMore CS. Allow the primer to dry before applying tile adhesive.**

**CALCIUM SULPHATE/ANHYDRITE SCREED:** All laitance and surface contaminants must be completely removed. The screed must be confirmed adequately dry, no greater than 85% Relative Humidity (RH).

**HEATED CALCIUM SULPHATE/ANHYDRITE SCREED:** All laitance and surface contaminants must be completely removed. New heated screeds must be commissioned from 7 days after screed installation and before work commences. The screed should be heated slowly and in accordance with the recommendations of the screed manufacturer. Ensure the moisture content of the screed is no greater than 85% Relative Humidity (RH).

**Green cementitious screeds and concrete do not require priming**

**GREEN CEMENTITIOUS SCREED AND CONCRETE:** Unheated green screeds must be allowed to dry for a minimum of 5 days. Unheated green concrete must be allowed to cure, before being allowed to continuously air dry, in good conditions, for a minimum of 10 days.

### ADDITIONAL INFORMATION

- It is recommended that electric underfloor heating cables/mats are encased within a Kelmores levelling and smoothing compound. The compound must be suitable for use with the background/base to which the heating system has been fitted.
- After completing installations on backgrounds incorporating underfloor heating, the heating system should not be run for 10 days. Following this period, the floor temperature must be gradually raised to its optimal operating temperature.

## Mixing

A 20kg bag of MegaFlex Rapid S2 Grey should be mixed with approximately 4.0 litres of clean, cold water. The amount of water used in the initial mixing can be adjusted slightly to obtain the optimum adhesive consistency for the specific application but must always remain slump-free.

Pour the water into a clean bucket before gradually adding the powder. Mix thoroughly until a smooth, creamy, slump-free consistency is achieved. To maximise the pot life, open time and workability, allow the mixed adhesive to stand for 2 minutes then re-mix briefly before use.

## Application

MegaFlex Rapid S2 can be used up to 15mm thick. Apply the mixed adhesive to the wall or floor before using a notched trowel to serrate consistent, straight ribs of adhesive. Bed in the tiles within the open time ensuring good contact with the adhesive. The adhesive coverage behind the tile must be sufficient for the given application and specific tile being fixed. Any adhesive that forms a skin must be removed and fresh adhesive re-applied.

Where solid bed fixing is required, as far as possible the adhesive under the tile should be free of voids and fully supported. To achieve this, in addition to trowelling the background, the tile may also require back buttering or trowelling.

Clean any adhesive from the tile face and grout joints as work proceeds and before the adhesive has set.

## Coverage

Will vary dependent on the flatness of the background, the profile of the tile back and the adhesive bed thickness. To cover 1m<sup>2</sup>, approximately 1.25kg of powder will be required for every mm thickness of solid bed adhesive. This equates to the following approximate coverage per 20kg bag:

Adhesive Thickness	1.5mm	2mm	2.5mm	3mm	4mm	5mm
Approximate Coverage	10.6m <sup>2</sup>	8m <sup>2</sup>	6.4m <sup>2</sup>	5.3m <sup>2</sup>	4m <sup>2</sup>	3.2m <sup>2</sup>

## Grouting

Allow the adhesive to set before grouting using a suitable Kelmore grout. MegaFlex Rapid S2 has been formulated to set in 3 hours when tested to the industry standard temperature of 20°C. Please be aware that higher temperatures will shorten the set time and lower temperatures will extend the set time.

**NOTES:** All cementitious adhesives should only be used when the temperature (air and background) is 5°C or above. If temperatures drop below 5°C then the chemical reaction required for cement to set is impeded, dramatically slowing the setting process. This will only return to normal when temperatures rise. Additionally, if the temperatures drop below freezing before the adhesive has set, then the integrity and performance of the adhesive will be compromised.

Where temperatures are in excess of 30°C, the set time of the product will be accelerated significantly, potentially making it difficult to use. When tiling must be undertaken in higher temperatures, every effort should be made to ensure the temperature of the air, background, water and products are kept as cool as possible.

MegaFlex Rapid S2 is not recommended for fixing translucent or light coloured stone. Instead, select an appropriate white adhesive.

**CLEANING:** All tools should be cleaned with water after use and before the product sets.

**HEALTH AND SAFETY:** For detailed information, please refer to and follow the advice stated on the SDS (Safety Data Sheet) which can be accessed on our website – [www.kelmore.co.uk](http://www.kelmore.co.uk) or alternatively by contacting Kelmore Ltd.

**STORAGE AND SHELF LIFE:** MegaFlex Rapid S2 must be stored in unopened packaging, off the ground, and in cool, dry conditions. If stored in this way, the shelf life of this product is 12 months.

**BS 5385, Parts 1-5:** MegaFlex Rapid S2 should be used in conjunction with work carried out under the British Standard Code of Practice for Wall and Floor Tiling.

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