

DESCRIPTION

Hi Flex is a single component, rubber modified, cement based adhesive for ceramic tiles, slate, porcelain, pavers and natural stone.

Hi Flex is an off-white powder, consisting of graded sand, cement, rubber, synthetic resins and additives, specifically formulated to achieve a very high yield and superior bond strengths to most materials normally used in building.

Hi Flex is suitable for internal and external, wall and floor applications, including bathrooms, kitchens and large floor areas.

CLASSIFICATION IN ACCORDANCE TO AS4992.1-2006

Hi Flex is a deformable, improved cement based adhesive with extended open time, classified as C2ES1.

FEATURES AND BENEFITS

- One component system, requires only the addition of clean water.
- Extended open time.
- High yield.
- Quick and easy to apply.
- Excellent adhesion to floor and wall substrates.
- Can be further improved with the addition of **ACS NeoLastic** diluted 1:1 with water.

RECOMMENDATIONS

Do **not** use:

- On wooden, PVC, rubber, linoleum, metal or painted substrates;
- For the installation of moisture sensitive stone or agglomerates;
- For tiling on existing tiles, unless it is mixed with *NeoLastic* diluted 1:1 with water.

- For tiling on plywood or structural particle board substrates, unless it is mixed with *NeoLastic* diluted 1:1 with water.
- For tiling in continuous water immersion applications, such as swimming pools, fountains etc. Use *ACS Super Fix* mixed with *ACS NeoLastic* or *NeoFlex Pro*.
- Contact ACS Technical Services for information on tiling over other surfaces not mentioned in this data sheet.

APPLICATION

Substrate Preparation

All substrates must be dry, flat, solid, structurally sound, free of loose particles, paint, grease, oil, wax, dust and any contamination which may inhibit or prevent adhesion.

Cementitious substrates, such as concrete, screeds and renders must not be subject to shrinkage after the installation of tiles. Therefore, they must be fully cured in accordance with the provisions of AS3958.1-2007 and it is essential that they are free of laitance and release agents. Steel trowelled concrete should be mechanically abraded to provide a key.

Fibre cement sheet substrates must be fixed in accordance to the manufacturer's instructions and the relevant Australian Standards. Highly absorbent substrates should be primed with *ACS NeoLastic diluted 1:2 with water*.

Substrates which have become hot due to exposure to sunlight may be cooled down with water.

Masonry substrates should be prepared with a cementitious render to ensure a smooth, sound substrate is achieved.

Mixing

Pour approximately 7.2 – 8.0 litres of clean, cold water into a clean container and slowly add 20 kg of *Hi Flex* while slowly mixing with a low speed mixer. Mix thoroughly to a smooth, homogeneous consistency. Allow the mix to stand for approximately five minutes and then stir again briefly. The adhesive is now ready for use.

Mixed this way, the adhesive has a pot life of approximately four hours.

Note: The characteristics of *ACS Hi Flex* can be improved by mixing it with *NeoLastic* diluted 1:1 with water. The characteristics improve in order to exceed the requirements of C2S2.

Use approximately 8.6 – 9.4 litres of *NeoLastic* diluted 1:1 with water per 20 kg of *Hi Flex*.

Applying the Adhesive

Apply *Hi Flex* onto the substrate using a notched trowel. Choose a notched trowel of an appropriate size to achieve a coverage as recommended by AS 3958.1 – 2007 or better.

To maximize adhesion, spread a thin layer of the adhesive onto the substrate. Immediately thereafter, build up the required thickness using the notched side of the trowel.

For external applications, areas subject to vehicular traffic or point loads, also spread the adhesive onto the back of the tile (back-butter) in order to achieve full coverage and to eliminate any voids under the tiles.

Do not spread more adhesive than can be covered with tiles within the adhesive's open time.

Where possible, spread adhesive so as to leave horizontal ribs on walls and unidirectional ribs on floors. Discard any material that has exceeded the pot life or working time of the product.

Installing the Tiles

Press tiles firmly into freshly notched adhesive within the open time and move the tile at least the width of a rib perpendicular to the adhesive ribs. Adjust tiles as necessary within 30 minutes of installation.

The open time of *Hi Flex* is approximately 30 minutes under normal temperature and humidity conditions. Unfavourable conditions, such as high temperature, wind, sunlight or highly absorbent substrates may drastically shorten this time, sometimes to as little as a few minutes. It is therefore necessary to repeatedly check whether a skin has formed on the adhesive. If a skin has formed the adhesive should be re-trowelled or discarded.

Tiling installed with *Hi Flex* must not be subjected to rain or washout for at least 24 hours after installation, and should be protected from direct sunlight for 36 hours. Remove any adhesive from the face of tiles with a damp cloth while the adhesive is still fresh.

Movement Joints

It is essential that movement joints are carried through the tile and the adhesive and are kept free from dust, adhesive and other contaminants.

Refer to AS3958.1 - 2007 for guidance on design and construction of movement joints.

CLEAN UP

Clean all tools and equipment with water before the adhesive dries.

GROUTING

Allow 24 hours drying time before grouting with an appropriate ACS Coloured Grout.

OPEN TO TRAFFIC

Floors are ready to receive light foot traffic after approximately 24 hours and may be put into full use after approximately seven days.

CONSUMPTION

Approximately 1.0 kg per m² per mm of adhesive thickness.

A 20 kg bag should cover 9 - 12 m² depending on the size of the notched trowel and evenness of the substrate.

PACKAGING

Hi Flex is available in 20 kg paper bags.

STORAGE

Stored in original, unopened packaging, in cool dry conditions, *ACS Hi Flex* will keep for 6 -12 months. Storing in areas of high humidity or excess moisture may affect the contents and shorten shelf-life.

TECHNICAL DATA

| DRY PRODUCT | |
|-----------------------|------------------------|
| Form: | Off white powder |
| Bulk Density: | 1300 kg/m ³ |
| Mixing ratio/20kg bag | 7.2– 8.0 litres |

| MIXED PRODUCT | |
|---------------|------------------------|
| Consistency: | Homogeneous Paste |
| Wet Density: | 1250 kg/m ³ |
| pH: | 10 – 12 |
| Pot life: | 4.0 – 5.0 hours |
| Open Time : | 20 – 30 minutes |
| Setting time: | 2 – 4 hours |
| Drying Time: | 24 hours |

| TENSILE ADHESION STRENGTHS | |
|----------------------------|-------------------------|
| 28 days | > 1 N/mm ² |
| Water immersion | > 1 N/mm ² |
| Heat ageing | > 1 N/mm ² |
| Freeze / Thaw | > 1 N/mm ² |
| 20 min open time | > 1 N/mm ² |
| 30 min open time | > 0.5 N/mm ² |
| Deformation | > 2.5 mm + < 5 mm |

HANDLING

Use only in well ventilated areas. Wear protective clothing to minimise skin contact. The use of P1 Masks, tight fitting goggles and barrier creams is recommended.

SAFETY

Hi Flex contains cement, which can be irritating to the skin and eyes. During use, avoid inhalation of dust and contact with the skin and eyes. Wear suitable clothing, gloves, eye

protection and respiratory protective equipment.

If contact with the skin occurs, thoroughly clean the area with plenty of fresh water and soap. In case of contact with the eyes rinse with plenty of fresh water and seek medical advice. If swallowed, seek medical attention immediately – **Do not** induce vomiting.

For further information consult the **Material Safety Data Sheet** and read the product label carefully before use. **Material Safety Data Sheets** are available by phoning **1800 077 744**.

Please Note:- The information given in this data sheet is based on our current knowledge of the product when properly stored, handled and applied. We cannot guarantee that the product will be suitable, effective or safe when used for any purpose other than its stated uses.

To the extent that it is lawful, we exclude warranties implied by law and limit our liability to the cost of replacing the product. We accept no responsibility for loss or injury caused by improper use, incompetent preparation, inexpert or negligent application, or ordinary wear and tear.

Service or advice given by our staff should not amount to responsibility for the project - since the owner, or their contractor (and not River Sands), is responsible for procedures relating to the application of the product.



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