

TECHNICAL DATA SHEET

PERFECT FLEX

A flexible, rubber modified and polymer-based tile adhesive



DESCRIPTION

A high strength, flexible rubber modified and polymer-based adhesives taking benefits from both inorganic and organic adhesives, PERFECT FLEX boasts improved bond strength and resilience included extended coverage and excellent flexibility, making it the best suit for large format tiling on various substrates.

C2S1TE Class Adhesive AS ISO13007

FEATURES

- Non-slip/non-slump and advanced adhesiveness that suit for large format tiling.
- Advanced flexibility help retain bond strength on expanding / shrinking tiles
- Extended coverages
- Advanced water-tightness and thermal (heat & cold)-resistance
- Enables tiling on various substrates (including non-absorptive substrates like dry-type, wet-type, tiling over tiles, coal tar urethane, epoxy, waterproof coating, rubber asphalt waterproofing...)
- Best suit for various tiles (ceramic, porcelain, polished porcelain, stone, natural stone, mosaic, marble...)
- Enables tiling for various purposes (on walls and floors, for interior and exterior works)

USES

- Large format tiling on walls (tiles sized 300mm X600mm or below 3.5kg) and floors
- Tiling on walls and floors at areas that need waterproofing (toilets, laundry room...)
- Tiling on dry substrates (gypsum boards, fibre cement panels...)
- Tiling on wet substrates (concretes, screeds, rendering, PC, ALC...)
- Tiling on substrates exposed to induced vibrations (railroad facilities, tunnels...)
- Tiling on non-absorptive substrates (tiling over tiles, coal tar urethane, epoxy, waterproof coating, rubber asphalt waterproofing...)

SPECIFICATIONS

Main Constituents	Cement, Rubber, Inorganic Filler, Adhesive Powder, Special Additive
Net Weight	20kg
Pot Life	2 hours
Open Time	30 minutes, approx.*

Shelf Life	12 months
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* Depends on temperature, humidity, surface porosity, etc.
* Under generally accepted hygrothermal conditions

COVERAGE

10 mm Notched Trowel	7.0~8.0m ² /20kg*
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* Guidance only. Figures may vary depending on angle you hold trowel at, substrate properties, workmanship, etc.
**Depends on substrate, tile size and type, tiling method, etc.

SUITABLE TILE TYPES

Ceramic tiles, porcelain tiles, polished porcelain tiles, stone tiles, mosaic tiles, natural stone tiles (marble tiles included) *

* Consult SSANGKOM before using PERFECT FLEX with non-standard-size tiles or specially treated (glazed, coated, mesh-sheeted...) tiles.

SUBSTRATE PREPARATION

Before tiling, ensure:

- Mortar substrates (concrete, etc.) have fully cured for at least 4 weeks;
- Substrate remains even with the minimum undulation (meaning up to 3mm-rises in any given 2.4m linear section is accepted) and sharp protrusions removed;
- Substrate is clean and free from foreign substances such as dust and grease;
- Absorptive substrates (such as ALC blocks) are primed using SSANGKOM Morgreen or SSANGKOM ALC Primer to improve bonding;
- Substrate remains dry;
- Porous substrate with high absorbency should be saturated with water sprayed on the substrate surface.
- Substrate is not exposed to contraction and excessive vibration;
- Substrate heated by intense sunlight is pre-treated to decrease temperature by spraying cool water.
- Substrate remains structurally solid and durable; and
- Substrate surface unevenness that may hinder tile adhesion is removed.

IMPORTANT: All substrate preparation works and the installed substrate are in compliance with the relevant Australian Standards.



MIXING

1. Gradually add PERFECT FLEX to 5.5 - 6.5L (as appropriate for the tile size) clean water. Use a mixer (for at least 5 minutes) to obtain a uniform lump-free mixture.
2. Ensure a minimum amount of water (5.5L) for a thicker consistency, appropriate for large format tiling.
3. Allow to stand 5 minutes for the organic substances in PERFECT FLEX to react.
4. Re-stir the mixture to react resolve the organic substances even further.
5. Ensure the mixture is used up within an hour.

APPLICATION

1. Using the mixture, trowel the substrate at 45-degree angles. For this, use a trowel with a notch size of 7 - 15mm.
2. Set tiles in place onto the substrate. Press tiles firmly into the adhesives. For wider adhesion range, apply a sliding motion when pressing tiles.
3. To attain intended adhesion, make sure the tiling is complete within the setting window. Where the specified window may vary (by temperature, humidity, wind...), re-calculate the end of the window to be when it appears at least 70% of the adhesive on the substrate has bonded to the back of the tile, and the tile does not detach immediately with a firm pressure applied to slide the tile.
4. When applying this instance of firm pressure upon the tiles, ensure at least the lower half of the tile thickness is interacting with the adhesive, which indicates 70% of the adhesive on the substrate is attached to the backs of the tiles. For this, use a rubber mallet. Consider applying greater pressure for larger format tiling.
5. Also consider using a trowel with larger notches if it is not apparent that at least 70% of the adhesive on the substrate has bonded to the backs of the tiles.
6. Use a Double Buttering Method for tiling on the non-absorptive substrates or for tiling of polished porcelain tiles, tiles with low (less than 1%) water absorption rate or large format tiles (meaning tiles larger than 300mm x 600mm). For large format tiling, account for adhesive coverage's being more sensitively affected by tile bending and substrate conditions.
7. For large format tiling, start tiling on the lower substrates moving to the higher substrates. Consider using spacers for even grout lines.

NOTE ON MOVEMENT JOINTS

Movement joints must be installed in compliance with the relevant Australian Standard (AS3958.1 – 2007).

APPLICATION – DOUBLE BUTTERING METHOD

1. Prepare substrates as instructed above.
2. Using the mixture, trowel the substrate. Use a trowel with notch size of 7 - 15mm in doing so.
3. Trowel the backs of the tiles using a trowel with notch size of 7 - 15mm. Repeat the above three to four times. Press tiles firmly into the adhesives immediately afterwards, applying a sliding motion.
4. When applying the firm pressure onto the tiles,

make sure at least the lower half of the tile thickness is covered by the adhesives, which means 90% of the adhesives on the substrate are attached to the back of the tiles.

PRECAUTIONS

General

- Make sure the backs of the tiles are clean. Wash the backs of the tiles if contaminated. Make sure the tiles are dry before laying them on the substrate.
- Adjust trowel thickness to best suit the tile size and substrate conditions.
- Make sure to perform tiling within the open time; failure to do so may cause a weaker adhesion.
- Direct sunlight, dry wind and high temperature may affect the open time if the humidity has fallen too low.
- Use Double Buttering Method for tiling on undulated substrates or when using tiles with uneven back patterns.
- Use Double Buttering Method for tiling on the non-absorptive substrates or tiling of polished porcelain tiles, tiles with low (less than 1%) water absorption rate or large format tiles (meaning tiles larger than 300mm x 600mm).
- The substrate must be re-trowelled if the top layer is hardened – the adhesives must remain moist enough to achieve the specified bond strength.
- Adjustments to tile positioning must be made within the initial half-hour. Adjusting tile positions at a later time may cause loss of bond strength, leading to tile debonding.
- Consider using a vibrator or a rubber mallet to ensure at least the lower half of the tile thickness is covered by the adhesives, which means 70% (or, for Double Buttering Method, 90%). Once tiles are laid on the substrate, do not take off/lift a tile that has been laid in order to adjust its position.
- Secure expansion joints on every substrate corner and at 3-metre intervals, accounting for expansion and contraction of either tiles or substrate.
- Tiles and adhesives must be kept from external impact, freezing and moisture until they are firmly fixed to the substrate.
- Grouting must be performed once tiles and adhesives are firm on the substrate.
- Do not use PERFECT FLEX with OSBs, veneers, MDFs, steel plates or ceiling boards or on any special-purpose substrate.
- Consult SSANGKOM before using PERFECT FLEX for buttering tile backs which have been specially treated (glazed, coated, mesh string...), or backs of other non-tile surfaces like marbles.
- DRY FIX I is intended for general tile application and Double Buttering Method tile application, meaning that it is not intended to be used for the backs of tiles only (without trowelling the substrates) or for Sticking Method tile application.
- Consult SSANGKOM before using PERFECT FLEX with moisture sensitive stones, as it may cause efflorescence, discoloration, or cracks.
- Fibreglass mesh sheets on the back of mosaic tiles may affect bond strength of the adhesives and lead to tile debonding.
- Do not use PERFECT FLEX for tiling on any external wall at places higher than 2.5m off the ground.



- Consult SSANGKOM before using PERFECT FLEX for tiling of pools or saunas.
- PERFECT FLEX performs the best at a temperature range of: 5-25°C
- Therefore, use PERFECT FLEX when the ambient temperature is 5°C or higher (and the temperature of substrate is within the range of 5 - 25°C).
- Store PERFECT FLEX on pallets and in well-ventilated indoor places away from damp.

the product, SSANGKOM's responsibility is limited to replacement and refund of such product.

HEALTH

Causes skin irritation. Causes serious eye damage. May cause respiratory irritation.

SAFETY

Avoid breathing dust/fumes/gas/mist/vapours/spray. Wash thoroughly after handling. Only use outdoors or in an adequately ventilated space. Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN: Wash with plenty of water. IF INHALED: Remove affected person to an area with fresh air and which is comfortable to breathe in. IF IN EYES: Rinse carefully with water for several minutes. Remove contact lenses, if present and convenient to do so. Continue rinsing. In the event of inhalation, skin or eye contact, contact a poisons information hotline or other relevant medical provider.

FIRST AID

Eye contact: Immediately flush eyes and skin with running water for at least 20 minutes. Seek medical attention.

Skin contact: Immediately flush skin with running water for at least 20 minutes. Remove and isolate contaminated clothing and shoes. Seek medical attention. Remove substance immediately if contacting skin. If small amount of substance contacts skin, prevent subdermal diffusion.

Inhalation: Keep warm and at rest. Immediately seek medical attention. If breathing has stopped or is irregular, supply oxygen and give artificial respiration. If present, evacuate dust and fumes by blowing clean air into the space, and take medical action if symptoms develop. Move person to fresh air.

Ingestion: Immediately seek medical attention. Rinse out mouth out with drinking water. Do not induce vomiting. Never give anything by mouth to an unconscious person.

AUSTRALIAN POISONS INFORMATION CENTRE: 13 11 26 (24 HOUR SERVICE), 000 (POLICE OR FIRE BRIGADE)

NOTES

The details and recommendations contained in this data sheet are given in good faith and represent the best of our knowledge and experience at the time this Technical Data Sheet is printed. Contents in this Technical Data Sheet and the product properties may change without notice.

DISCLAIMER

To the maximum extent permitted by law, SSANGKOM disclaims all warranties in relation to any loss or damage resulting from use of out-of-date product, incorrect use of the product, or negligence. Even if problems occur while using

Data were developed by the researchers in SSANGKOM in-house laboratory and based on the hands-on work experiences. To improve product quality, data may change without notice. Data may not be optimized in some sites. Consult SSANGKOM should you have any doubts.

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