

ACTFLEX DENSIFIER.

Technical Data Sheet

ACTFLEX DENSIFIER Concrete Strengthening System

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Description

ACTFLEX DENSIFIER, powered by innovative particles meticulously treated with silane, revolutionizes concrete surface enhancement. This advanced solution easily permeates the surface, reaching profound depths and interacting directly with free-lime. The result is the rapid formation of pure calcium silicate-hydrate (C-S-H) gels, significantly improving strength, durability, and impermeability.

Key Features	Typical Applications
<ul style="list-style-type: none">Silane-Treated Particles: ACTFLEX DENSIFIER penetrates surfaces deeply to form C-S-H gels, enhancing strength and durability.Efficient Reaction: Its advanced formula reacts with free-lime, quickly triggering C-S-H gel formation, ensuring comprehensive concrete matrix enhancement.Neutral pH: With a pH of 8-10, ACTFLEX DENSIFIER eliminates extensive neutralization steps compared to traditional densifiers with pH 11-14, saving time and effort.Strengthening Capabilities: It enhances the substrate's compressive strength and abrasion resistance, minimizing wear and tear. Surfaces become more resilient to mechanical stress and traffic.Aesthetic & Performance Versatility: ACTFLEX DENSIFIER improves the mechanical properties of concrete and offers polishing options at various gloss levels, enhancing both performance and visual appeal.These features encapsulate the unique benefits ACTFLEX DENSIFIER brings to concrete surface enhancement.	<ul style="list-style-type: none">Commercial Floors: Strengthen high-traffic areas in retail, malls, and offices.Industrial Surfaces: Reinforce factory floors and warehouses for heavy-duty use.Residential Driveways: Increase the durability of driveways, walkways, and patios.Institutional Buildings: Strengthen floors in schools, hospitals, and public structures.Public Spaces: Improve the longevity of parks, plazas, and community areas.Parking Garages: Enhance abrasion resistance in parking facilities.Historical Sites: Preserve monuments and cultural structures.Sports Courts: Upgrade sports courts and athletic surfaces.Transport Terminals: Fortify airports, train stations, and bus stops.Hospitality Areas: Improve outdoor dining and recreational spaces.

Advantages

- Enhanced C-S-H Formation:** StoberLink triggers superior C-S-H gel formation within the surface, reinforcing the concrete structure effectively.
- Effortless Application:** Easy-to-apply, safe, and non-hazardous formula ensures a seamless enhancement process.
- Neutral pH:** Boasts a neutral pH of 8-10, distinct from traditional densifiers with pH 11-14. This eliminates the need for extensive neutralization steps post-application.
- Increased Strength:** Bolsters the substrate's strength, yielding a more robust, abrasion-resistant, and wheel-resistant surface.
- Improved Compressive Strength:** Fosters remarkable improvements in compressive strength, enhancing structural integrity.
- Reduced Permeability:** Drastically reduces surface permeability, combating stains and moisture vapor transmission.
- Deep Penetration:** Penetrates deeper than standard densifiers, ensuring efficient surface wetting and profound reactions.
- Minimized Dusting:** Significantly curbs dusting and efflorescence, leading to cleaner and healthier surroundings.
- Accelerated Reaction Time:** Offers faster reaction times, allowing quicker resumption of project activities.
- Polish Compatibility:** Enables polishing at various gloss levels, adding aesthetic versatility to enhanced surfaces.
- Advanced Silane-Treated 'Stober' Particles:** ACTFLEX DENSIFIER harnesses the transformative potential of 'Stober' particles meticulously treated with silane. This advanced amalgamation readily traverses the surface, effortlessly engaging with free-lime. The ensuing reaction rapidly forms pure C-S-H gels, imbuing the concrete with exceptional strength, resilience, and resistance.

Applications

1. Surface Preparation: Thoroughly clean the concrete surface to remove all dirt, dust, grease, oil, or other contaminants. Ensure the surface is free from coatings, sealers, curing compounds, or any materials that might prevent the densifier from penetrating.

2. Crack and Divot Repair: Address any cracks or surface imperfections before applying the densifier. Use a suitable repair product to fix these areas as needed.

3. Densifier Application:

Mixing: Shake or stir the ACTFLEX DENSIFIER container before use to ensure the product is uniform.

Application: Apply the densifier evenly across the concrete surface using a low-pressure sprayer, microfiber mop, or roller. Work in manageable sections to ensure even coverage.

Coverage Rate: Typically, 1L of ACTFLEX DENSIFIER covers approximately 6-8 sqm, depending on the porosity of the concrete.

4. Dwell Time: Allow the densifier to dwell on the surface for 10-15 minutes, allowing full penetration into the concrete. Keep the surface wet during this time by reapplying the densifier as needed in any areas that dry out too quickly.

5. Drying: Let the densifier dry naturally, ensuring that the entire surface has absorbed the product. Do not rinse the surface unless recommended by a specific procedure. Excess material can be removed by buffing the surface with a microfiber pad if necessary.

6. Polishing (Optional): If the concrete surface is to be polished, continue the polishing process after the densifier has dried, using the desired grit levels to achieve the required gloss and finish.

7. Sealing (Optional): For added protection, you may apply a compatible concrete sealer after the densifier has fully cured. This can enhance stain resistance and overall durability.

8. Curing Time: Allow the treated surface to cure for at least 24 hours before heavy traffic or additional treatments. Full densification results will typically develop over several days.

9. Maintenance: Regularly clean the surface with a pH-neutral cleaner to maintain its enhanced properties and appearance.

By following this application method, ACTFLEX DENSIFIER will provide long-lasting durability, improved strength, and a densified surface ready for use or further treatment.

ACTFLEX DENSIFIER Properties

Appearance	Water clear slightly cloudy solution
Density	1.2 - 1.4 g/L
Solubility in H₂O	Complete
pH Level	8.0 - 10.0

Odor	Very low odour
Service Temperature	-10°C to +65°C
Coverage	6-10sqm per Litre

Limitations

Not a standalone waterproofing solution – ACTFLEX DENSIFIER enhances surface strength and reduces permeability but does not replace a dedicated waterproofing system.

Requires proper curing conditions – Performance may be affected if applied to surfaces exposed to excessive moisture or low temperatures during curing.

Not effective on non-porous surfaces – Best suited for porous concrete; does not work effectively on sealed, coated, or highly polished surfaces.

Incompatible with some coatings – Always test compatibility before applying paints, epoxies, or other coatings over treated surfaces.

Reaction time may vary – Environmental conditions, concrete composition, and surface porosity affect penetration depth and curing time.

Limited crack-bridging ability – Does not fill or repair structural cracks; proper crack repair must be done before application.

May cause surface discoloration – Uneven application or variations in concrete composition can lead to slight color differences.

Not recommended for extremely deteriorated concrete – Severely damaged or weak concrete may require additional structural reinforcement.

Cleaning

Tools & Equipment: Clean all tools, sprayers, and equipment immediately after use with clean water. If the densifier has

begun to harden, mechanical cleaning may be required.

Surface Cleaning: Any excess ACTFLEX DENSIFIER should be removed from the surface before it dries to avoid residue buildup. Use a damp cloth or mop to wipe off excess material.

Dried Residue: If the product has dried on the surface, it may require light abrasion or a diluted acidic cleaner to remove. Always test a small area before full cleaning.

Personal Protection: Wear appropriate **Personal Protective Equipment (PPE)** such as gloves and goggles when handling and cleaning the product.

Disposal: Dispose of any waste material, cleaning water, and empty containers according to **local environmental regulations**. Do not pour excess material into drains or waterways.

SAFETY - When handling DO NOT eat, drink or smoke

ACTFLEX DENSIFIER should be handled with care to ensure safe application. Always wear **Personal Protective Equipment (PPE)**, including gloves, safety goggles, and a respirator, to prevent skin and eye contact. Ensure the work area is **well-ventilated** to minimize inhalation of vapors or mist. Avoid direct contact with skin, and wash hands thoroughly after use and before breaks. **Do not ingest or inhale** the product. In case of **eye contact**, rinse immediately with plenty of water. If **inhaled**, move to fresh air. If **swallowed**, **DO NOT induce vomiting** and seek immediate medical attention. For emergencies, contact the **Poisons Information Centre** at **131 126 (AUS)** or **0800 764 766 (NZ)**. In case of a **transport**

emergency, dial 000 for Police or Fire Brigade. Always follow **local regulations** and refer to the **Safety Data Sheet (SDS)** for detailed handling instructions. **KEEP OUT OF REACH OF CHILDREN.** For all inquiries please contact Forspec Protective Coatings by calling 02 8021 3517 or emailing info@forspec.com.au

DO NOT allow wash water from cleaning or process equipment to enter drains.

DO NOT discharge into sewer or waterways.

DO NOT seal or stopper drums being decontaminated as CO2 gas is generated and may pressurise containers.

Data Sheet

This Technical Data Sheet (TDS) and Material Safety Data Sheet (SDS) are subject to revision as necessary to ensure compliance with relevant Australian Standards and incorporate technological advancements. It is crucial to read the most current versions of the SDS and TDS before use, as application and performance data may be updated. For the latest technical information, please contact Forspec Protective Coatings at (02) 8021 3517 or email info@forspec.com.au to request a copy. The information provided is representative but does not serve as a comprehensive specification. For specific projects, we recommend consulting directly with the company for tailored specifications.

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