



KEIM Soldalit Application Guide

KEIM Soldalit is a premium sol-silicate mineral paint system. Unlike standard acrylics, it chemically bonds (silicifies) to masonry substrates while providing a high-strength mechanical grip to existing sound coatings. To ensure the KEIM Australia warranty, the following methods must be followed in accordance with the current Technical Data Sheet (TDS).

1. The System Specifications

- **Minimum Two-Coat System:** The standard KEIM Soldalit exterior system requires a minimum of two coats consisting of one base coat and one topcoat.
- **Warranty Compliance:** Single-coat applications over bare or patched exterior substrates are not approved for the warranty.
- **Coverage:** Approx. 0.35–0.5 kg/m² for two coats on smooth surfaces (approx. 0.2 kg/m² per coat). Rough or textured surfaces use more. Always confirm on a test area.

2. Substrate Assessment & Preparation

The applicator must verify the condition of the substrate as per KEIM TDS requirements to ensure the mineral bond forms correctly.

- **General Condition:** The substrate must be dry, sound, clean, dust-free and free from chalking. Remove loose existing coatings mechanically or by high-pressure water jetting.
- **New Render & Repairs:** Allow new cement render to cure for at least 15 days (28 days for lime render). Check new render and repair areas for a glassy, sintered surface skin. If one is present, contact KEIM Australia on (02) 9748 7160 before painting.
- **Unsuitable Substrates:** Do not apply KEIM Soldalit over elastomeric (plasto-elastic) coatings or membranes, salt-efflorescing substrates, horizontal or sloping surfaces exposed to weather, wood, saponifiable coatings, or water-repellent (non-wettable) surfaces.
- **Hazard Warning (Lead Paint):** Extreme caution must be exercised during the removal of pre-1960s coatings, as they may contain lead.
- **Gloss Surfaces:** Any gloss, satin, or shiny surfaces should be mechanically sanded back to a dull finish using sandpaper or an abrasive pad to create a sound physical key. Where a sound, intact acrylic or organic surface cannot be fully sanded, a cross-hatch adhesion trial is required.
Cross-Hatch Adhesion Trial (painting over acrylic or organic surfaces): (1) Select a representative 300mm × 300mm test area on the existing surface. (2) Clean thoroughly and apply KEIM at the standard rate without dilution. (3) Allow to cure for a minimum of 24 hours. (4) Using a sharp blade, score a 6 × 6 grid of cuts (10mm spacing) through the full KEIM film down to the existing surface. (5) Apply a strip of high-tack tape (e.g. 3M 610 or equivalent) firmly over the scored grid, then pull off sharply at 60°. (6) If fewer than 5% of the scored squares show any delamination, adhesion is acceptable and full application may proceed. If significant areas pull away, the existing coating must be mechanically abraded back to a dull, sound key before application.
- **Stripping:** The use of poultice-based strippers is not recommended as they can induce an osmotic reaction, drawing destructive salts to the surface. Use KEIM Dispersion Remover for all acrylic stripping and removal works.
- **Water Absorption Test (The Runners Test):** Mist water onto the dry substrate using a spray bottle or Karsten Tube to evaluate porosity:
 - **High Absorption:** If water runs down in short, thick tracks, the surface is highly absorbent. Prime the surface with undiluted KEIM Soldalit-Fixativ (approx. 0.15 L/m²).
 - **Low/Normal Absorption:** If water runs down in long, thin tracks, the absorbency is within normal limits. Proceed directly to the first coat of paint.

- **Non-Absorbent:** If water beads on the surface, a hydrophobic sealer or membrane is active. This must be fully removed mechanically before application.
- **Existing Coating Soundness Check:** Before applying KEIM over any legacy coating, confirm the old surface is structurally sound. Score a "#" pattern into the existing coating, apply high-tack tape firmly, and pull off sharply. If the old coating peels away, it is unsound and must be fully scraped back before application. This test checks the existing surface; to confirm KEIM adhesion to acrylic or organic surfaces, follow the cross-hatch adhesion trial above.

3. Repairs & Filling

- **Texture Matching (CRITICAL):** KEIM Soldalit is a thin-film mineral coating that will perfectly replicate the physical texture beneath it. The applicator must ensure that the physical texture of any patched render matches the surrounding surface exactly. A smooth, steel-trowelled patch on a rough sponge-finish render will remain highly visible and flash aggressively under glancing sunlight regardless of paint opacity.
- **Fillers:** Use mineral (cement-based) fillers and repair mortars. Non-mineral fillers (gypsum, polymer, or acrylic-based) carry a risk of porosity and thermal expansion mismatch, which can cause localised flashing or mapping under the final coat.
- **On-Site Compatibility Test:** Before full application, apply the proposed filler to a discrete test area (minimum 300mm × 300mm), allow it to cure fully per the manufacturer's instructions, then apply KEIM at the standard rate. After drying, inspect for adhesion (pull-test with tape), colour uniformity (no flashing or mapping), and surface integrity (no cracking or delamination). Proceed only if the trial passes.

4. Using KEIM Soldalit-Fixativ

On porous surfaces, Fixativ is essential to regulate absorption and strengthen the masonry substrate.

- **As a Primer:** Apply undiluted KEIM Soldalit-Fixativ at approx. 0.15 L/m², working from the bottom of the wall upwards to avoid permanent, un-merged run-marks. Allow to dry before the base coat.
- **As a Diluent:** Thin the first coat of KEIM Soldalit with up to 5% KEIM Soldalit-Fixativ (approx. 0.25 kg per 5 kg drum) depending on absorbency, or up to 10% (approx. 0.5 kg per 5 kg drum) on highly absorbent substrates. Soldalit-Grob: maximum 5%. The topcoat is always applied undiluted.
- **Water Ban:** Never use water to dilute KEIM Soldalit; always use the dedicated Fixativ to maintain the proper mineral chemistry.

5. Selection of Base Coat & Topcoat

Select the appropriate first coat configuration based on the target substrate condition:

- **Standard Surfaces:** For sound, uniform surfaces, use standard KEIM Soldalit.
- **Hairline Cracks (up to 0.5mm):** Utilise KEIM Soldalit-Grob (fibre-filled) as the first coat to bridge micro-fissures (approx. 0.25 kg/m²).
- **Structural Cracks (0.5mm to 1mm) or Heavy Texture Profiling:** Utilise KEIM Contact-Plus as the high-build base coat. This coat contains mineral fibres and glass beads to bridge larger gaps and provide a uniform, grainy texture.
- **Topcoat:** Regardless of the structural base coat selected, the final finish coat must always be standard, un-filled KEIM Soldalit, applied undiluted, to lock in the correct mineral opacity and weather resistance.

6. Environmental Constraints

- **Temperature:** Ambient and substrate temperatures must be at least 5°C during application and drying (KEIM TDS). KEIM Australia also recommends not applying above 30°C.
- **Moisture:** Surfaces must be wind-dry, with a moisture content below 8% by weight (5% or less is ideal). Do not paint at 8% or above: find and fix the source of moisture first.
- **Solar Load & Weather:** Avoid application on facades heated directly by the sun. Elevated substrate temperatures cause rapid evaporation, which halts proper chemical silicification, resulting in permanent lap joints and visible lap

marks. Protect fresh work from direct sun, wind and rain.

7. Roller Application & Facade Management

- **Equipment & Technique:** Use a high-quality polyamide roller. A 20mm long-pile roller is suitable for rough render surfaces; however, on smooth or fine-textured finishes, a longer pile carries the risk of drag marks; use a 15mm pile on smoother substrates. Maintain a "wet edge" at all times to prevent visible joints, and apply in a cross-hatch pattern.
- **Scaffold Lifts & Natural Breaks (CRITICAL):** Applicators must paint continuously down to a natural architectural break, such as an expansion joint, corner, or downpipe. Scaffold teams must work wet-on-wet across multiple levels simultaneously to prevent horizontal dry-lines and tracking bands across the facade.
- **STRICTLY NO SPOT-PRIMING:** Spot-priming or localised touch-ups over dry exterior patches with a roller are strictly forbidden. This creates a raised, permanent 3-coat "halo" that will flash aggressively in direct sunlight. If a facade is patched, the entire architectural section from break to break must be seamlessly recoated.

8. Airless Spray Application

- **Hose Requirement (CRITICAL):** A new or dedicated spray hose must be utilised. The high alkalinity of KEIM sol-silicate products will detach dried acrylic paint skins and residue from old lines, causing severe, continuous nozzle blockages. Keep to the pump manufacturer's minimum hose length.
- **Pump Selection:** Use a **piston pump** for KEIM Soldalit and KEIM Soldalit-Grob. Diaphragm pumps must not be used.

Product	Nozzle	Filter	System pressure (gun closed)	Pump
KEIM Soldalit	≥ 0.035" (435) or larger	30 mesh gun filter	> 85 bar	Piston only
KEIM Soldalit-Grob	≥ 0.043" (443) or larger	No filters	> 110 bar	Piston only

- **Back-rolling:** When spraying, the first coat must be back-rolled immediately after application to ensure the mineral material is worked deeply into the substrate pores.

9. Drying & Curing

- **Drying Appearance (CRITICAL):** Mineral coatings dry unevenly and will lighten as they cure. DO NOT attempt to "touch up" or over-roll the coating during the drying phase, as this will permanently disrupt the curing process and create permanent visible defects.
- **Drying Interval:** Allow a minimum of 12 hours between coats (at 23°C and 50% RH). Cooler or more humid conditions, and thicker coats, extend this time.

10. Routine Maintenance & Service Life Extension

- **Routine Cleaning:** Rinse the facade every 12 to 24 months using a standard garden hose or pressure unit restricted to a maximum of 400 psi to clear salt loads and surface contaminants.
- **Safety Warning:** Never use high-pressure "turbo" oscillating heads, as they will mechanically blast apart and damage the cured mineral structure.
- **Optional Life Extension:** The service life of the KEIM system can be significantly extended at any point in the future. After a low-pressure clean, apply a single refresh coat of standard KEIM Soldalit at 6 m²/kg. The refresh coat fuses completely with the existing mineral layers, renewing the finish without stripping.

11. Quality Assurance & Warranty Checklist

To validate and secure the KEIM Australia project warranty, the following documentation must be compiled and retained for submittal:

- **Invoices:** Formal tax invoices issued directly by KEIM Australia matching project volume data.

- **Batch Records:** Logs and photographs of distinct batch numbers stamped onto all drum lids, including Soldalit, Grob, and Fixativ elements.
- **Site Log:** A daily on-site workbook capturing weather conditions, water absorption test results, substrate moisture values, and signed confirmation verifying the usage of a brand-new or dedicated spray hose and a piston pump.
- **TDS Compliance Verification:** A formal, signed declaration confirming that all phases of substrate profiling, drying delay windows, mixing protocols, and application techniques aligned completely with this guide and the current KEIM Soldalit Technical Data Sheet.

12. Digital Application Support & Calculators

- **Online Resources:** Project estimators, quantity calculators and further application tools: keim.com.au/calculators

KEIM Australia · 7/19 McCauley St, Matraville NSW 2036 · (02) 9748 7160 · info@keim.com.au · keim.com.au

Revision October 2026. Read together with the current KEIM Technical Data Sheet. Where this guide and the TDS differ, contact KEIM Australia before proceeding.