



SURFACE PREPARATION GUIDELINES

Cement Repair Mortars and Screeds

ENVIRONMENTAL CONDITIONS

Provide and maintain adequate health and environmental conditions including work protection during and after installation. Comply with trade standards and product instructions requirements. Follow product safety data sheet (SDS) and label instructions regarding safety, health and other related precautionary and environmental protection. Comply with all applicable federal, state, territory, provincial, local and statutory regulations.

Close all doors and windows and turn off direct forced ventilation systems and apparatus. Turn off radiant floor heating systems and protect the work area from direct wind, draft, sun and heat exposure during installation and for at least 72 hours after work completion.

When necessary, build a temporary shelter and use indirect auxiliary heaters to maintain the temperature level within the recommended range for proper installation and curing.

Exhaust all temporary heaters outside to building exterior in order to prevent health hazards and damage to work from toxic fumes and emanations, which can cause carbonation and contaminate surfaces causing an installation failure.

Set and maintain the substrate and ambient temperature in the installation tiling area within the 10°C (50°F) minimum and 35°C (95°F) maximum temperature range during installation and for 7 days after completion unless otherwise required by product instructions and/or by ANSI A 108 INSTALLATION STANDARD requirements.

Note: Before starting and proceeding with the installation, always examine the substrate, site and ambient conditions. Report all deficiencies and non-conformities in writing to the general contractor, architect, engineer, owner or project superintendent. Do not proceed with any of the work until surfaces and conditions are in compliance with product instructions requirements and ANSI A108 Installation Standard requirements. For ceramic tile installations, refer to the latest edition of the "TCNA HANDBOOK FOR CERAMIC TILE INSTALLATION" and of the TTMAC Specification Guide 09300 Tile Installation Manual for details. For resilient floor covering installations, refer to the Resilient Floor Covering Institute guidelines at www.rfci.com/knowledge-center. For glue down hardwood flooring, refer to the National Wood Flooring Association guidelines at www.nwfa.org.

SURFACE PREPARATION

General

Notes: PRO SUPERPRIME™ and PRO SUPERPRIME™ 1C can be used to ready nearly any surface for PROMA products without the need for scarifying or shotblasting, saving valuable time and money (refer to respective technical data sheet for details).

All supporting surfaces must be structurally sound, solid and stable prior to the installation of any cement underlayment compound. Loose or hollow sounding existing floor coverings will not be corrected by using a cement underlayment compound. The product will only adhere to what it is directly in contact with.

Do not use directly over a substrate subject to hydrostatic or rising moisture conditions or over an unstable substrate such as particleboard, presswood, OSB, Masonite, Lauan, asbestos board. In such cases, a 40 mils thick polyethylene film (ASTM C 171/D 4397) or tar-felt [CSA A 123.3 – (Type 1)] must be installed before installing a free-floating PROMA reinforced screed of at least 35 mm (1 3/8") thick with non-corrosive [50 x 50 mm (2" X 2") CSA G 30.5-M or ASTM A 185 M] wire-fabric reinforcement. Avoid contact with Aluminum and metal sdings, railings, bars, windows and accessories. Insulate such areas by applying an appropriate epoxy coating. Protect re-bars, posts and structural elements with an effective epoxy resin coating, such as PRO PRIME EPX™ (refer to technical data sheet for details), (contact our Technical Services department for proper advice and recommendations).



Surfaces must be clean and free of dust, oil, grease, paint, tar, wax, curing agent, form release agent or any deleterious substance and debris which may prevent or reduce adhesion. Mechanical removal of poorly-bonded or weak non-asbestos-containing substrates may be necessary.

- When removing poorly-bonded or weak non-asbestos-containing substrates, mechanically diamond grind, sand, shot blast, shave or scarify the substrate as required to completely remove all delaminating or weak paint, loosely bonded topping, loose particles and contaminants. **Note: If surface etching or contaminant removal by chemical process is performed, a certified letter must be obtained from the contaminant removal company that guarantees that all residual chemicals have been completely removed or any subsequent PROMA warranties will be deemed null and void.** Follow all regulatory requirements for protective eye, ear and respiratory PPE as required by law during any preparation method. Surfaces containing asbestos must be prepared and handled by specialized-trade professionals in accordance with federal, state, territory, provincial, local and statutory regulations.
- Any areas with oil contamination on existing concrete substrates, including but not limited to, sections where pipe cutting occurred may require cleaning with an appropriate degreaser, such as PRO DECAP™ (reference technical data sheet for details), or an oil-eating microbial product (i.e. Amoeba Cleaner for either petroleum or food-based oils). When clean, the concrete should absorb water freely and darken slightly with no water beading. For large areas with oil contamination, treat the entire substrate with the desired cleaning product and using either an orbital low speed swing buffer with a soft bristle nylon scrub brush or an auto scrubber with a soft nylon scrub brush to agitate the cleaner following the cleaner manufacturer's instructions. Use clean, potable water to rinse thoroughly until soap residue or bubbles remain. Allow the floor to completely dry. Using an auto scrubber for this process will speed up the cleaning and drying process.

Acids, concentrated alkaline conditions and cleaning chemical residues are not recommended and must be neutralized or removed.



Substrates must be dry.

Note: Do not apply directly over, gypsum floor patching and/or leveling compounds or other similar dimensionally unstable materials. Reference "Gypsum and Light-Weight Concrete Surfaces" section for details over these materials.

Concrete Surfaces

Smooth, chemically-densified, burnished or Power-Troweled concrete substrates must be either **PRIMED** with PROMA PRO SUPERPRIME™ or PRO SUPERPRIME™ 1C primer **OR** mechanically roughened in accordance with an engineer-approved procedure (shot-blasting, scarification, grinding, sand or water-blasting, etc) to provide sufficient surface texture and profile for the adequate bonding of the subsequent repair mortar or screed (please refer to the PRO SUPERPRIME™ or PRO SUPERPRIME™ 1C technical data sheet for full details).

Some silicate-based densifiers weaken when cleaned with citric-based degreaser at a heavy cleaning dilution ratio. Polished concrete densifiers may contain sealers with chemicals used in non-stick cookware for stain protection properties. Mechanical preparation may be required over chemically densified and polished concrete.

Excessively dry or porous concrete must be primed with PRO SUPERPRIME™ or PRO SUPERPRIME™ 1C (refer to respective technical data sheet for details), or wet down and kept continuously moist for at least 24 hours before proceeding further. All excess water or standing water must be removed, allowing the surface to become saturated surface dry (SSD), before installing the repair mortar or screed.

New Concrete:

Concrete substrates must be completely cured, sound, solid and have a direct tensile cohesive strength greater than 1.2 MPa (175 psi) when tested in accordance with ACI 503-30, ASTM D-4541 or ISO 4684. On grade or below grade concrete slabs must be installed over an effective vapor barrier and tested for humidity in accordance with ASTM F1869 and ASTM F2170.

New concrete must have cured no less than 28 days unless an appropriate moisture mitigation system, such as PRO BLOCK MMS™, is used. PROMA PRO BLOCK MMS may be installed over properly mechanically prepared new concrete once the concrete has cured for a minimum of 7 days at 21°C (70°F) and 50% Ambient Relative Humidity (DO NOT COUNT DAYS WITH HIGH HUMIDITY AND RAIN). The concrete must absorb water easily and contain no sealer or curing compounds after preparation. If the new concrete has a smooth finish, it is recommended to achieve a ICRI CSP 3-5 profile by mechanical means to ensure that topical salts and/or curing compounds, etc. are removed to ensure proper adhesion to the substrate with no remaining bond breakers present (refer to the PRO BLOCK MMS technical data sheet or contact our Technical Services department for proper recommendations).

Existing Concrete:

Interior existing concrete substrates must be dry and free of hydrostatic conditions and/or extreme moisture problems. Moisture testing must be performed, and no individual test method should be considered conclusive by itself. A combination of the following test methods is recommended to help determine the moisture content and permeability of the concrete:

- ◆ Perform a calcium chloride moisture emission test (ASTM F-1869) on the concrete substrate before proceeding with the application of primer or repair mortar or screed. The moisture vapor emission of the concrete should not exceed 2.26 kg per 93 m² (5 lb per 1,000 sq. ft. per 24 hours) for tile and stone installation, 1.36 kg per 93 m² (3 lb per 1,000 sq. ft. per 24 hours) for the installation of resilient flooring, when tested in accordance with this procedure. A pH test is recommended in conjunction with this test. Note: a pH level reading below 9 pH indicates a problem or a sealer and therefore deeper preparation is required to get an accurate moisture reading, even when testing old concrete.
- ◆ Perform an in-situ Relative Humidity probe test (ASTM F-2170) using Equilibrium Relative Humidity probes that have acclimated for a up to 72 hours prior to reading. The moisture content should not exceed 85% RH depending upon the product being used (refer to respective product technical data sheet or contact our Technical Services department for appropriate recommendations).

Note: PROMA's PRO BLOCK MMS™ moisture mitigation system can be used to remediate moisture problems on certain properly-prepared concrete substrates (refer to technical data sheet for details).

Mechanically preparation (Diamond Grinding, Shaving, Shotblasting, Sanding or scarifying) of old concrete substrates may be required to remove old cutback adhesive or non-water soluble adhesive residues, contaminants, loosely bonded topping/mortars, penetrating sealer/densifiers and achieve a finish profile equal to a CSP 3-5 as described in the ICRI Technical Guideline # 03732. Weak, crystallized or water soluble adhesives can be mechanically removed using a scraper, orbital sander or grinder.

For more jobsite specific questions, please contact our Technical Services department for appropriate recommendations.

Gypsum and Light-Weight Concrete Surfaces

Existing Gypsum and light-weight concrete surfaces must be properly primed with PRO SUPERPRIME™ or PRO PRIME LP™ (refer to respective technical data sheet for details).

Gypsum substrates must not be exposed to moisture or in areas prone to high humidity.

Remove all loose, broken or sandy surfaces by first sweeping followed by vacuuming the entire surface of the existing gypsum substrate. **Never** use sweeping compounds as this could leave an oily film on the surface that will prevent a proper bond and inhibit primer penetration into the gypsum. On wooden decks, fasten any loose areas with screws prior to priming and leveling.

Existing gypsum-based substrates must be completely cured, sound, solid and have a direct tensile cohesive strength greater than 0.5 MPa (72 psi) when tested in accordance with ACI 503-30, ASTM D-4541 or ISO 4684. ALWAYS PRIME GYPSUM-BASED SUBSTRATES with PRO SUPERPRIME or PRO PRIME LP primers (refer to respective technical data sheet for full details). DO NOT apply any cement-based product DIRECTLY in contact with gypsum without priming first as a chemical reaction known as "Ettringite" may occur causing crystallization followed by subsequent bond failure between the incompatible cement and gypsum surfaces. The existing gypsum substrate must be completely dry prior to priming. Once the surface is free of loose debris, prime the entire substrate to receive the PROMA repair mortar or screed.

Exterior-Grade Plywood (interior residential floors and countertops in dry areas only)

All wood substrates must be primed with PRO SUPERPRIME or PRO SUPERPRIME 1C prior to the application of a repair mortar or screed (refer to respective technical data sheet for details).

Plywood substrates and underlayments for direct bonding must be (EGP) Exterior Glue Plywood A.P.A. rated GROUP 1 EXTERIOR - C.C. plugged or better, conforming to U.S. Voluntary Product Standard PS 1-95 or 'CAN/PLY'- rated EXTERIOR "SELECT" or (SELTF) CSA 0121 Douglas Fir plywood in accordance with ANSI A 118.11 Standard requirements for (EGP) Exterior Glue Plywood. (Refer to ANSI A108.12 - AN-3.4.3 requirements for carpentry for EGP Latex Portland Cement Mortar).

Plywood must be new and acclimatized to room temperature and normal humidity conditions.





Existing plywood should be clean and may require sanding to remove surface contamination. Replace any broken, rotten or missing areas with new exterior-grade plywood underlayment prior to installation of a repair mortar or screed. The smooth face of plywood must be facing up with the long grain running across joist. Panel joints must be straddled in accordance with industry standards. When on joists 40 cm (16") O.C. the sub-floor must consist of 2 layers each of 15 mm (19/32") thick plywood panels gapped with 6 mm (1/4") spacing between sheets and between all materials which they abut such as walls, drains and posts. The top plywood panels must be fastened with non-corrosive floor screws at every 15 cm (6") around the perimeter and at 20 cm (8") intervals in all directions throughout the body of the panel (this may not be required when using thicker mortar beds and screeds, so please contact our Technical Services department for further recommendations).

Plank or board substrates must be covered by a 19 mm (3/4") thick EGP plywood layer fastened with screws at intervals not exceeding 20 cm (8") O.C. in all directions and around the perimeter of each sheet.

In all cases, the adjacent plywood sheets shall not be higher or lower than 0.75 mm (1/32") from one another. (Refer to ANSI A108.12 - AN-3.4.3 requirements for carpentry for EGP Latex Portland Cement Mortar).

Existing Tile, Vinyl and Other Low-Porosity Substrates (interior installation only)

Ceramic and Quarry Tile, Marble, Granite, Metal Surfaces, Painted Surfaces, VCT, VAT, Homogeneous PVC, cutback, non-water soluble adhesive residues and vinyl sheet floor covering (excluding cushion vinyl) must be sound, solid, well bonded, stripped clean and free of dust, wax, grease, sealer, soap residue and all other deleterious substances and contaminants which may reduce or prevent adhesion. All existing substrates must have a direct tensile cohesive strength greater than 1.2 MPa (175 psi) when tested in accordance with ACI 503 R – (Appendix A) procedure.

Note: New VCT surfaces may have a thin film of oil on the surface which must be removed prior to priming.

Ensure the existing substrate contains no remaining wax or floor finish. All wax/floor finish must be thoroughly stripped with an appropriate floor stripping product using an orbital scrubber, low speed buffer, etc. Once all wax/floor finish has been removed and has thoroughly dried, the surface must be primed with PRO SUPERPRIME or PRO SUPERPRIME 1C (refer to respective technical data sheet for details).

CAUTION: Mechanical preparation and/or priming is NOT recommended for any existing material that may contain Asbestos. Any substrate that may contact Asbestos should be tested prior to preparation methods. Asbestos is a carcinogenic substance. Dust inhalation may cause cancer of the respiratory tract. The risk is aggravated with persons who are in direct contact with asbestos fiber fumes. NEVER scarify, sand, perforate, saw, shot blast or mechanically shred any material or old floor covering susceptible of containing asbestos fibers and/or crystalline silica. If in doubt, always presume that the old floor covering contains asbestos and therefore must be handled by specialized-trade professionals in accordance with federal, state, territory, provincial, local and statutory regulations.

Metal

Existing metal surfaces may have contamination or corrosion, which must be mechanically removed prior to priming with PRO SUPERPRIME or PRO SUPERPRIME 1C and the application of a repair mortar or screed (refer to respective technical data sheet for details).

Ensure any old paint does not contain lead using a home lead paint test kit available at a local hardware store. Use a wire brush, shotblast or grind as necessary to remove any paint, loose coatings, corrosion, etc. Vacuum the entire metal surface and wipe clean with denatured alcohol or other proper solvent and allow to completely dry.

Note: New metal surfaces may have a thin film of oil on the surface which must be removed prior to priming with PRO SUPERPRIME or PRO SUPERPRIME 1C (refer to respective technical data sheet for details).





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