



PRO BETOPLAN™ 2

2. MANUFACTURER

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3. PRODUCT DESCRIPTION

PRO BETOPLAN 2 is a polymer-modified, calcium aluminate cement-based self-leveling, self-drying and self-finishing underlayment that can be poured or pumped to correct, level and smooth concrete substrates from 3 mm (1/8") up to 25 mm (1") deep.

Features

- ◆ Creates a smooth, level, and uniform surface
- ◆ Pour from 3 mm (1/8") up to 25 mm (1") in a single application
- ◆ Install ceramic tiles, porcelain or natural stones after 24 hours, and resilient floor covering, carpet, laminate flooring, engineered wood and wood parquet after 48 hours
- ◆ Mix only with water
- ◆ For use over concrete surfaces
- ◆ For use over exterior-grade plywood surfaces*
- ◆ For interior institutional, commercial and residential applications
- ◆ Compatible with all setting materials, adhesives, and floor coverings including wood parquet and rubber
- ◆ Can be barrel mixed or pumped through most standard pumps
- ◆ Super flow properties
- ◆ Will not promote mold, mildew or bacteria growth
- ◆ No VOC
- ◆ Contributes to LEED® objectives and requirements

* When primed with PRO SUPERPRIME 1C (see respective technical data sheet for details)

Packaging

22.7 kg (50 lb) bag



Concrete



Suitable Substrates

- ◆ Dry, completely cured concrete (at least 28 days old)
- ◆ Cement backer units (CBU)
- ◆ Gypsum and light-weight concrete surfaces†*
- ◆ Existing ceramic and quarry tiles, porcelain, granite and marble†
- ◆ Cementitious and Epoxy Terrazzo floors†
- ◆ Exterior Grade Douglas Fir Plywood, certified CANPLY (SELECT) or (SEL-TF) CSA 121, for INTERIOR Residential Light-Duty Floors in dry areas only†
- ◆ Metal such as steel, copper, stainless steel, aluminum or lead†
- ◆ Old cut-back adhesive residue and water-soluble adhesive residues†
- ◆ Existing VAT and VCT tiles, and non-cushioned vinyl sheet goods†
- ◆ Homogeneous PVC flooring†
- ◆ Resin-based floor coverings (epoxy, urethane or polyurethane)†

† When primed with PRO SUPERPRIME 1C™ (see respective data sheet for details)

* Provided that the tensile bond strength of 72 psi (0.5 MPa) is reached as a minimum for self-leveling applications



Limitations

- ◆ For INTERIOR installations only.
- ◆ Do not use at temperatures below 10°C (50°F) or above 35°C (95°F).
- ◆ Do not use for applications exceeding 25 mm (1") in thickness. For installations exceeding 25 mm (1") in thickness, contact our technical department for proper recommendations.
- ◆ Do not apply directly over particleboard, chipboard, presswood, Luan, masonite, OSB and other dimensionally unstable materials.
- ◆ Do not use over any type of cushioned flooring surface.
- ◆ Allow the self-leveling underlayment to dry properly prior to installing the floor covering.
- ◆ Do not leave without floor covering or exposed as a resurfacing material.
- ◆ Existing epoxy terrazzo floors, metal, PVC flooring or epoxy-resin floors must be well prepared and primed with PRO SUPERPRIME 1C™ prior to installing the self-leveling product (see respective technical data sheet for details).
- ◆ Existing ceramic tiles, composite vinyl tiles, cementitious terrazzo floors or old cut-back adhesives must be properly prepared and primed with PRO SUPERPRIME 1C™ prior to application (see respective technical data sheets for details).
- ◆ Do not use for filling cracks, holes and deep areas. Use PRO CEMIX™ for those purposes (see respective technical data sheets for details).
- ◆ Do not use where high moisture and hydrostatic conditions and/or recurring moisture problems exist. Please contact our technical department for solutions and proper recommendations.
- ◆ Do not use in places subject to immersion.
- ◆ Do not add water to the mix once it begins to thicken.
- ◆ Do not add sand, aggregate or additional water to the mix.
- ◆ Protect from any direct air ventilation or heat radiation source, such as direct sunlight, during and after the installation, for a minimum of 24 hours. These conditions could cause the self-leveling product to cure too rapidly, resulting in micro-cracking.
- ◆ **Do not accelerate curing time by using ventilators or heating appliances.**

4. TECHNICAL DATA

Applicable Standards

For Additional Information, please refer to the most recent TCNA handbook for ceramic tile installation or the TTMAC Specification Guide 09 30 00 Tile Installation Manual, or visit our website at www.proma.ca.

WORKING PROPERTIES (@23° C [73° F] and 50% RH)	
Working time	> 20 minutes
Flowing time	≥ 20 minutes
Time before installing floor covering	48 hours
Time before installing ceramic tile	24 hours

PHYSICAL PROPERTIES (@23° C [73° F] and 50% RH)	
VOC content	0 g/L
Linear shrinkage (%) @ 28 days	< 0.05%
Flexural strength (ASTM C-348) @ 28 days	> 5.6 MPa (800 psi)
Tensile bond strength (ASTM D4541 [Concrete]) @ 7 days	> 2.2 MPa (300 psi)
Compressive strength (ASTM C-109) @ 28 days	> 24.0 MPa (3,500 psi)
Density	2.0 g/mL
Approximate coverage per 22.7 kg (50 lb) bag	
Thickness	Coverage
3 mm (1/8")	4.6 m ² (50 ft ²)
6 mm (1/4")	2.3 m ² (25 ft ²)
13 mm (1/2")	1.1 m ² (12 ft ²)
25 mm (1")	0.6 m ² (6 ft ²)
Shelf life	
6 months if kept in its original unopened packaging and stored in a dry location.	





5. INSTALLATION

Surface Preparation

(Refer to PROMA Surface Preparation Guidelines for complete details)

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

- All supporting surfaces must be structurally sound, solid and stable.
- Surfaces must be clean and free of dust, oil, grease, paint, tar, wax, curing agent, primer, sealer, form release agent or any deleterious substance and debris which may prevent or reduce adhesion.
- Acids, concentrated alkaline conditions and cleaning chemical residues must be neutralized or removed.
- All concrete substrates must be completely cured (at least 28 days old), solid, sound, slightly textured and have a direct tensile cohesive strength greater than 1.2 MPa (175 psi) when tested in accordance with ACI 503 R – (Appendix A) procedure.
- On grade or below grade concrete slabs must be installed over an effective vapor barrier.
- All concrete substrates must be dry and free of hydrostatic conditions and/or extreme moisture problems. Perform a calcium chloride moisture emission test (ASTM F-1869) on the concrete substrate before proceeding with the installation of the floor. For wood flooring and resilient floor covering installations, the moisture vapor emission of the concrete must not exceed 1.36 kg per 93 m² (3 lb per 1,000 sq. ft.) per 24 hours. Do not prime, repair, level or patch the substrate, or install any floor covering materials until moisture problems and conditions have been addressed to meet these requirements. **Please contact our Technical Service Department for appropriate recommendations.**
- Existing Gypsum and light-weight concrete surfaces must be properly primed with PRO SUPERPRIME 1C™ (see respective technical data sheet for details).
- Smooth concrete substrate surfaces must be either **PRIMED** with 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 leveling product (please refer to the PRO SUPERPRIME 1C™ respective technical data sheet for full details).
- If concrete is dry and porous, **it must be primed** with PRO SUPERPRIME 1C™ primer (see respective technical data sheet for details) to prevent an uncontrolled absorption of water out of the self-leveling mix and also to avoid formation of air bubbles on the surface (see respective technical data sheet for details).
- Existing concrete slabs with old cutback adhesive or carpet adhesive residues must be properly scraped, roughened and cleaned. Then, **PRIME** the surface with PRO SUPERPRIME 1C™ prior to the application of the self-leveling underlayment (please refer to the respective technical data sheet for full details or contact our Technical Service Department for appropriate recommendations).

- Wood substrate must be solid and well-supported by joists spaced 400 mm (16") apart and should consist of two superimposed plywood sheet layers, each 16 mm (5/8") thick and set with a minimum of 3 mm (1/8") gap spacing between panels and 6mm (1/4") gapping along the perimeter walls, around columns, posts, drains and pipe openings. The top underlayment plywood layer must be fastened with non-oxidizing floor screws at every 15 cm (6") along panel edges and each way throughout the panel at 20 cm (8") centers. Floor surfaces along adjacent edges of panels must not be more than 0.75 mm (1/32") above or below each other. For ceramic and porcelain tiles up to 30 x 30 cm (12" x 12"), the structural design of the substrate must not allow a deflection greater than L/360 when tested to 136 kg (300 lb) concentrated loads in accordance with ASTM C627 Standard test method. For square and rectangular tiles with one edge dimension 38 cm (15") and 45 cm (18") up to 58 x 58 cm (23" x 23") the maximum deflection should not exceed L/540 unless an effective CIM (crack isolation membrane) is used in the installation system. **For tiles 60 x 60 cm (24" x 24") or larger and for ALL dimension stone installation, the maximum deflection must not exceed L/720. (Refer to ANSI A108. 01 requirements for Plywood sub-floors)**
- Existing ceramic tile, VCT and non-cushioned vinyl sheet goods should be properly prepared, cleaned and **PRIMED** with PRO SUPERPRIME 1C™ prior to the application of the self-leveling underlayment (please refer to the respective technical data sheet for full details or contact our Technical Service Department for appropriate recommendations).

Notes: Scrape off as much as possible of the old cut-back adhesive. Do not use sweeping compounds.

Mixing

Mixing ratio: 3 parts powder to 1 part water (by volume)

1. Use clean mixing-tools and containers.
2. In a clean mixing container, measure and pour **EXACTLY 5.2 L (1.4 US gal)** of cool clean water and gradually add 22.7 kg (50 lb) of PRO BETOPLAN 2 powder mix, while mixing slowly.
3. Using a low-speed mechanical mixer (150 - 300 rpm), mix until a homogeneous, smooth, lump-free, consistency is achieved.
4. The product is now ready for setting.
5. Use the product within the shortest possible delay (within a few minutes).

Application

Note: Protect from any direct air ventilation or heat radiation source, such as direct sunlight, during and after the installation.

1. Pour the self-leveling mix on the substrate and help spread it in place with a trowel or squeegee or by continuous pumping.
2. The mix will level itself out while leaving a smooth finish.

For more detailed information on ways to apply this product (especially when a pump process is being used), please contact our technical department for proper recommendations and job field assistance.

PRO SUPERPRIME 1C™

PROMA has engineered a revolutionary primer that can ready nearly any surface for leveling underlayments and toppings without the need for scarifying or shotblasting. Use PRO SUPERPRIME 1C with PRO BETOPLAN 2 as an unbeatable system for preparing a substrate for flooring installation. Surface must meet a minimum of 0.5 MPa (72 psi) tensile bond strength. In areas subject to heavy traffic, a minimum of 1.2 MPa (175 psi) tensile bond strength is required (see respective technical data sheet for details).



Cured concrete (28 days)	Metal such as steel, copper, stainless steel, aluminum or lead	Exterior-grade plywood	Existing ceramic and quarry tiles, porcelain, granite and marble	Existing VAT, VCT, non-cushioned vinyl sheet goods, homogeneous PVC flooring	Adhesive residue	Painted substrates



Expansion and Control Joints

- ♦ Install control joints where tiles abut restraining surfaces, around the perimeter of the work and at the base of columns and curbs.
- ♦ Install and space expansion and control joints in all directions in accordance with TCNA HANDBOOK FOR CERAMIC TILE INSTALLATION Detail #EJ-171 recommendations, or TTMAC Specification Guide 09 30 00 Detail #301-MJ recommendations. CAUTION: DO NOT cut EXPANSION JOINTS in after the tiles have been installed. Install tiles normally and stop when the control joint location is reached. Cut the tile if required and resume setting from the opposite side of the joint. Before proceeding further, rake the joint and leave the tile and joint space clean.
- ♦ DO NOT FILL EXPANSION JOINT SPACE UNTIL GROUTING IS COMPLETED on the remainder of the job.
- ♦ Install a suitable industry-approved compressible bead and flexible sealant to caulk expansion and control joints. Follow the sealant manufacturer's installation instructions.

Curing and Protection

- ♦ 24 hours at room temperature (foot traffic).
- ♦ Install ceramic tiles, porcelain or natural stones after 24 hours.
- ♦ Install resilient floor covering, carpet, engineered wood and wood parquet after 48 hours.
- ♦ Material should be completely dry prior to applying the floor covering adhesive.

Note: Drying time may vary depending on the temperature and humidity level. Do not attempt to accelerate drying and curing through forced ventilation, fans or heat-blowers.

- ♦ Ensure that the moisture vapor emission of the concrete does not exceed 1.36 kg per 93 m² (3 lb per 1 000 sq. ft.) per 24 hours when tested in accordance with the calcium chloride moisture emission test (ASTM F-1869) prior to the installation of a resilient floor covering or other material sensitive to water.
- ♦ Protect from traffic and dust until floor covering is completely installed.

Cleaning

Clean tools and hands with water while the product is still fresh.

Health and Safety

Refer to the Safety Data Sheet (SDS) for complete details.

6. AVAILABILITY AND COST

PROMA products are widely available in Canada and the Northeast United States. To find a distributor of PROMA products, call **toll-free: 1.866.51.PROMA (77662)**.

7. WARRANTY

PROMA warrants that this product is manufactured using quality raw materials and is of merchantable quality and suitable for the purpose for which it was intended. PROMA's liability under this warranty shall be limited to the replacement of its product proven to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising from the use of/or the inability to use this product.

8. MAINTENANCE

Product requires no special maintenance. Do not leave without floor covering or exposed as a resurfacing material.

9. TECHNICAL SERVICE

For more detailed information on this product, please contact our technical department for proper recommendations and job field assistance. **Toll-free: 1.866.51.PROMA (77662)**.

10. FILING SYSTEM

Additional information is available upon request, or by visiting www.proma.ca.

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