

SILPRO

SILFLO 230

Self-Leveling Underlayment
Wearing Surface
High Performance
Up to 5" Thick
Portland Cement-Based
Polymer-Modified
Poured or Pump Applied

SILPRO CORPORATION / 2 NEW ENGLAND WAY / AYER, MA 01432-1514 / 800-343-1501 / 978-772-4444 / FAX 978-772-7456 / WWW.SILPRO.COM



GC: Standard Builders, Newington, CT.

Silpro Silflo 230 is a high performance, multi-purpose, Portland cement-based, polymer-modified topping that can be used as a self-leveling underlayment or as an exposed wearing surface for interior applications. As an underlayment, it is recommended for resurfacing and leveling interior concrete, wood, cement terrazzo, quarry, and ceramic tile floors prior to the installation of resilient flooring, ceramic tile, wood flooring, laminate, or carpet. It is also an excellent light-to-moderate duty wearing surface when coated with an appropriate pigmented coating.

TECHNICAL DATA

| Report Results | Test Method | Test Age | Test |
|----------------------|-------------|----------|-------------|
| Compressive Strength | ASTM C-109 | 1 Day | 2500 psi |
| | | 7 Days | 3500 psi |
| | | 28 Days | 5500 psi |
| Working Time | | Minimum | 30 minutes |
| Set Time | ASTM C-191 | Minimum | 70 minutes |
| | | Maximum | 150 minutes |

Typical values for material cured at 70° F, 50% RH

ADVANTAGES

- Portland cement-based
- One component — ready to use, just mix with water
- No troweling
- Multi-purpose: use for thin pours, thick pours, underlayment, or wearing surface
- Apply over concrete, ceramic tiles, terrazzo, wood flooring
- Provides a compatible bonding surface for tile, carpet, and other adhesives
- Recommended for leveling and repairing new concrete construction
- Recommended for all rehab projects involving concrete, tile, terrazzo, and wood surfaces
- May be pumped or drum mixed and poured
- Easy mixing, long working time
- Fast setting — open to foot traffic in 3 to 5 hours
- Will not mildew

For Customer Service, Call Silpro at 1-800-343-1501

SURFACE PREPARATION

Concrete: Surfaces must be clean and free of any loose or friable materials. All bond-inhibiting materials such as paint, oil, curing compounds, sealers, gypsum, adhesives, etc., must be removed by shotblasting or other mechanical means. In most cases cutback adhesive must be removed. Refer to the Resilient Floor Covering Institute on the use of the wet scraping technique. Polished floors must be shotblasted or scarified.

Wood: Surfaces must be free of any bond-inhibiting materials such as wax, paint, oil, adhesives, loose patches, etc. The subfloor must be 3/4" thick, A.P.A. classified type 1 exterior grade plywood or solid hardwood flooring. Spaces in joints should be filled with **Silpro's Skim Pro**. All fastener heads must be flush or countersunk and the plywood should be rigid without any flex or bounce. Refasten any loose boards. Install 3.4 pounds per square yard, galvanized, diamond lath that is overlapped at least 2 inches on all sides then mechanically attached. The lath shall be fastened every 6 inches on overlaps and have 8 inch centers starting from a floor joist.

Cement Terrazzo, Ceramic Tile: All waxes and sealers must be removed. Remove all glazes and roughen the surface by either shotblasting or other mechanical means.

PRIMING

For normal concrete surfaces and application thicknesses 1/4 inch and above, dilute **Silflo Primer** 1:1 with clean, potable water. Apply the primer and scrub it in with a soft push broom to saturate the surface and fill voids. Remove excess primer from the surface or brush out puddles.

For porous, absorptive concrete surfaces including self-leveling underlayments, and for thicknesses less than 1/4 inch, prime with **Silflo Primer** diluted with 1 part **Primer** to 2 parts clean potable water and apply as above. Let this coat dry and apply a second coat of **Silflo Primer** 1:1 with clean potable water. Do not leave any puddles of primer behind. Allow the primer to dry to a clear film, a minimum of 3 hours and a maximum of 48 hours. Inadequate priming can result in pinholes, especially for thin applications.

For Plywood, Cement Terrazzo, Ceramic Tile: Apply **Silflo Primer** full strength. Allow the primer to dry to a clear film, a minimum of 3 hours and a maximum of 48 hours.

MIXING

Manual Mixing: Mix 2 bags at a time. Place 11 quarts of water into the **Silpro** mixing barrel. Slowly add 1 bag of **Silflo 230** at a time to the water while mixing with a minimum 7 amp, 650-rpm drill and **Silflo** paddle. Mix thoroughly for approximately 1 to 2 minutes to obtain a lump-free consistency. Extended mixing may entrap air that could cause pinholes and affect surface smoothness.

MIXING CONTINUED

Do not add more water! Adding more water than specified can result in aggregate settling, low strength, and surface dusting.

For applications greater than 1 inch, Silflo 230 can be extended with 15 pounds of clean, dry, Mason's sand per 50 lb. bag. Add the sand to the mixing drum after the **Silflo 230** has been added and mixed. Adding sand will cause the mix to thicken and decrease working time, but it will still flow. **Do not add more water!** Added sand will increase coverage by approximately 17 percent. The benefit of extending the product should be compared to additional materials and handling costs.

Note: Added sand may impact the performance of some mixing and pumping equipment.

Mixers/Pumps: **Silflo 230** can be mixed and applied using automated equipment developed specifically for the application of self-leveling underlayments. Because of the variety and complexity of such equipment it is difficult to provide specific guidelines. Of key importance is maintaining the specified amount of water in the mix. Over-watering can result in surface whitening, powdering, color variations, and bonding issues. **The equipment must be capable of accurately and consistently metering the appropriate amount of mix water.** Mixers/pumps should be equipped with a means of setting the appropriate water amount per unit of powder so that it is equivalent to 5.5 quarts per bag of **Silflo 230**. A practical way to accomplish this is to Manually Mix the product as described in the previous section and note the consistency. Adjust the mix water on the Mixer/Pump to achieve the same consistency.

Wood Substrate, Cement Terrazzo, and Ceramic Tile: Mix 2 bags at a time. Place 1 gallon of **Silpro C-21 All Acrylic** and 8 quarts of water into the **Silpro** mixing barrel. Slowly add 2 bags of **Silflo 230**, one at a time, to the mixing solution while the **Silflo** paddle is turning. Mix thoroughly for 2 minutes or less to obtain a lump-free consistency. Avoid entrapping an excessive amount of air by over mixing. **Do not add more water or C-21 All Acrylic!**

APPLICATION

Pour or pump the mixed **Silflo 230** onto the prepared floor and spread to the desired thickness with **Silpro's Spreading Tool**.

Smooth the surface with the **Silpro Smoothing Tool** within 5 minutes of placing. For large continuous pours maintain a wet edge and flow the freshly placed material into the previous pour smoothing the transition.

Wear cleated shoes while placing the **Silflo 230** to avoid leaving marks in the fresh material.

Thickness of Application: **Silflo 230** may be placed from 1/8" to 5" neat. When installed over a wood substrate, a minimum of 3/8" of **Silflo 230** must be placed over the lath.



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APPLICATION CONTINUED

When applying **Silflo 230** in multiple lifts, allow the previous layer to cure for 48 hours before the next application. Prime between applications.

Clean Up: Clean tools and equipment with water. Do not let **Silflo 230** harden on tools. If it does, remove mechanically.

CURING

Prevent exposure to wind, drafts, and direct sun that could cause surface drying and wrinkling.

WEAR SURFACE

Silflo 230 is suitable for use as a light to moderate duty wear surface, for example offices or light warehousing operations, where rubber-wheeled carts and transport devices are used. It is not intended for heavy-duty manufacturing or other industrial floors where heavy equipment, pallets and associated operations can apply excessive point loads or where general chemical resistance is required.

Silflo 230 has the hardness and abrasion resistance to function as a wearing surface. When used in this manner it must be sealed with an appropriate pigmented coating to prevent penetration of water or other liquids that may stain or impair long-term performance and also to insure uniform surface color of the finished floor. Generally, pigmented

WEAR SURFACE CONTINUED

coatings developed for concrete will adhere to **Silflo 230**, however it is the applicator's responsibility to confirm this by completing a test patch for approval by the owner, architect, or contractor prior to starting the job. The nature of the specific coating selected by the contractor will depend on the performance required by the customer.

The surface of the **Silflo 230** may be adequate for coating as is, however, depending on mixing and application, sanding and light patching to fill minor voids or pinholes may be necessary.

LIMITATIONS

- For interior applications only.
- Apply only when surface and ambient temperatures will be 50°F and above for 12 hours and maintain this temperature for 24 hours after application.
- Adding excess water will result in surface whitening and bonding issues.
- To determine the suitability of the substrate surface for adhesion and the finish for appearance including texture and color, install a 10'x10' test patch at the maximum designed thickness using the techniques, equipment, and materials to be used, for approval by the owner, architect, or contractor prior to proceeding with the job.

LIMITATIONS CONTINUED

- All control and expansion joints must be carried through.
- Concrete must be a minimum of 7 days old.
- Concrete must be structurally sound meeting local building codes.
- Do not apply over dusting or unsound concrete.
- Do not re-temper.
- Do not expose **Silflo 230** to chemical attack.
- Do not expose **Silflo 230** to freeze/thaw conditions.
- Substrate temperature must be 50° F. or above.
- For temperatures higher than 85° F. consult Silpro's Technical Service Dept.
- For applications over wood and nonporous substrates contact Silpro's Technical Service Department to review the specific project conditions.
- Silpro is not responsible for applications where clear sealers have been used.

WAITING PERIOD FOR APPLICATION OF COVERING

Most thin-set mortar applications or floor coverings that are not moisture sensitive may be placed in 12 – 16 hours. Moisture sensitive floor coverings may be installed in 48 – 72 hours for thin applications of **Silflo 230**, however longer periods may be required for thick applications. Drying time will depend on a number of factors including temperature and relative humidity. Test the substrate prior to floor installation to insure that it meets moisture and other requirements specified by the flooring manufacturer.

PACKAGING

50 lb. bag (22.68 kg.)

2400 lb. super sack (1088.64 kg.)

COVERAGE

24 square feet when applied at 1/4" thick per 50 lb. bag mixed with 5.5 quarts of water.

Water to Powder Ratio: 5.5 quarts water per 50 lb. bag of **Silflo 230**.

STORAGE

Store in a cool dry place. Temperature should range between 50° – 80°F. Keep out of direct sunlight. Precondition to 70°F +/- 5° prior to using.

SHELF LIFE

6 months

CAUTION!

Silflo 230 contains Portland cement and Crystalline Silica. Avoid contact with eyes and skin. Avoid breathing dust. Use with adequate ventilation. The use of a NIOSH/MSA approved dust respirator, goggles, and resistant gloves is recommended.

In case of contact with eyes, flush with water for 15 to 20 minutes. In case of contact with skin wash with soap and water. Get medical attention if irritation persists.

See **Material Safety Data Sheet** for detailed information.

FOR COMMERCIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. NOT FOR INTERNAL CONSUMPTION.

Dispose of in accordance with local, state, and federal regulations.

In case of a medical emergency or for information regarding spillage clean up or disposal call INFOTRAC: 800-535-5053.

GUARANTEE

Silpro Corporation guarantees that their products are made of the finest raw materials under exacting care to produce products of the highest quality and will perform as stated when used in accordance with the manufacturer's printed instructions.

Improper mixing, incorrect application or other factors beyond the control of the manufacturer may produce unsatisfactory results and can not be held to be the manufacturer's responsibility. Silpro accepts no responsibility beyond the purchase price of the Silpro product used.

For further product information on **Silflo 230** and **Silflo Primer** consult your local dealer or call Silpro Corporation at: **800-343-1501; 978-772-4444; FAX 978-772-7456.**

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