



# 59

## FLEX-FLO SELF-LEVELING UNDERLAYMENT

### BASIC USES

For leveling and repairing concrete, exterior grade plywood surfaces, or existing floor surfaces such as vinyl composition tile\*, cutback adhesive-coated floor surfaces\*, Portland cement-based terrazzo, or ceramic tile. Produces a smooth, level surface, for installation of all types of ceramic or stone tile, vinyl composition tile or sheet goods, carpet, or hardwood.

\* Check with Flextile Ltd. as to acceptability of specific surfaces.

### COMPOSITION AND MATERIALS

A polymer modified, cementitious self-leveling underlayment, which cures rapidly to provide a smooth level surface.

### FEATURES

- Ideal for fast leveling, smoothing and repair of surfaces prior to flooring installation.
- Saves time - finds its own level without troweling.
- Easy to use - just mix with water and apply.
- Fast curing - flooring can be installed within 2 - 4 hours.
- Can be applied in thickness of feather-edge to 12 mm (1/2").
- Non-Flammable.

### LIMITATIONS

Not intended for use as an exposed traffic surface. Not intended for exterior use. Do not use over particleboard, Masonite, chipboard, gypsum-based products, or similar unstable materials. Do not use over cushioned resilient flooring, rubber, plastic, paint, asphalt, or plywood surfaces in wet areas. Do not use over single layer plywood floors. Use only on surfaces, which are maintained at a temperature above 10°C (50°F) and below 35°C (95°F) during application and for at least 72 hours after application.

### LEED Points Contribution

MR Credit 5, Regional Materials\*  
IEQ Credit 4.1, Low-Emitting Materials – Adhesives & Sealants  
IEQ Credit 4.3, Low-Emitting Materials – Flooring Systems  
*\*May be eligible*

### LEED Points

Up to 2 points  
  
1 point  
  
1 point

### TECHNICAL DATA

There is no specific ANSI product designation for self-leveling underlayments.

#### Typical Physical Properties

Pot Life	40 minutes
Flow Time	20 - 30 minutes
Self-Healing Time	10 - 20 minutes
Initial Set	2 - 4 hours*
Final Set	4 - 6 hours
Final Cure	28 days
*depending on porosity of surface	

#### Compressive Strength (ASTM C-109)

@1 day	11.7 MPa ( 1700 psi)
@7 days	19.3 MPa (2800 psi)
@28 days	33.1 MPa (4800 psi)
Specific Gravity (dry)	1.78
Specific Gravity (wet)	1.89
pH (paste)	approx. 12
Cleanability :	with water before material dries
Shelf Life:	6 months from production date when stored in dry, heated conditions

#### Approx. coverage per 50 lb bag:

4.65 M<sup>2</sup> (50 Ft<sup>2</sup>) @ 3mm (1/8") thickness

- Coverages given are for estimating purposes only. Actual coverages may vary depending on job site conditions and installation techniques used.

**INSTALLATION****SURFACE PREPARATION**

1. Surfaces must be structurally sound, well cured, dry and free of grease, oil, dirt, paint, curing compounds or sealers, or other foreign matter. Damp mop or vacuum to remove dust or surface debris.
2. Where necessary, scarify or sand to remove dead or scaled concrete, or other contaminants, which could affect bond.
3. Maintain temperature in tiled areas at not less than 10°C (50°F) or more than 35°C (95°F) during installation and for at least 7 days after completion.
4. In all cases, the structural design of the floor shall not allow a deflection greater than 1/360 of the span under live and dead loads.
5. Provide for expansion and control joints where specified including the perimeter of the room, columns, supports and equipment pedestals. Do not bridge expansion and control joints.
6. Skim coat existing ceramic tile or stone or cutback adhesive with a mortar mix consisting of Flextile 53 mortar mixed with Flextile 44 Additive and allow to harden.

**A. CONCRETE**

1. Concrete surfaces should have a wood float or steel trowel with broom finish. Roughen smooth concrete surfaces.
2. New concrete slabs shall be 28 days old before application; the surfaces shall be dry, and free of hydrostatic pressure: vapor emissions shall not exceed 1,36 kg/92.9 m<sup>2</sup> (3 lbs./1000 sq. ft.) per 24 hours when using the calcium chloride test kit.

**B. PLYWOOD UNDERLAYMENTS**

Plywood flooring, including those under resilient flooring, must be structurally sound and meet all deflection requirements.

1. Exterior Grade Plywood – Plywood subfloor and underlayment consisting of 2 layers each of 5/8" (16mm). Single Layer underlayment grade plywood, 19mm (3/4") minimum thickness – on bridged floor joists up to 50 cm (20") on center. Plywood floors should be designed for maximum deflection of 1/360 of span. Installation of plastic or metal lath is required over single layer plywood subfloor installations.

Lath should be fastened every 15-20cm (6-8") with galvanized / corrosion resistant fasteners, minimum of 1.13 kg / 0.83m<sup>2</sup> (2.5 lbs /sq yd). Leave a 6mm (1/4") gap around drain pipes, conduits, posts, columns and along wall curb bases and between sheets of plywood. Subfloor long edges must be tongue and groove or supported by bridging between floor joists. Install a bond breaker on the perimeter of the installation. Block areas, patch holes and cracks from seepage to other areas with Flextile Patch.

2. Presswood, particle board, chipboard, masonite, Luan, solid wood planks, engineered hardwood floor oriented strand board (OSB), asbestos board, and dimensionally unstable materials are not acceptable substrates.

**APPLICATION**

Use Flextile 4040 Primer for Concrete with every application. Shake thoroughly before using. Pour, mop or spray primer onto surface. Apply an even thickness of primer to the prepared substrate using a bristle broom to ensure the primer is absorbed into the substrate, removing any puddles or thick areas. Allow the primer to dry to a clear film usually 2-3 hours but, less than 24 hours before application of Flextile Flexflo Underlayment. A test installation is always recommended prior to installation, to confirm job site parameters.

Add approximately 5.25 - 5.75 liters (1.4 - 1.5 US gallons) of cool, clean water to a clean mixing container. While mixing, slowly add 22.7 kg (50 lb) bag of 59 Flex-Flo Self-Leveling Underlayment powder. Avoid using high-speed mixers. Mix until smooth and lump free.

Pour the mixed material immediately on the floor surface and spread with a straight edge or squeegee. Material should be mixed to permit a continuous supply to the mechanics spreading the material. On larger applications, this can most easily be accomplished using continuous mixing and pumping equipment. DO NOT overwork the material, and supply sufficient material to cover high spots. DO NOT cover existing expansion or control joints.

**CURING**

DO NOT walk over material until it has been allowed to cure. Foot traffic may be allowed, and floor coverings installed after 2 – 4 hours. Protect from direct sunlight, moisture, excessive heat or draft during cure.

**CAUTION**

Freshly mixed cement, mortar, concrete or grout may cause skin injury. Avoid extended contact with skin where possible and wash exposed skin areas promptly with water. If any cement or cement mixtures get into the eye, rinse immediately and repeatedly with water and get prompt attention. Keep out of reach of children.

**SAFETY**

Refer to Flextile Material Safety Data Sheet for detailed health and safety information.

**AVAILABILITY AND COSTS**

Flextile 59 Flex-Flo Self-Leveling Underlayment is available from Flextile Ltd. and its distributors in 22.7 kg (50 lb) bags. Cost: Data supplied upon request.

**WARRANTY**

Flextile warrants that this product is of merchantable quality and is suitable for the purpose for which it is intended. Flextile's liability under this warranty shall be limited to the replacement of its product found to be defective or, at its option, a refund of the purchase price.

**MAINTENANCE**

No maintenance is required except where damages result from unforeseen circumstances. Repair procedures shall be directed by Flextile or its distributors.

**TECHNICAL SERVICES**

Flextile maintains a well-equipped laboratory able to test its products in conjunction with the products with which they are used. Technical assistance for use of Flextile products is available upon request.

**RELATED REFERENCES**

Current editions of: Ceramic Tile Installation Manual (09 30 00) from the TTMAC & TCNA Ceramic Tile Installation Handbook.

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