



UniLayment® 966

Polymer-Modified Portland Cement Underlayment and Patching Compound

PRODUCT DESCRIPTION

UNILAYMENT® 966 is a dry polymer-modified, self-curing, Portland cement-based floor leveling system for most types of floors prior to the installation of resilient flooring, carpet, ceramic tile, slate, granite or marble. This product eliminates the use of special liquid latex additives. Water is all that is required for mixing. UNILAYMENT 966 develops a dense, water resistant surface and contains special organic and inorganic chemicals which, when properly mixed (water only), will featheredge to a non-checking, non-cracking durable surface.

▶ BASIC USE

Typical application includes uneven, rough or unfinished concrete surfaces that must be leveled or smoothed. In addition to leveling concrete floors, UNILAYMENT 966 can be used in rehabilitation projects where old terrazzo, ceramic tile and wooden floors must be made ready for new floor coverings. It may be used over cementitious backer units and on interior installations, over exterior grade plywood (EGP).

▶ AREAS OF USE

UNILAYMENT 966 may be used on interior or exterior applications where a permanent water-resistant surface is required for receiving decorative floor coverings. UNILAYMENT 966 hardens by hydration (curing) of Portland cement to become an underlayment which will have similar properties to concrete. Like all Portland cement products, strength increases significantly during the initial 28 days. UNILAYMENT 966 may be applied as thick as 3/8" (9.5 mm) to featheredge in a single application without fear of shrinking, cracking or spalling. A minimum cure is obtained in 24 hours depending on ambient conditions.

▶ LIMITATIONS

UNILAYMENT 966 must not be used over gypsum based surfaces, old adhesive residue, paints, particle board, luan plywood, plastics, vinyl products, epoxy or urethane floor coverings. Use in a temperature range of 40°F (4°C) to 100°F (38°C). *Do not allow mortar to freeze for the first 72 hours.* UNILAYMENT 966 shall never be applied to dry concrete. Dampen concrete floors with clean water, but do not let puddles remain. Apply underlayment while floor is still damp. UNILAYMENT 966 may be used as a wearing surface in areas which do not require high chemical resistance or will not exceed moderate traffic (equivalent to passing test cycles 1 through 10 of ASTM C-627).

▶ APPLICABLE STANDARDS

Color — Gray (white on request).
Texture — Powder, consisting of Portland cement, sand, organic and inorganic chemicals.

▶ PACKAGING

50 lb. (22.7 kg) bags.

INSTALLATION

▶ PREPARATORY WORK

All surfaces to receive UNILAYMENT 966 must be structurally sound. Deflection shall not exceed 1/360th of the span including live and dead load. Remove all dust, waxes, sealers, old adhesive residues, curing compounds, oils, gypsum based materials, surface hardeners, paints, old flooring and other foreign materials before application.

▶ CONCRETE FLOORS

Concrete slabs shall be completely exposed, fully cured, free of hydrostatic pressure and efflorescence. Chip, sandblast or hammer out any spalled unsound concrete. Clean off any resulting dust. Surfaces may be cleaned, if desired, by acid-etching using a 10% muriatic acid wash. (*Use proper precautions.*) It is important that the acid sludge be thoroughly neutralized and flushed from the floor if this method is used. Smooth, steel troweled concrete floors must be roughened to ensure a good bond.

▶ WOOD SUBSTRATES

All wooden flooring should be structurally sound with no spring or flexing. On all tongue and groove flooring, only spot patching should be done. If a continuous overlay is required, exterior grade plywood must first be placed on the floor prior to leveling with UNILAYMENT 966. When exterior grade plywood is installed over conventional floor joists, it shall be of a design and thickness to provide a secured rigid substrate base with deflection not exceeding 1/360th of the span. Allow an expansion gap of 3/16" to 1/4" (5 to 6 mm) between sheets of plywood for expansion by proper spacing during installation or saw cutting after installation of plywood. Tape the joints prior to application of metal lath. All plywood flooring must be secured with screw-type nails and glued where possible. Nail or staple thin, galvanized metal lath to the floor. Install no less than 1/4" (6 mm) no more than 3/8" (9.5 mm) thickness of UNILAYMENT mortar over the surface following the standard procedure.

▶ SPECIAL SURFACES

Marble, terrazzo and existing ceramic tile surfaces must be well bonded to sub-floor, cleaned of any waxes and abraded to a rough surface prior to application of UNILAYMENT 966. Over steel surfaces, consult with C-Cure's Technical Services to discuss the particular job conditions. DO NOT use over particle board, plastics, vinyl, urethane or epoxy floor coverings.

▶ COVERAGE

Coverage will be approximately 50 to 55 sq. ft. (4.5 to 5 m²) per 50 lb. (22.7 kg) bag at 1/8" (3 mm) thickness.

▶ MIXING

Mix one 50 lb. (22.7 kg) bag of UNILAYMENT 966 with 5 quarts (4.7 L) of clean water. Always add the powder to the total amount of water and mix with a low speed drill (300 RPM or less) until a lump-free mix is obtained. For optimum mixing results, it is advisable to use a C-Cure mixing paddle for minimal air entrapment in the mortar. Allow material to stand in bucket for 5 - 10 minutes before use.

NOTE: Do not add any other materials to UNILAYMENT 966 other than those prescribed by C-Cure.

▶ APPLICATION

Except for applications over exterior grade plywood, dampen the substrate with clean water prior to application of the mixed UNILAYMENT 966. Key in the initial skim coat with the flat side of a trowel, then build the material to the desired thickness, not to exceed 3/8" (9.5 mm). Start finishing immediately using a flat steel trowel. Unlike regular cement mixes, this product should not be over-troweled. Dip trowel in water often to make finishing easier and clean tools frequently. UNILAYMENT 966 may be sanded to the desired level and texture upon reaching a hard set (usually within 8 hours under normal conditions).

▶ CURING

A minimum cure is obtained in 18 - 24 hours, depending on ambient conditions. Always check to make sure excess moisture has dissipated prior to installation of resilient flooring materials.

▶ EXPANSION JOINTS

Expansion joints, saw cut (control) joints, cold joints or structural cracks shall never be bridged over with UNILAYMENT 966. They should continue through the UNILAYMENT 966 and the subsequent flooring material. Provide expansion joints every 20 - 24 feet (6.1 - 7.3 m) in each direction. Install expansion joints through the UNILAYMENT 966 where it abuts restraining surfaces such as perimeter walls, dissimilar floors, curbs, columns and pipes. An architect or structural engineer must specify expansion joints and show location and details on drawings. Follow Procedures EJ 171 in the TCA Handbook.

▶ OTHER CONDITIONS

For conditions other than those covered in this data sheet, contact C-Cure Technical Services at 800-895-2874.

▶ WARRANTY

UNILAYMENT 966 is included in C-Cure's Five Year System Warranty. For terms and conditions see Warranty Document #WRTDS.

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GUARANTEE

The recommendations, suggestions, statements and technical data are based on the best knowledge available to C-Cure and are given for informational purposes ONLY and without any responsibility for their use.

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UNILAYMENT 966 TECHNICAL DATA

TEST	TYPICAL VALUES
A. Working Time @ 70°F (21°C)	15 Minutes
B. Initial Set @ 70°F (21°C)	30 Minutes
C. Final Set @ 70°F (21°C)	2 Hours
D. Compressive Strength ASTM C109	24 Hours 7 Days 28 Days 500 psi (35 kg/cm ²) 2000 psi (141 kg/cm ²) 3900 psi (274 kg/cm ²)
E. Flexural Strength ASTM C348	28 Days 800 psi (56 kg/cm ²)
F. Bond Strength ASTM D3931	28 Days 400 psi (28 kg/cm ²)
G. Safety—CAUTION: May cause eye, skin or lung injury. Contains free silica. Prolonged exposure to dust may cause delayed lung disease (silicosis). Eliminate exposure to dust. Use NIOSH approve mask for silica dust. Contains Portland cement. If any cement or cement mixtures get into eye, flush immediately and repeatedly with water, and consult a physician promptly. Freshly mixed cement, mortar, concrete or grout may cause skin injury. Avoid contact with skin where possible and wash exposed skin areas promptly with water.	
KEEP OUT OF REACH OF CHILDREN.	
H. Storage Life—One year if kept in sealed bags.	

Members of National Tile Contractors Association,
Materials & Methods Standards Association, Ceramic Tile Distributors Association.

NOTICE: The information in this bulletin is presented in good faith, but no warranty, express or implied, is given nor is freedom from any patent. In as much as any assistance furnished by C-Cure with reference to the safe use and disposal of its products is provided without charge, C-Cure assumes no obligation or liability therefore, except to the extent that any such assistance shall be given in good faith.

C-CURE
Seal Beach, CA 90740
800-895-2874
www.c-cure.com