



TECHNICAL DATA SHEET

LEVEL MAGIC

Pumpable Self Leveling Underlayment

03540

CEMENTITIOUS UNDERLAYMENT
CONCRETE

TAMMS INDUSTRIES
JANUARY 2000 (Replaces 5/99)

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- DESCRIPTION:** LEVEL MAGIC is a cement based self leveling, high strength underlayment designed for leveling floors. LEVEL MAGIC can be feather-edged and has properties similar to that of concrete and depending on the application, eliminates or minimizes trowelling. It requires the addition of only potable water to achieve a high fluid consistency producing a smooth, level, and hard surface. LEVEL MAGIC can be applied in multiple lifts with each lift being no more than 1" thick or can be extended with pea gravel to fill greater depths.
- USES:** LEVEL MAGIC is used to repair, fill or level surfaces in new construction or for corrective work. It is applied interior to properly prepared concrete, wood, plywood and other sound rigid substrates. LEVEL MAGIC is used as a subfloor underlayment prior to installation of carpet, tiles or other floor covering systems. It is compatible with commonly used adhesives and normally can receive floor coverings within 24 hours of its installation. LEVEL MAGIC is not a wearing surface and must be protected with a compatible topping, floor covering or coating.
- COMPOSITION AND MATERIALS:** LEVEL MAGIC is a proprietary formulation of blended portland cements, finely processed selected aggregates, and specific chemical additives.

- SURFACE PREPARATION:** Surfaces, must be dry, structurally sound, clean, free of dust, dirt, wax, oil, grease, asphalt, mastic, latex compounds, adhesives, paint, gypsum based products, and other contaminants.

4.1 **Concrete Surfaces** must be fully cured, and free of laitance, loose, or deteriorated concrete, curing or form release agents, and other contaminants. Deeply contaminated substrates must be abraded to a clean, sound surface. Patch large cracks and holes with TAMMSPATCH or suitable patching mortar. For porous surfaces apply TAMMS H/P PRIMER to the concrete surface.

4.2 **Wood Surfaces** must be structurally sound and thoroughly cleaned to remove shellac, varnish, paint and other contaminants. Wood floors must be fully braced and nailed to provide a stable, non-flexible surface. Use wire mesh as an artificial key for fills over wood. Apply HORNWELD as a primer to the wood surfaces.

For surface conditions not covered above, contact TAMMS Technical Service Center.

- SURFACE PRIMING:** Porous concrete surfaces should be primed with TAMMS H/P PRIMER or HORNWELD. Concrete surfaces prepared after removal of cutbacks, or nonporous surfaces may be primed with a waterbased epoxy primer DURAPRIME 50. A test patch to evaluate substrate/primer/LEVEL MAGIC adhesion must be installed and approved. Wood/Plywood surfaces should be primed using HORNWELD.

- MIXING INSTRUCTIONS:** Mix LEVEL MAGIC in a clean rotary mixer equipped with rubber tipped blades. With the mixer running, add 6 quarts (5.68l) of potable water, and then slowly add the 50 lb. bag of LEVEL MAGIC (22.68kg). Mix approximately one minute, and long enough to provide a smooth, lump free, flowable blend similar to a pancake batter. If a foam appears on top of mixture, LEVEL MAGIC is overwatered, and should not be placed on the substrate. For large areas requiring fills between one and four inches; add clean, saturated surface dry, sand free pea gravel to the mix. If the pea gravel is 1/8" to 3/8", add no more than 25 pounds of gravel per bag of LEVEL MAGIC. If the pea gravel is 3/8" to 1/2", up to 50 pounds of pea gravel per bag may be added. Mix the LEVEL MAGIC first, and then add the dry aggregate to the mixed material. Reduce the water required if the aggregate is damp. The addition of aggregate will reduce material flowability.

Material Properties @ 75°F		
Test Method	Criterion	Result
ASTM C191		
Final Set Time		1-3 hrs.
Heal in Time		10-15 min.
ASTM C109		
Compressive Strength, psi	1 day	2,000
	3 days	2,440
	7 days	3,800
	28 days	4,650
ASTM C348		
Flexural Strength, psi	1 day	300
	7 days	740
	28 days	1,000
ASTM C190		
Tensile Strength, psi	7 days	400
	28 days	680
ASTM E10		
Ball Pressure Hardness, psi	1 day	7,610
	3 days	9,580
	7 days	11,445
	28 days	11,582
ASTM E84		
Flammability	Flame Spread	0
	Fuel contribution	0
	Smoke Development	0
ASTM C672		
Scaling Resistance	25 cycles - 3 tests	None

Values presented are typical and not necessarily referenced to create specifications.

Mix small quantities of LEVEL MAGIC in a clean container using a slow speed motor and "Jiffy" mixer. Do not mix more material than can be used in 10 to 15 minutes. Mix speeds must not cause aeration. Clean mixer thoroughly after each batch to avoid material build up. For mixing instructions not covered above, contact TAMMS Technical Service Centers.

7. **APPLICATION TECHNIQUES:** Pump or hand pour LEVEL MAGIC on to the primed surface. Move it into approximate position with an underlayment spreader, and allow the material to seek its own level. Place LEVEL MAGIC soon after mixing. It will achieve initial set in approximately 35 minutes, and may be walked on in approximately 2-5 hours. LEVEL MAGIC must cure 16-24 hours before the floor covering is installed. During cure, protect the surface from direct sunlight and winds, to prevent rapid hydration. When additional thickness is required, LEVEL MAGIC may be layered up to 1" without aggregate to provide additional depth. The additional layer may be applied directly over the surface as soon as it will support foot traffic. HORNWELD must be used if more than 24 hours passes before the new material is applied. For information about pumping equipment, contact TAMMS Technical Service Center.
8. **COVERAGE:** One 50 pound (22.68 kg) bag of LEVEL MAGIC will yield approximately 0.5 cubic foot (0.14 cu.m), and cover approximately 45-55 square feet at 1/8 inch thickness (4.18-4.65 sq.m @ 3.2 mm).
 - 3.1 TAMMS H/P PRIMER will cover 300-500 square feet per gallon (9.7-14.6 sq.m/l).
 - 3.2 HORNWELD will cover approximately 250-300 square feet per gallon (6.1-7.3 sq.m/l).
9. **CLEAN-UP INSTRUCTIONS:** Clean mixing and application equipment with water immediately following use. Remove splatter or spills with water before material sets. LEVEL MAGIC contains cementitious materials, and if allowed to dry, removal becomes extremely difficult.
10. **CAUTIONS:** New concrete must be fully cured for 28 days. Joints or cracks in movement must be detailed through the LEVEL MAGIC to prevent cracking. Do not overwater, overmix, or retemper LEVEL MAGIC. Do not add cement, lime, gypsum, plaster, bonding agents, or other materials except specified aggregates. Clean mixer after each batch to avoid material build up. Do not mix or apply LEVEL MAGIC when temperatures are below or expected to fall below 40°F (4.5°C) or above 90°F for at least 24 hours after application. Do not apply LEVEL MAGIC over frozen or frost filled surfaces. LEVEL MAGIC is not recommended over particle board, gypsum, asphalt, or very porous surfaces. Do not apply LEVEL MAGIC over very warm surfaces such as radiant heated floors or over boiler rooms. Test applications are recommended.

11. **PACKAGING:** LEVEL MAGIC: 50 lb (22.68 kg) polylined bags.

Storage: Protected from moisture and high humidity.

Shelf Life : 1 year protected storage.

Freight Class: Class 55.

12. **ENVIRONMENTAL AND SAFETY PRECAUTIONS: Industrial Use Only.** Product contains portland cement which is alkaline on contact with water. Do not breathe dust. May cause delayed lung injury (Silicosis). IARC reports Crystalline silica may cause cancer in humans. Irritating to eyes and skin. Avoid splashing into eyes or contact with skin. In case of eye contact, flood eyes repeatedly with potable water and call a physician. **DO NOT RUB EYES.** Wash skin thoroughly after handling and before smoking or eating. Use adequate ventilation. **KEEP AWAY FROM CHILDREN AND ANIMALS.** EMERGENCY RESPONSE PHONE NUMBER: (800) 862-2667 TAMMS OR (800) 424-9300 CHEMTREC.

13. **TECHNICAL SERVICE:** For application procedures or surface conditions not specified above, please contact:

TAMMS INDUSTRIES

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800-862-2667 FAX: 815-522-2323

www.tamms.com

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