

Ultraplan Marine 1400 [NA]

High-Strength, Lightweight, Fiber-Reinforced, Quick-Setting, Self-Leveling Underlayment



NORTH AMERICA [NA]

DESCRIPTION

Ultraplan® Marine 1400 [NA] is a fiber-reinforced, high-strength, lightweight, quick-setting, self-leveling underlayment for smoothing and leveling interior ship decks, and is a component of a soundproof floating floor system. It can withstand light foot traffic after 3 hours and rubber-wheel traffic after 3 days. Thanks to MAPEI's High-Hydrated Cement Technology (HCT™), *Ultraplan Marine 1400 [NA]* offers superior drying-out characteristics for quick curing and does not contribute to efflorescence.

FEATURES AND BENEFITS

- For leveling interior floors 1/8" to 3/4" (3 to 19 mm) thick per applied layer
- Ready for foot traffic in 3 hours
- Allows installation of non-moisture-sensitive flooring in 24 hours
- Lightweight formula with only 84 to 90 lbs. per cu. ft. (1.35 to 1.45 kg per L) of cured density
- Easy to apply

INDUSTRY STANDARDS AND APPROVALS

Green certifications

- Living Building Challenge (LBC) Red List Free: This product has been verified per the most current Red List on the LBC's Website.
- Meets the requirements of IMO Res. MSC.307(88)-(2010 FTP Code)

WHERE TO USE

- For leveling and smoothing interior floors before the installation of floor coverings

- Interior applications over well-supported decks
- Use where a lightweight self-leveler is required and the area requires high strength.

LIMITATIONS

- Do not install over substrates containing asbestos.
- For interior use only
- Do not apply in thicknesses greater than 3/4" (19 mm) in one application.
- Do not apply in more than 2 layers for a maximum total thickness of 1-1/2" (3.8 cm). Contact MAPEI Marine's Technical Services Department for details.
- Do not apply as a wear surface.
- Install *Ultraplan Marine 1400* [NA] between the temperatures of 41°F and 95°F (5°C and 35°C).
- Do not install over structural joints or expansion joints in the substrate.
- Do not install over wet surfaces or standing water.
- Do not install over sheet vinyl; self-stick vinyl tile; luxury vinyl tile (LVT); luxury vinyl plank (LVP); glue-down wood flooring; particleboard; hardboard (Masonite); Lauan panels; waterproofing, crack-isolation or peel-and-stick sound-control membranes; gypsum-based patching materials; or any other non-dimensionally stable materials.
- Do not install if the maximum allowable deflection of the supporting surface, including live or dead load, exceeds L/360 (or L/720 for installations involving natural stone or their agglomerates).
- Do not add any accelerators, cement, gypsum, lime or any other additives to *Ultraplan Marine 1400* [NA]. Mix only with water.
- Do not use for exterior use or areas subject to prolonged exposure to moisture. Instead, use an exterior-rated MAPEI topping or screed.

Note: Provide for, and do not bridge, expansion and control joints in the substrate including the perimeter, columns and equipment pedestals.

SUITABLE SUBSTRATES

- All substrates must be primed with the appropriate MAPEI primer or bonding agent before applying self-levelers. See primer selection in the "Surface Preparation" section below and on the primer's Technical Data Sheet (TDS).
- Well-supported metal substrates including steel, aluminum, copper and lead when primed with the recommended primer.
- Properly installed, fully cured, sound, dry and cement-based mortar beds, underlayments and patching compounds.

Consult MAPEI Marine's Technical Services Department for installation recommendations regarding substrates, primers and conditions not listed.

SURFACE PREPARATION

- All substrates must be properly prepared and primed, structurally sound, stable, solid and dry.
- Metal substrates must be rigid, solidly fixed in place, clean and free of oil, grease dirt, corrosion, or any other substance that would reduce or inhibit bond.

- Prepare steel surfaces by mechanical grinding, brushing or blasting according to SSPC SP2-3-11 (ISO 8501-1 ST2-ST3) to remove all oxidation. For best results, prepare steel surfaces to SSPC-SP6 (ISO 8501-1 SA2) surface quality or better.
- Primer selection:
Directly over metal substrates: Use a sand broadcast to rejection with #50 to #60 silica *Mapesand*TM *Fine* or *Mapesand Coarse*.
 - *Planibond*[®] *EBA* two-part, high-modulus, epoxy bonding agent – heavy-duty, high-traffic areas
- Use for additional layers of Ultraplan Marine 1400 [NA]
 - *Primer T*TM – Use only over porous, cement-based substrates.

For details on the use and application of the primer/bonding agents referenced above, see the TDSs at www.mapei.com.

MIXING

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

Manual mixing

1. Measure and pour 4.6 to 4.9 U.S. qts. (4.35 to 4.64 L) of cool, clean water per each 33.1 lbs. (15 kg) of *Ultraplan Marine 1400 [NA]* powder into a clean mixing vessel, using a mixing barrel or a plastic pail measuring 5 U.S. gals. (18.9 L). For best results, the water temperature should be about room temperature (73°F or 23°C). The mixing ratio of water to *Ultraplan Marine 1400 [NA]* must remain consistent. Do not overwater.
2. Slowly add *Ultraplan Marine 1400 [NA]* powder into the premeasured water. Use a low-speed drill (at 300 to 500 rpm) and an oval mixing paddle to mix *Ultraplan Marine 1400 [NA]* for 2 to 3 minutes, until achieving a homogenous, lump-free, flowable consistency.
3. Do not overmix. Overmixing or moving the mixer up and down during the mixing process could trap air, shorten the pot life or cause pinholing during the application and curing process.

Pump mixing

1. *Ultraplan Marine 1400 [NA]* can be mechanically mixed, using the appropriate mixing ratio shown above, with a continuous mixer and pump (and at least 140 ft. or 42.7 m of hose) or a batch mixer and pump (and at least 110 ft. or 33.5 m of hose). Periodic cleaning of pumping equipment may be required per the manufacturer's instructions.
2. To ensure a suitable mix and flow, test the mixed material from the pump hose's end in a small test area before general application.
3. During application, monitor the consistency of the mix coming out the end of the hose and adjust if needed.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Substrate and ambient room temperatures should be maintained between 41°F and 95°F (5°C and 35°C) during the installation as well as for 72 hours afterward.
2. Before installation, close doors and windows, and turn off HVAC systems to prevent drafts during application and until *Ultraplan Marine 1400 [NA]* is cured. Protect installation areas from direct sunlight.
3. Quickly pour or pump *Ultraplan Marine 1400 [NA]* onto the properly primed surface in a ribbon pattern. Set the width of the pour at a distance that is ideal for maintaining a wet edge throughout placement. If a wet

edge cannot be maintained, reduce the width of the pour. For best results, work as a team to provide a continuous flow of wet material, to avoid trapping air or creating a cold joint. Apply enough material to adequately cover all high spots.

4. Shortly after placing *Ultraplan Marine 1400* [NA], spread the material with a gauge rake. After achieving the desired depth, use a smoother to obtain an even surface. An appropriate spike roller can be used as an alternate to the smoother for the final surface.
5. Second-coat applications of *Ultraplan Marine 1400* [NA]: For second-layer application of the product, wait until the product is hardened and can receive foot traffic (in about 3 hours) and apply the second layer.

CLEANUP

- Wash hands and tools with water promptly before the material hardens. Cured material must be mechanically removed.

CURING

- *Ultraplan Marine 1400* [NA] is self-curing; do not use a damp-curing method or cure-and-seal compounds.
- Cool-weather conditions may extend curing or setting times.
- Warm-weather conditions may accelerate setting and curing times as well as reduce flowing time.

PROTECTION

- Protect *Ultraplan Marine 1400* [NA] from direct sunlight, excessive heat and drafty conditions during curing.
- Turn off all forced ventilation and radiant-heating systems, protecting the installation for up to 24 hours after completion.
- Avoid walking on the installed surface for at least 3 hours after installation, depending upon temperature and humidity conditions.
- Protect the installation from construction traffic, dirt and dust from other trades until *Ultraplan Marine 1400* [NA] is completely dry and final flooring has been installed.
- Do not expose *Ultraplan Marine 1400* [NA] to rolling dynamic loads, such as fork lifts or scissor lifts, for at least 3 days after installation.

Product Performance Properties

Laboratory Tests	Results
pH	About 11
Cured density	84 to 90 lbs. per cu. ft. (1 350 to 1 450 kg per L)
Compressive strength – ASTM C349	
1 day	2,175 psi (15 MPa)
7 days	3,190 psi (22 MPa)
28 days	4,351 psi (30.0 MPa)
Flexural strength – ASTM C348	
1 day	435 psi (3 MPa)
7 days	580 psi (4 MPa)

28 days	1,015 psi (7 MPa)
Taber Test (H22, 500g, 200 revs.)	2.0

Shelf Life and Product Characteristics

before mixing

Shelf life	1 year when stored in original, unopened packaging at 73°F (23°C) and 50% relative humidity (RH)
Storage conditions	Store in a dry place
Physical state	Powder
Color	Gray
Dry bulk density	68.67 lbs. per cu. ft. (1.10 kg per L)

Protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 24 hours before work begins.

Application Properties

at 73°F (23°C) and 50% RH

Mixing ratio	4.6 to 4.9 U.S. qts. (4.35 to 4.65 L) of water per 33.1 lbs. (15 kg) of powder, or 29% to 31% by weight
Mixing time	2 to 3 minutes
Density of mix	99.88 lbs. per cu. ft. (1.60 kg per L)
Application temperature range	41°F to 95°F (5°C to 35°C)
Working time	20 minutes
Setting time	40 to 60 minutes
Time before allowing foot traffic	3 hours
Thickness range for single-lift applications	1/8" to 3/4" (3 to 19 mm)
Drying time before installation of non-moisture-sensitive floor coverings at 3/4" (19 mm) thickness	24 hours
Drying time before installation of moisture-sensitive floor coverings at 3/4" (19 mm) thickness	72 hours

CSI Division Classification

Cast Underlayment	03 54 00

Approximate Coverage*

per 33.1 lbs. (15 kg)

Thickness	Coverage
1/8" (3 mm)	44.9 sq. ft. (4.17 m ²)
1/4" (6 mm)	22.5 sq. ft. (2.09 m ²)
1/2" (12 mm)	11.2 sq. ft. (1.04 m ²)
Coverage ratio: 0.37 lb. per sq. ft. per 1/16" thickness (1.20 kg per m ² per 1 mm thickness)	

*Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions and setting practices.

Packaging

Size
Plastic bag: 33.1 lbs. (15 kg)

ADDITIONAL INFORMATION

Refer to the SDS for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA) or sustainability-durabilite@mapei.com (Canada).

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement nor replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

CONTACT INFORMATION

MAPEI Headquarters of North America

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1-888-US-MAPEI (1-888-876-2734) / (954) 246-8888

Technical Services

U.S. and Puerto Rico:

Flooring: 1-800-992-6273

Concrete and heavy construction: 1-888-365-0614

Canada:

1-800-361-9309

Customer Service

1-800-42-MAPEI (1-800-426-2734)

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For the most current product data and BEST-BACKEDSM warranty information,
visit www.mapei.com.
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