

Floor 4680 Marine Light

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Product description

maxit Floor 4680 Marine Light is a lightweight polymer modified cement based fine smoothing compound for use as a levelling material on steel, galvanized steel and aluminium decks. It is supplied as a pre-blended dry powder, water is added on site of construction. The screed is applied by hand and requires only light mechanical handling with a steel spatula or spiked roller to achieve adequate evenness for a floor covering. The material quickly attains a high surface strength and is walkable after 2-4 hours. Final covering can be done after 1-3 days. Note that the curing time depends on the ambient and substrate temperatures and the relative humidity. Floor 4680 meets all fire technical requirements as a subfloor for floor covering in passenger/merchant vessels and offshore installations according to IMO Res. A.687 (16). For special applications not covered in this datasheet, please contact maxit. Also refer to existing national regulations.

Field of application

Floor 4680 is designed to be used in marine applications in light traffic areas and finished with a floor covering such as PVC, vinyl, linoleum, ceramic tiles, carpets etc. It is used as a bonding screed and as an underlayment screed for use on steel, galvanized steel or aluminium decks. Floor 4680 is designed for application at thicknesses between 0 and 20 mm.

Properties

- Low alkalinity, acts as an alkaline barrier
- Low natural emissions
- Casein free

Substrate

The substrate must be dry, clean, free from dust, grease and other impurities that might reduce adhesion. Laitence of old coatings and contaminants should be removed mechanically (by shot blasting, scarification or flame gunning). The surface strength of the substrate should exceed 1.0 MPa. Prime the substrate properly. Floor drains etc. must be protected with lids and separated with stop ends.

Preparation and Priming

Steel decks must be primed with maxit Floor 4716 Primer. Galvanized steel and aluminium decks must be primed with sand sprinkled maxit Floor 4710N Epoxy Primer prior to application of the 4716 Primer. If another epoxy primer is being used, check for compatibility with Floor 4680. For details on the primers see separate datasheets. The function of the primers is to improve adhesion to the substrate, to prevent air bubbles and de-watering of the screed before hardening.

Pre-treatment

The dry mix material should be kept in a heated area before use. Strongly cooled material conveys a risk that some additives will not be able to dissolve during admixture. Too high temperature will change the fluidity of the compound, eg. lead to premature gelling. The dry mix and work area temperature should be 10-30°C.

Mixing

The material is mixed with 40-45% water, which corresponds to 5.2 to 5.8 litres per 13 kg bag. Excess water will reduce



strength, increase shrinkage and encourage segregation. Conversely, reduced water content increases viscosity. A flow ring test should be performed to ensure that the correct amount of water has been used. Also ensure that the mixture is homogenized and free from separation. The temperature of the mix should ideally be 10-30°C. The water temperature must not exceed 35°C. The open time is 15-20 minutes after mixing with water. Pour water in a suitable mixing vessel before adding the dry material. Limit the amount of dry material to 3-4 bags per batch, giving a total volume of 60-80 liters. Use a powerful drill with paddle and mix thoroughly for minimum 2 minutes.

Application

Start in the farther end of the work area and distribute the screed in parallel with an end wall. The application should always finish by an exit/opening. If possible, use two or more mixing vessels to make sure there is always fresh screed available during the application. A wide spatula or steel trowel must be used to assist the self-levelling process. Floor 4680 should be applied within 24 hours after the primer has dried to ensure proper adhesion.

Overlay

Floor 4680 must be covered with a floor covering such as PVC, vinyl, linoleum, ceramic tiles, carpets etc. The underlayment must not be used without final floor finish. Cover within 7 days.

Observe

Light ventilation in the work area is necessary, but windows and openings must be closed sufficiently to avoid draughts during and after application. The ambient and substrate temperatures must exceed 10°C during application and one week after that. Dehumidifiers should not be used for the first two days after application. Slow drying due to low temperature and/or poor film formation due to high humidity may result in pinholes in the levelling layer.

Storage

Storage time in dry conditions and closed packaging is 6 months. Longer storage times may have an adverse impact on

the levelling properties.

Package

- 13 kg bags on plastic wrapped pallet (40 bags per pallet)

Drying time

Foot traffic 2-4 hours
Final covering 1-3 days
High humidity and poor drying conditions prolong the curing time. For moisture sensitive coverings, eg. wooden floors, the manufacturer's instructions should be followed.

Safety instruction

Hazardous – contains cement, which is alkaline when wet and can cause skin irritation. Use eye protection, gloves and barrier cream and avoid prolonged skin contact. Avoid inhalation of dust. Wash skin contamination away with warm, soapy water. Remove splashes to the eyes by prolonged irrigation and consult a doctor. Do not ingest. Refer to Health and Safety Data Sheet.

Product Specification

Material consumption	1 mm/m ² = 0.9 kg 5 mm/m ² = 4.5 kg 10 mm/m ² = 9.0 kg
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Hardening time	
before foot traffic	2-4 hours
Minimum thickness	0 mm
Maximum thickness	20 mm
Water demand	5.2-5.8 litres per 13 kg bag (40-45 %)

Compressive strength	
Compressive strength class	C16 EN 13813
28 day	Mean value 21 MPa EN 13892-2

Flexural strength	
Flexural strength class	F4 EN 13813
28 day	Mean value 4.5 MPa EN 13892-2

Shrinkage	
28 days	<0.70 mm/m EN 13454-2

Flow rate according to	
maxit standard	190-230 mm maxit Standard method 99:03 (ring 68x35 mm)

Transverse tensile strength >0.5 MPa after 28 days

Product Specification

Physical requirements	
Reaction to fire	A2fl -s1 A.1/3.1 Primary deck covering, MED EN 13501-1, IMO FTPC Part 6 and IMO FTPC Annex 2, section 2.2
Density	
Loose bulk density	750 kg/m ³
Chemical properties	
pH	~11
Recommended water content	40-45%
Wear resistance	
RWFC Class	RWFC 250 (thickness 10 mm) EN 13892-7

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