

COLTECH® M1

TECHNICAL DATA SHEET
Date: 01.05.2016 – Version 3

Synthetic, Self-leveling Polyurethane Coating, Flame retardant

Product description

The COLTECH® M1 is a self-leveling, **flame-retardant**, two component, hard-elastic, thick layer polyurethane coating with high impact and abrasion strength and very good resistance to acidic and basic solutions, used for Marine applications as a elastic, self leveling deck coating (underlay).
Cures by reaction (cross linking) of the two components.

Uses

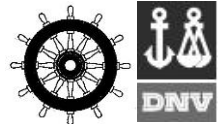
The COLTECH® M1 is widely used for protection / leveling (underlay) of metal surfaces in:

- Interior / Exterior Ship Decks
- Cabin Bathrooms
- Cabin Floors
- Ship Kitchens
- Engine rooms, etc.

The COLTECH® M1 is also suitable for coating of concrete, aluminum, FRP and other surfaces in Marine and Construction applications

Certifications

The COLTECH® M1 is tested and certified by the VVT for “surface flammability of a coating” according IMO FTPC Part 5 (IMO Res A653(16)), for “Maximum calorific value of a coating” according ISO 1716:1973 and “Smoke and Toxicity tests for a coating” according IMO FTPC Part 2 (IMO res. MSC 61(67) Annex1 part2).
Certified by the Det Norske Veritas with the MED-B certificate No 164.112/EC0575/4949. DNV (0575/03)



Advantages

- Solvent free.
- Flame retardant
- Provides elasticity to withstand constant movement due to vibration or working conditions.
- High impact resistant.
- Chemical resistant.
- Self-leveling, so it provides perfectly even flooring results.
- Over 20 years of positive feedback worldwide.

Consumption

1.19 kg/m² per mm DFT (unfilled).
1.34 kg/m² per mm DFT (Filled with 30% Silica sand).

Recommended coating thickness 1-5mm, depending on application.

Colors

The COLTECH® M1 is supplied in grey.
Other colors may be supplied on demand.

Technical Data *

PROPERTY	RESULTS	TEST METHOD
Composition	Pigmented Polyurethane resin+Hardener. Solvent free.	
Mixing Ratio	A : B = 100 : 40 by weight	
Hardness (Shore A Scale)	75 ± 5	ASTM D 2240
Solids Content	100 %	CALCULATED
Adhesion to steel	> 4 N/mm ² (breaking within the primer coat)	ASTM D 903
Temperature strength	110°C (Fully cured)	IN HOUSE LAB
Low Temperature Brittleness	-40° C (Fully cured)	IN HOUSE LAB
Pot-Life	30 minutes	Conditions:20°C,50%RH
Tack Free Time	5 hours	
Light Trafficking	12-24 hours	
Final Curing time	7 days	

Chemical properties

Substance	Stability	Substance	Stability
Water	+	Hydrochloric acid 5%	+
Salt water (sea water)	+	Phosphoric acid 5%	+
Sodium hydroxide 5%	±	Sulfuric acid 5%	+
Potassium hydroxide 5%	+	Ethanol 10%	±
Domestic Detergents	+	DMSO	-
Diesel oil	+	N-Methyl pyrrolidone (brake fluid)	-

{+ stable, - unstable, ± stable for a short period.}

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Application

Surface Preparation

Careful surface preparation is essential for optimum finish and durability.

The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the coating. Maximum moisture content should not exceed 5%. The surface needs to be sandblasted. Old coatings, dirt, fats, oils, organic substances and dust need to be removed by sandblasting. Possible surface irregularities need to be smoothed. Any loose surface pieces and grinding dust need to be thoroughly removed. Prepare metal surfaces with suitable shop primer.

WARNING: Do not wash surface with water!

Repair of cracks:

Clean cracks and hairline cracks, of dust, residue or other contamination. Fill all cracks with suitable putty. After putty curing smoothen the putty surface with a sand paper or a mechanical grinder.

Priming

Prime all surfaces with the COLTECH M2 Primer, by using a roller, or a brush. Sprinkle oven dry silica sand (corn size 0,1-0,4mm) evenly onto the wet primer. After 12 hours - but not later than 24 hours – brush off any excessive aggregate and apply the COLTECH® M1 coating.

Mixing

Stir Component A well before using. COLTECH® M1 Component A and Component B should be mixed by low speed mechanical stirrer, according to the stipulated mixing ratio, for about 3 min.

If a filling is required, use only oven-dry silica sand (corn size 0.1-0.3 mm) at a maximum 30% mixing ratio by weight.

ATTENTION: The mixing of the components has to be effected very thoroughly, especially on the walls and bottom of the pail until the mixture becomes fully homogeneous.

Self-leveling coating

Poor the COLTECH® M1 A+B mixture onto the surface and lay it out by suitable sized teeth trowel and roll the still wet coating with a spike roller, to help encapsulated air escape.

For best results, the temperature during application and cure should be between 5°C and 30°C. Low temperatures retard cure while high temperature speed up curing. High humidity may affect the final finish.

RECOMMENDATION: The thickness of the entire coating should not be less than 1mm.

ATTENTION: Please ensure to spike-roll the wet coating very thoroughly, to prevent encapsulated air create bubbles and pinholes on the final surface of the coating. Please ensure consumption within the Pot Life.

Finishing

If the COLTECH® M1 surface is to be left exposed, apply one layer of the COLTECH M8 Int. or the COLTECH M8 Ext.

For the several Top-Coats application procedures, please consult the corresponding technical instructions/TDS or contact our R+D Department.

WARNING: The COLTECH® system are slippery when wet. In order to avoid slipperiness during wet days, sprinkle suitable aggregates onto the still wet coating to create an anti-slip surface. Please contact our R+D Dept. for more details.

Packaging

Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5^o-30^oC. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

Safety measures

See information supplied by the manufacturer. Please study the Safety Data sheet. **PROFESSIONAL USE ONLY**

Our technical advice for use, whether verbal, written or in tests, is given in good faith and reflect the current level of knowledge and experience with our products. When using our products, a detailed object-related and qualified inspection is required in each individual case in order to determine whether the product and /or application technology in question meets the specific requirements and purposes. We are liable only for our products being free from faults; correct application of our products therefore falls entirely within your scope of liability and responsibility. We will, of course, provide products of consistent quality within the scope of our General Conditions of Sale and Delivery. Users are responsible for complying with local legislation and for obtaining any required approvals or authorizations. Values in this technical data sheet are given as examples and may not be regarded as specifications. For product specifications contact our R+D department. The new edition of the technical data sheet supersedes the previous technical information and renders it invalid. It is therefore necessary that you always have to hand the current code of practice.

* All values represent typical values and are not part of the product specification.