

## MARISEAL® 400 AQUA

TECHNICAL DATA SHEET

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### Polyurethane Top-Coat, UV-stable, Abrasion resistant Water-based

#### Product description

The MARISEAL® 400 AQUA is a water-based, pigmented, wear resistant, semi-rigid, color- and UV-stable, weather-stable, one component, aliphatic polyurethane coating used as a top-coat for protection over waterbased waterproofing membranes, subject to wear and weathering conditions.

The MARISEAL® 400 AQUA consists of flexible, water-based polyurethane resins (dispersion).

When the MARISEAL® 400 AQUA is applied, it forms a hydrophobic, 100% waterproofing, seamless, polyurethane coating, that protects the waterproofing basecoat efficient and on a long term basis.

The MARISEAL® 400 AQUA is based on the innovative **PUD-Technology™** of MARIS POLYMERS SA.

#### Uses

Used over the MARISEAL® waterproofing membranes for:

- Waterproofing of Rooftops
- Waterproofing of Balconies/Terraces
- Waterproofing of pedestrian areas (Decks)
- Protection of Polyurethane Foam Insulation
- Waterproofing of most surfaces exposed to wear and weathering conditions.

Used over the MARISEAL® 250 AQUA on surfaces, with domestic pedestrian traffic (e.g. Roofs, Terraces, Residential Walkways) that require a glossy, color-stable and non-chalking finish.

#### Advantages

- Simple application (roller or airless spray).
- Water Based
- Resistant to abrasion and wear conditions.
- Color stable.
- Gives an easy-to-clean surface.
- Does not show the chalking effect of aromatic polyurethane waterproofing coatings.
- Maintains its mechanical properties over a temperature span of -30°C to +80°C.
- Low VOC content <100 gr/l
- Resistant to frost.

#### Consumption

0,2 – 0,4 kg/m<sup>2</sup> applied in one or two layers.

This coverage is based on application by roller onto a smooth surface in optimum conditions. Factors like surface porosity, temperature and application method can alter consumption.

#### Colors

The MARISEAL® 400 AQUA is supplied in white, light grey and brownred. Other RAL colors supplied on request.

#### PUD Technology™: The Green revolution in Polyurethane



The MARISEAL® 400 AQUA is based on the innovative **PUD Technology™** of MARIS POLYMERS, which enables, long-chain polyurethane macromolecules to be incorporated in a water medium, forming stable dispersions.

The **PUD Technology™** based products, have the advantage that they offer the high level properties of solvent based products, in an ecological, consumer and environmentally friendly, water-based, low VOC, no ADR transport product.

The **PUD Technology™** is the entry to the Green revolution in Polyurethane based products.

## Technical data

PROPERTY	RESULTS	TEST METHOD
Elongation at Break at 20°C	>400 %	ASTM D 412
Tensile Strength at 20°C	5 N/mm <sup>2</sup>	ASTM D 412
E-Modulus at 20°C	1,5 N/mm <sup>2</sup>	ASTM D 412
Elongation at Break at -25°C	397 %	ASTM D 412
Tensile Strength at -25°C	4,2 N/mm <sup>2</sup>	ASTM D 412
E-Modulus at -25°C	1,3 N/mm <sup>2</sup>	ASTM D 412
Tear Resistance	24.1 N/mm	ASTM D 412
UV Stability, 2000h	excellent	ASTM G53
Water Vapor Permeability	>5 gr/m <sup>2</sup> /day	ISO 9932:91
Abrasion Resistance (Taber Abraser)	0,12 gr / 1000 cycles	ASTM D 4060
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Adhesion to primed concrete	>1,5 N/mm <sup>2</sup> (concrete surface failure)	ASTM D 903
Hardness (Shore A Scale)	80	ASTM D 2240 (15")
Rain Stability Time	4 hours	Conditions: 20°C, 50% RH
Light Pedestrian Traffic Time	18-24 hours	
Final Curing time ( ponding test )	10 days	

## 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 membrane. Maximum moisture content should not exceed 8%. New concrete structures need to dry for at least 28 days. Old, loose coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothed. Any loose surface pieces and grinding dust need to be thoroughly removed.

Make sure that the surface on which the waterproofing membrane and top-coat will be applied has min 2% slope, as per European Construction Codes. If this is not the case, use cementitious mortar, resin mortar or other, to create the correct slope, before the application of the waterproofing coating.

### Top-Coat

Stir well before using. Apply the MARISEAL® 400 AQUA over the MARISEAL® waterproofing membrane by roller, brush or airless spray in one or two layers, depending on the future wear conditions expected.

Allow 3-6 hours (not more than 8 hours) to cure between two layers.

**ATTENTION:** Do not apply the MARISEAL 400 AQUA in temperatures below 5°C or when dew, rain or frost is imminent in the next 48 hours. For best results, the temperature during application and cure should be between 5°C and 35°C. Low temperatures retard cure while high temperature speed up curing. High humidity (fog or dew conditions) retard cure and affect the curing times and curing properties.

**WARNING:** The MARISEAL® 400 AQUA and/or the MARISEAL® SYSTEM is 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 Department for more details.

### Packaging

MARISEAL® 400 AQUA pails should be stored in dry and cool rooms for up to 18 months. Protect the material against moisture and direct sunlight. Storage temperature: 5<sup>o</sup>-30<sup>o</sup>C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels. PROTECT FROM FROST.

### Safety measures

Keep away from children. Do not use empty containers for food storage. 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.