

NORMASTIC 405

TECHNICAL DATA SHEET 6/22

PROPERTIES AND RECOMMENDED USAGE

Paint type

NORMASTIC 405 is a two-component, pigmented with micaceous iron oxide, epoxy based primer/topcoat, which may be applied in high film thickness. Contains special ingredients which penetrate through existing rust. NORMASTIC 405 has been tested by Solar Simulator Finland Ltd. for use as an interior coating for the storage tanks and vehicles employed in the transport of grain. Link to the test report is available in Nor-Maali Oy's website.

Typical and recommended uses

Steel surfaces: As a primer or top coat in environmental classes C2 - C5. Can be used as a single coat on box girders and plate structures. Suitable for maintenance coating on deep seated rust and old paint surfaces. Also suitable for immersion in fresh and sea water.

Concrete surfaces: Recommended to use as a protective coating for concrete walls and ceilings in environmental classes C2 - C5. In process industry, moist storage interiors etc.

Chemical resistance

Used in recommended paint systems and correctly applied NORMASTIC 405 withstands water and range of process chemicals when exposed to immersion or continues spillage.

Weather resistance

Epoxy paints have a natural tendency to chalk and discolor on exterior exposure.

Colour

Grey, red, white and industrial paint colours with limitations.

Finish

Semi matt

TECHNICAL DATA - STANDARD COMP. B

Volume solids*	80 ± 2 %
Total mass of solids*	1230 g/l
VOC value*	180 g/l

* Values are calculated

Mixing ratio

Resin	1 part by volume
Cure	1 part by volume

Pot life (+23 °C)

approx. 1 h after mixing
(Reduced at higher temperatures.)

Packaging

	Volume (l)	Size of container (l)
Comp A	10	20
Comp B	10	10

Drying time 200 µm

	+15 °C	+23 °C
To touch	10 h	3 h
To handle	24 h	5 h
To overcoat with itself	24 h	7 h
Fully cured	10 d	7 d

When exposed to immersion min. recoating time is 10 hours or when the film thickness can be measured. Take care of good ventilation during the application and drying time. Drying times are typical on recommended film thicknesses at given temperatures.

Calculated theoretical coverage and recommended film thickness

Dry	Wet	Coverage
120 µm	150 µm	6.7 m²/l
200 µm	250 µm	4.0 m²/l
300 µm	375 µm	2.7 m²/l

Practical coverage

Depends on wind conditions, structure to be painted, roughness of the surface and application method.

Thinner

OH 17, OH 31 (slow)

Cleaner

OH 17

TECHNICAL DATA - WG COMP. B

Volume solids*	74 ± 2 %
Total mass of solids*	1190 g/l
VOC value*	230 g/l

* Values are calculated

Mixing ratio

Resin	1 part by volume
Cure	1 part by volume

Pot life

approx. 1 h after mixing (+23 °C)
approx. 3 h after mixing (+10 °C)
(Reduced at higher temperatures.)

Packaging

	Volume (l)	Size of container (l)
Comp A	10	20
Comp B	10	10

Drying time 200 µm

	-5 °C	0 °C	+5 °C	+10 °C	+23 °C
To touch	24 h	18 h	12 h	6 h	4 h
To handle	48 h	26 h	18 h	12 h	5 h
To overcoat					
- with itself (min)	48 h	26 h	18 h	12 h	6 h
- polyurethanes	-	-	96 h	48 h	16 h
Fully cured	21 d	14 d	7 d	3 d	2 d

When exposed to immersion, minimum recoating time is 24 hours.

Calculated theoretical coverage and recommended film thickness

Dry	Wet	Coverage
120 µm	160 µm	6.3 m²/l
200 µm	270 µm	3.7 m²/l
300 µm	405 µm	2.5 m²/l

Practical coverage

Depends on wind conditions, structure to be painted, roughness of the surface and application method.

Thinner

OH 17, OH 31 (slow)

Cleaner

OH 17

APPLICATION INSTRUCTIONS
Surface preparations

All solid impurities that could prevent adhesion should be removed from the surfaces to be painted. Remove salts and other water soluble impurities using fresh water with brush, high pressure-, steam- or alkali cleansing. Re-move grease and oils by alkali-, emulsion- or solvent cleansing (SFS-EN ISO 8504-3, SFS-EN ISO 12944-4). The surfaces should be rinsed carefully with fresh water after cleansing. The place and time for the surface preparation should be chosen correctly, to avoid contamination and moistening of the treated surface before the paint application.

Steel surfaces

Exposed to weather: Blast cleaning to Sa 2 or wire brushing to min. St 2.

Exposed to immersion: Blast cleaning to min. Sa 2 ½ (SFS-ISO 8501-1, SFS-EN ISO 8504-2).

Old painted surfaces

NORMASTIC 405 may be used over most types of properly prepared and tightly adhering coatings, however a test patch is recommended for use over existing coating. Painted surfaces, in which maximum overcoating interval has expired, additional roughening with suitable method is recommended.

New concrete surfaces

At least 4 weeks old and dry concrete floor. Remove dust, spills and so called adhesive cement by brushing and grinding. Use blast cleaning or acid pickling about 15 - 20 % hydrochloric acid solution if required. Concrete floors with moisture content up to 4 wt % need to be primed with NORMAFLOOR 105 GPR.

Old concrete surfaces

Remove grease etc. impurities with emulsion cleansing from unpainted surfaces. Removal of grease can be enhanced by the flame brushing. Remove old paint or adhesive cement by blast cleaning or grinding.

Primer

NORMASTIC 405, NORMAZINC SE, EPOCOAT 21 PRIMER, EPOCOAT 21 HB

Top coat

NORMASTIC 405, EPOCOAT 210, NORMADUR 50 HS, NORMADUR 65 HS, NORMADUR 90 HS

Environmental conditions during application
Standard Comp. B

The surface to be coated must be dry. During application the temperature of the coating, air and surface should be above +10 °C, and the relative air humidity below 80 %. The temperature of the surface to be coated should be at least 3 °C above the dew point of the air. Exhaust gases may cause yellowing of the paint during the curing time.

APPLICATION INSTRUCTIONS

Environmental conditions during application Wintergrade Comp. B

The surface to be coated must be dry. During application the temperature of the coating should be above +10 °C, the painted surface and air above -5 °C and the relative air humidity below 80 %. The temperature of the surface to be coated should be at least 3 °C above the dew point of the air. Exhaust gases may cause yellowing of the paint during the curing time.

Method of application

Use high pressure airless spray or brush. Stir resin and cure separately and then mix both components thoroughly. The mixing ratio is 1 : 1 (resin : cure) by volume. Thin only when needed 5 - 10 % (OH 17). High pressure airless spray with nozzle tip of 0.017" - 0.023" orifice. Spray angle depending on the object to be painted. Use of white (50-60 mesh) spray gun filters is recommended. In order to ensure the best possible performance of the product, it is recommended that the paint is at room temperature before the application.

Storage and shelf life

The product must be stored in original sealed containers at room temperatures from 5 °C to 30 °C. The storage conditions are to keep the containers in a dry, well ventilated space away from source of heat and ignition. When stored as described above, the unopened component A will keep up to 3 years and unopened component B to 3 years from the date of manufacture. The manufacturing date found in the label is also the batch number of the paint.

Disclaimer

The above information is given to the best of our knowledge based on laboratory tests and practical experience. However, as the paint is often used under conditions beyond our control, we cannot guarantee anything but the quality of the paint itself. We reserve the right to change the given data without notice. Please contact our office for more specific information. The product is intended for professional use only. If there are deviations in the different language versions of the technical data sheets, the English version applies.

Safety

Please follow the environmental and safety instructions displayed on the container and Safety Data Sheet. Use under well ventilated conditions. Do not breathe or inhale mist, use respirator mask. Avoid skin contact. Spillage on the skin should immediately removed with suitable cleanser, soap or water. In case of contact with eyes, rinse immediately with plenty of clean water and if necessary seek medical advice.

	
Nor-Maali Oy Vanhatie 20 15240 Lahti, Finland 17 DoP Nr. NOR3-0420 0416-CPR-7826	
EN 1504-2:2005 Surface protection products - Coating Physical resistance (5.1)	
Abrasion resistance	Weight loss < 3000 mg
Capillary absorption and permeability to water	W ₃ (w < 0,1 kg/m ² ·h ^{0.5})
Impact resistance	Class II: ≥ 10 Nm
Adhesion strength by pull-off test	≥ 2.0 N/mm ²
Dangerous substances	See safety data sheet