Hempaguard NB

Product characteristics

Description
Hempaguard NB 89970 is a high solid, advanced fouling defence coating with improved weatherability designed for marine new construction. Based on Actiguard® technology which utilizes the added effect of advanced hydrogel silicone and an efficient fouling preventing biocide. This boosts the antifouling barrier and prolongs the fouling free period.

Recommended use
Hempaguard NB 89970 is recommended for use on all vessels at new construction with an outfitting period of up to 6 months. It is suitable for vessels operating with service intervals up to 60 months and/or long idle periods of up to 120 days.

Features
- Recommended for slow steaming and tropical waters.
- Excellent operational flexibility.
- High to low activity level.
- Very smooth coating surface and low friction.
- Maximized out docking fuel performance.
- Very high fuel saving potential.
- Instant effect on contact with water.
- Easy overcoating.
- Application in warm environment.
- Can be applied down to 0°C [32°F].
- Improved weatherability.

Product safety

Flash point 25°C [77°F]

VOC content mixed product

Legislation	Value
EU	255 g/L [2.13 lb/US gal]
US (coatings)	253 g/L [2.11 lb/US gal]
US (regulatory)	254 g/L [2.12 lb/US gal]
Canada	254 g/L [2.12 lb/US gal]
China	255 g/L [2.13 lb/US gal]
Hong Kong	254 g/L [2.12 lb/US gal]
Korea	255 g/L [2.13 lb/US gal]

According to specific legislation, see details in the Explanatory Notes available at Hempel website, hempel.com or at your local Hempel website.

Handling
Handle with care. Before and during use, observe safety labels on packaging and paint containers and follow all local and national safety regulations. Always consult Hempel's Safety Data Sheet for this product along with the Product Data Sheet.

For professional use only.

Product data

Product code
89970

Product components
Base 89979
Curing Agent 98970

Standard shade / code
Jet black 19990
Black 19990

Gloss
Glossy

Volume solids
70 ± 2%

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Specific gravity
1 kg/L [8 lb/US gal]

Reference dry film thickness
150 micron [6.0 mils]

Surface preparation

Cleanliness
- According to Hempel's Specification.

New build:
- According to Hempel's Specification.

Maintenance and Repair
- According to Hempel's Specification.

Consult Hempel's separate Surface Preparation Guidelines for more details.

Application

Mixing ratio
Base 89979 : Curing Agent 98970
(17.8 : 2.2 by volume)

It is recommended to use fixed volumes/can size for multi-component products. Do not open or mix the cans before the paint will be applied. Stir well before use. Consult Hempel regarding thinning.

Thinner
Hempel's Thinner 08080

Cleaner
Hempel's Thinner 08080

Pot life

Product temperature	20°C [68°F]
Pot life	60 min

Application method

Tool	Application parameters
Airless spray	Nozzle pressure: 150 bar [2200 psi] Nozzle orifice: 0.019-0.021"

If brush or roller application is used, more coats will be necessary to achieve the specified dry film thickness. Spray data are indicative and subject to adjustment. Pressure is for a material temperature of 20°C [68°F].

Film thickness

Specification range	Low	High	Recommended
Dry film thickness	80 micron [3.2 mils]	175 micron [7.0 mils]	150 micron [6.0 mils]
Wet film thickness	114 micron [4.6 mils]	249 micron [10.0 mils]	214 micron [8.5 mils]
Theoretical spreading rate	8.8 m²/L [359 sq ft/US gal]	4 m²/L [163 sq ft/US gal]	4.7 m²/L [192 sq ft/US gal]

Product may be specified in another film thickness than indicated depending on purpose and area of use. This will alter spreading rate, drying and curing time and overcoating interval. It is vital that the specified minimum dry film thickness is uniformly achieved. Checking paint consumption per area can improve the control of film thickness.

Application conditions
- To avoid condensation, apply on a clean and dry surface with a temperature that is at least 3°C [5°F] above the dew point.
- Optimal paint temperature for proper mixing, pumping and spraying is: 20°C [68°F].
- Temperature of product must be above 15 °C [59°F] during application.
- According to Hempel's Specification.

Relative Humidity:
- Relative humidity must be in the range 30-85% during application.
- Relative humidity must be in the range 30-85% during curing.

Application remarks
- In order to avoid contamination on other areas, masking is recommended.
- Consult Hempel's Guidelines for application of silicone systems.

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Drying and overcoating

Product compatibility

- Previous coat: According to Hempel's Specification. Recommended products are: Nexus II 27400, Hempasil Nexus X-Tend 27500
- Subsequent coat: None or according to Hempel's specification.

Drying time

Surface temperature		10°C [50°F]	20°C [68°F]	30°C [86°F]
Hard dry	hours	3½	1	½
Fully cured	days	7	4	3

Determined for dry film thickness 150 micron [6.0 mils] at standard conditions, see Hempel's Explanatory Notes for details. The drying times of moisture curing products will depend on the relative humidity, therefore drying times in the field could vary.

Overcoating

Hempel's specification supersedes any guidelines indicated in the overcoating table

Quality name		10°C [50°F]	20°C [68°F]	30°C [86°F]
		Immersion		
Hempaguard NB	Min	6 h	6 h	6 h
	Max	48 h	72 h	72 h

Consult Hempel's specification for more information.

Drying conditions

- To obtain the drying time stated, it is important to maintain sufficient ventilation during application, drying and curing.
- Condensation on the freshly applied coating should be avoided.
- According to Hempel's Specification.

Overcoating details

- The surface must be dry and clean prior to application.
- According to Hempel's Specification.

Other remarks

- Consult Hempel for information on the minimum undocking time.
- Hempel's Specification supersedes any recommendations given in the Product Data Sheets.

Storage

Shelf life

Ambient temperature	25°C [77°F]
Base	24 months
Curing Agent	12 months

Shelf life from date of production, when stored in original, unopened containers. Thereafter, the product quality must be re-inspected. Storage at elevated temperatures may reduce shelf life. For advice, please consult Hempel.

Storage conditions

- Must be stored under absolutely dry conditions, protect against seeping humidity.
- The product must be stored in accordance with Safety Data Sheet, label and local regulations. Keep the containers in a dry, shaded, cool, well-ventilated space and away from sources of heat and ignition. Containers must be kept tightly closed. Handle with care.

Carbon Footprint

Dry film thickness	1 µm	1 mil
GWP (Global Warming Potential)	11.4 g CO_2e/m^2	0.059 lb CO_2e/ft^2

The carbon footprint is for 1 square meter / square foot of surface area with a dry film thickness of 1 micron / mil.

The scope includes raw materials, in-bound transport to the Hempel factory, Hempel manufacturing processes, and any Volatile Organic Compounds emitted during and after the application of the product.

It is calculated based on the standard shade defined in this PDS. Values may vary with shade.

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Additional documents

Additional information is available at the Hempel website https://www.hempel.com/service-and-support/technical-guidelines or at your local Hempel website:

- Explanatory Notes for Product Data Sheet.
- Application methods.
- General guidelines for application of Hempaguard /Hempasil coating systems.

This Product Data Sheet ("**PDS**") relates to the supplied product ("**Product**") and is subject to updating from time-to-time. Accordingly, the buyer/applicator should have regard to the PDS supplied together with the relevant batch of the Product (and not an earlier version). In addition to the PDS, the buyer/applicator may receive some or all of the following specifications, statements and/or guidelines as listed below or as are available from the Hempel website under 'Products' at www.hempel.com (the "**Additional documents**"):

No.	Document description	Location/comments
1.	Technical Statement	One-off specific advice provided on request for specific projects
2.	Specification	Only issued for specific projects
3.	PDS	This document
4.	Explanatory Notes to the PDS	Available at www.hempel.com and contain relevant information about the Product testing parameters
5.	Application Instruction	Where available, at www.hempel.com
6.	Generic technical guidelines (e.g. on application and surface preparation)	Where available, at www.hempel.com

In the event of a conflict of information between the PDS and the Additional documents, the order of priority of information shall be in the order as set out above. In such event you should also contact your representative at Hempel for clarification. Furthermore, the buyer/applicator must have full regard to the relevant Safety Data Sheet provided with each Product and which can also be downloaded from www.hempel.com.

Hempel shall not be liable for defects where the application of the Product has not been made fully in accordance with the recommendations and requirements set out in the relevant PDS and the Additional Documents. The information and terms of this disclaimer apply to this PDS, the Additional documents and any other documents supplied by Hempel in respect of the Product. In addition, the Product is supplied and all technical assistance is given subject to Hempel's General Conditions of Sale, Delivery and Service, unless otherwise expressly agreed in writing.