

# HEMPADUR\* HI-BUILD 45221/ HEMPADUR\* HI-BUILD 45223

High temperatures: CURING AGENT 97220  
Low to medium temperatures: CURING AGENT 95570

<b>Description:</b>	HEMPADUR HI-BUILD 4522 is a two-component, high build epoxy paint. It forms a hard and tough coating resistant to abrasion, impact, seawater, diesel oil, splashes from petrol, jet fuel, lubricating oil, and related products. Limited resistance to vegetable oils and strong solvents such as ketones and esters. Not recommended for acids, alkalies, or strong oxidizing solutions.
<b>Recommended use:</b>	As an intermediate or finishing coat designed for on-line application of containers. CURING AGENT 97220, polyamide, is especially for use in tropical and subtropical climates. CURING AGENT 95570, polyamide adduct, facilitates curing at temperatures down to -10°C/14°F.
<b>Service temperatures:</b>	Maximum, dry: 140°C/284°F.
<b>Approvals:</b>	Complies with Section 175.300 of the Code of Federal Regulations in respect of carriage of dry foodstuffs.
<b>Availability:</b>	Subject to confirmation.

## PHYSICAL CONSTANTS:

Version; mixed product:	<b>45221</b>	<b>45223</b>
Curing agent:	97220	95570
Colours/Shade nos:	Grey/12170*	Grey/12170*
Finish:	Semi-flat	Semi-flat
Volume solids:	48%	52%
Theoretical spreading rate:	8.0 m <sup>2</sup> /litre - 60 micron 321 sq.ft./US gallon - 2.4 mils	8.7 m <sup>2</sup> /litre - 60 micron 348 sq.ft./US gallon - 2.4 mils
Flash point:	22°C/72°F	26°C/79°F
Specific gravity:	1.3 kg/litre - 10.8 lbs/US gallon	1.3 kg/litre - 10.8 lbs/US gallon
Surface dry:	1 (approx.) hr at 20°C/68°F (ISO 1517)	½ (approx.) hr at 20°C/68°F (ISO 1517)
Dry to touch:	4 (approx.) hours at 20°C/68°F	2 (approx.) hours at 20°C/68°F
Fully cured:	7 days at 20°C/68°F	7 days at 20°C/68°F
V.O.C.:	463 g/litre - 3.8 lbs/US gallon	431 g/litre - 3.6 lbs/US gallon

*\*Another shade: off-white 11630 according to assortment list.*

*The physical constants are subject to normal manufacturing tolerances.  
Further reference is made to "Explanatory Notes" in the Hempel Book.*

## APPLICATION DETAILS:

	<b>45221</b>	<b>45223</b>
Mixing ratio:	Base 45225 : Curing agent 97220 3 : 1 by volume	Base 45225 : Curing agent 95570 3 : 1 by volume
Application method:	Airless spray      Brush (touch up)	Airless spray      Brush (touch up)
Thinner (max. vol.):	0845 (5%)      0845 (5%) (See REMARKS overleaf)	0845 (5%)      0845 (5%) (See REMARKS overleaf)
Pot life:	8 hrs (20°C/68°F)    12 hrs (20°C/68°F)	2 hrs (20°C/68°F)    8 hrs (20°C/68°F)
Nozzle orifice:	.017"-.021"	
Nozzle pressure:	200 bar/3000 psi (Airless spray data are indicative and subject to adjustment)	
Cleaning of tools:	HEMPEL'S TOOL CLEANER 9961	
Indicated film thickness, dry:	60 micron/2.4 mils (see REMARKS overleaf)	
Indicated film thickness, wet:	125 micron/5 mils	
Recoat interval, min:	See REMARKS overleaf	
Recoat interval, max:	See REMARKS overleaf	

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APPLICATION CONDITIONS:	<p>Apply only on a dry and clean surface with a temperature above the dew point to avoid condensation. Use only when application and curing can proceed at temperatures above 10°C/50°F, preferably above 15°C/59°F when using curing agent 97220 and above -10°C/14°F when using curing agent 95570.</p> <p>At the freezing point and below be aware of the risk of ice on the surface, which will hinder the adhesion.</p> <p>The temperature of the paint itself should preferably be between 18°C/64°F and 25°C/77°F to secure proper application properties.</p> <p>In confined spaces provide adequate ventilation during application and drying.</p>
PRECEDING COAT:	None, HEMPADUR PRIMER 1530, HEMPADUR ZINC 1536 or according to specification.
SUBSEQUENT COAT:	None, HEMPATANE qualities, HEMPATEX HI-BUILD 4637 or according to specification.
REMARKS: Weathering/ service temperatures: Colours:	<p>The natural tendency of epoxy coatings to chalk in outdoor exposure and to become more sensitive to mechanical damage and chemical exposure at elevated temperatures is also reflected in this product.</p> <p>Certain lead-free red and yellow colours may discolour when exposed to sulphide and chlorine-containing atmosphere.</p>
Film thicknesses:	May be specified in another film thickness than indicated depending on purpose and area of use. This will alter spreading rate and may influence drying time and recoating interval. Normal range is 30-60 micron/1.2-2.4 mils. A series of maintenance jobs may result in build up of a too high total film thickness which may cause blister formation due to "entrapped" solvents. As each coat may also retain solvents, it is generally recommended <b>not</b> to apply HEMPADUR HI-BUILD 4522 in excessive film thickness.
Application:	If zinc silicate primer preceedes, HEMPADUR HI-BUILD 4522 is to be applied by a special flash-coat technique. Cover the zinc silicate with a mist-coat of 4522 in a thickness corresponding to max. 40 micron dry film thickness - appearance being of a patchy nature. Let the air escape and apply full coat according to specification maximum 10 minutes (20°C/68°F) later.
Thinning:	THINNER 0857 may be used as a thinner in 45223 (with CURING AGENT 95570) for fast setting at low temperatures. (Be aware of an increased risk of dry spray).
Recoating interval:	As per relevant container painting specification.
Note:	<b>HEMPADUR HI-BUILD 4522 is for professional use only.</b>
SAFETY:	<p>Handle with care. Before and during use, observe all safety labels on packaging and paint containers, consult HEMPEL Material Safety Data Sheets and follow all local or national safety regulations. Harmful or fatal if swallowed; immediately seek medical assistance if swallowed.</p> <p>Avoid inhalation of possible solvent vapours or paint mist, as well as paint contact with skin and eyes. Apply only in well ventilated areas and ensure that adequate forced ventilation exists when applying paint in confined spaces or when the air is stagnant. Always take precautions against the risks of fire and explosions.</p>

This Product Data Sheet supersedes those previously issued. For definition and scope, see explanatory notes to applicable Product Data Sheets. Data, specifications, directions and recommendations given in this data sheet represent only test results or experience obtained under controlled or specially defined circumstances. Their accuracy, completeness or appropriateness under the actual conditions of any intended use of the Products herein must be determined exclusively by the Buyer and/or User. The Products are supplied and all technical assistance is given subject to HEMPEL's GENERAL CONDITIONS OF SALES, DELIVERY AND SERVICE, unless otherwise expressly agreed in writing. The Manufacturer and Seller disclaim, and Buyer and/or User waive all claims involving, any liability, including but not limited to negligence, except as expressed in said GENERAL CONDITIONS for all results, injury or direct or consequential losses or damages arising from the use of the Products as recommended above, on the overleaf or otherwise.

Product data are subject to change without notice and become void five years from the date of issue.

Issued by HEMPEL'S MARINE PAINTS A/S.

\*This is a corporate trademark of the Hempel Group.

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