

#### Frequently used paints

Protective coatings

# A Guide to Hempel's frequently used paints

This overview presents paints designated for anticorrosion protection. These products are widely available and produced at Hempel's state of the art manufacturing sites. Other paints, for a wide variety of purposes, those unique to local assortments and custom coatings are not included here. To obtain detailed information, specifications and pricing for a particular project, please contact your local sales representative or local Hempel office.

#### **Protecting Your Investments**

Hempel is a world-leading coatings supplier, which was founded in 1915 by J.C. Hempel. Today, over a century later, the company has grown to become the largest independent supplier of coatings for the protective, marine, container, yacht and decorative market segments.

From wind turbines and bridges to civil buildings, airports, power plants, cranes and many other facilities, Hempel's protective coatings protect man-made structures from the corrosive forces of nature. We are focused on R&D, advanced production techniques and professional coating advice. We work around the globe to help keep our customers' investments safe and beautiful. Our working concept is simple: we are curious, creative and self-critical, and always aim to create extra value for our customers.

Hempel provides a full range of high-performance protective coatings, backed up with a precise technical service. As a result, you get a coating solution for your specific needs which will keep your assets safe and reduce your maintenance costs.

Numerous testing and research institutions have given their approval to Hempel's paints. The products are certified for various operating conditions and meet today's regulatory requirements.



Activated Zinc Epoxy Primers



| Activated Zinc<br>Epoxy Primers | Product features  | Recommended use                 | Shade              | Finish | Volume<br>solids % * | voc     | Surface dry<br>20°C | Theoretical<br>spreading<br>rate | DFT range   |
|---------------------------------|---|---------------------------------|--------------------|--------|----------------------|---------|---------------------|----------------------------------|-------------|
| Hempadur<br>Avantguard® 550     | <ul> <li>Complies with the requirements<br/>for Level 3, type II in SSPC<br/>Paint 20, 2002</li> <li>Reduces the effect of corrosion</li> <li>Excellent protection</li> <li>Good mechanical strength in cyclic<br/>temperatures</li> <li>Improved crack resistance through high<br/>flexibility and self-healing of micro cracks</li> <li>High tolerance to different climatic conditions</li> <li>Complies with EU Directive 2004/42/EC</li> </ul>   | protection of steel in severely | 19840<br>dark grey | flat   | 65                   | 325 g/l | 10 minutes          | 10.8 m²/l<br>60 µm               | 40 - 100 µm |
| Hempadur<br>Avantguard® 750     | <ul> <li>Complies with the requirements<br/>in ISO 12944 Part 5, 2018 and<br/>Level 2, type II in SSPC Paint 20,<br/>2002</li> <li>High tolerance to different climatic conditions<br/>(high temperature and humidity) during<br/>application as well as to high dry film<br/>thickness</li> <li>Reduces the effect of corrosion</li> <li>Excellent protection</li> <li>Good mechanical strength in cyclic<br/>temperatures</li> <li>Improved crack resistance through high<br/>flexibility and self-healing of micro cracks</li> <li>Anticorrosive performance in compliance<br/>with NORSOK M-501</li> <li>Fast curing</li> <li>Easy to apply</li> <li>Retains its properties even at excessive<br/>application</li> <li>Complies with EU Directive 2004/42/EC</li> </ul> | protection of steel in severely | 19840<br>dark grey | flat   | 65                   | 330 g/l | 10 minutes          | 10.8 m²/l<br>60 μm               | 40 - 100 µm |

\* the variance of the values is  $\pm$  1%



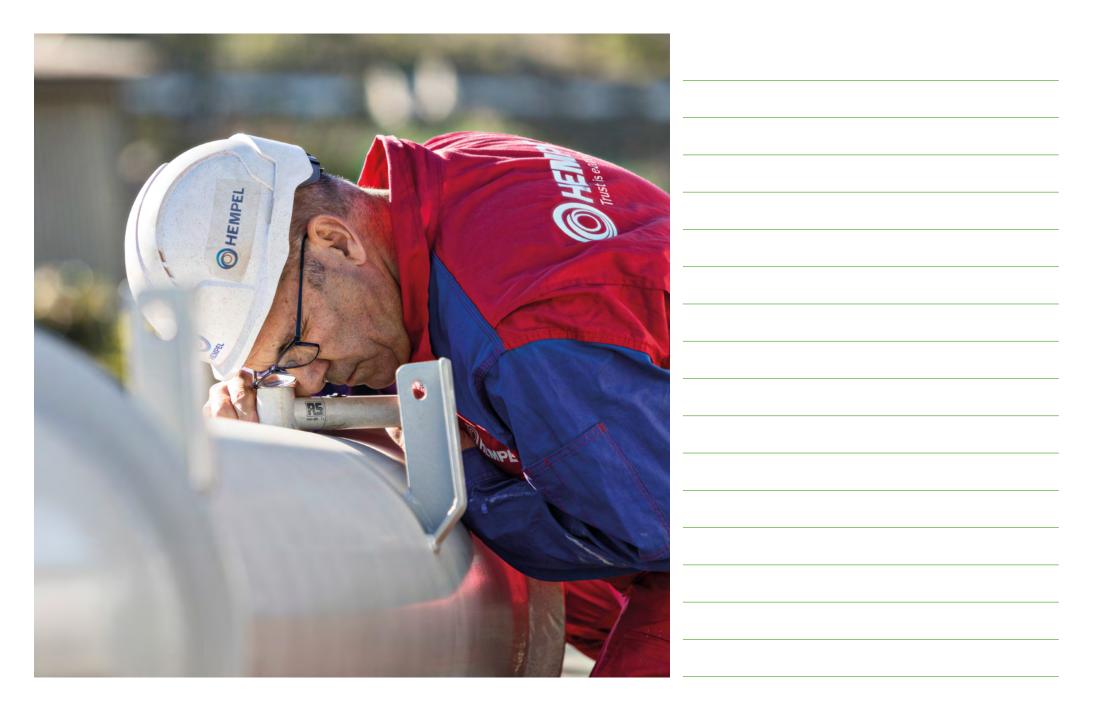
## Alkyds / Acrylics

| Alkyds                               | Product features  | Recommended use   | Shade                      | Finish | Volume<br>solids % * | VOC     | Dry to touch<br>20°C                               | Theoretical<br>spreading<br>rate | DFT range               |
|--------------------------------------|---|---|----------------------------|--------|----------------------|---------|--|----------------------------------|-------------------------|
| Hempel's<br>Speed-dry Alkyd<br>43140 | <ul> <li>Fast-drying</li> <li>Perfect solution for in shop<br/>application</li> <li>Good adhesion to steel</li> <li>Does not contain any lead and chromates</li> <li>Good results with brush application</li> <li>Contains zinc phosphate</li> <li>Excellent recoatability with polyurethane,<br/>alkyd and chlorinated rubber topcoats</li> <li>Complies with EU Directive 2004/42/EC</li> </ul> | <ul> <li>A single/double coat anticorrosive primer/finish for steel structures and general steel work. Can be used for a multitude of applications; for heavy and light steel industry, in exterior and interior steel surfaces, in mild to medium atmospheric corrosive environments.</li> </ul> | MTT<br>11150<br>grey<br>** | flat   | 49                   | 444 g/l | 15 minutes   | 7 m²/l<br>70 μm                  | 40 - 120 µm             |
| Hempel's Silvium<br>51570            | <ul> <li>Contains aluminium</li> <li>Good light reflection</li> <li>Complies with Section 175.300<br/>of the Code of Federal Regulations<br/>Title 21 - Dry Foodstuff</li> <li>Tested for non-contamination of grain cargo<br/>at the Newcastle Occupational Health &amp;<br/>Hygiene, GB</li> <li>Complies with EU Directive 2004/42/EC:<br/>subcategory i</li> </ul>                            | <ul> <li>As a finishing coat on interior<br/>and exterior steel and woodwork<br/>in mild to moderately corrosive<br/>environments where an aluminium<br/>surface or light reflection is desired,<br/>and/or for moderately hot surfaces.</li> </ul>   | 19001<br>aluminium         | glossy | 38                   | 506 g/l | approx.<br>5 hours                                 | 15.2 m²/l<br>25 μm               | indicated dft:<br>25 μm |
| Hempalin Enamel<br>52140             | <ul> <li>Weather resistant</li> <li>Flexible</li> <li>Resistant to salt water, mineral oil<br/>spillage and aliphatic hydrocarbons</li> <li>Approved as a low flame spread material when<br/>used as part of a predefined paint system.<br/>Please refer to "Declaration of Conformity" on<br/>www.hempel.com</li> <li>Complies with EU Directive 2004/42/EC,<br/>subcategory i</li> </ul>        | As a general purpose finishing<br>coat in an alkyd system on exterior<br>and interior steel and woodwork<br>in mildly to moderately corrosive<br>environments. As a finishing coat<br>in engine rooms, tank tops, main<br>engines and auxiliary machinery.  | MTT<br>10000<br>white      | glossy | 46                   | 429 g/l | surface dry:<br>approx.<br>2.5 hours<br>at 20°C    | 15.3 m²/l<br>30 μm               | 30 - 40 µm              |
| Hempaquick Enamel<br>53840           | Good gloss and colour retention     Fast-drying   | Topcoat on steel in mild to moderately corrosive environments.  | 10000<br>white             | glossy | 41                   | 519 g/l | surface dry:<br>approx.<br>30 minutes<br>at 20°C   | 9.8 m²/l<br>40 μm                | indicated dft:<br>25 μm |
| Hempel's Speed-Dry<br>Primer 13770   | <ul> <li>Is a quick drying alkyd primer, containing zinc<br/>phosphate to enhance the anti-corrosion<br/>properties.</li> </ul>   | <ul> <li>General purpose primer<br/>for protection of steel in<br/>mild atmospheric corrosive<br/>environments.</li> </ul>  | 15680<br>grey              | flat   | 57                   | 383 g/l | dry to touch:<br>approx.<br>30 minutes<br>at 20 °C | 14.3 m²/l<br>40 µm               | 60 - 80 µm              |

 $^{\ast}$  the variance of the values is  $\pm$  1%  $^{\ast\ast}$  aluminium pigmented shade 19760

| Acrylics                          | Product features  |        | Recommended use   | Shade                 | Finish | Volume<br>solids % * | voc     | Surface<br>dry<br>20°C | Theoretical<br>spreading<br>rate | DFT range               |
|-----------------------------------|---|--------|---|-----------------------|--------|----------------------|---------|------------------------|----------------------------------|-------------------------|
| Hemucryl Primer<br>Hi-Build 18032 | <ul> <li>Waterborne</li> <li>Good anticorrosive properties</li> <li>Especially suited for application by<br/>airless spray</li> <li>Approved as a low flame spread material when<br/>used as part of a predefined paint system.<br/>Please refer to "Declaration of Conformity" on<br/>www.hempel.com</li> <li>Complies with EU Directive 2004/42/EC:<br/>subcategory i</li> </ul>  | 00     | Primer in waterborne paint systems<br>on interior and exterior steelwork<br>in mildly to moderately corrosive<br>environments. May also be used<br>as a primer in waterborne paint<br>systems on hot dip galvanised steel,<br>aluminium, and stainless steel in<br>mildly corrosive environments. | 12710<br>grey         | matt   | 59                   | 41 g/l  | approx.<br>30 minutes  | 5.7 m²/l<br>75 μm                | 50 - 100 µm             |
| Hempatex Hi-Build<br>46410        | <ul> <li>Physically drying</li> <li>Good colour retention</li> <li>Resistant to salt water, splashes of<br/>aliphatic hydrocarbons, animal and<br/>vegetable oils</li> <li>Contains zinc phosphate</li> <li>Approved by CSIRO, Australia for carriage of<br/>foodstuffs</li> </ul>  | 0<br>9 | Primer, intermediate coat or<br>topcoat for Hempatex systems in<br>moderately corrosive environments.<br>Selfprimed repair and touch-up<br>coating or topcoat for containers.   | ntt<br>11480<br>grey  | flat   | 42                   | 508 g/l | approx.<br>1 hour      | 4.2 m²/l<br>100 μm               | 50 - 125 µm             |
| Hempel's Pro Acrylic<br>55883     | <ul> <li>Two-component, isocyanate-free, acrylic finishing coat with good gloss and colour retention</li> <li>It is resistant to water and spillage of aliphatic hydrocarbons.</li> <li>Minimum curing temperature is 0°C/32°F.</li> </ul>  | 7<br>7 | As a finishing coat for protection of<br>structural steel in severely corrosive<br>environment, where lightfastness<br>and gloss retention are required   | MIT<br>10000<br>white | glossy | 58                   | 362 g/I | 4.5 hour               | 10.8 m²/l<br>50 μm               | 50 - 100 µm             |
| Hempatex Enamel<br>56360          | <ul> <li>Good gloss and colour retention</li> <li>Physically drying</li> <li>Resistant to salt water, splashes of<br/>aliphatic hydrocarbons and animal and<br/>vegetable oils</li> </ul>   | 0 C    | Topcoat for interiors and exteriors<br>on Hempatex systems in moderately<br>to severely corrosive environments.   | MTT<br>10000<br>white | glossy | 32                   | 594 g/l | approx.<br>1 hour      | 9.1 m²/l<br>35 μm                | indicated dft:<br>35 μm |
| Hemucryl Enamel<br>Hi-Build 58030 | <ul> <li>Waterborne</li> <li>High gloss retention</li> <li>Good weathering properties</li> <li>Dries to a non-yellowing and glossy coating with low dirt pick-up</li> <li>Especially suited for application by airless spray</li> <li>Complies with EU Directive 2004/42/EC: subcategory i.</li> <li>Approved as a low flame spread material when used as part of a predefined paint system. Please refer to "Declaration of Conformity" on www.hempel.com</li> </ul> | 00     | Glossy, finishing coat in waterborne<br>paint systems, interior and exterior,<br>in moderately to severe corrosive<br>environments.   | 10000<br>white        | glossy | 44                   | 52 g/l  | approx.<br>45 minutes  | 5.9 m²/l<br>75 μm                | 50 - 100 µm             |

 $^{\ast}$  the variance of the values is  $\pm$  1%  $^{\ast\ast}$  aluminium pigmented shade 19760





| Epoxies                        | Product features   | Recommended use   | Shade                             | Finish | Volume<br>solids % * | voc     | Dry to<br>touch<br>20°C                               | Theoretical<br>spreading<br>rate | DFT range   |
|--------------------------------|--|---|-----------------------------------|--------|----------------------|---------|---|----------------------------------|-------------|
| Hempel's<br>Shopprimer E 15275 | <ul> <li>Pigmented with zinc phosphate<br/>rust-inhibiting pigments</li> <li>Quick drying, fast handling</li> <li>Designed for automatic spray application</li> </ul>  | Shopprimer for the protection of<br>blast-cleaned steel plates and other<br>structural steel during the storage<br>and building period.   | 50890<br>red                      | flat   | 26                   | 635 g/l | dry to<br>handle:<br>approx.<br>6 minutes<br>at 20 °C | See product<br>data sheet        | 15 - 25 µm  |
| Hempadur 15553                 | <ul> <li>Excellent adhesion properties</li> <li>Abrasion and impact resistant</li> <li>Contains zinc phosphate</li> <li>Cures down to -10°C</li> <li>Complies with EU Directive 2004/42/EC</li> <li>Approved as a low flame spread material when used as part of a predefined paint system.<br/>Please refer to "Declaration of Conformity" on www.hempel.com</li> </ul> | Primer for Hempatex, Hempadur<br>and Hempathane systems, on hot<br>dipped galvanised surfaces and<br>aluminium and stainless steel in<br>moderately corrosive environments.<br>Also applicable when roughening<br>of the surface is not possible.   | 11320<br>off-white                | flat   | 55                   | 389 g/l | approx.<br>3 hours                                    | 11 m²/l<br>50 μm                 | 50 - 80 µm  |
| Hempadur 1555E                 | <ul> <li>Polyamide-adduct cured</li> <li>Good adherence</li> <li>Abrasion and impact resistant</li> <li>Contains zinc phosphate</li> <li>Cures down to -10°C</li> <li>Highways Approved Item No.110</li> </ul>   | Primer for Hempatex, Hempadur<br>and Hempathane systems on steel<br>and for hot dipped galvanised<br>surfaces, aluminium and stainless<br>steel.  | 22430<br>cream                    | flat   | 40                   | 531 g/l | surface dry:<br>approx.<br>1 hour<br>at 20°C          | 10 m²/l<br>40 µm                 | 30 - 50 µm  |
| Hempadur 15570                 | <ul> <li>Polyamide-adduct cured</li> <li>Highly corrosion resistant</li> <li>Cures down to -10°C</li> <li>Complies with EU Directive 2004/42/EC</li> <li>Shades 21780 and 11320 contain zinc phosphate</li> </ul>  | Maintenance and repair primer,<br>intermediate coat and topcoat in<br>Hempadur systems in severely<br>corrosive conditions. Finishing coat<br>where a cosmetic appearance is of<br>less importance. As a low temperature<br>curing epoxy primer, intermediate,<br>and/or finishing coat in paint systems<br>according to specification. Suitable as<br>a (blast) primer in epoxy systems and<br>mist coating on Galvosil. | 12430<br>/ MIO<br>reddish<br>grey | flat   | 54                   | 415 g/l | 3 - 4 hours   | 5.4 m²/l<br>100 μm               | 50 - 125 µm |

\* the variance of the values is  $\pm 1\%$ 

| Epoxies                   | Product features   | Recommended use                                     | Shade                    | Finish    | Volume<br>solids % * | voc     | Dry to<br>touch<br>20°C                       | Theoretical<br>spreading<br>rate | DFT range    |
|---------------------------|--|---|--------------------------|-----------|----------------------|---------|---|----------------------------------|--------------|
| Hempadur Zinc<br>17360    | <ul> <li>Zinc rich content</li> <li>Fast-drying</li> <li>Hardwearing and highly weather resistant</li> <li>Cathodic protection of local mechanical damage</li> <li>Application and curing temperatures above: -10°C</li> <li>Complies with SSPC-Paint 20, type 2, level 2, ISO 12944-5 and EU Directive 2004/42/EC: subcategory j</li> <li>Highways Approved Item No.109</li> </ul>  |   | 19830<br>reddish<br>grey | flat      | 65                   | 310 g/l | approx.<br>30 minutes                         | 13 m²/l<br>50 μm                 | 50 - 75 µm   |
| Hempadur Quattro<br>17634 | <ul> <li>Hard and tough coat</li> <li>Good abrasion, sea water and various oils resistant</li> <li>Excellent anticorrosive and very good mechanical properties</li> <li>Application and curing temperatures above: -10°C</li> <li>Fast-drying</li> <li>Complies with IMO-PSPC requirements (Resolutions MSC.215(82) and MSC.288(87)))</li> <li>Complies with Section 175.300 of the Code of Federal Regulations Title 21 - Dry Foodstuff</li> <li>Approved as a low flame spread material when used as part of a predefined paint system. Please refer to "Declaration of Conformity" on www.hempel.com</li> </ul> | water ballast tanks and cargo oil                   | 50630<br>red             | semi-flat | 72                   | 276 g/l | surface dry:<br>approx.<br>2 hours<br>at 20°C | 5.8 m²/l<br>125 μm               | 100 - 200 µm |
| Hemudur 18500             | <ul> <li>Waterborne</li> <li>Contains zinc phosphate as corrosion<br/>inhibiting pigment</li> <li>Cures to a strong and rust-preventing coat</li> <li>Complies with EU Directive 2004/42/EC:<br/>subcategory j</li> </ul>  | As a general purpose primer on steel constructions. | 12170<br>grey            | semi-flat | 50                   | 22 g/I  | surface dry:<br>approx.<br>2 hours<br>at 20°C | 6.7 m²/l<br>75 μm                | 50 - 100 µm  |

\* the variance of the values is  $\pm 1\%$ 

| Epoxies                                | Product features  | Recommended use  | Shade              | Finish | Volume<br>solids % * | voc     | Surface<br>dry<br>20°C                         | Theoretical<br>spreading<br>rate | DFT range    |
|--|---|--|--------------------|--------|----------------------|---------|--|----------------------------------|--------------|
| Hempadur 35560                         | <ul> <li>Solvent-free, high-build,<br/>polyamine adduct cured epoxy</li> <li>Good resistance to fresh water</li> <li>Benzyl alcohol free</li> <li>Excellent anticorrosive properties</li> <li>Conforms to NORSOK M-501, edition 6,<br/>system nos. 7A and 7B</li> <li>Approved for potable water use by WRAS up<br/>to 35°C</li> <li>Certified by NSF/ANSI standard 61 - Drinking<br/>Water System Components - Health effects,<br/>NSF International</li> <li>Approved by Folkehelseinstitetter, Norway for<br/>use in tanks for potable water offshore</li> </ul> | As a lining in potable water tanks<br>and pipelines. As a self-primed,<br>high-build coating, primarily for<br>areas subject to abrasion and/or<br>to a highly corrosive enviroment.<br>E.g. Splash zones, jetty and bridge<br>pilings and decks.                  | 50900<br>light red | glossy | 100                  | 0 g/l   | surface dry:<br>approx.<br>12 hours<br>at 20°C | 5 m²/l<br>200 μm                 | 200 - 400 µm |
| Hempadur<br>Multi-Strength GF<br>35870 | <ul> <li>Reinforced with glassflakes</li> <li>Hard, impact and abrasion resistant</li> <li>Good resistance to sea water, mineral oils, aliphatic hydrocarbons, splashes from petrol and related products</li> <li>Suitable for early water exposure and will continue to cure under water</li> <li>Low VOC</li> <li>Highways Approved Item No.123</li> </ul>  | As a self-primed, high-build coating<br>primarily for areas subject to<br>abrasion and/or highly corrosive<br>environments. E.g. splash zones,<br>jetty pilings and working decks.<br>Can be used as interior lining for<br>crude oil and fuel oil storage tanks.  | 19990<br>black     | glossy | 87                   | 227 g/l | approx.<br>4 hours                             | 2.5 m²/l<br>350 μm               | 350 - 500 µm |
| Hempadur<br>Speed-dry ZP 600           | <ul> <li>Self-priming, high-build epoxy</li> <li>Contains zinc phosphate</li> <li>High solids</li> <li>Fast drying</li> <li>Cures down to 0°C</li> </ul>  | As a fast curing primer or<br>intermediate coat in mild to severely<br>corrosive environments. As a<br>topcoat where the usual cosmetic<br>performance of epoxy coatings<br>is acceptable. As a single coat,<br>direct to metal in mild corrosive<br>environments. | 18620<br>grey      | flat   | 71                   | 280 g/l | approx.<br>2 hours                             | 7.1 m²/l<br>100 μm               | 75 - 200 µm  |

\* the variance of the values is  $\pm$  1%

| Epoxies                             | Product features  |        | Recommended use  | Shade           | Finish         | Volume<br>solids % * | voc     | Dry to<br>touch<br>20°C                      | Theoretical<br>spreading<br>rate | DFT range    |
|-------------------------------------|---|--------|--|-----------------|----------------|----------------------|---------|--|----------------------------------|--------------|
| Hempadur 45143                      | products  | 0      | Use in cold climates. A high-<br>build primer, intermediate and/<br>or finishing coat in (heavy duty)<br>paint systems, according to<br>specification. As a finishing coat<br>where a cosmetic appearance is<br>of less importance. For repair and<br>maintenance work at application<br>temperatures above -10 °C on<br>hatch covers, decks, in cargo holds<br>and ballast tanks etc. | 50630<br>red    | semi-<br>gloss | 60                   | 367 g/l | approx.<br>5 hours<br>at 5°C                 | 4 m²/l<br>150 μm                 | 80 - 175 μm  |
| Hempadur<br>Multi-Strength<br>45540 | <ul> <li>Abrasion and corrosion resistant</li> <li>Applicable by standard heavy duty airless<br/>spray equipment</li> <li>Suited for application under humid conditions<br/>and for early water exposure</li> </ul> | 0      | As a maintenance and repair primer<br>in Hempadur systems in severely<br>corrosive environments. As a self-<br>primed, high build coating primarily<br>for maintenance of jetty pilings,<br>ballast tanks etc.   | 19990<br>black  | glossy         | 84                   | 176 g/l | 4 hours                                      | 2.4 m²/l<br>350 μm               | 125 - 350 µm |
| Hempadur Speed-Dry<br>ZP 500        |   | 0<br>9 | Hempadur Speed-Dry ZP 500 is<br>suitable for onshore corrosion<br>protection of new-build steel<br>constructions where fast to handle<br>and short overcoating times are<br>required, such as steel for factory<br>buildings, stadiums, exhibition halls,<br>airports, power plants, refineries,<br>chemical and petrochemical plants.   | 17330**<br>grey | flat           | 75                   | 235 g/l | 2 hours                                      | 6 m²/l<br>125 μm                 | 70 - 150 µm  |
| Hempadur Fast Dry<br>17410          | opidy equipment   | 0<br>0 | Hempadur Fast Dry 17410 is suitable<br>for onshore corrosion protection of<br>new-build steel constructions where<br>fast to handle and short overcoating<br>times are required, such as steel<br>for factory buildings, stadiums,<br>exhibition halls, airports, power<br>plants, refineries, chemical and<br>petrochemical plants.   | 11320**<br>grey | semi-<br>gloss | 74                   | 246 g/l | surface dry:<br>approx.<br>45 min<br>at 20°C | 7,4 m²/l<br>100 μm               | 70 - 125 µm  |

 $\ast$  the variance of the values is ± 1%

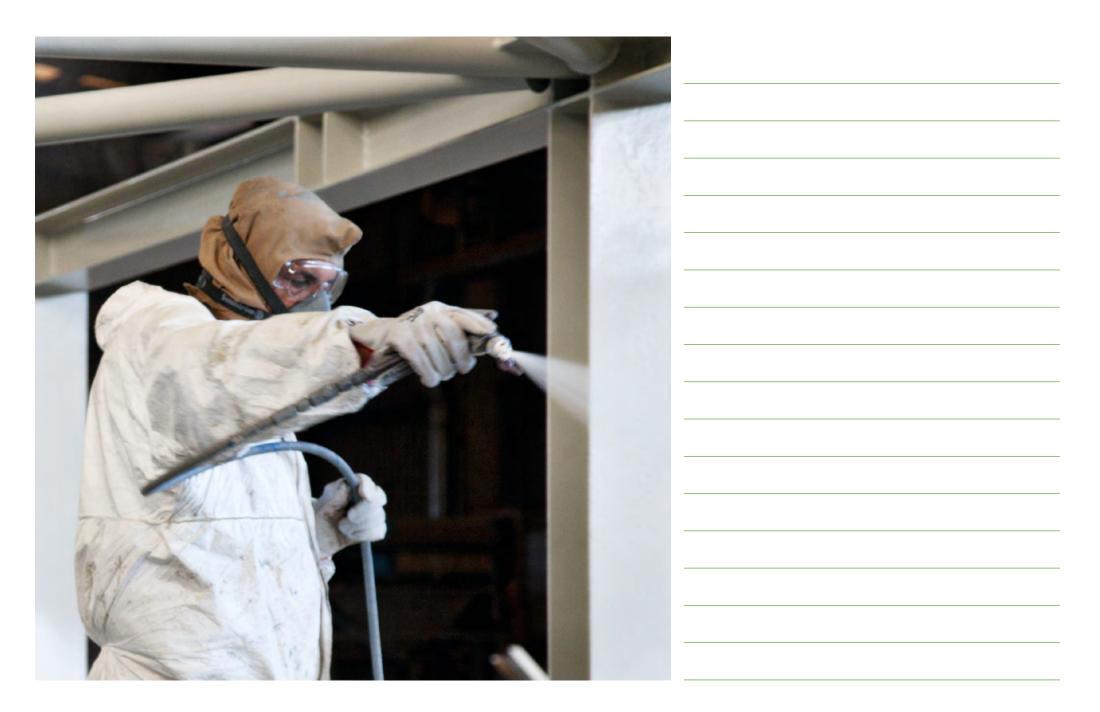
\*\* other shades according to assortment list.

| Epoxies                             | Product features  | Recommended use   | Shade  | Finish         | Volume<br>solids % * | voc     | Dry to<br>touch<br>20°C                         | Theoretical<br>spreading<br>rate | DFT range    |
|-------------------------------------|---|---|--|----------------|----------------------|---------|---|----------------------------------|--------------|
| Hempadur<br>Multi-Strength<br>45753 | <ul> <li>Self-priming, high-build, pure epoxy</li> <li>Abrasion and aggressive corrosion resistant</li> <li>Application temperature from -10°C</li> <li>Approved by Lloyd's Register of Shipping<br/>as a corrosion control coating</li> <li>Tested by Teknologisk Institut AS, Norway,<br/>and approved for internal use in pipe lines for<br/>water power generation according to NS 5417</li> <li>Recognised Abrasion Resistant Ice Coating by<br/>Lloyd's Register</li> <li>Complies with EU Directive 2004/42/EC,<br/>subcategory j</li> </ul>   | Use in cold climates. Heavy duty<br>coating for areas exposed to<br>abrasion and aggressive corrosive<br>climates, such as ramps, ship<br>hulls and holds of bulk carriers. As<br>a ballast tank coating for special<br>purposes such as chemical carriers<br>carrying hot cargoes and other<br>purposes where "pure epoxy<br>coating" is requested. As a finishing<br>coat where a cosmetic appearance<br>is of less importance.   | 12340<br>grey  | semi-<br>gloss | 79                   | 234 g/l | surface dry:<br>approx.<br>2 hours<br>at 20°C   | 4 m²/l<br>200 μm                 | 150 - 300 µm |
| Hempadur Mastic<br>45880            | <ul> <li>Polyamide adduct cured, high-build</li> <li>Good wetting properties</li> <li>Low temperature curing (down to -5°C)</li> <li>In accordance with Aramco's specification<br/>APCS 1, APCS 12, APCS 26 and 26T</li> <li>Complies with Section 175.300 of the Code of<br/>Federal Regulations Title 21 - Dry Foodstuff</li> <li>Tested for non-contamination of grain cargo at the<br/>Newcastle Occupational Health &amp; Hygiene, GB</li> <li>Approved as a low flame spread material when<br/>used as part of a predefined paint system.<br/>Please refer to "Declaration of Conformity" on<br/>www.hempel.com for further details.</li> <li>Complies with EU Directive 2004/42/EC:<br/>subcategory j</li> </ul> | Self-priming, surface tolerant<br>system, intermediate or finishing<br>coat in heavy duty paint systems<br>where low VOC and high film<br>build are required. Multipurpose<br>coating as per specification for<br>maintenance and minor repairs<br>in immersed areas, including<br>ballast tanks and underwater hulls,<br>specifically in those cases where<br>a need for few products outweighs<br>more specialised coatings.**<br>Can be specified where<br>extended recoating properties<br>for polyurethane topcoats are<br>requested (typically travel coating). | 12170<br>/ grey<br>12430 /<br>MIO<br>reddish<br>grey *** | semi-<br>gloss | 80                   | 216 g/l | approx.<br>4 hours                              | 6.4 m²/l<br>125 μm               | 100 - 200 µm |
| Hempadur Mastic<br>4588W            | <ul> <li>High solids, high-build epoxy</li> <li>Hard and tough coating</li> <li>Low temperature curing (down to -10 ° C)</li> <li>Good wetting properties</li> <li>Low VOC</li> <li>Approved as a low flame spread material when used as part of a predefined paint system.<br/>Please refer to "Declaration of Conformity" on www.hempel.com</li> </ul>  | Self-priming intermediate coat in<br>heavy duty systems in atmospheric<br>exposure, where low VOC and high<br>film build are required. Suited for<br>application at low temperatures<br>(down to -10°C) and where a<br>relatively short recoating interval is<br>required (one day, one coat).  | 12170<br>/ grey<br>12430 /<br>MIO<br>reddish<br>grey *** | semi-<br>gloss | 80                   | 197 g/l | surface dry:<br>approx.<br>2,5 hours<br>at 20°C | 4 m²/l<br>200 μm                 | 100 - 200 µm |

\* the variance of the values is ± 1%
\*\* Directly applicable on cured zinc silicate (GALVOSIL products) or spray-metallised surfaces to minimise popping.
\*\*\* Aluminium pigmented shade 19870 / dark alu and 19000 / light alu.

| Epoxies               | Product features   | Recommended use  | Shade               | Finish         | Volume<br>solids % * | voc     | Dry to<br>touch<br>20°C                | Theoretical<br>spreading<br>rate | DFT range                |
|-----------------------|--|--|---------------------|----------------|----------------------|---------|--|----------------------------------|--------------------------|
| Hempadur ZP 47940     | <ul> <li>Polyamide-adduct cured</li> <li>Contains zinc phosphate</li> <li>Low VOC</li> <li>Fast-drying</li> <li>Highways Approved Item No.111</li> </ul>   | Primer in epoxy systems in atmospheric exposure.   | 12170<br>grey       | semi-<br>gloss | 76                   | 250 g/l | approx.<br>2 hours                     | 6.1 m²/l<br>125 μm               | 100 - 150 µm             |
| Hempadur MIO<br>47950 | <ul> <li>Polyamide-adduct cured</li> <li>High volume solids</li> <li>Low VOC</li> <li>Fast-drying</li> <li>High load of MIO pigment</li> <li>Highways Approved Item No.112</li> </ul>  | Intermediate coat or topcoat in epoxy systems in atmospheric exposure.   | 12130 /<br>MIO grey | semi-<br>gloss | 76                   | 251 g/l | approx.<br>2 hours                     | 6.1 m²/l<br>125 μm               | 100 - 150 µm             |
| Hempadur 47960        | <ul> <li>Polyamide-adduct cured, high-build epoxy</li> <li>Relatively high volume solid combined with short drying time</li> <li>Contains zinc phosphate</li> <li>Prolonged recoating intervals</li> <li>Complies with EU Directive 2004/42/EC, subcategory j</li> </ul>   | Primer in mild to medium<br>atmospheric environments.<br>Intermediate or topcoat in<br>epoxy systems in medium to<br>severely corrosive atmospheric<br>environments. One coat self priming<br>epoxy topcoat available in various<br>shades. ** | 11480<br>grey       | semi-<br>gloss | 75                   | 245 g/I | approx.<br>2 hours                     | 6 m²/l<br>125 μm                 | 80 - 125 µm              |
| Hempadur 85671        | <ul> <li>High chemical resistance</li> <li>Amine-adduct cured phenolic epoxy</li> <li>Very good adhesion</li> <li>High temperature and water resistant</li> <li>Complies with Aramco's specification APCS<br/>2A, 2B and 2C</li> <li>Conforms to NORSOK M-501, system no. 3</li> <li>Approved by Water Research Centre (WRAS),<br/>Great Britain, for potable water up to 23 °C</li> <li>Complies with Section 175.300 of the Code<br/>of Federal Regulations Title 21 – Liquid and<br/>Dry Foodstuff</li> </ul> | Interior lining in tanks and pipelines.<br>For hot water, brine, crude oil etc.<br>For potable water tanks. Primer coat<br>in specific systems.  | 11150<br>light grey | flat           | 68                   | 317 g/l | surface dry:<br>2 - 3 hours<br>at 20°C | 6.8 m²/l<br>100 μm               | indicated dft:<br>100 μm |

\* the variance of the values is ± 1%
\*\* Directly applicable on cured zinc silicate (GALVOSIL products) or spray-metallised surfaces to minimise popping.
\*\*\* Aluminium pigmented shade 19870 / dark alu and 19000 / light alu.



### Intumescents / Zinc Silicates

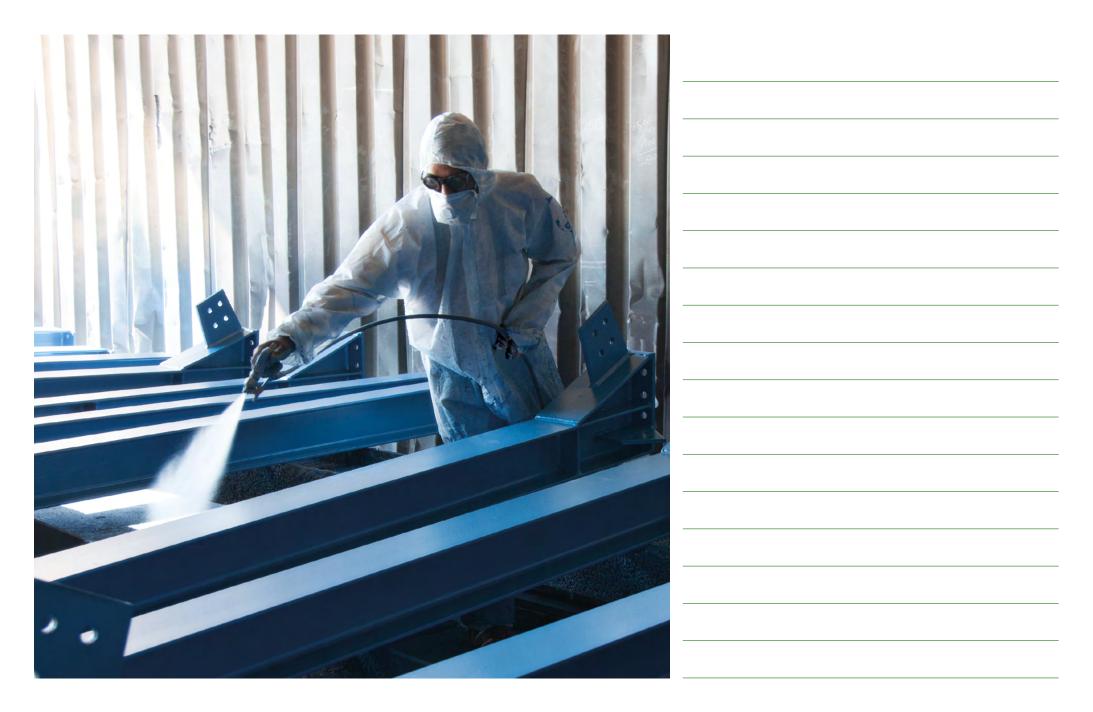
| Intumescents              | Product features  | Recommended use   | Shade          | Finish | Volume<br>solids % * | voc     | Surface<br>dry<br>20°C                 | Theoretical<br>spreading<br>rate | DFT range                                 |
|---------------------------|---|---|----------------|--------|----------------------|---------|--|----------------------------------|---|
| Hempacore One<br>43600    | <ul> <li>Solvent-borne</li> <li>Passive fire protection of structural steel<br/>against cellulosic fires</li> <li>Tested and approved according to<br/>EN13381-8 and BS476-21 for up to<br/>120 minutes fire protection</li> <li>Fire protection up to 4 hours can be achieved<br/>for a limited range of massivity (Hp/A)<br/>sections at various critical temperatures</li> <li>Approved by GB14907-2002 up to 2½ hours</li> <li>CE marked product with European Technical<br/>Approval ETA 12/0581, according to ETAG018<br/>Part 2</li> <li>Approved with Certifire certificate nº CF 5146</li> <li>Complies with EU Directive 2004/42/EC:<br/>subcategory i</li> </ul> | As intumescent fire protection for<br>internal and external structural<br>steel. Suitable for open beams and<br>columns and hollow sections. As<br>a repair and touch-up coating for<br>damaged areas of freshly applied<br>Hempacore One 43600. Applied<br>in up to 1500 micron [60 mils] dry<br>film thickness per coat (equivalent<br>to 2000 micron [80 mils] wet film<br>thickness). | 10000<br>white | flat   | 75 ±3                | 320 g/l | 15 minutes<br>at 20°C<br>and 750<br>μm | 1 m²/l<br>750 μm                 | depends on<br>required fire<br>resistance |
| Hempacore One FD<br>43601 | <ul> <li>Fast-drying</li> <li>Solvent-borne</li> <li>Passive fire protection of structural steel<br/>against cellulosic fires</li> <li>Tested and approved according to<br/>EN13381-8 and BS476-21 for up to<br/>120 minutes fire protection</li> <li>Fire protection up to 4 hours can be achieved<br/>for a limited range of massivity (Hp/A)<br/>sections at various critical temperatures</li> <li>CE marked product with European Technical<br/>Approval ETA 12/0581, according to ETAG018<br/>Part 2</li> <li>Approved with Certifire certificate n° CF 5146</li> <li>Complies with EU Directive 2004/42/EC:<br/>subcategory i</li> </ul>                             | Hempacore One 43601. As in-shop   | 10000<br>white | flat   | 75 ±3                | 310 g/l | 15 minutes<br>at 20°C<br>and 750<br>μm | 1 m²/l<br>750 μm                 | depends on<br>required fire<br>resistance |
| Hempacore AQ<br>48860     | <ul> <li>Waterborne</li> <li>Chlorine free</li> <li>Passive fire protection of structural<br/>steel against cellulosic fires</li> <li>VOC-free</li> <li>Tested and approved according to<br/>EN 13381-8 for up to 90 minutes fire protection</li> <li>CE marked product with European Technical<br/>Assessment ETA 13/1051, according to<br/>ETAG018 Part 2</li> </ul>  | As intumescent fire protection<br>for structural steel in interior<br>conditions, where condensation<br>may occur. It is suitable for I-beams,<br>I-columns and hollow columns. As a<br>repair and<br>touch-up coating for damaged areas<br>of freshly applied Hempacore AQ.  | 10000<br>white | flat   | 67 ± 3               | 0 g/l   | 16 minutes<br>at 20°C<br>and 750<br>μm | 1 m²/l<br>750 μm                 | depends on<br>required fire<br>resistance |

\* the variance of the values is ± 1% \*\* Directly applicable on cured zinc silicate (GALVOSIL products) or spray-metallised surfaces to minimise popping.

| Intumescents                       | Product features   | Recommended use  | Shade                    | Finish | Volume<br>solids % * | VOC     | Surface<br>dry<br>20°C                  | Theoretical<br>spreading<br>rate | DFT range                                 |
|------------------------------------|--|--|--------------------------|--------|----------------------|---------|---|----------------------------------|---|
| Hempafire Pro 315                  | <ul> <li>Is a one component, solvent-borne,<br/>intumescent coating, optimised for 60<br/>minutes for protection of structural steel<br/>against cellulosic fires.</li> <li>It is suitable for in-shop and on-site<br/>applications</li> </ul>   | As intumescent fire protection<br>for structural steel in interior<br>and exterior conditions (Up to<br>C4 conditions ISO 12944-2).<br>Suitable for open profile beams and<br>columns, cellular beams and hollow<br>section beams and columns.<br>As a repair and touch up coating<br>for damaged areas of freshly<br>applied Hempafire Pro 315. | 10000<br>white           | flat   | 75 ± 3               | 330g/I  | 15 minutes<br>at 20°C<br>and 750<br>μm  | 1 m²/l<br>750 μm                 | depends on<br>required fire<br>resistance |
| Hempafire Optima<br>500            | <ul> <li>Is a very low VOC, one-component waterborne acrylic thin film intumescent coating optimized for 120 minutes passive fire protection of structural steel against cellulosic fires.</li> </ul>  | As intumescent fire protection<br>for structural steel for interior<br>conditions up to C3 conditions (ISO<br>12944-2). Suitable for open beams<br>and columns and hollow sections.  | 10000<br>white           | flat   | 70 ± 3               | <1 g/l  |   | 1 m²/l<br>700 μm                 |   |
| Zinc Silicates                     | Product features   | Recommended use  | Shade                    | Finish | Volume<br>solids % * | voc     | Dry to<br>touch<br>20°C                 | Theoretical<br>spreading<br>rate | DFT range                                 |
| Hempel's Galvosil<br>15700         | <ul> <li>Solvent-borne, self-curing, inorganic</li> <li>Excellent chemical resistance within<br/>the pH range 6-9</li> <li>Highly weather and abrasion resistant</li> <li>Cathodic protection of local mechanical<br/>damage</li> <li>In compliance with SSPC-Paint 20, type 1,<br/>level 1 and ISO 12944-5**</li> </ul> | As a general purpose, heavy-duty,<br>rust-preventing primer. As a single,<br>complete coating for long-term<br>protection of steel exposed to<br>moderately to severely corrosive<br>environments and to abrasion. As<br>a tank lining in accordance with the<br>Cargo Protection Guide.   | 19840<br>metal grey      | flat   | 64                   | 434 g/I | approx.<br>30 minutes<br>60 - 75%<br>RH | 12.8 m²/l<br>50 μm               | 50 - 80 µm                                |
| Hempel's<br>Shopprimer ZS<br>15890 | <ul> <li>Solvent-borne zinc ethyl silicate shopprimer</li> <li>Quick drying</li> <li>Complies with IMO MSC.215(82) as shopprimer for ballast tank coating systems</li> <li>Complies with IMO MSC.288(87) as</li> </ul>   | Shopprimer for short to medium-<br>term protection of abrasive blast-<br>cleaned steel plates and other<br>structural steel during storage,<br>fabrication, and construction<br>periods. Suitable where welding  | 19890<br>reddish<br>grey | flat   | 28                   | 620 g/l | 4 - 5<br>minutes                        | 18.7 m²/l<br>15 μm               | 10 - 25 µm                                |

\* the variance of the values is  $\pm$  1%

\*\* Resistant to permanent (non-cyclic) dry temperatures or occasionally dry peak temperatures of up to 500°C. Resistant to cyclic dry temperatures up to 400°C.



## Polyurethanes

| Polyurethanes                | Product features  | Recommended use  | Shade                 | Finish     | Volume<br>solids % * | voc     | Surface<br>dry<br>20°C            | Theoretical<br>spreading<br>rate | DFT range   |
|------------------------------|---|--|-----------------------|------------|----------------------|---------|-----------------------------------|----------------------------------|-------------|
| Hempel's Polyenamel<br>55102 | <ul> <li>High gloss and good colour retention</li> <li>Acrylic polyurethane enamel cured with aliphatic isocyanate</li> <li>Complies with European Fire Standard EN 13501-1; classification B-s1, d0</li> <li>Complies with EU Directive 2004/42/EC: subcategory j</li> </ul>   | Glossy decorative finishing coat<br>in severely corrosive atmospheric<br>environments. Excellent adherence<br>on glass-fibre, polyester reinforced<br>with glass-fibre or wood. Direct<br>adhesion on various substrates<br>properly prepared, such as treated<br>aluminium, passivated stainless<br>steel and also on properly primed<br>steel. | 10170<br>white        | high-gloss | 52                   | 435 g/l | approx.<br>2 hours                | 14.9 m²/l<br>35 μm               | 30 - 40 µm  |
| Hempathane Topcoat<br>55210  | <ul> <li>Glossy, acrylic polyurethane</li> <li>Good colour retention</li> <li>Application and curing temperature from -10 °C</li> <li>Aliphatic-isocyanate cured</li> <li>Complies with European Fire Standard EN 13501-1; classification B-s1, d0</li> <li>Approved as a low flame spread material when used as part of a predefined paint system. Please refer to "Declaration of Conformity" on www.hempel.com for further details.</li> <li>Complies with EU Directive 2004/42/EC: subcategory j</li> </ul> | As a finishing coat for protection of<br>structural steel in severely corrosive<br>atmospheric environments, where<br>light-fastness and gloss retention<br>are required.  | NTT<br>10170<br>white | glossy     | 51                   | 442 g/l | surface dry:<br>1 hour<br>at 20°C | 10.2 m²/l<br>50 μm               | 40 - 75 µm  |
| Hempathane HS<br>55610       | <ul> <li>Glossy, acrylic polyurethane topcoat</li> <li>Good colour retention</li> <li>Aliphatic-isocyanate cured</li> <li>Contains zinc phosphate</li> <li>Excellent application properties</li> <li>Cures down to -10 °C</li> <li>Approved as a low flame spread material when<br/>used as part of a predefined paint system</li> <li>Complies with EU Directive 2004/42/EC:<br/>subcategory j</li> </ul>  | High-build, VOC-compliant topcoat<br>for protection of structural steel<br>in corrosive environments. May<br>be specified as a one coat "direct<br>to metal" system in environments<br>classified as C2 and C3.  | 10170<br>white        | glossy     | 67                   | 337 g/l | approx.<br>3 hours                | 6.7 m²/l<br>100 μm               | 50 - 125 µm |

 $\,$  \* the variance of the values is ± 1%  $\,$ 

| Polyurethanes                | Product features   | Recommended use  | Shade                          | Finish         | Volume<br>solids % * | voc     | Surface<br>dry<br>20°C                           | Theoretical<br>spreading<br>rate | DFT range   |
|------------------------------|--|--|--------------------------------|----------------|----------------------|---------|--|----------------------------------|-------------|
| Hempathane HS<br>55613       | here and the second sec | VOC-compliant, high-build finish<br>coat for protection of structual<br>in corrosive environments. May<br>be specified as a one coat "dire<br>to metal" system in environmen<br>classified as C2 and C3.                     | steel mo<br>ect 11150          | semi-<br>gloss | 57                   | 384 g/l | surface dry:<br>45 min<br>at 20°C                | 5.7 m²/l<br>100 μm               | 75 - 125 μm |
| Hempathane Fast<br>Dry 55750 | <ul> <li>Cures down to -10°C</li> </ul>  | High-build, one-coat system in<br>compliance with the VOC provis<br>for protecting steel structures in<br>moderately corrosive environme<br>May be used as an undercoate<br>intermediate coat or topcoat with<br>the system. | n MTT<br>ents. 10170<br>d grev | semi-<br>gloss | 65                   | 328 g/l | dry to<br>touch:<br>approx.<br>1 hour<br>at 20°C | 6.5 m²/l<br>100 μm               | 60 - 160 µm |
| Hempathane HS<br>55810       | NR/L3/CN (item number 7.3.1, as a durable  | Finishing coat for protection of<br>structural steel in severely corre-<br>atmospheric environments. Du<br>two component finish for both r<br>works and maintenance coating<br>systems.                                      | rable<br>new 45180             | high-gloss     | 64                   | 363 g/l | approx.<br>3 hours                               | 16.3 m²/l<br>40 μm               | 40 - 50 µm  |

\* the variance of the values is  $\pm \ 1\%$ 



| Thinners                  | Recommended use  | voc     |
|---------------------------|--|---------|
| Hempel's Thinner<br>08080 | Hempaquick, Hempatex qualities, Hempathane<br>topcoats and enamels Hempel's Antifoulings -<br>Globic, Dynamic, Oceanic and Olympic systems | 870 g/l |
| Hempel's Thinner<br>08230 | Hempalin qualities and other alkyd-based products (except Hempaquick qualities)  | 781 g/l |
| Hempel's Thinner<br>08450 | Hempadur qualities , Hempel's Pro Acrylic  | 857 g/l |
| Hempel's Thinner<br>08570 | Hempel's Shopprimer E 15280<br>Hempel's Shopprimer ZS 15890<br>Hempel's Shopprimer ZS 15820  | 832 g/l |
| Hempel's Thinner<br>08700 | Hempel's Galvosil qualities<br>Hempadur qualities as "non-popping" sealers   | 894 g/l |
| Hempel's Thinner<br>08880 | Hempathane topcoats and enamels  | 881 g/l |

**Note:** The data, specifications and recommendations provided in this overview of Hempel's frequently used protective paints are obtained from individual product data sheets. This is a summary only, not complete information and is subject to change. Therefore, it is exclusively the responsibility of the user to obtain accurate, complete and appropriate information in relation to any particular intended use of these and other Hempel products. Unless expressly agreed otherwise in writing, the products are supplied and all technical assistance is provided subject to Hempel's general terms and conditions of sale, delivery and service. Except, as expressed in said general terms and conditions, the manufacturer and seller waive all claims involving any liability, including but not limited to negligence, for all results, injury, or direct or indirect losses or damages arising from the use of the products as recommended above or otherwise. Product data are subject to change without notice and in any case should no longer be regarded as authoritative three years from the date of this information's issue.

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#### RAL / Hempel colours

| RAL 1000 | 22500 | RAL 2005 | 50180 | <b>RAL 4005</b> | 37050 | RAL 6004        | 41490 | RAL 7006        | 17060 | RAL 8002        | 67020 |
|----------|-------|----------|-------|-----------------|-------|-----------------|-------|-----------------|-------|-----------------|-------|
| RAL 1001 | 24900 | RAL 2007 | 57070 | <b>RAL 4006</b> | 57660 | RAL 6005        | 47050 | <b>RAL 7008</b> | 17080 | RAL 8003        | 67030 |
| RAL 1002 | 20470 | RAL 2008 | 57080 | RAL 4007        | 57670 | RAL 6006        | 47060 | RAL 7009        | 17100 | <b>RAL 8004</b> | 61810 |
| RAL 1003 | 27030 | RAL 2009 | 57090 | <b>RAL 4008</b> | 57680 | RAL 6007        | 47070 | RAL 7010        | 17110 | <b>RAL 8007</b> | 67070 |
| RAL 1004 | 27040 | RAL 2010 | 57100 | <b>RAL 4009</b> | 57690 | RAL 6008        | 47080 | RAL 7011        | 17120 | <b>RAL 8008</b> | 67080 |
| RAL 1005 | 27050 | RAL 2011 | 57110 | RAL 4010        | 57700 | RAL 6009        | 47090 | RAL 7012        | 10270 | RAL 8011        | 67110 |
| RAL 1006 | 20820 | RAL 2012 | 57120 | RAL 4012        | 38120 | RAL 6010        | 40220 | RAL 7013        | 17530 | RAL 8012        | 67120 |
| RAL 1007 | 27070 | RAL 2013 | 59130 | RAL 5000        | 37000 | RAL 6011        | 40840 | RAL 7015        | 10380 | RAL 8014        | 67140 |
| RAL 1011 | 27110 | RAL 3000 | 50170 | RAL 5001        | 37020 | RAL 6012        | 47120 | RAL 7016        | 10520 | RAL 8015        | 67150 |
| RAL 1012 | 23120 | RAL 3001 | 57150 | RAL 5002        | 30170 | RAL 6013        | 41130 | RAL 7021        | 17210 | RAL 8016        | 60160 |
| RAL 1013 | 17130 | RAL 3002 | 50740 | RAL 5003        | 37030 | RAL 6014        | 47140 | RAL 7022        | 17220 | RAL 8017        | 67170 |
| RAL 1014 | 20420 | RAL 3003 | 51710 | RAL 5004        | 37040 | RAL 6015        | 47150 | RAL 7023        | 13230 | RAL 8019        | 60180 |
| RAL 1015 | 27150 | RAL 3004 | 50100 | RAL 5005        | 37150 | RAL 6016        | 47160 | RAL 7024        | 17240 | RAL 8022        | 67220 |
| RAL 1016 | 27160 | RAL 3005 | 51800 | RAL 5007        | 30570 | RAL 6017        | 42600 | RAL 7026        | 17260 | RAL 8023        | 67230 |
| RAL 1017 | 27170 | RAL 3007 | 57370 | RAL 5008        | 32080 | RAL 6018        | 42170 | RAL 7030        | 17300 | RAL 8024        | 67240 |
| RAL 1018 | 27180 | RAL 3009 | 53090 | RAL 5009        | 32090 | RAL 6019        | 49500 | RAL 7031        | 17310 | RAL 8025        | 67250 |
| RAL 1019 | 27190 | RAL 3011 | 57310 | RAL 5010        | 30180 | RAL 6020        | 47200 | RAL 7032        | 11320 | RAL 8028        | 67280 |
| RAL 1020 | 27200 | RAL 3012 | 57320 | RAL 5011        | 37110 | RAL 6021        | 47210 | RAL 7033        | 17330 | RAL 9001        | 20450 |
| RAL 1021 | 20250 | RAL 3013 | 57330 | RAL 5012        | 35120 | RAL 6022        | 47220 | RAL 7034        | 17340 | RAL 9002        | 17620 |
| RAL 1023 | 27230 | RAL 3014 | 57340 | RAL 5013        | 33930 | RAL 6024        | 47240 | RAL 7035        | 11150 | RAL 9003        | 17630 |
| RAL 1024 | 27240 | RAL 3015 | 57350 | RAL 5014        | 37140 | RAL 6025        | 47250 | RAL 7036        | 11730 | RAL 9004        | 17940 |
| RAL 1026 | 27260 | RAL 3016 | 57460 | RAL 5015        | 37240 | RAL 6026        | 47260 | RAL 7037        | 11370 | RAL 9005        | 19990 |
| RAL 1027 | 27270 | RAL 3017 | 57470 | RAL 5017        | 37170 | RAL 6027        | 47270 | RAL 7038        | 17380 | RAL 9006        | 19000 |
| RAL 1028 | 27280 | RAL 3018 | 57480 | RAL 5018        | 45180 | RAL 6028        | 47280 | RAL 7039        | 17390 | RAL 9007        | 19870 |
| RAL 1032 | 27320 | RAL 3020 | 57200 | RAL 5019        | 30350 | RAL 6029        | 47290 | RAL 7040        | 17700 | RAL 9010        | 10170 |
| RAL 1033 | 27330 | RAL 3022 | 57520 | RAL 5020        | 45200 | RAL 6032        | 47320 | RAL 7042        | 17720 | RAL 9011        | 17910 |
| RAL 1034 | 27340 | RAL 3024 | 57540 | RAL 5021        | 40210 | RAL 6033        | 47330 | RAL 7043        | 17730 | RAL 9016        | 17760 |
| RAL 1035 | 19350 | RAL 3026 | 50090 | RAL 5022        | 37220 | RAL 6034        | 47340 | RAL 7044        | 17740 | RAL 9017        | 17970 |
| RAL 1037 | 27370 | RAL 3027 | 57570 | RAL 5023        | 37230 | <b>RAL 7000</b> | 10390 | RAL 7045        | 17750 | RAL 9018        | 17980 |
| RAL 2000 | 22120 | RAL 3031 | 57410 | RAL 5024        | 37440 | RAL 7001        | 10400 | <b>RAL 7046</b> | 17860 | RAL 9022        | 19360 |
| RAL 2001 | 50060 | RAL 4001 | 37010 | RAL 6000        | 46000 | RAL 7002        | 17020 | RAL 7047        | 17770 | RAL 9023        | 19230 |
| RAL 2002 | 57020 | RAL 4002 | 57620 | RAL 6001        | 40050 | RAL 7003        | 17030 | RAL 7048        | 17480 |                 |       |
| RAL 2003 | 57030 | RAL 4003 | 57630 | RAL 6002        | 47020 | RAL 7004        | 17160 | RAL 8000        | 67000 |                 |       |
| RAL 2004 | 50190 | RAL 4004 | 57640 | RAL 6003        | 47030 | RAL 7005        | 17040 | RAL 8001        | 67010 |                 |       |



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#### Hempel (UK) LTD.

Berwyn House The Pavilions Llantarnam Park Cwmbran South Wales NP44 3FD United Kingdom

Tel: +44 (01633) 874024 Fax: +44 (01633) 489089 E-mail: sales.uk@hempel.com



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