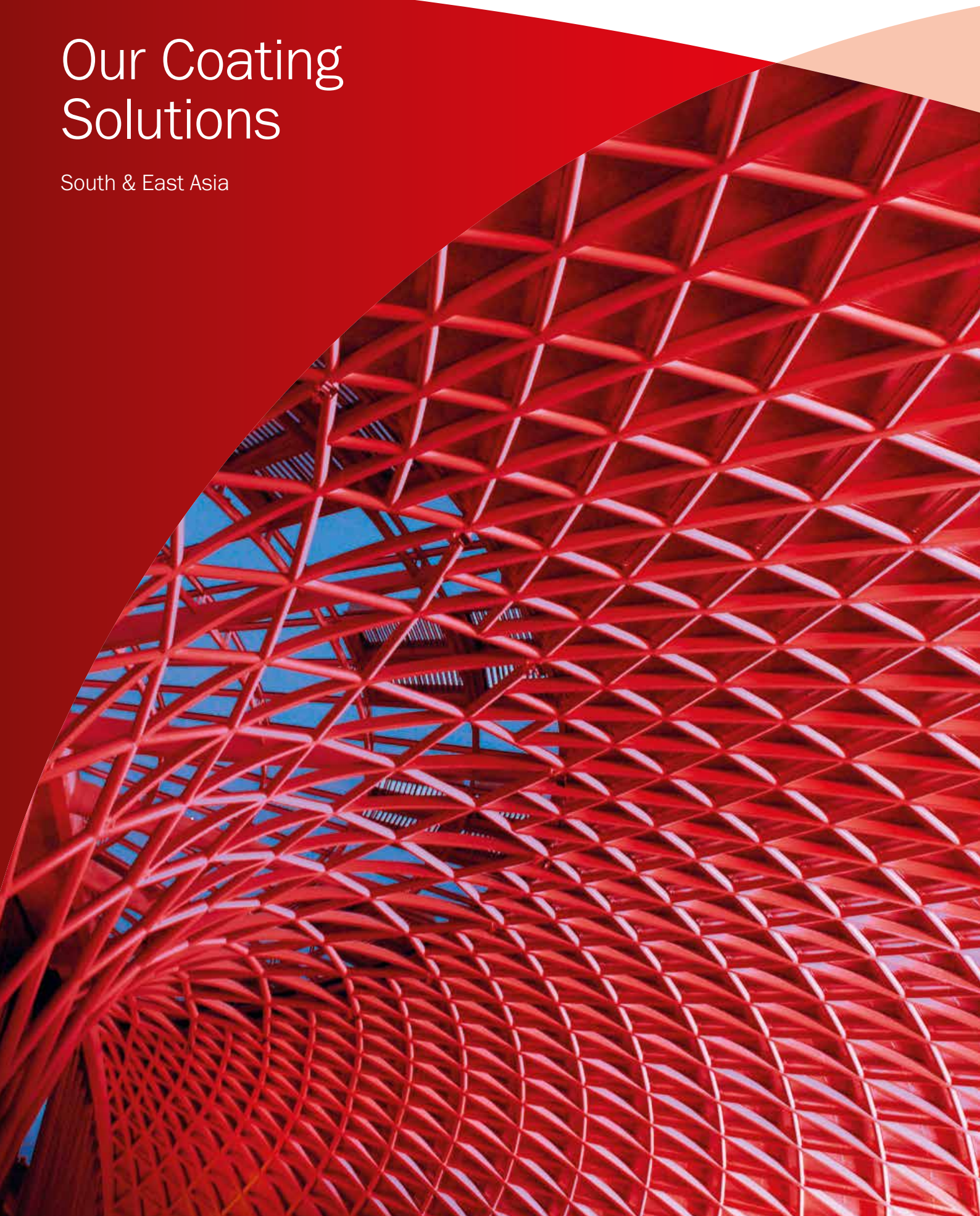
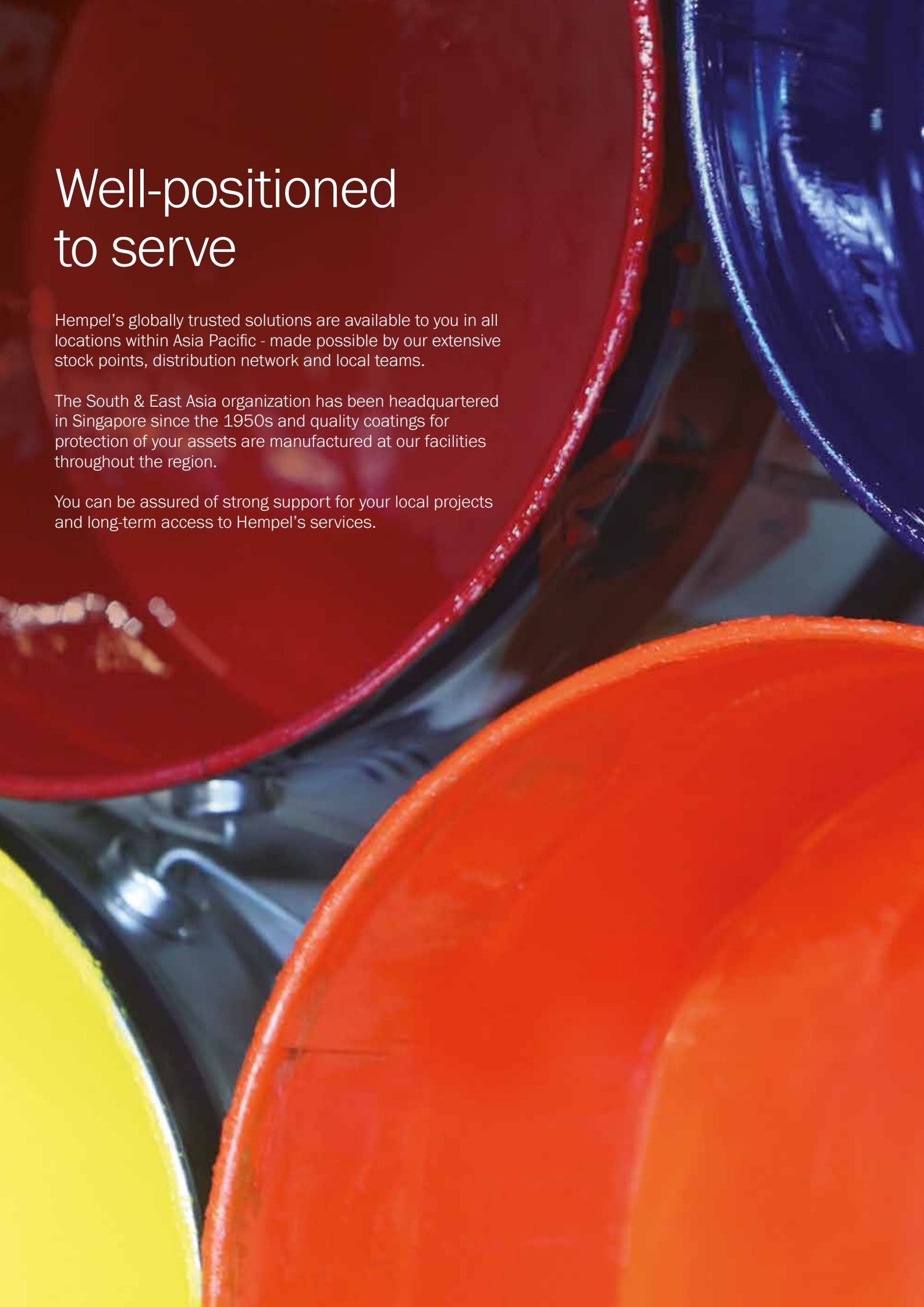
HEMPEL
Trust is earned

Our Coating Solutions

South & East Asia





Well-positioned to serve

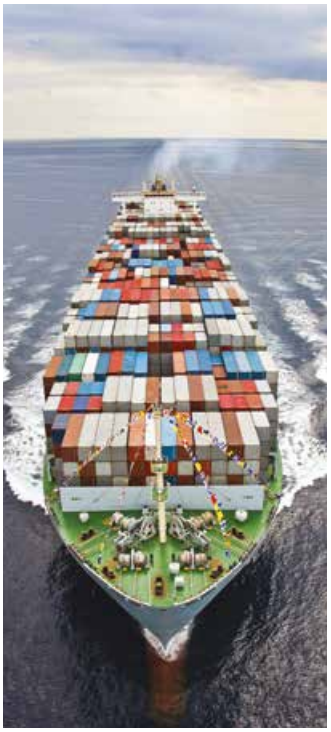
Hempel's globally trusted solutions are available to you in all locations within Asia Pacific - made possible by our extensive stock points, distribution network and local teams.

The South & East Asia organization has been headquartered in Singapore since the 1950s and quality coatings for protection of your assets are manufactured at our facilities throughout the region.

You can be assured of strong support for your local projects and long-term access to Hempel's services.

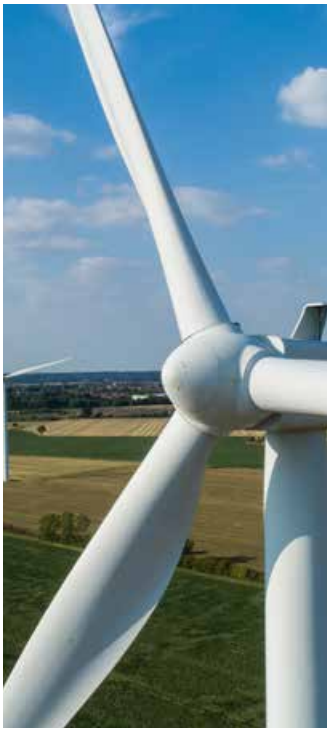
Adding value to every business

At Hempel, we work across a wide range of industries. Our knowledge and expertise are broad, but our goals always remain the same: to provide our customers with proven products and solutions that add real value to their businesses.



Marine

Improving fleet performance and efficiency.
With advanced coatings for every part of a ship, we help our marine customers increase the overall efficiency of their fleet and improve their environmental performance by cutting maintenance costs and helping reduce fuel consumption and emission.

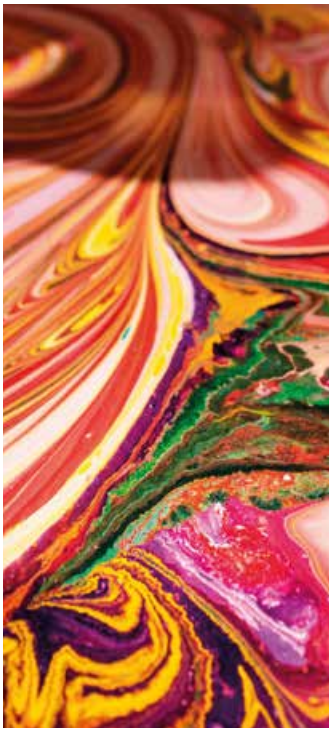


Energy

Providing our customers with protective coatings in the harshest industrial environments.
Our high-performance products protect valuable assets throughout the energy sector. We work in trusted partnerships with customers across downstream oil and gas, chemical and thermal plants, the wind tower industry and emerging technologies such as green hydrogen plants.

Infrastructure

Sustainable coatings give assured long-lasting protection against corrosion and fire.
Sustainability remains a defining pillar of who we are. We continue to satisfy our customers, partners and the market's needs for more sustainable solutions – for example through our Avantguard® anti-corrosion technology, as well as through Green Building schemes and certifications.

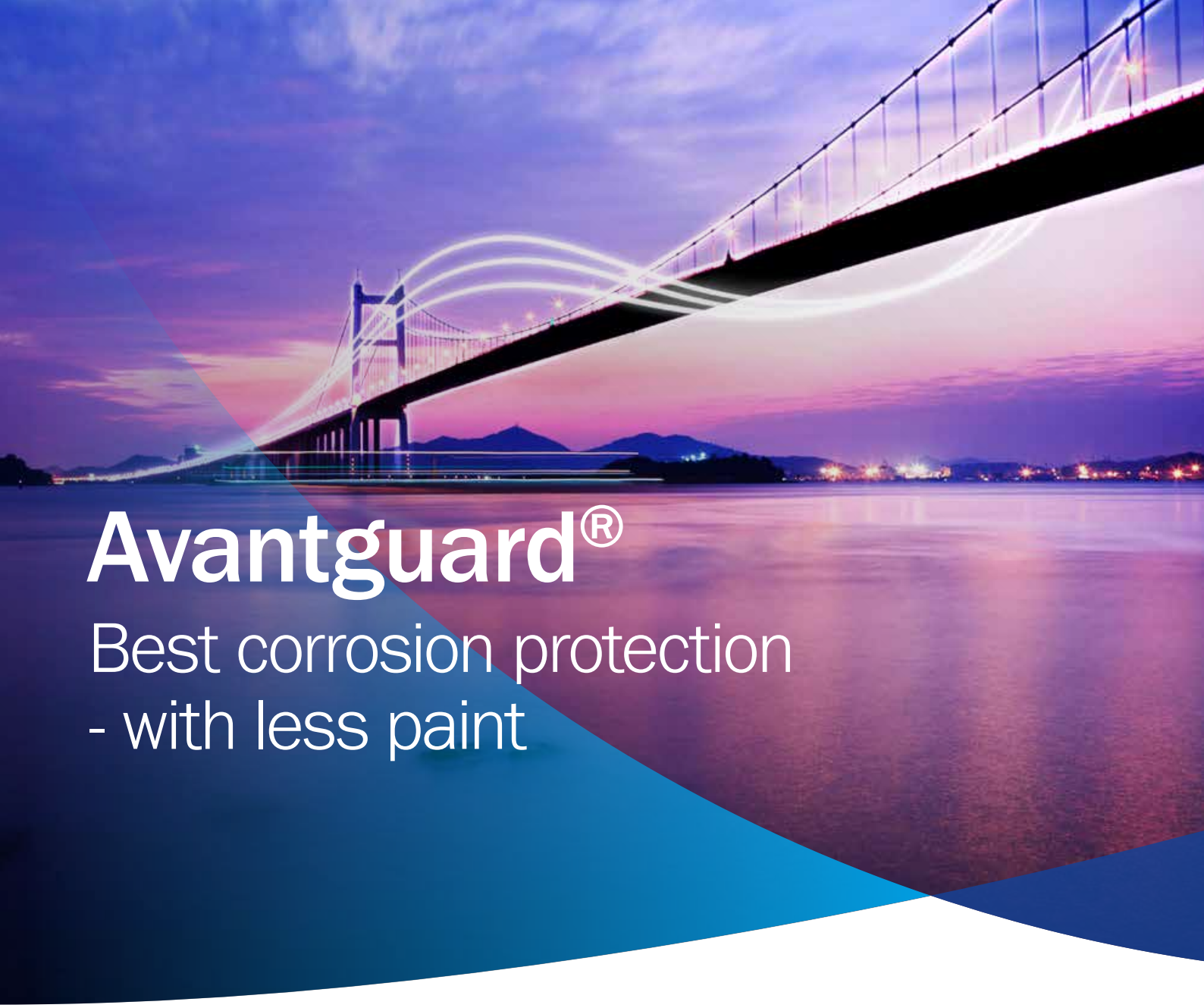


Decorative

Beautifying homes and inspiring consumers through a range of colourful and easy-to-use solutions and services.
We offer a full portfolio of paints and wallpapers for private consumers, retailers and professional painters. Our solutions include premium brands for the home, coating solutions for commercial buildings and private label products for retailers.

A performance partnership

We put our unique coating expertise at the heart of our customers' coating process to improve project efficiency and ensure long-term coatings performance.



Avantguard®

Best corrosion protection - with less paint

Our patented Avantguard zinc primers activate more zinc throughout the coating to give you superior corrosion protection and lower maintenance requirements. Avantguard technology helps your coating system last up to 50% longer and protects your assets regardless of the environment they face.

Give your assets superior corrosion protection. Avantguard 750 complies with NORSOK M-501 and is proven to be fast curing and easy to apply.

- Longer corrosion protection
- Lower maintenance costs
- Reduce application and construction costs
- Improve sustainability

Based on activated zinc technology, our patented Hempadur Avantguard coatings have been proven to deliver superior corrosion protection compared to key competitor zinc rich epoxy primers. This superiority has been independently proven by third party laboratory neutral salt spray tests according to ISO 9227. In this test, steel protected with Avantguard produced a lower evolution of rust creep than the competitors, assessed according to ISO 12944-6, when tested up to 3x the duration for C5 high environments. Avantguard's overcoating interval is a minimum of 33 percent faster than competitor zinc-rich epoxies when comparing product data sheets.

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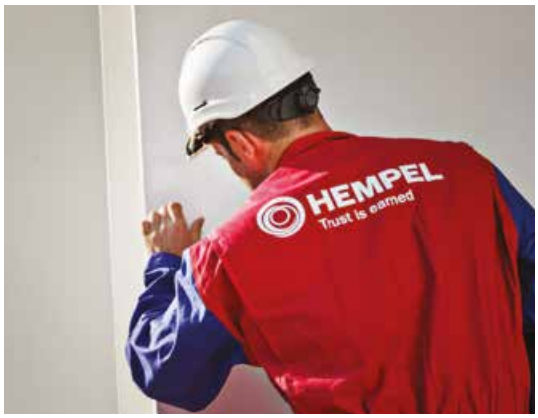

Primers and intermediates (immersion)

Used in coating systems as first layer and mid-coat ensuring adhesion, acting as barrier and having anti-corrosive properties for steel.

	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Epoxy	Hempadur Quattro XO 17870	A high performance universal pure epoxy primer for atmospheric or in-water service, including water ballast tanks to be coated according to IMO-PSPC requirements defined in the IMO Resolution MSC.215(82).	80 ± 2	100 - 250	
	Hempadur Quattro 17634	A high performance universal epoxy primer for atmospheric or in-water service, including water ballast tanks and cargo oil tanks.	72 ± 2	100 - 200	
	Hempadur Multi-Strength 45751/3	A heavy duty pure epoxy coating for areas exposed to abrasion and aggressive corrosive climate such as ramps, ship hulls and holds of bulk carriers. Abrasion Resistant Ice Coating recognized by Lloyds Register.	79 ± 1	125 - 250/ 150 - 300	
	Hempadur Multi-Strength 45703	A high build, aluminium pigmented pure epoxy primer for immersion and splash-zone service.	70 ± 1	150 - 300	
	Hempel's 15ASG	An economical pure epoxy primer for atmospheric or in-water service. Especially suited for tugs and barges.	72 ± 2	100 - 200	
	Hempadur 15570	An low temperature curing epoxy primer that can be applied under humid conditions and to damp steel surfaces. Well suited also as a blast primer in epoxy systems and for mist coat on zinc silicates (GALVOSIL).	54 ± 1	50 - 125	
	Hempadur 15590	A blast primer for heavy duty epoxy systems on submerged and non-submerged areas according to specification.	44 ± 1	30 - 50	
	Hempadur EM 35740	A maintenance and repair primer suited for application even under humid conditions and on marginally prepared surfaces. It is especially recommended for onboard maintenance and spot repair in e.g. water ballast tank, cargo holds and decks.	97 ± 1	150	
	Hempadur Multi-Strength 45540	An abrasion resistant and high-build pure epoxy primer that is recommended for maintenance and repair in severely corrosive environment. Suitable for application under humid conditions and for early water exposure.	84 ± 1	125 - 350	
	Hempaprime Strength 530 45500	Hempaprime Strength 530 is a self-priming, hi-build modified epoxy coating which cures to an abrasion and corrosion resistant coating. Suitable for early water exposure and will continue to cure underwater. The product is available in versions with and without glass flakes.	90 ± 2	175 - 750	
Epoxy GF	Hempadur Multi-Strength 35840	A high build and abrasion resistant coating reinforced with glass flakes for areas subject to a highly corrosive environment. Can be used on pilings, offshore structures, splash zone and other immersed areas. Meets the requirements of NORSOK M-501 system 7A/B and ISO 12944-9:2018 CX/IM4.	98 ± 1	300 - 500/ 500 - 1000	
	Hempadur Multi-Strength 35870	A high build and abrasion resistant coating reinforced with glass flakes for areas subject to a highly corrosive environment. Can be used on splash zones, jetty pilings and working decks. Abrasion Resistant Ice Coating recognized by Lloyds Register.	87 ± 1	350 - 500	
	Hempaprime Strength 530 45500	Hempaprime Strength 530 is a self-priming, hi-build modified epoxy coating which cures to an abrasion and corrosion resistant coating. Suitable for early water exposure and will continue to cure underwater. The product is available in versions with and without glass flakes.	90 ± 2	175 - 750	
Chloro rubber	Hempatex Hi-Build 46330	A chlorinated rubber coating that can be used as a primer, intermediate or finishing coat for steel structures in moderately to severely corrosive environment, including permanently submerged surfaces.	42 ± 1	60 - 100	

Primers and intermediates (atmospheric)

	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Zinc silicate	Hempel's Galvosil 15700	An inorganic zinc-rich silicate primer that can be used as a single, complete coating for long-term protection of steel exposed to moderately to severely corrosive environment and abrasion. Also suitable as tank lining. In compliance with SSPC-Paint 20, type 1, level 1.	64 ± 1	50 - 80	
	Hempel's Galvosil 15780	An inorganic zinc silicate primer for long-term protection of steel exposed to moderately to severely corrosive environment. In compliance with SSPC-Paint 20, type 1, level 2.	62 ± 1	50 - 80	
	Hempel's Galvosil 15790	An inorganic zinc silicate primer for long-term protection of steel exposed to moderately to severely corrosive environment. In compliance with SSPC-Paint 20, type 1, level 3.	64 ± 1	50 - 80	
Activated zinc epoxy	Hempadur Avantguard 860	An activated zinc-rich epoxy primer in compliance with the requirements in ISO 12944 Part 5, 2018 and Level 1, type II in SSPC Paint 20, 2002. Recommended as an alternative to inorganic zinc silicates where long-term protection and fast handling is required.	66 ± 2	50 - 100	
	Hempadur Avantguard 770	An activated zinc-rich epoxy primer in compliance with the requirements in ISO 12944 Part 5, 2018 and Level 2, type II in SSPC Paint 20, 2002. Particularly suitable for use in maintenance and repair on manually prepared surfaces.	66 ± 2	60 - 90	
	Hempadur Avantguard 750	An activated zinc-rich epoxy primer in compliance with the requirements in ISO 12944 Part 5, 2007, and Level 2, type II in SSPC Paint 20, 2002.	65 ± 2	50 - 100	
	Hempadur Avantguard 550	An activated zinc-rich epoxy primer in compliance with the requirements for Level 3, type II in SSPC Paint 20, 2002.	65 ± 2	50 - 100	
Zinc epoxy	Hempadur Zinc 17420	An economical zinc epoxy primer for steel in low to medium corrosive environment. May be applied on zinc shop/primed steel, where damaged spots, welds etc. have been power tool cleaned.	66 ± 1	40 - 75	
	Hempel's Zinc Primer 16490	A one-component, high molecular weight, quick drying, phenoxy coating with a high content of zinc. Recommended for repair of Galvosil and other zinc rich coatings, as well as the repair of galvanized steel.	33 ± 2	25 - 35	
Epoxy	Hempaprime Multi 500	A high performance, surface tolerant epoxy for that allows for fast handling and short over-coating times. Serves as a primer and intermediate coating for mild to severely corrosive environments, and cures to a hard and tough coating.	85 ± 2	100 - 250	S++ MTT
	Hempadur Mastic 45880/1	A surface tolerant epoxy that serves as a primer and intermediate coating for mild to moderately corrosive environments.	80 ± 1	100 - 200	MTT
	Hempadur Mastic 47550	An economical surface tolerant epoxy that serves as a primer and intermediate coating for mild to moderately corrosive environments.	81 ± 1	125 - 200	
	Hempadur Fast Dry 15560	A quick drying epoxy primer or intermediate coat for especially fast recoatable in-shop applications. Contains zinc phosphate for better corrosion protection.	62 ± 1	75 - 150	
	Hempadur Fast Dry 17410	An epoxy primer which combines high volume solids with a short drying and overcoating time for fast handling of new steel constructions. Contains zinc phosphate for better corrosion protection.	74 ± 1	70 - 125	
	Hempaprime Alpha 590	A high solids, high build epoxy coating. It forms a hard and tough coating, has good wetting properties and cures at low temperature. Recommended for atmospheric service as a primer or an intermediate in coating systems for mild to moderate corrosive environment. The product can also be used as a finish coat on interior surfaces.	80 ± 2	100 - 150	S++
	Hempaprime Core 500	A high solids, low VOC epoxy coating with relatively easy viscosity for easy application. Recommended as a self-primed, surface tolerant paint system or as an intermediate in heavy duty paint systems where low VOC and high film build are required.	81 ± 2	80 - 200	
	Hempaprime Core 670	A self-priming, high-build, pure epoxy providing application flexibility, and excellent abrasion and corrosion resistance. Recommended as a high-build primer, intermediate and/or self-primed finish for high corrosion performance, heavy-duty coating systems.	72 ± 2	100 - 200	
	Hempadur 4774D	A self-priming, high-build, pure epoxy paint providing both abrasion and corrosion resistance. Recommended as a high-build primer, intermediate and/or self-primed finish for high performance, heavy duty coating systems. The product is fast curing and therefore suitable when high productivity is key - such as in the Wind segment.	76 ± 2	100 - 250	
	Hempel's Sealer 05990	A low viscosity, two pack epoxy varnish with good penetration properties. For saturation of well cleaned concrete surfaces before application of pigmented paints, as well as the sealing of thermally sprayed metallic coatings.	29 ± 2	30	Clear
	Hempadur HB Primer 17300	Hempadur HB Primer 17300 is a two component, polyamide cured epoxy primer, containing zinc phosphate as corrosion inhibiting pigment.	55 ± 1	40 - 125	
Acrylic	Hempel's Hi-Build 46375	A physical drying high build paint with optimum colour retention, based on acrylic resin and chlorinated plasticizer. Resistant to salt water, splashes of aliphatic hydrocarbons, animal and vegetable oils.	39 ± 2	85	

MTT Available in Multi-Tint

S++ A wide selection of shades is available

	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Epoxy	Hempadur OBM 47150	An epoxy coating for general on-board maintenance and repair work, e.g. decks, superstructures, topsides, hatch covers and in cargo holds of ships. Optimised for brush and roller application.	55 ± 1	50 - 125	
	Hempadur 15553	An epoxy primer that cures to a flexible, well adhering coating with good abrasion and impact resistance. Recommended for hot dipped galvanized, aluminium and stainless steel surfaces in moderately to severely corrosive environments. Contains zinc phosphate for better corrosion protection.	55 ± 1	50 - 80	
	Hempadur Primer 1530Y	A primer or intermediate coat in flow coating systems used in transformers and radiators. Contains zinc phosphate for better corrosion protection.	65 ± 2	30 - 75	
	Hempadur Spray-Guard 35490	A hard and tough solvent-free epoxy coating containing heavy duty anti-skid aggregate. Suited for steel and concrete exposed to severe corrosive conditions and/or impact, such as in splash zones and on decks.	100	min. 2500	
Epoxy ester	Hempel's Uni-Primer 13140	A quick-drying primer with rust inhibiting pigments for both acrylic and alkyd systems in mild to medium corrosive atmospheric environment. A versatile primer that provides the possibility of reducing the number of primers for maintenance.	42 ± 1	25 - 80	
Acrylic	Hempatex Hi-Build 46410	A primer, intermediate or finishing coat in acrylic systems for moderately corrosive environment. Also as a selfprimed repair and touch-up coating where a fast and economic repair job is desired. Contains zinc phosphate for better corrosion protection.	42 ± 1	50 - 125	S++ MTT
Alkyd	Hempalin Primer 12050	A relatively quick-drying alkyd primer for protection of steel in mild to medium atmospheric corrosive environments. Contains zinc phosphate for better corrosion protection.	49 ± 1	30 - 50	
	Hempel's Fast Dry Primer 120SG	An economical quick-dry alkyd primer or intermediate for protection of steel in mild to medium atmospheric corrosive environments.	51 ± 1	40 - 80	
Bitumen	Hempinol 10220	A high-build, bituminous coating for economical short to medium-term anticorrosive protection of interior and exterior steelwork not exposed to direct sunlight.	53 ± 1	125 - 200	

Shopprimers

Thin film coatings for short to medium-term protection of abrasive blast-cleaned steel plates and other structural steel during the storage, fabrication, and construction periods.

	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Zinc silicate	Hempel's Shopprimer ZS 15890	An inorganic zinc shopprimer for short to medium-term protection of abrasive blast cleaned steel plates and other structural steel. Designed for automatic spray application. Especially suited, where welding (MIG/MAG) and gas-cutting properties are of importance.	28 ± 1	10 - 25	
	Hempel's Shopprimer ZS 15820	An inorganic zinc shopprimer for short-term protection (up to 6 months) of abrasive blast cleaned steel plates and other structural steel. Designed for automatic spray application. Especially suited, where welding (MIG/MAG) and gas-cutting properties are of importance.	28 ± 1	10 - 25	
Epoxy	Hempel's Shopprimer E 15275	An epoxy shopprimer for short-term (up to 6 months) protection of blast cleaned steel plate and other structural steel. Designed for automatic spray application.	26 ± 1	15 - 25	

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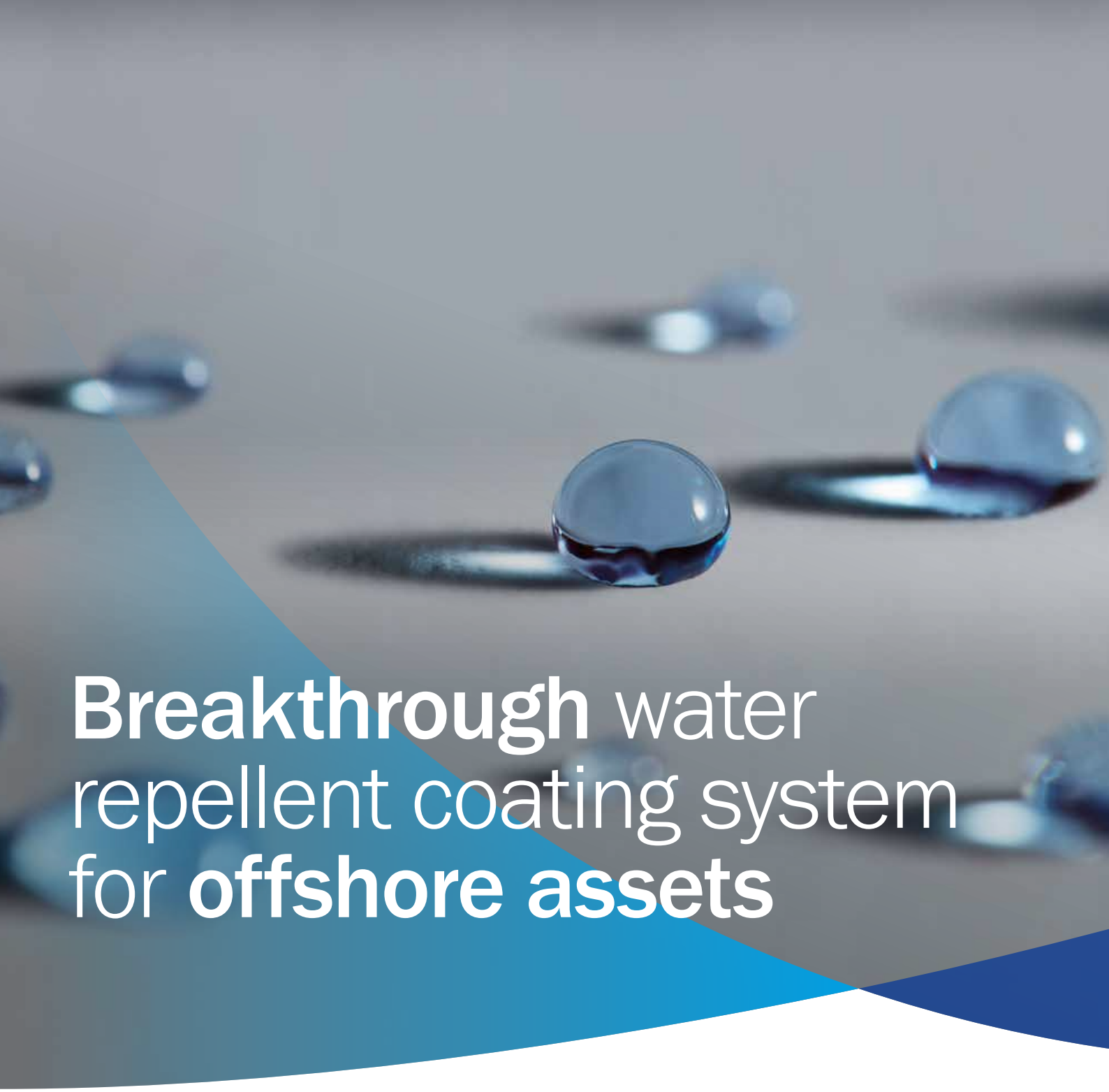

Breakthrough water repellent coating system for **offshore assets**

Hempatop Repel 800 our advanced water repellent coating that improves productivity, extends durability and reduces costs.

Hempatop Repel 800 together with Hempadur Avantguard® 770, our market leading activated zinc primer, combine to create a unique 2-coat system that combats early coating failure.

- Reduce application time by up to 30 per cent
- Extend time between maintenance schedules
- Longer lasting performance against corrosion

Proven protection for your offshore assets that saves you time and money.

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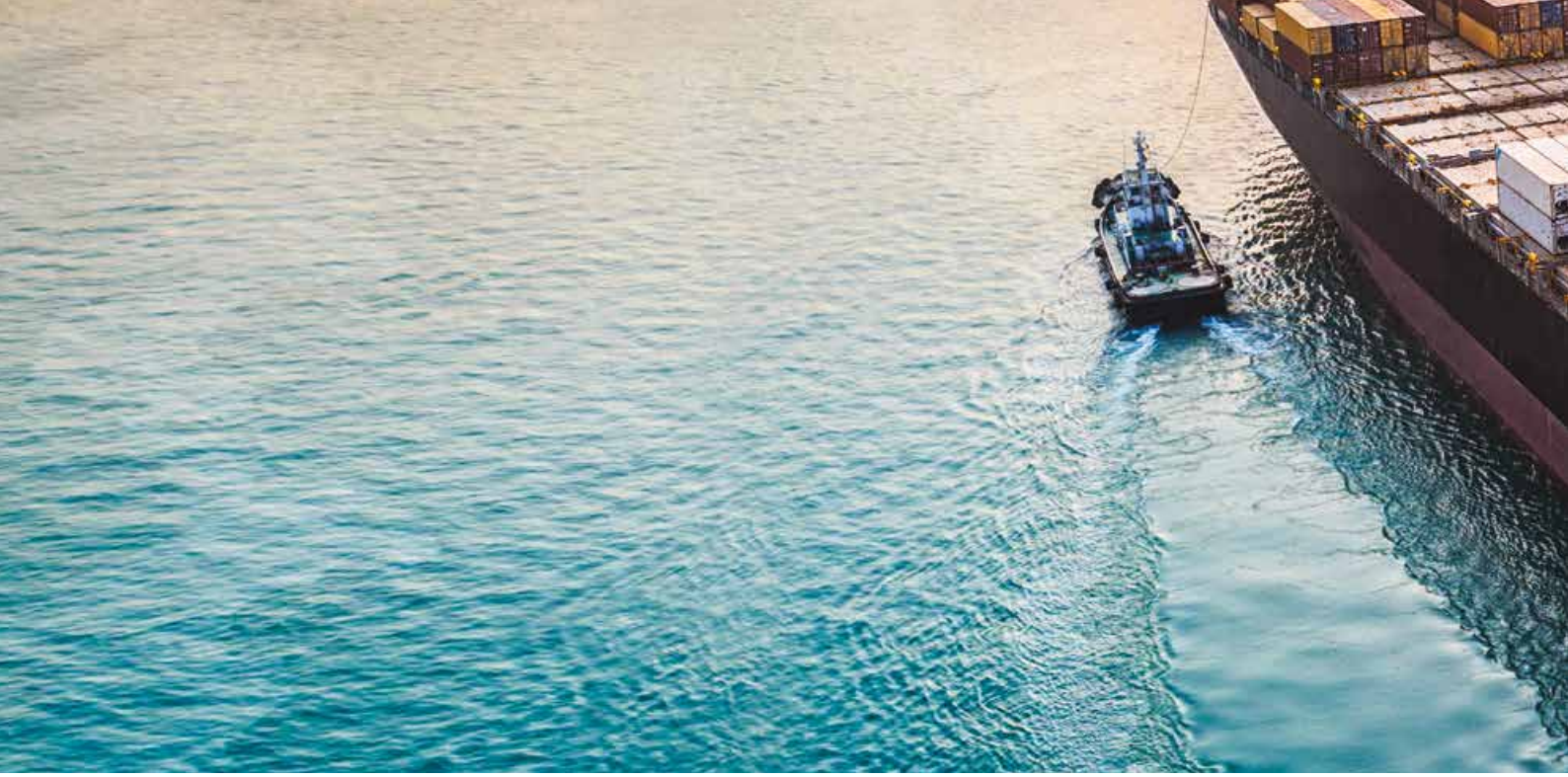

Topcoats

Top layer coatings that provide desired finishing properties such as colour, gloss, texture and more such as resistance to UV, impact, abrasion and corrosion.

	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Water repellent	Hempatop Repel 800	An advanced water repellent top coat that offers exceptional anti-corrosion protection, robust mechanical properties, and ease of application when used as a 2-coat system with Hempadur Avantguard 770 in demanding C5 and CX environments (ISO 12944-2).	60	175 - 250	
Polysiloxane	Hempaxane Light 55030	A glossy decorative and protective finishing coat for structures in severely corrosive atmospheric environment, with excellent gloss and colour retention. Isocyanate-free.	82 ± 1	50 - 80	S++
Polyurethane	Hempathane Polyenamel 55102	A hi-gloss decorative topcoat in severely corrosive atmospheric environments, with good gloss and colour retention.	52 ± 1	30 - 40	S++
	Hempathane HS 55610	A glossy finishing coat for protection of structural steel in severely corrosive environment, with good gloss and colour retention. May be specified as a one coat “Direct To Metal” system in environments classified as C2 and C3. Contains zinc phosphate.	67 ± 1	50 - 125	S++ MTT
	Hempathane Topcoat 55210	A glossy finishing coat for protection of structural steel in severely corrosive atmospheric environment, with good gloss and colour retention.	51 ± 1	40 - 75	S++ MTT
	Hempathane Topcoat 55213	A semi-gloss finishing coat for protection of structural steel in severely corrosive atmospheric environment, with good gloss and colour retention.	49 ± 1	40 - 80	S++
	Hempathane Fast Dry 55750	A high-build solution for protecting steel structures, the product may be specified as a one-coat direct-to-metal system in corrosive environments classified as C2 and C3. Contains zinc phosphate.	65 ± 2	50 - 160	S++
	Hempathane HS 55613	A two-component semi-gloss acrylic polyurethane topcoat, recommended as a high-build finishing coat for protection of structural steel in corrosive environment. May be specified as a one coat ""Direct To Metal"" system in environments classified as C2 and C3.	57 ± 2	50 - 125	S++ MTT
	Hempathane HS 5561B	A glossy polyurethane topcoat with good gloss and colour retention. Recommended as a finishing coat for protection of structural steel in corrosive environments.	61 ± 2	50 - 80	S++
	Hempatop Finish 235	A glossy polyurethane topcoat with good gloss and colour retention. Recommended as a finishing coat for protection of structural steel in mild to medium corrosive atmospheric environments, where paint performance and colour retention are required.	51 ± 2	40 - 60	
	Hempatop Finish 600	A VOC-compliant, high-build finishing coat, with durable gloss for protection of steelworks in mild to severely corrosive environments. Recommended for application on correctly prepared primed surfaces.	75 ± 2	50 - 100	S++

	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Acrylic	Hempel's Pro Acrylic 55883	A glossy finishing coat for protection of structural steel in severely corrosive environment, with good gloss and colour retention. Isocyanate-free.	54 ± 1	50 - 100	S++
	Hempatex Enamel 56360	A glossy finishing coat for interior and exterior coating in moderately to severely corrosive environment, with optimum gloss and colour retention.	32 ± 1	35	S++ MTT
	Hempatex Hi-Build 46410	A flat finishing coat, with good colour retention. Also see Primers and Intermediates.	42 ± 1	50 - 125	S++ MTT
	Hempel's Hi-Vee 56540	A day-light reflecting acrylic paint with fluorescent pigments which give intense colour impression and high visibility (HI-VEE). For life-saving equipment and for warning purposes such as protruding or moving objects, etc.	44 ± 1	40	
Epoxy	Hempadur Enamel 55340	A glossy topcoat in epoxy paint systems on structural steel, in moderately to severely corrosive environment.	44 ± 1	30 - 40	S++
	Hempaprime Multi 500	A semi-gloss finishing coat heavy-duty coating systems. Also see Primers and Intermediates.	85 ± 2	100 - 225	S++ MTT
Alkyd	Hempalin Enamel 52140	A glossy general purpose finishing coat in alkyd systems on exterior and interior steel and woodwork in mildly to moderately corrosive environment. As a finishing coat in engine rooms including tank tops, main engines and auxiliary machinery.	46 ± 1	30 - 40	S++ MTT
	Hempel's HB DTM	A high-build, high solids modified alkyd based single pack monocoat. Recommended as a quick drying, general purpose monocoat in moderately corrosive environments.	66 ± 2	75 - 125	S++
Alkyd varnish	Hempel's Marine Varnish 02220	A quick-drying clear urethane alkyd varnish that can be applied on new wood as well as over previously varnished wood, interior and exterior, above the waterline.	46 ± 1	25	clear

MTT Available in Multi-Tint S++ A wide selection of shades is available

Wind Blades

	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Polyaspartic	Hempablade Edge 171	A fast cure top-layer designed to provide exceptional erosion protection of the leading edge on wind turbine rotor blades. It can be applied either during the blade factory coating application process or during field service & maintenance situations.	98 ± 2	125 - 200	

Hempaguard MaX

The new peak for efficiency in dry dock and at sea

Our new, most advanced hull coating system is applied in just three coats: Hempaguard X8 with patented Actiguard® technology for extraordinary antifouling performance, Nexus II and Hempaprime Immerse 900 for less time in the dry dock. Together with SHAPE (Systems for Hull and Propeller Efficiency), it offers outstanding fuel efficiency at sea.

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Fouling control

Hull coatings for ships and vessels to prevent accumulation of marine fouling organisms that create drag; minimizing speed loss, and providing significant fuel saving potential while maintaining operational flexibility.

	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Actiguard® silicone-hydrogel	Hempaguard X8	The most advanced fouling defence coating with the highest fuel saving potential. For all vessels, with no limitation on service speeds, including slow/ultraslow steaming vessels and FPSO's, operating with long service intervals (up to 90 months) and/or very long idle periods (up to 120 days). To be specified as part of the Hempaguard MaX system.	80 ± 1	200	
	Hempaguard X7	An advanced fouling defence coating which utilises the added effect of advanced hydrogel silicone and an efficient fouling preventing biocide. For all vessels, with no limitation on service speeds, including slow/ultraslow steaming vessels and FPSO's, operating with long service intervals (up to 90 months) and/or very long idle periods (up to 120 days).	70 ± 1	150	
	Hempaguard X5	An advanced fouling defence coating which utilises the added effect of advanced hydrogel silicone and an efficient fouling preventing biocide. For vessels operating with service speeds above 8 knots and activity higher than 50%, with service intervals up to 36 months and/or long idle periods (up to 60 days).	68 ± 1	150	
Silicone-hydrogel	Hempasil X3+	A fouling release coating based on silicone hydrogel. For vessels with service speeds above 8 knots. The product can also be used for propellers. Also ideal for use in power plant water inlets on pipes and grates to prevent biofouling.	71 ± 1	150	
Nano acrylate technology	Hempel's Antifouling Globic 9500	The highest performing high solids self-polishing antifouling. Smart biocide combination to maximise antifouling performance against the broadest range of fouling organisms. Improved resistance against discolouration. For both newbuildings and maintenance of underwater hull and boottop for up to 90 months drydocking interval.	58 ± 1	80 - 150	
	Hempel's Antifouling Globic 9000	A premium high solids self-polishing antifouling. Combines best possible binder and biocide package for premium performance in different trading speeds and outperforms other SPC particularly in slow steaming. For both newbuildings and maintenance of underwater hull and boottop for up to 90 months drydocking interval.	58 ± 1	80 - 150	
	Hempel's Antifouling Globic 8000	A top tier high solids self-polish antifouling. Especially good for slower steaming and frequent idle days due to the strong biocide package with 3 biocides, very thin leach-layer and fine control of polishing. For both newbuildings and maintenance of underwater hull and boottop for up to 90 months drydocking interval.	58 ± 1	80 - 150	
	Hempel's Antifouling Globic 7000	A top tier high solids self-polish antifouling based. Especially good for slower steaming and frequent idle days due to the strong biocide package with 3 biocides, very thin leach-layer and fine control of polishing. For both newbuildings and maintenance of underwater hull and boottop for up to 60 months drydocking interval.	58 ± 1	80 - 150	
Silyl-acrylate	Hempel's Antifouling Dynamic 9000	A premium high solids self-polishing antifouling. A boosted concentration of high grade biocides to prevent fouling under aggressive trading conditions and gives strong fuel savings potential. For both newbuildings and maintenance of underwater hull and boottop for up to 90 months drydocking interval.	58 ± 1	80 - 175	
	Hempel's Antifouling Dynamic 8000	A top tier high solids self-polishing antifouling. A very thin leach layer combined with a strong biocide package with 3 biocides ensures optimal performance particularly in faster sailing ships. For both newbuildings and maintenance of underwater hull and boottop for up to 90 months drydocking interval.	58 ± 1	80 - 175	
Zinc carboxylate	Hempel's Antifouling Oceanic+	A mid-tier high solids self-polishing antifouling. Delivers strong predictable antifouling protection through a very stable self-polishing mechanism and a strong 3 component biocide package. For both newbuildings and maintenance of underwater hull and boottop for up to 60 months drydocking interval.	64 ± 1	80 - 150	

	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Acrylate	Hempel's Antifouling Atlantic+	A mid-tier powerful high solids self-polishing antifouling suitable for all vessel types at all speeds and in all trading conditions. For both newbuildings and maintenance of underwater hull and boottop for up to 60 months drydocking interval.	64 ± 1	80 - 175	
	Hempel's Antifouling Olympic+	A high solids self-polishing antifouling. For both newbuildings and maintenance of underwater hull and boottop for up to 36 months drydocking interval.	63 ± 1	80 - 175	
Rosin	Hempel's Antifouling Basic 71950	A high solids antifouling based on rosin combined with a good biocide package for predictable antifouling protection. For both newbuildings and maintenance of underwater hull and boottop for up to 36 months drydocking interval.	60 ± 1	80 - 175	
	Hempel's Antifouling Classic 76110	An economical antifouling for barges and tugboats.	56 ± 1	50	

Marine cargo hold

Coatings used to protect the steel from mechanical impact, abrasion and chemical attack during loading, transportation and unloading of dry cargoes.

	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Epoxy	Hempadur Ultra-Strength Fibre 47510	A heavy duty pure epoxy paint coating for areas exposed to abrasion and aggressive corrosive climate such as cargo holds and hatch coamings of bulk carriers. Reinforced with patented FIBRE technology to withstand the harsh conditions of cargo holds.	76 ± 1	125 - 150	
	Hempadur Impact 47800	A dedicated heavy duty pure epoxy coating for cargo holds and hatch coamings of bulk carriers.	76 ± 1	100 - 150	
	Hempadur Easy 47700	A heavy duty pure epoxy coating or intermediate coat for immersed and non-immersed areas exposed to abrasion and corrosive climate such as cargo holds, ship hulls, working decks or steel structures where low VOC, fast drying and high film build are required.	77 ± 1	125 – 200	

What a difference a day makes

We've designed our Hempaline Defend Tank Linings to enable you to get your assets back up and running in just 24 hours. Fast-curing and easy to apply, choose Hempaline Defend coatings to reduce your downtime and extend your maintenance intervals.

- Engineered for aggressive environments
- Excellent protection against extreme pH swings, high abrasion and elevated temperatures
- Quick delivery and expert on site support

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Tank linings (marine and protective)

Coatings used as internal protection from chemical attack, abrasion and temperature influence on steel storage tanks, mobile tanks, process vessels and FGD (Flue-Gas Desulphurization). In addition, marine cargo tank linings are engineered for frequent cargo switching, and are compliant with the FDA regulation for contact with foodstuff.

	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Vinyl ester GF	Hempaline Defend 740	A high performance novolac vinyl ester glass flake lining for steel and concrete chemical processing, storage tanks and vessels. Excellent resistance to organic and inorganic acid solutions, high temperature and abrasion conditions. Well suited also for flue gas desulphurisation (FGD) systems and other extreme chemical environments.	100	400 - 1000	
	Hempaline Defend 500/560	A high performance vinyl ester glass flake lining for steel and concrete chemical processing, storage tanks and vessels. Excellent resistance to organic and inorganic acid solutions, and chemical environment found in seawater flue gas desulphurisation (FDG) systems. Available in sprayable and trowelable versions.	100	400 - 1000/ 750 - 1500	
	Hempaline Prepare 120	A vinyl ester primer. This material exhibits outstanding adhesion to steel and concrete as well as to the subsequent topcoat of Hempaline vinyl ester.	99 ± 1	75 - 200	Clear
Phenolic epoxy	Hempaline Defend 630	A high performance solvent-free phenolic epoxy (novolac) tank lining for the storage of a wide range of petrochemicals including crude oil up to 120 °C, MTBE, produced water, alcohols, aromatic and aliphatic solvents, aviation fuels, gasoline blends, select acidic and caustic chemicals.	100	300 - 1000	
	Hempadur 85671	A phenolic epoxy (novolac) interior lining in tanks, pipelines, etc. for hot water, brine, crude oil and a variety of chemicals. Also suited as an external coating for the protection of insulated (CUI) and uninsulated process pipework and vessels including cryogenic conditions.	68 ± 1	100 - 160	
	Hempadur 15500	A phenolic epoxy (novolac) internal lining for vessel´s cargo tanks and storage tanks. Resistant to most of the cargoes carried in chemical tankers and allows a close sequence of cargoes. Fulfils FDA requirements for contact with foodstuffs. Optimised for Marine use.	68 ± 1	100 - 150	
	Hempaline Defend 640 Cure 72	A solvent free high performance glass flake novolac epoxy lining with excellent chemical resistance to a wide range of chemicals and solvents including (but not limited to) crude oil up to 120 °C [250 °F], MTBE, produced water, alcohols, aromatic and aliphatic solvents, aviation fuels, gasoline blends, select acidic and caustic chemicals. The product is reinforced with a glass flake filler which reduces permeability while enhancing the lining's mechanical properties and chemical resistance, making it a preferred choice for areas subject to impact and abrasion.	100	300 - 750	
	Hempaline Defend 630 Cure 72	Hempaline Defend 630 is a solvent free high-performance epoxy novolac lining with excellent chemical resistance to a wide range of chemicals and solvents. Hempaline Defend 630 may be applied as a one or two coat scheme, and as part of a hand lay or spray applied glass fibre reinforced system. Hempaline Defend 630 is available in a standard grade (Cure 72) and in a fast-return-to-service grade (Cure24). Both offer the same high performance.	100	300 - 750	
	Hempaline Prepare 130	An epoxy novolac holding primer with excellent adhesion and chemical resistance to a broad range of chemicals. Optically Activated Pigment Shade 11153 contains an optically active pigment to enhance visual inspection by increasing the contrast of irregularities, coverage and defects.	71 ± 2	50 - 75	
Epoxy	Hempaline Defend 400	A high performance solvent-free epoxy tank lining with excellent chemical resistance to crude oil up to 60 °C, aromatic and aliphatic solvents, aviation fuels and gasoline.	100	300 - 1000	
	Hempadur 15600	A pure epoxy lining for cargo oil tanks of crude oil tankers to be coated according to IMO-PSPC requirements. Also suitable as lining for a wide range of cargo, including grey/ black water, brine, drilling mud, fish (RSW) tanks etc.	77 ± 2	100 - 200	
	Hempadur 15460	An epoxy tank lining with resistance against a wide range of chemicals. Also suitable as lining for grey/black water, brine, drilling mud, fish (RSW) tanks etc. Optimised for Marine use.	66 ± 1	100 - 160	
	Hempadur 35565	As a solvent-free epoxy lining in potable water tanks and pipelines. WRAS approved and NSF certified. Benzyl alcohol free.	100	200 - 400	
	Hempaline Prepare 110	A high performance epoxy concrete sealer which exhibits outstanding adhesion to concrete as well as to the subsequent topcoat of Hempaline epoxies.	100	75 - 200	Clear

Corrosion-under-insulation and hot surface

Pipe coatings protect supply lines from corrosion on the outside and inside of steel and ductile iron pipes. They are also used to improve gas flow efficiency in gas pipelines. Coatings for hot surfaces offer long-term protection of hot pipelines (including corrosion-under-insulation), exhaust pipes, smoke stacks and other hot surfaces.

	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Epoxy	Hempel's HS Gas Pipe Coating 87831	A one-coat system for pipeline internal lining. The coating is designed to reduce drag resistance in gas pipes carrying dry, sweet gas by making the pipe walls smoother. Formulated according to the requirements in AMERICAN PETROLEUM INSTITUTE'S STANDARD RP 5L2.	82 ± 1	70 - 120	
	Hempaprime CUI 275 17530	A fast drying, alkylamine cured epoxy paint. It provides long lasting barrier protection in coating systems for severe corrosive environments, including high temperature and wet conditions found beneath thermal insulation. Recommended across a wide temperature range where corrosion under insulation (CUI) typically occurs and also where thermal cycling is present. The product significantly reduces the risk of cracking when applied at high DFTs compared to traditional epoxy phenolic coatings.	66 ± 2	100 - 225	
Inorganic	Versiline CUI 56990	A single component inorganic coating specially developed to prevent corrosion under insulation (CUI). Excellent resistance under thermal shock/cycling in dry or dry/wet service. Service temperature from -196 °C to 650 °C.	74 ± 1	150	
Silicone	Hempel's Silicone Aluminium 56914	A heat resistant aluminium pigmented polysiloxane paint for long-term protection of hot pipelines, exhaust pipes, smoke stacks and other hot surfaces. Max. exposure 600 °C	43 ± 1	20 - 40	
	Hempel's Silicone Topcoat 56900	A heat resistant polysiloxane paint for long-term protection of hot pipelines, exhaust pipes, smoke stacks and other hot surfaces. Max. exposure 400 °C.	54 ± 1	25 - 50	
	Hempel's Silicone Acrylic 56940	A heat resistant acrylic modified polysiloxane paint for long-term protection of hot pipelines, exhaust pipes, smoke stacks and other hot surfaces up to 200 °C. Resists short time exposure up to 300 °C.	29 ± 1	25 - 50	
Aluminium	Hempel's Silvium 51570	A general purpose aluminium paint for protection of hot pipelines, exhaust pipes, smoke stacks and other hot surfaces up to 200 °C. Resists short time exposure up to 250 °C. As a finishing coat where an aluminium surface or light reflection is desired.	38 ± 1	25	
Insulation coating	Hempatherm IC 175	Hempatherm IC 175 is a thick film waterborne insulation coating. Based on aerogel technology and a special acrylic resin blend, the product offers best-in-class thermal insulation properties suitable for a wide range of applications. Hempatherm IC 175 cures to a hydrophobic layer that is able to resist water retention and thereby maintains reliable and consistent thermal insulation performance over its service life. The coating forms a seamless and flexible layer that is able to withstand thermal cycling and prevents corrosion under insulation (CUI). The high film build capability allows for a thick layer to be completed efficiently in lesser number of coats.	67 ± 2	3000 - 5000	
	Hempatherm IC 170	Hempatherm IC 170 is an aerogel containing waterborne acrylic insulation coating. Based on aerogel technology and a special acrylic resin blend, the product offers best-in-class thermal diffusivity among insulation coatings for personnel protection/ Safe Touch applications.	76 ± 2	700 - 2000	

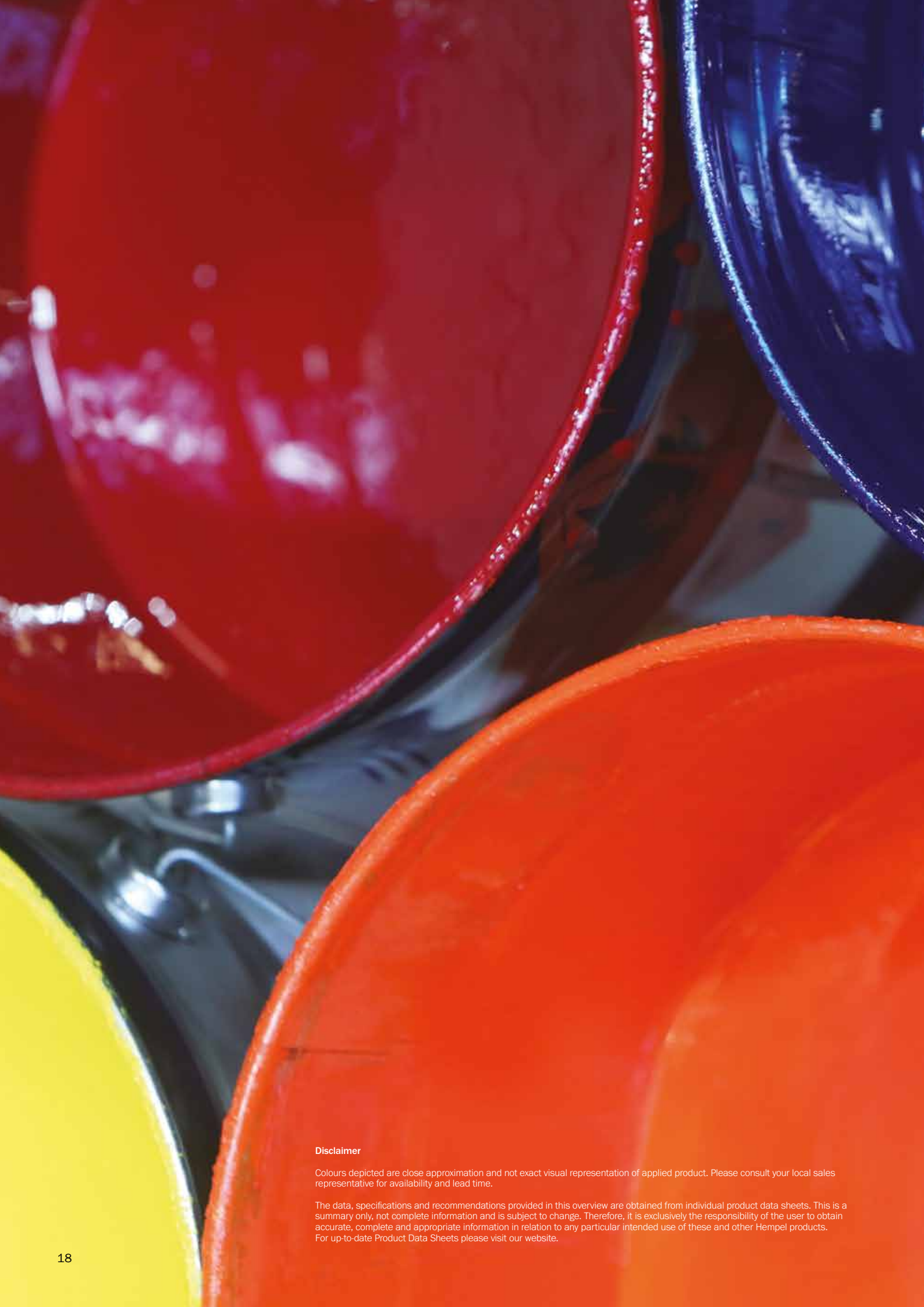
Fire protection (cellulosic intumescent)

Passive Fire Protection (PFP) coatings that prevent early structural failure in the event of a cellulosic fire, safeguarding the people, equipment and asset or providing adequate time to escape.

	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Acrylic	Hempafire Optima 500	A water-based cellulosic intumescent coating for protection duration of up to 180 mins (BS476-2). For structural steel in interior conditions, up to C3 conditions (ISO 12944-2). Optimised for 120 mins protection duration.	70 ± 3	Please consult local sales	
	Hempacore One 43600	A solvent-borne cellulosic intumescent coating for protection duration of up to 120 mins (EN13381-8). For structural steel in interior and exterior conditions, up to C4 conditions (ISO 12944-2). Optimised for 90 mins protection duration.	75 ± 3	Please consult local sales	
	Hempafire Pro 315	A solvent-borne cellulosic intumescent coating for protection duration of up to 90 mins (EN13381-8 and BS476-2). For structural steel in interior and exterior conditions, up to C4 conditions (ISO 12944-2). Optimised for 60 mins protection duration.	75 ± 3	Please consult local sales	
	Hempafire Pro 400	A one component, solvent-borne, physically drying intumescent coating for passive fire protection of structural steel against cellulosic fires. It is Optimised for R90, R120 and for in-shop and on-site applications. For structural steel in interior and exterior conditions, up to C4 conditions (ISO 12944-2).	75 ± 3	Please consult local sales	

Fire Protection (Hydrocarbon Intumescent)

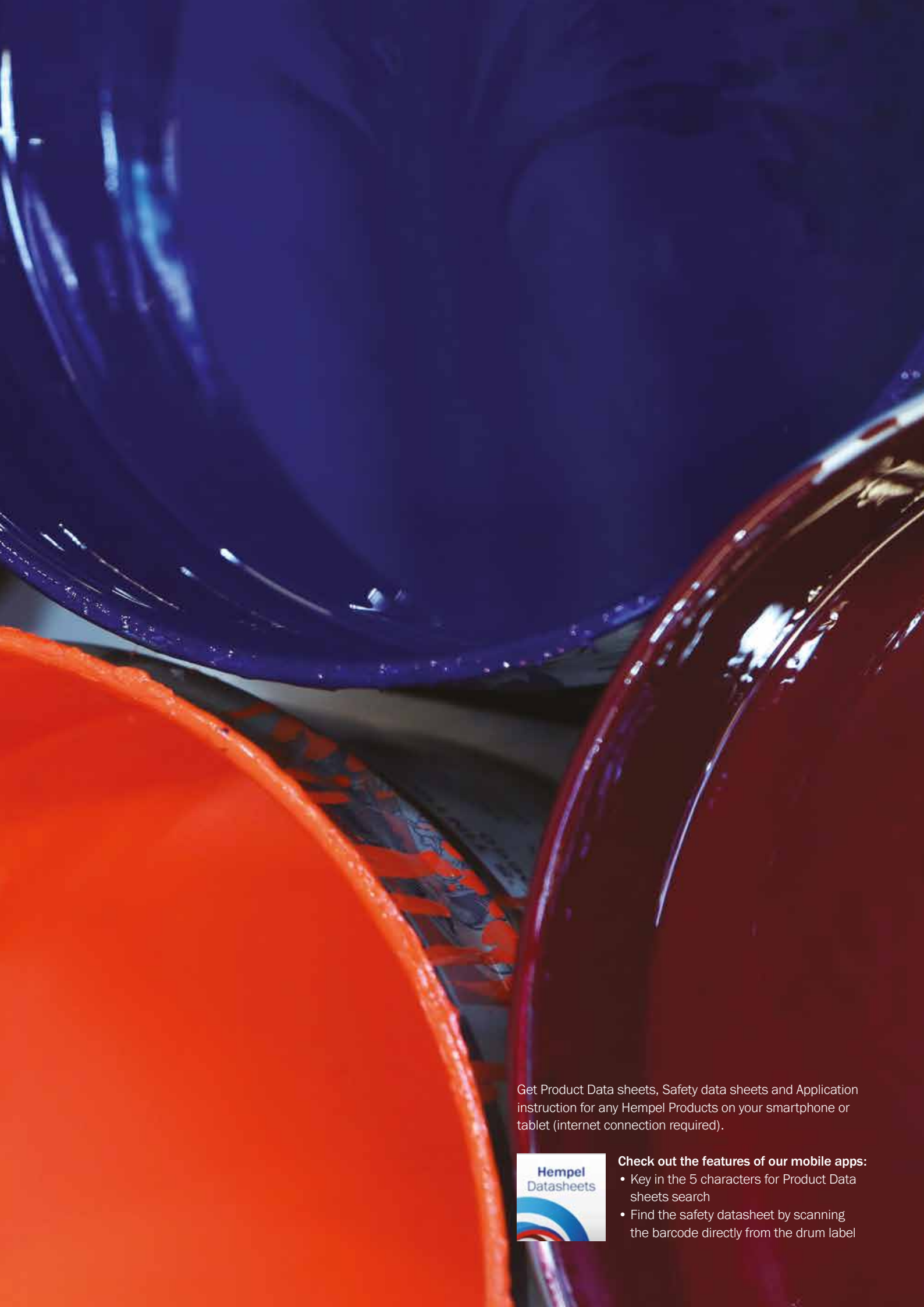
	Product name	Description / Recommended use	Volume solids (%)	Typical DFT (µm)	Colour
Epoxy	Hempafire XTR 100	A two-component epoxy based intumescent coating that provides passive fire protection of structural steel against hydrocarbon pool fires. Tested and certified in accordance with UL 1709 standard. For structural steel used in oil & gas facilities, petrochemical plants and the power generation sector that require protection against hydrocarbon pool fires.	100	Please consult local sales	



Disclaimer

Colours depicted are close approximation and not exact visual representation of applied product. Please consult your local sales representative for availability and lead time.

The data, specifications and recommendations provided in this overview 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. For up-to-date Product Data Sheets please visit our website.



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