

Cold Cured

Linings and Coatings





SÄKAPHEN have been setting the standards in the field of corrosion protection since 1954 offering nearly 70 years of experience as a leading manufacturer and applicator of high quality linings and coatings, protecting critical assets on a multitude of substrates including carbon steel, stainless steel, super duplex, copper-nickel, complex alloys and concrete. These high quality linings have proven to reduce corrosion, fouling and incrustation due to their excellent performance characteristics, offering extended service life compared to non-lined or non-coated items.

Our linings and coatings prevent chemical and galvanic corrosion, potentially dangerous incrustation and fouling when applied tube-side or shell-side within tube bundle Heat Exchangers, Condensers and Coolers and have earned the brand name SÄKAPHEN a worldwide reputation. SÄKAPHEN linings and coatings also protect a vast array of other critical assets which include ISO Tank Containers, Process Vessels, Silos, Turbines, Pipework and Box Coolers to name a few.

SÄKAPHEN linings and coatings are manufactured as heat-cured and cold-cured resin combinations according to own recipes. They are applied in multiple layers in special process technologies forming a chemically resistant thermosetting film.

This brochure focuses on two or more component catalytically hardening coatings, also called cold-cured coatings, which are applied in a multilayer process by flooding, spraying, rolling or troweling. Hardening is achieved by the chemical reactions of the components. These products are applied by either SÄKAPHEN in Gladbeck, Germany or its international network of authorized applicators. Additionally, and if required, the cold cure range of products can be site applied by suitably qualified and assessed third party applicators if contracted to local petrochemical facilities.

Your perfect partner for corrosion protection

SÄKAPHEN

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Cold Cured Linings and Coatings

Two-Pack and Plural Component Linings and Coatings for Limitless Applications.

The SÄKAPHEN range of cold cure linings and coatings offer an extremely high level of chemical resistance at temperatures up to 100°C in wet conditions and higher temperatures in dry operating conditions.

The SÄKAPHEN range of cold cure linings and coatings also provide high-quality insulation properties, thus preventing galvanic corrosion between dissimilar metals. Electrically conductive linings and coatings for use in the storage and transportation of flammable / inflammable liquids are also available. Consequently, this minimises investment and maintenance costs and significantly lowers the carbon footprint.

All SÄKAPHEN cold cure linings and coatings are self-priming, formulated and developed for direct to metal application and once cured are fully machinable. Both linings and coatings are applied in multiple layers by spray, brush, roller or trowel. Plural feed hydracat or similar application equipment is not required. The SÄKAPHEN cold cure range of linings and coatings are complementary to the single-component thermosetting heat cured range of SÄKAPHEN products.

The majority of SÄKAPHEN cold cured linings and coatings are low-solvent, containing ultra-high solid products with a volume of solid (wt.%) of 80% or more.



Laboratory

Research and Development of Bespoke Solutions for Heavy Duty Corrosion Protection.

A crucial principle of SÄKAPHEN's corporate structure is continued extensive research, development and professional administration of our bespoke products best suited for our customer needs, including technical and legal requirements.

SÄKAPHEN linings and coatings have never been more essential and in demand than they are today. The world's chemical processing infrastructure is rapidly evolving with the industry demanding increasingly efficient processes, logistics and energy production. Linings and coatings play a crucial role for a multitude of equipment, vital for the safety and reliability of plant operation, without well-developed linings and coatings, equipment would fall susceptible to rapid corrosion and deterioration.

SÄKAPHEN's ultimate goal is supplying lasting high quality lining and coating products, continuously being developed and refined to achieve maximum results and return on investment (ROI). We work alongside our customers across the world, to provide the best solutions to all their corrosion protection challenges, ensuring reduced maintenance costs and increased operational efficiency.

Conducting frequent resistance tests, customer research and development within our laboratories to further advance our lining and coating products as much as to develop new products adding value to our customers facilities. Prior to release to our authorized applicators, the products are thoroughly tested within our workshops and finally approved. The resulting linings and coatings are administered as bespoke solutions, best meeting our client's needs and requirements.



Authorized Applicators

SÄKAPHEN works together with powerful partners, who offer expert advice, service and reliability when it comes to optimum corrosion protection.

Europe

Belgium

Donelli Alexo S.r.l.

France

Donelli Alexo S.r.l.

Germany

SÄKAPHEN Germany

Italy

Donelli Alexo S.r.l.

Netherlands

CP PHENOLICS B.V.

Norway

Multi Solutions AS

Norway

Nordic Green Products AS

Romania

AlpAccess SRL

Spain

Talleres Landaluce S.A.

UK and Ireland

Lithgow SAEKAPHEN Ltd./KUE Group

Asia and Oceania

Australia

Green Ocean Solutions Pty. Ltd.

China

Jiangsu Simijia Tank Service Co., Ltd

India

Sri Krishna Descalers Pvt Ltd

Malaysia

Green Ocean Solutions Pty. Ltd.

Singapore

Green Ocean Solutions Pty. Ltd.

South Korea

SAEKAPHEN Korea

Middle East

Kingdom of Saudi Arabia

DLPS Diversified Lines of Petroleum Service

Kingdom of Saudi Arabia

ACCCO Advanced Custom Coating Co.

Kingdom of Bahrain

DLPS Diversified Lines of Petroleum Service

Pakistan

Advanced Oil and Gas Technologies (PVT.) Ltd.

USA

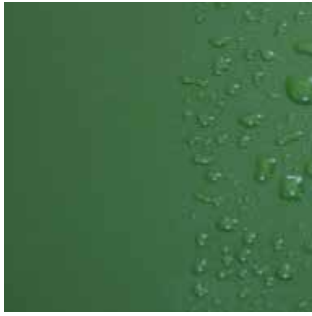
USA

Curran International

USA

Gartner Coatings





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HR 60 Extra G (Green)

Two-Pack Cold Cured Epoxy-based Hydrophobic Lining / Coating for Acidic to Strongly Alkaline Media. High Gloss, Green Finish.

SÄKAPHEN HR 60 Extra G (Green) is a high-quality two-pack epoxy hydrophobic lining and coating, formulated for self-priming and direct to metal application. HR 60 Extra G (Green) is chemically resistant to various substances ranging from sour to strong alkalis, inorganic salts and solutions, fuels and acidic aqueous liquids, as well as all types of water including brackish, river and sea water, as well as deionized water.

The lining film surface is hard elastic with first-rate hydrophobic properties, preventing caking, fouling and incrustation. Following polymerization HR 60 Extra G (Green) is fully machinable. The lining is resistant to temperature fluctuations.

Suitable for the lining of Blowers, Fans, Compressors, Housings, Tanks, Vessels, Pipework, Meter Provers (Prover Loops) and used widely in Water Treatment and Desalination Plants. Can be applied on site and on concrete surfaces.

An epoxy lining / coating that can handle all kinds of demands - because your asset deserves it.



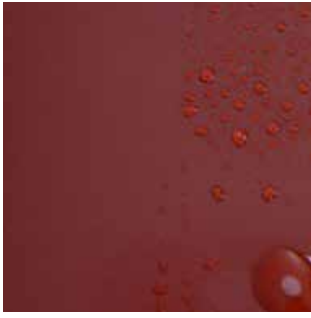
Product Data

HR 60 Extra G Green

| | |
|---|------------------------------------|
| Number of components | 2 |
| Color | Green |
| pH Range | 1 - 13 pH |
| Total dry film thickness | 400 - 500 µm |
| Temperature resistance dry (dry air oven) | -20°C - +120°C |
| Temperature resistance wet (water) | -20°C - +70°C |
| Resistance to water vapor diffusion | ≤ ΔT 30°C |
| Overcoating Waiting Time | 8 - 24 hours, 23°C |
| Chemical Curing | 7 -10 days |
| Linear Thermal Expansion | 4x10 ⁻⁶ K ⁻¹ |
| Pore testing | 2000 Volt |
| Pendulum hardness acc. to König | 133 sec (6°) |
| Shore D Hardness | 84 Shore D |
| Adhesion Test | >20 N/mm ² [MPa] |
| Salt spray test | 1250 hours |
| Impact Strength | 500 mm (1 kg) |
| Surface smoothness (Ra) | 0,20 µm Ø 3 readings |
| Surface tension | >28 >35 mN/m |

Product certificates are available for download on www.saekaphen.com.

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HR 60 Extra G (Red)

Two-Pack Cold Cured Epoxy-based Hydrophobic Lining / Coating for Acidic to Strongly Alkaline Media. High Gloss, Red Finish.

SÄKAPHEN HR 60 Extra G (Red) is a high-quality two-pack epoxy hydrophobic lining and coating, formulated for self-priming and direct to metal application. HR 60 Extra G (Red) is chemically resistant to various substances ranging from sour to strong alkalis, inorganic salts and solutions, fuels and acidic aqueous liquids and concentrated hydrochloric acid (HCl), as well as all types of water including brackish, river and sea water, as well as deionized water.

The lining film surface is hard elastic with first-rate hydrophobic properties, preventing caking, fouling and incrustation. Following polymerization HR 60 Extra G (Red) is fully machinable. The lining is resistant to temperature fluctuations.

Suitable for the lining of Blowers, Fans, Compressors, Housings, Tanks, Vessels, Pipework, Meter Provers (Prover Loops) and used widely in Water Treatment and Desalination Plants. Can be applied on site and on concrete surfaces.

Ultra-high solid epoxy lining / coating with exceptional chemical resistance including 36% Hydrochloric Acid (HCl) and 13% Sodium Hydroxide (NaOH)





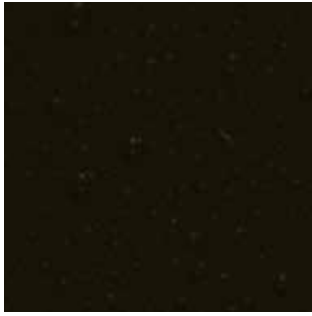
Product Data

HR 60 Extra G Red

| | |
|---|-----------------------------|
| Number of components | 2 |
| Color | Red |
| pH Range | 1 - 13 pH |
| Total dry film thickness | 400 - 500 µm |
| Temperature resistance dry (dry air oven) | -20°C - +120°C |
| Temperature resistance wet (water) | -20°C - +70°C |
| Resistance to water vapor diffusion | ≤ ΔT 30°C |
| Overcoating Waiting Time | 8 - 24 hours, 23°C |
| Chemical Curing | 7 -10 days |
| Linear Thermal Expansion | n/a |
| Pore testing | 2000 Volt |
| Pendulum hardness acc. to König | 133 sec (6°) |
| Shore D Hardness | 84 Shore D |
| Adhesion Test | >20 N/mm ² [MPa] |
| Salt spray test | 1250 hours |
| Impact Strength | 550 mm (1 kg) |
| Surface smoothness (Ra) | 0,40 µm Ø 3 readings |
| Surface tension | >28 >35 mN/m |

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HR 60 Extra G (Black)

Two-Pack Cold Cured Epoxy-based Hydrophobic Lining for Acidic to Strongly Alkaline Media - Electrically Conductive. High Gloss, Black Finish.

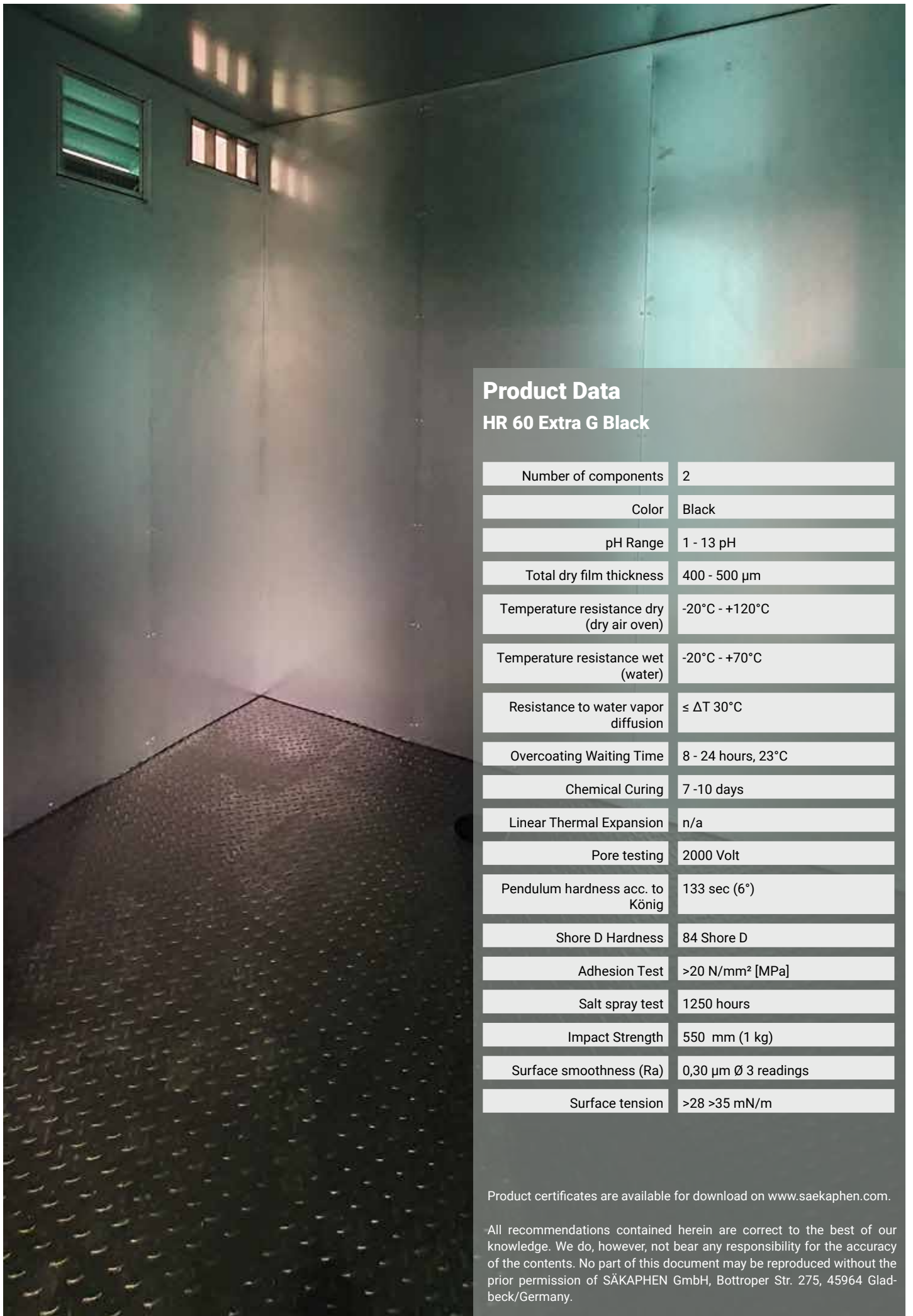
SÄKAPHEN HR 60 Extra G (Black) is a high-quality two-pack epoxy hydrophobic electrically conductive lining and coating, formulated for self-priming and direct to metal application. HR 60 Extra G (Black) is chemically resistant to various acidic and strongly alkaline substances ranging from fuels and hydrocarbons to all types of water including brackish, river and sea water and deionized water. The product is resistant to temperature fluctuations.

The lining film surface is hard elastic with excellent hydrophobic properties, preventing caking, fouling and incrustation, following polymerization the lining is fully machinable. HR 60 Extra G (Black) is a low-solvent containing ultra-high volume of solid (wt. %) of 80% or more. The lining is resistant to temperature fluctuations.

For the lining of substrates requiring a smooth, low friction surface offering anti-static properties in potentially flammable areas due to an electrical volume resistance below $10^7\Omega$. These can be found in Tanks, Silos, Funnels and Trays where flammable products are being stored or discharged. Can be applied on site and on concrete.

Electrostatic conductive epoxy lining / coating containing ultra-high solids for ease of application.





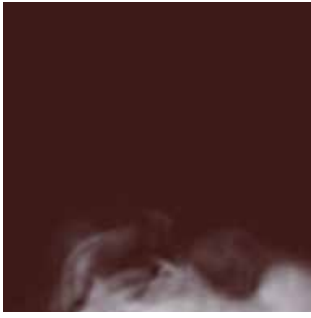
Product Data

HR 60 Extra G Black

| | |
|---|-----------------------------|
| Number of components | 2 |
| Color | Black |
| pH Range | 1 - 13 pH |
| Total dry film thickness | 400 - 500 µm |
| Temperature resistance dry (dry air oven) | -20°C - +120°C |
| Temperature resistance wet (water) | -20°C - +70°C |
| Resistance to water vapor diffusion | ≤ ΔT 30°C |
| Overcoating Waiting Time | 8 - 24 hours, 23°C |
| Chemical Curing | 7 -10 days |
| Linear Thermal Expansion | n/a |
| Pore testing | 2000 Volt |
| Pendulum hardness acc. to König | 133 sec (6°) |
| Shore D Hardness | 84 Shore D |
| Adhesion Test | >20 N/mm ² [MPa] |
| Salt spray test | 1250 hours |
| Impact Strength | 550 mm (1 kg) |
| Surface smoothness (Ra) | 0,30 µm Ø 3 readings |
| Surface tension | >28 >35 mN/m |

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HR 60 Extra TG

Two-Pack Cold Cured Epoxy-based Diffusion Resistant Lining for Acidic to Strongly Alkaline Media. Matt, Dark Brown Finish.

SÄKAPHEN HR 60 Extra TG is a high-quality two-pack epoxy hydrophobic lining and coating, formulated for self-priming and direct to metal application. SÄKAPHEN HR 60 Extra TG is chemically resistant to varied acidic and strongly alkaline substances ranging from inorganic salts and solutions, acidic aqueous liquids, all types of water including brackish, river and sea water up to 100°C in permanent immersion. The lining is also resistant to water vapor diffusion (ΔT 85 °C).

The lining film surface is hard elastic, following polymerization the lining is fully machinable. The lining is resistant to temperature fluctuations.

Suitable for equipment requiring water vapor diffusion resistance, including Water Chambers, Blowers, Fans, Compressors, Housings, Tanks, Vessels, Pipework, Tanks without insulation, Condensate Reservoirs, Water Treatment and Desalination Plants. Can be applied on site.

Two-Pack epoxy for ease of application and reliable performance.



Product Data

HR 60 Extra TG

| | |
|--|----------------------------|
| Number of components | 2 |
| Color | Dark brown |
| pH Range | 4 - 12 pH |
| Total dry film thickness | 300 - 350 µm |
| Temperature resistance dry (dry air oven) | -20°C - +120°C |
| Temperature resistance wet (water) | -20°C - +105°C |
| Resistance to water vapor diffusion | ≤ ΔT 85°C |
| Overcoating Waiting Time | 12 - 48 hours, 23°C |
| Chemical Curing | 8 days |
| Linear Thermal Expansion | n/a |
| Pore testing | 67,5 Volt |
| Pendulum hardness acc. to König | 63 sec (6°) |
| Shore D Hardness | 84 Shore D |
| Adhesion Test | >8 N/mm ² [MPa] |
| Salt spray test | n/a |
| Impact Strength | 1000 mm (1 kg) |
| Surface smoothness (Ra) | 2,18 µm Ø 3 readings |
| Surface tension | >35 >38 mN/m |

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SÄKATONIT K 80 LS

Two-Pack Cold Cured Epoxy-based Hydrophobic Trowel Applied System for Acidic to Strongly Alkaline Media. Matt (Putty) or Gloss (Primer/Topcoat), Red Finish.

SÄKAPHEN SÄKATONIT K80 LS is a high-quality two-pack epoxy hydrophobic trowel applied coating system, developed and formulated to be self-priming and direct to metal application, specifically for on-site tube sheet coating. One material can be used to create the primer, the putty as well as the top coat. Thus the product allows most efficient material consumption with little to no waste for a cost-effective thickfilm coating application.

The lining system is resistant to all types of water including brackish, river, sea and deionized in addition to various substances including sour to strong alkaline, inorganic salts and their solutions. SÄKAPHEN SÄKATONIT K80 LS is resistant to temperature fluctuations.

The film lining surface is hard elastic with outstanding hydrophobic properties, preventing caking, fouling and incrustation. Following polymerization the lining is fully machinable. The addition of a suspending agent allows viscosity adjustment to aid the applicator and application. Can be applied on site.

SÄKAPHEN SÄKATONIT K80 LS is a low-solvent, ultra-high solid volume (wt. %) of 80% or more.

For the lining of tube sheets located in Power, Petrochemical, Water Treatment and Desalination Plants.

**Ultimate tube sheet protection,
SÄKAPHEN SÄKATONIT K80 LS your one
stop solution.**



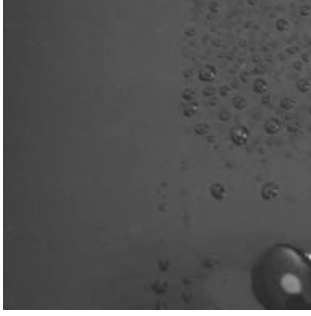
Product Data

SÄKATONIT K 80 LS

| | |
|---|--|
| Number of components | 2 |
| Color | Red |
| pH Range | 1 - 13 pH |
| Total dry film thickness | To the length of the jet out tubes |
| Temperature resistance dry (dry air oven) | -20°C - +90°C |
| Temperature resistance wet (water) | -20°C - +70°C |
| Resistance to water vapor diffusion | $\leq \Delta T 30^\circ C$ |
| Overcoating Waiting Time | 8 - 24 hours, 23°C |
| Chemical Curing | 7 - 10 days |
| Linear Thermal Expansion | n/a |
| Pore testing | n/a |
| Pendulum hardness acc. to König | 147 sec (6°) |
| Shore D Hardness | 83 Shore D |
| Adhesion Test | 13 N/mm ² [MPa] (troweling) 17 N/mm ² [MPa] (primer, topcoat) |
| Salt spray test | n/a |
| Impact Strength | 1000 mm (1 kg) |
| Surface smoothness (Ra) | 0,195 μm \varnothing 3 readings |
| Surface tension | >28 mN/m |

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SÄKATONIT Extra AR

Two-Pack Cold Cured Impact Resistant Epoxy-based Hydrophobic Lining / Coating for Acidic to Strongly Alkaline Media. High Gloss, Anthracite Finish.

SÄKAPHEN SÄKATONIT Extra AR is a superior two-pack epoxy hydrophobic mechanically durable lining / coating, formulated for self-priming and direct to metal application. SÄKAPHEN SÄKATONIT Extra AR is chemically resistant to various substances ranging from sour to strongly alkaline, inorganic salts and their solutions, fuels, acidic aqueous solutions and concentrated hydrochloric acid (36%) as well as all types of water including brackish, river, sea and deionized.

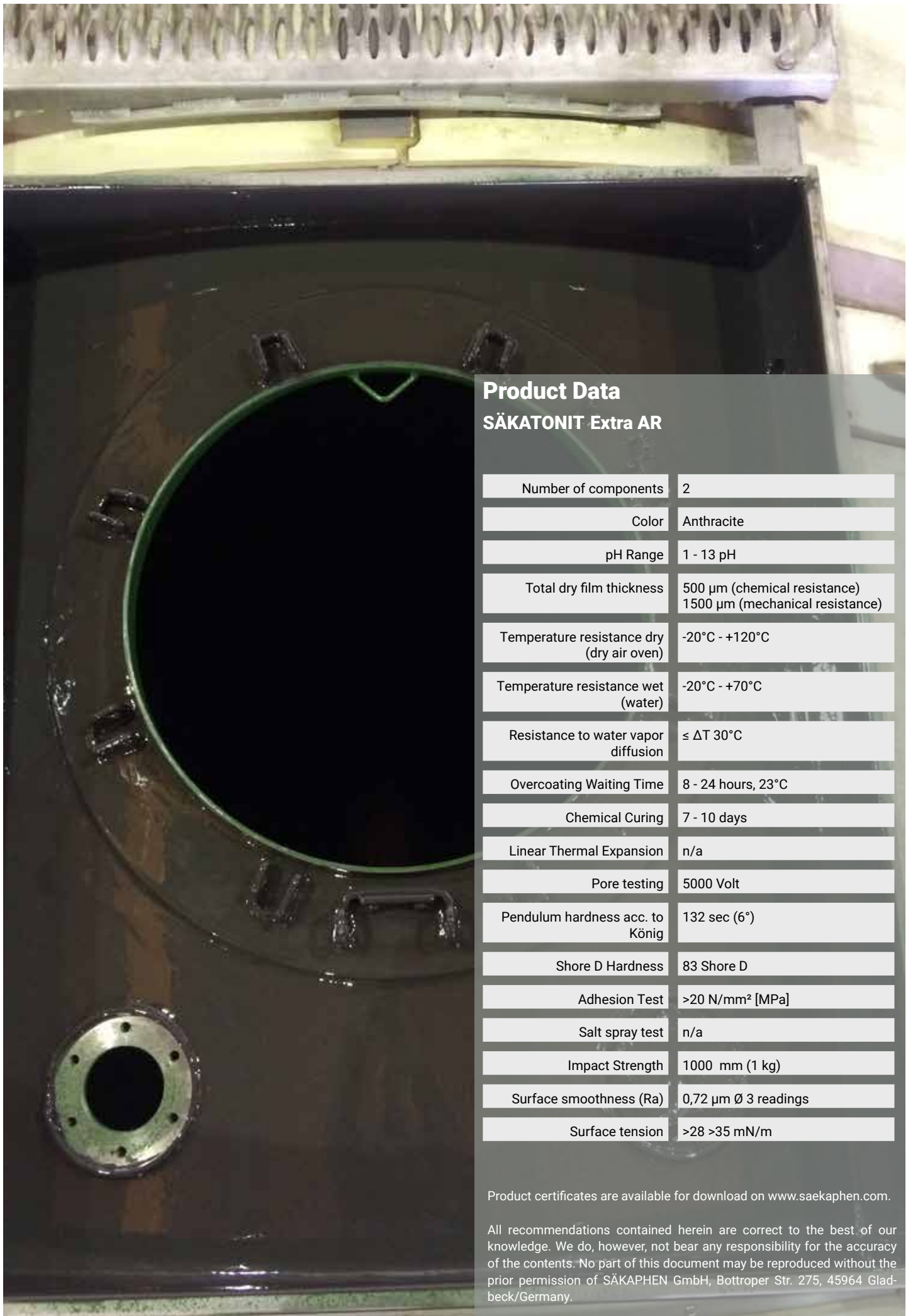
The lining film surface is hard elastic abrasion and impact resistant with superb hydrophobic properties, preventing caking, fouling and incrustation. Following polymerization SÄKAPHEN SÄKATONIT Extra AR is fully machinable and can be applied on site as well as on concrete. The lining is resistant to temperature fluctuations.

Furthermore, SÄKAPHEN SÄKATONIT Extra AR contains an ultra-high solid volume (wt.%) of 95% or more, in addition to combatting extreme weather conditions, as observed in the desert of Saudi Arabia for an 18 month duration.

For the lining of Tube Sheets, Pipework and Meter Provers (Prover Loops), Spill Boxes, Water Boxes, Blowers, Fans, Compressors, Housings, Tanks, Vessels, Filter Interiors, Valves and Agitators. Slight surface imperfections can be covered by the increased applied thickness.

SÄKAPHEN is solving tomorrow's problems today





Product Data

SÄKATONIT Extra AR

| | |
|--|---|
| Number of components | 2 |
| Color | Anthracite |
| pH Range | 1 - 13 pH |
| Total dry film thickness | 500 µm (chemical resistance) 1500 µm (mechanical resistance) |
| Temperature resistance dry (dry air oven) | -20°C - +120°C |
| Temperature resistance wet (water) | -20°C - +70°C |
| Resistance to water vapor diffusion | ≤ ΔT 30°C |
| Overcoating Waiting Time | 8 - 24 hours, 23°C |
| Chemical Curing | 7 - 10 days |
| Linear Thermal Expansion | n/a |
| Pore testing | 5000 Volt |
| Pendulum hardness acc. to König | 132 sec (6°) |
| Shore D Hardness | 83 Shore D |
| Adhesion Test | >20 N/mm ² [MPa] |
| Salt spray test | n/a |
| Impact Strength | 1000 mm (1 kg) |
| Surface smoothness (Ra) | 0,72 µm Ø 3 readings |
| Surface tension | >28 >35 mN/m |

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SÄKALINE 200

Two-Pack Cold Cured Epoxy-based Abrasion Resistant Lining for Acidic to Strongly Alkaline Media. Matt, Light Grey Finish.

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SÄKAPHEN SÄKALINE 200 is a high-quality two-pack epoxy hydrophobic abrasion resistant lining. Formulated for self-priming and direct to metal application. SÄKAPHEN SÄKALINE 200 is resistant to varying mediums ranging from slightly sour to alkaline and all types of water including brackish, river, sea and deionized.

SÄKAPHEN SÄKALINE 200 once polymerized is fully machinable and can be applied on site and on concrete surfaces. The lining is resistant to temperature fluctuations.

SÄKAPHEN SÄKALINE 200 is a low-solvent containing ultra-high solid volume (wt.%) of 80% or more.

For the lining of Boilers and other Hot Water Tanks, Industrial Water and Sewage Gas Containers used in the paper and pulp industry.

Provides optimum protection for steel and concrete.



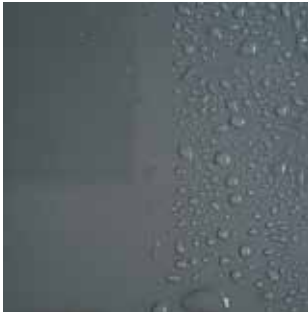
Product Data

SÄKALINÉ 200

| | |
|---|-------------------------------|
| Number of components | 2 |
| Color | Light grey |
| pH Range | n/a |
| Total dry film thickness | 1000 - 2000 µm |
| Temperature resistance dry (dry air oven) | +10°C - +150°C |
| Temperature resistance wet (water) | +10°C - + 85°C |
| Resistance to water vapor diffusion | ≤ ΔT 30°C |
| Overcoating Waiting Time | 8 - 48 hours, 23°C |
| Chemical Curing | 7 - 10 days |
| Linear Thermal Expansion | n/a |
| Pore testing | 4000 Volt |
| Pendulum hardness acc. to König | 174 sec (6°) |
| Shore D Hardness | 84 Shore D |
| Adhesion Test | 20,65 N/mm ² [MPa] |
| Salt spray test | 15.000 hours |
| Impact Strength | 1000 mm (1 kg) |
| Surface smoothness (Ra) | 0,29 µm Ø 3 readings |
| Surface tension | >28 >31 mN/m |

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SÄKATONIT Extra AR-F

Two-Pack Floodable Hydrophobic Epoxy Hybrid Coating for Acidic to Strongly Alkaline Media. High Gloss, Grey Finish. Suitable for Box Coolers.

SÄKAPHEN SÄKATONIT Extra AR-F is a superior high-quality two-pack floodable hydrophobic epoxy hybrid coating. The unique chemistry blends of both resin and hardener in combination with specialized methodical application allows for a smooth hydrophobic finish, whilst offering superior electro-chemical insulation. The coating has been developed and formulated to be self-priming for direct to metal application.

SÄKAPHEN SÄKATONIT Extra AR-F is chemically resistant to all types of water including brackish, river, sea water and deionized water, aqueous acidic and alkali solutions and common marine cleaners. The lining is resistant to temperature fluctuations.

Upon polymerization, the epoxy hybrid coating forms a hard elastic coating film with hydrophobic properties offering outstanding protection against abrasion, preventing caking, fouling and incrustation. The heat transfer rate of carbon steel coated with 150 microns of SÄKATONIT Extra AR-F is 25 W/mK, as third party tested by 3M.

Additionally, SÄKATONIT Extra AR-F following polymerization, is fully machinable and can be applied on site, particularly for the use on Box Coolers. The coating is an ultra-high solid / low solvent with a volume of solid (wt%) of plus 80%.

Suitable for the coating of numerous coolers, in particular Box Coolers, for protection against galvanic corrosion on site in shipyards. SÄKATONIT Extra AR-F cures at ambient temperatures thus no heat cured oven is required and Coolers do not need to be shipped. The system allows for high-speed processing, especially during re-coating. Can be applied on site.

SÄKAPHEN bestows innovative ideas for its customers for where it is needed - on site.





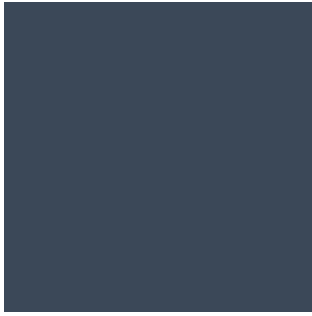
Product Data

SÄKATONIT Extra AR-F

| | |
|--|-----------------------------|
| Number of components | 2 |
| Color | Anthracite |
| pH Range | 1 - 13 pH |
| Total dry film thickness | 100 µm - 200 µm |
| Temperature resistance dry (dry air oven) | -20°C - +120°C |
| Temperature resistance wet (water) | -20°C - +70°C |
| Resistance to water vapor diffusion | ≤ ΔT 30°C |
| Overcoating Waiting Time | 8 - 24 hours, 23°C |
| Chemical Curing | 7 - 10 days |
| Linear Thermal Expansion | n/a |
| Pore testing | 67,5 Volt |
| Pendulum hardness acc. to König | 132 sec (6°) |
| Shore D Hardness | 83 Shore D |
| Adhesion Test | >20 N/mm ² [MPa] |
| Salt spray test | n/a |
| Impact Strength | 1000 mm (1 kg) |
| Surface smoothness (Ra) | 0,72 µm Ø 3 readings |
| Surface tension | >28 >35 mN/m |

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Säkaline KTW

Solvent Free Two-Pack Epoxy-based Lining for use in contact with Potable Water approved. Satin, Black Finish.

SÄKAPHEN SÄKALINE KTW is a two-pack high-quality hydrophobic epoxy based lining, resistant to varying media ranging from weakly acidic to alkaline as well as all types of water including brackish, river, sea water and deionized water with nanoparticle filling. SÄKALINE KTW is formulated and developed to be self-priming for direct to metal application.

SÄKALINE KTW holds German Potable Water Approval for contact with drinking water (KTW Zulassung) for both Cold Water and Warm Water (60°C). The KTW symbolizes plastics in contact with potable water. Further the lining is certified as per DVGW W270 (hygienic harmless concerning migration of chemical substances and the growth of microorganism).

SÄKALINE KTW is solvent free and upon polymerization is fully machinable. The lining can be applied on site.

Suitable for the lining of Potable Water Tanks, Pipework, Industrial Water Tanks, Sewage Gas Containers in the paper and pulp industry and Boilers and other Hot Water Tanks. Can be applied on site.

Coating for potable water - protection
for the most valuable food source.





POTABLE WATER

Product Data

SÄKALINE KTW

| | |
|---|----------------------------|
| Number of components | 2 |
| Color | Black |
| pH Range | 3 - 12 pH |
| Total dry film thickness | 400 - 1000 µm |
| Temperature resistance dry (dry air oven) | +10°C - +85°C |
| Temperature resistance wet (water) | +10°C - +60°C |
| Resistance to water vapor diffusion | ≤ ΔT 30°C |
| Overcoating Waiting Time | min. 4 - 24 hours, 23°C |
| Chemical Curing | 7 days |
| Linear Thermal Expansion | n/a |
| Pore testing | 3200 Volt |
| Pendulum hardness acc. to König | 118 sec (6°) |
| Shore D Hardness | 83 Shore D |
| Adhesion Test | 20 N/mm ² [MPa] |
| Salt spray test | n/a |
| Impact Strength | 100 mm (1 kg) |
| Surface smoothness (Ra) | 4,6 µm Ø 3 readings |
| Surface tension | ~28 mN/m |

Product certificates are available for download on www.saekaphen.com.

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SÄKAFLAKE 900 White 3K

Plural-component, Diffusion Resistant Novolac Vinyl Ester-based Lining / Coating for Highly Acidic to High Alkali Media. Matt, White Finish.

SÄKAPHEN SÄKAFLAKE 900 White 3K is a plural-component Novolac Vinyl Ester resin based lining / coating, providing excellent abrasion resistance whilst offering protection against water vapor diffusion (ΔT 85°C). Further, offering chemical resistance against aggressive substances such as acids, salt solvents, flue gases and all types of water including brackish, river, sea water and deionized water.

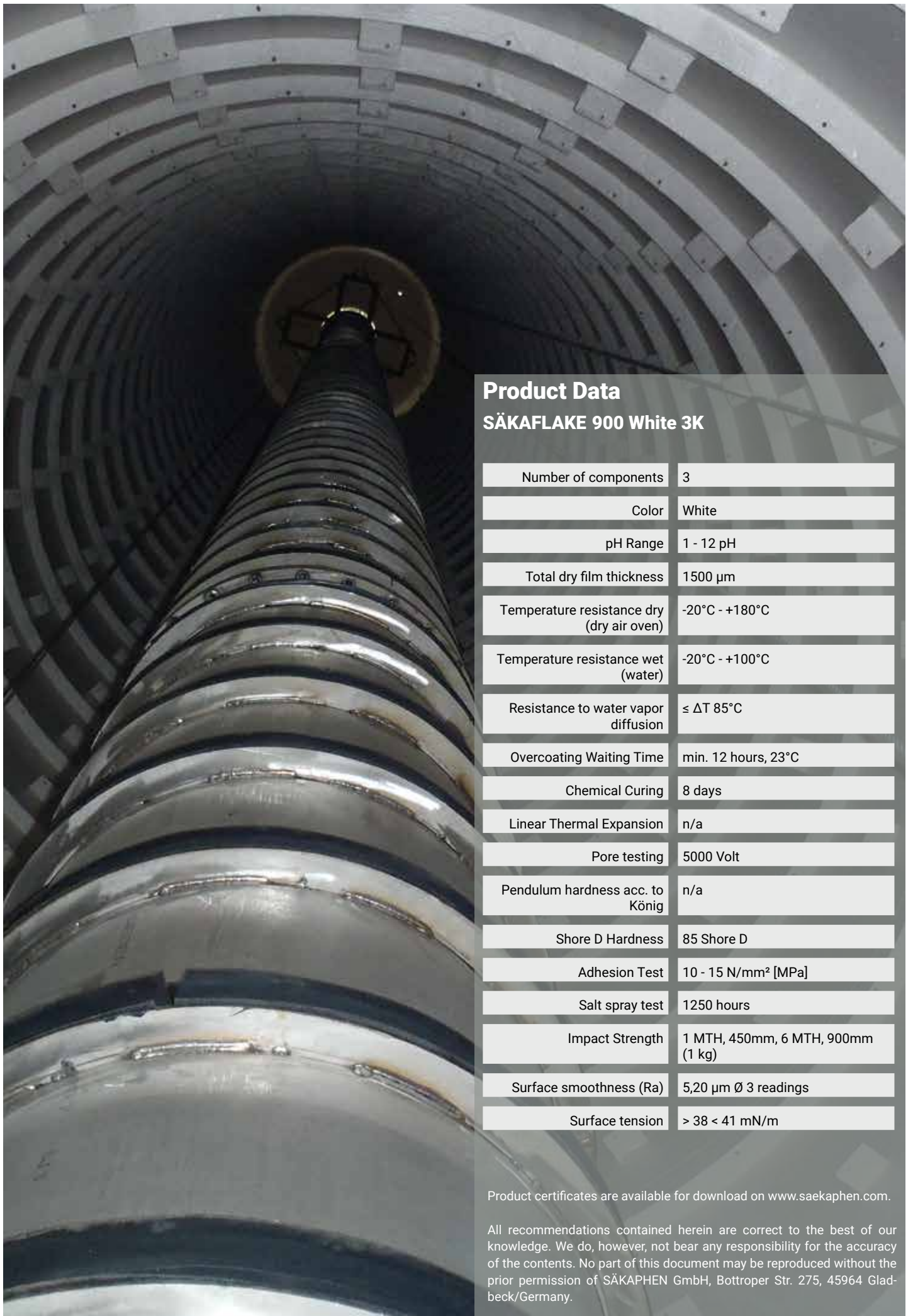
SÄKAFLAKE 900 White 3K is specifically formulated and designed to be self-priming for direct to metal application and can be applied on site and on concrete as well. Upon polymerization the lining is fully machinable and delivers exceptional quality when used for complex structures and fabrications such as Columns where the diameter may be reduced by use of internal baffles or support rings. Bespoke formulation allows for efficient application, even in extreme environmental conditions and has excellent sag resistance allowing for wet on wet application up to 3mm (3000 microns).

SÄKAFLAKE 900 White 3K is an ultra-high solid / low solvent product with a volume of solid (wt%) of plus 95%. The lining is resistant to temperature fluctuations.

Suitable for the lining or coating of Ancillary Heat Exchanger equipment such as Water Boxes, Channel and Covers, Blowers, Fans, Wash Towers, Process and Storage Tanks, Vessels, Tank Containers, Compressor Casings, assorted Flue Gas Desulfurization equipment including Flue Gas Funnels and Channels. In particular, for equipment requiring water vapor diffusion resistance with high temperature gradients. Can be applied on site.

Superior long life lining offering temperature resistance of up to 180°C





Product Data

SÄKAFLAKE 900 White 3K

| | |
|---|-----------------------------------|
| Number of components | 3 |
| Color | White |
| pH Range | 1 - 12 pH |
| Total dry film thickness | 1500 µm |
| Temperature resistance dry (dry air oven) | -20°C - +180°C |
| Temperature resistance wet (water) | -20°C - +100°C |
| Resistance to water vapor diffusion | ≤ ΔT 85°C |
| Overcoating Waiting Time | min. 12 hours, 23°C |
| Chemical Curing | 8 days |
| Linear Thermal Expansion | n/a |
| Pore testing | 5000 Volt |
| Pendulum hardness acc. to König | n/a |
| Shore D Hardness | 85 Shore D |
| Adhesion Test | 10 - 15 N/mm ² [MPa] |
| Salt spray test | 1250 hours |
| Impact Strength | 1 MTH, 450mm, 6 MTH, 900mm (1 kg) |
| Surface smoothness (Ra) | 5,20 µm Ø 3 readings |
| Surface tension | > 38 < 41 mN/m |

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SÄKAFLAKE 900 Black 3K

Plural-component, Novolac Vinyl Ester-based Conductive and Abrasion Resistant Lining / Coating for Highly Acidic to High Alkali Media. Matt, Black Finish.

SÄKAPHEN SÄKAFLAKE 900 Black 3K is a plural-component Novolac Vinyl Ester resin enhanced further by the addition of graphite and glass flakes to provide an electrically conductive (statically dissipative), abrasion resistant lining / coating, offering protection against water vapor diffusion (ΔT 85°C). Further, offering chemical resistance against aggressive substances such as acids, salt solvents, flue gases and all types of water including brackish, river, sea water and deionized water.

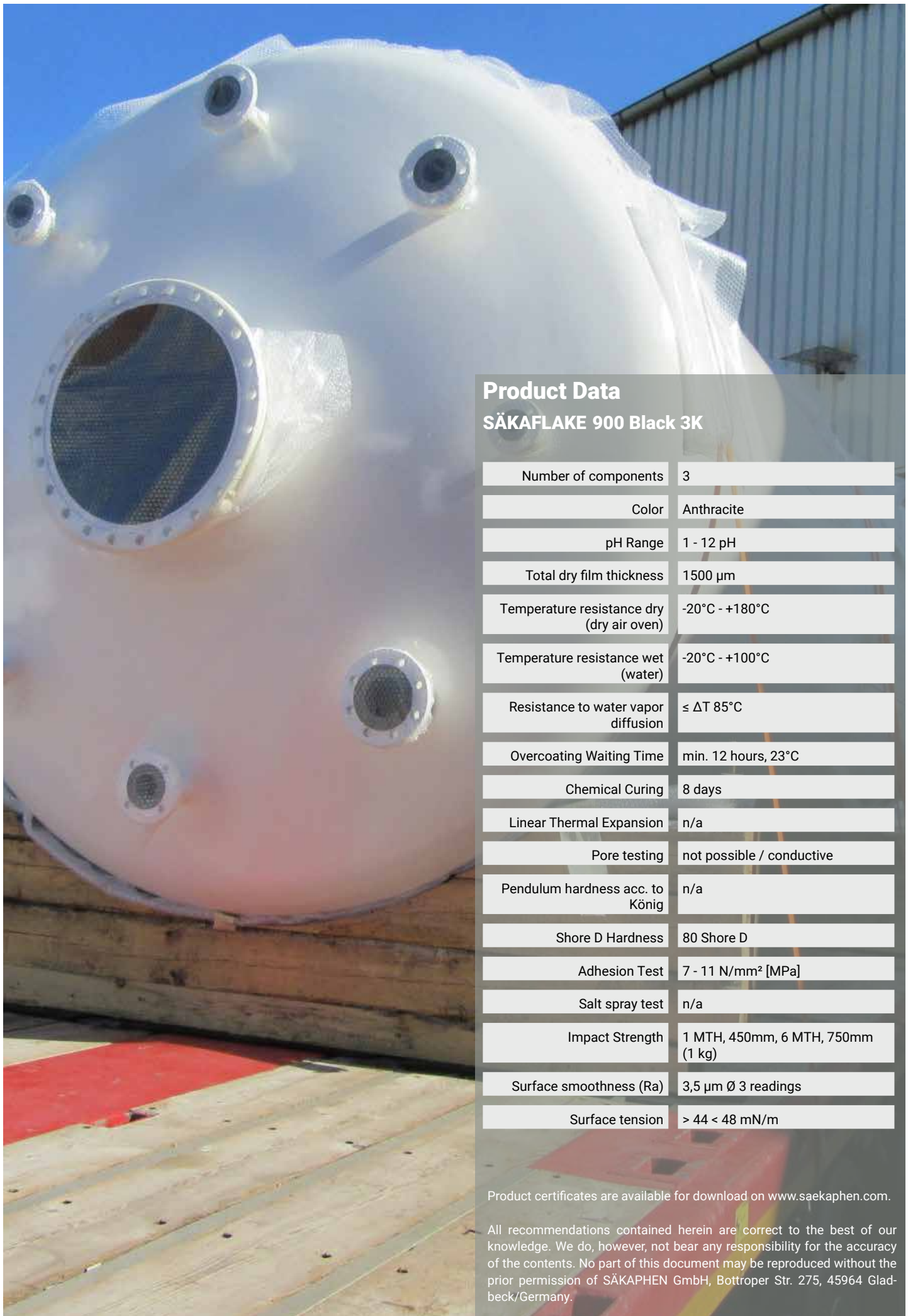
SÄKAFLAKE 900 Black 3K is specifically formulated and designed to be self-priming for direct to metal application and can be applied on site and on concrete. Upon polymerization the lining is fully machinable and delivers exceptional quality when used for complex structures and fabrications such as Columns where the diameter may be reduced by use of internal baffles or support rings. Bespoke formulation allows for efficient application, even in extreme environmental conditions and has excellent sag resistance allowing for wet on wet application up to 3mm (3000 microns).

SÄKAFLAKE 900 Black 3K is an ultra-high solid / low solvent product with a volume of solid (wt%) of plus 95%. The lining is resistant to temperature fluctuations.

Suitable for the lining or coating of Ancillary Heat Exchanger equipment such as Water Boxes, Channel and Covers, Blowers, Fans, Wash Towers, Process and Storage Tanks, Vessels, Tank Containers, Compressor Casings, assorted Flue Gas Desulfurization equipment including Flue Gas Funnels and Channels. In particular, for equipment requiring water vapor diffusion resistance with high temperature gradients.

Electrically conductive, resistant to chemical and physical attack.





Product Data

SÄKAFLAKE 900 Black 3K

| | |
|---|-----------------------------------|
| Number of components | 3 |
| Color | Anthracite |
| pH Range | 1 - 12 pH |
| Total dry film thickness | 1500 µm |
| Temperature resistance dry (dry air oven) | -20°C - +180°C |
| Temperature resistance wet (water) | -20°C - +100°C |
| Resistance to water vapor diffusion | ≤ ΔT 85°C |
| Overcoating Waiting Time | min. 12 hours, 23°C |
| Chemical Curing | 8 days |
| Linear Thermal Expansion | n/a |
| Pore testing | not possible / conductive |
| Pendulum hardness acc. to König | n/a |
| Shore D Hardness | 80 Shore D |
| Adhesion Test | 7 - 11 N/mm ² [MPa] |
| Salt spray test | n/a |
| Impact Strength | 1 MTH, 450mm, 6 MTH, 750mm (1 kg) |
| Surface smoothness (Ra) | 3,5 µm Ø 3 readings |
| Surface tension | > 44 < 48 mN/m |

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SÄKAFLAKE 900 Topcoat

Plural-component, Novolac Vinyl Ester-based Lining / Coating for Highly Acidic to High Alkali Media. Satin, Green Finish.

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SÄKAPHEN SÄKAFLAKE 900 Topcoat 3K is a plural-component Novolac Vinyl Ester resin enhanced with micro glass flakes to provide an abrasion resistant lining / coating. SÄKAFLAKE 900 Topcoat 3K offers chemical resistance against aggressive substances such as acids, bases, salt solutions and all types of water, including brackish, river and sea water as well as deionized water.

Once developed as smooth surface topcoat for the SÄKAFLAKE range of products, SÄKAFLAKE 900 Topcoat 3K nowadays is a standalone product offering the superior chemical resistance of a Novolac Vinyl Ester based product with the reinforcement of micro-fine glass flakes at a lower dry film thickness.

SÄKAFLAKE 900 Topcoat 3K is specifically formulated and designed to be self-priming for direct to metal application. Upon polymerization the lining is fully machinable. The lining can be applied on concrete as well. SÄKAFLAKE 900 Topcoat 3K is an ultra-high solid / low solvent product with a volume of solid (wt%) of plus 95%. The lining is resistant to temperature fluctuations.

For the purpose of lining / coating sealing faces of items which have been lined or coated with SÄKAFLAKE 900 or SÄKAFLAKE 957 or alternatively lining or coating items such as Process Vessels, Pipelines and various other equipment susceptible to chemical exposure where a Novolac Vinyl Ester system is required. Can be applied on site.

Enhanced temperature and chemical resistance, with improved shelf life.



Product Data

SÄKAFLAKE 900 Topcoat 3K

| | |
|---|------------------------------|
| Number of components | 3 |
| Color | Green |
| pH Range | 1 - 12 pH |
| Total dry film thickness | 300 µm |
| Temperature resistance dry (dry air oven) | -20°C - +180°C |
| Temperature resistance wet (water) | -20°C - +100°C |
| Resistance to water vapor diffusion | ≤ ΔT 30°C |
| Overcoating Waiting Time | min. 12 hours, 23°C |
| Chemical Curing | 8 days |
| Linear Thermal Expansion | n/a |
| Pore testing | 67,5 Volt |
| Pendulum hardness acc. to König | 126 sec (6°) |
| Shore D Hardness | 87 Shore D |
| Adhesion Test | > 13 N/mm ² [MPa] |
| Salt spray test | n/a |
| Impact Strength | 500 mm (1 kg) |
| Surface smoothness (Ra) | 0,67 µm Ø 3 readings |
| Surface tension | > 35 < 38 mN/m |

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SÄKAFLAKE 957 Red 3K

Plural-component, Epoxy Vinyl Ester-based Lining / Coating for Highly Acidic to High Alkali Media. Satin, Red Finish.

SÄKAPHEN SÄKAFLAKE 957 Red 3K is a plural-component Epoxy Vinyl Ester resin based glass flake filled lining / coating, providing excellent abrasion and water vapor diffusion ($\leq \Delta T 85^\circ\text{C}$) resistance.

SÄKAFLAKE 957 Red 3K is chemically resistant to aggressive substances from acidic to extremely alkaline media containing caustic soda such as salt solutions and all types of water including brackish, river, sea water and deionized water. The additional epoxy element within the lining / coating offers enhanced flexibility in comparison to the SÄKAFLAKE 900 series.

SÄKAFLAKE 957 Red 3K is specifically formulated and designed to be self-priming for direct to metal application and can be applied on site. Upon polymerization the lining is fully machinable and delivers exceptional quality when used for complex structures and fabrications such as Columns where the diameter may be reduced by use of internal baffles or support rings. Bespoke formulation allows for efficient application, even in extreme environmental conditions and has excellent sag resistance allowing for wet on wet application up to 3mm (3000 microns).

SÄKAFLAKE 957 Red 3K is an ultra-high solid / low solvent product with a volume of solid (wt%) of plus 95%. The lining is resistant to temperature fluctuations.

Suitable for the lining or coating of Ancillary Heat Exchanger equipment such as Water Boxes, Channel and Covers, Evaporators, Air Coolers, Blowers, Fans, Wash Towers, Process and Storage Tanks, Vessels, Tank Containers and Compressor Casings. In particular, for equipment requiring a lining or coating that is resistant to mixed media containing caustic soda (NaOH). Can be applied on site.

Enhanced elasticity and crack resistance resulting in improved flexibility



Product Data

SÄKAFLAKE 957 Red

| | |
|---|--------------------------------|
| Number of components | 3 |
| Color | Red |
| pH Range | 1 - 12 pH |
| Total dry film thickness | 500 µm |
| Temperature resistance dry (dry air oven) | -20°C - +180°C |
| Temperature resistance wet (water) | -20°C - +100°C |
| Resistance to water vapor diffusion | ≤ ΔT 85°C |
| Overcoating Waiting Time | min. 12 hours, 23°C |
| Chemical Curing | 8 days |
| Linear Thermal Expansion | n/a |
| Pore testing | not possible / conductive |
| Pendulum hardness acc. to König | n/a |
| Shore D Hardness | 80 Shore D |
| Adhesion Test | 7 - 11 N/mm ² [MPa] |
| Salt spray test | n/a |
| Impact Strength | 1 Mon 450 / 6 Mon 750 |
| Surface smoothness (Ra) | 3,5 µm Ø 3 readings |
| Surface tension | > 44 < 48 mN/m |

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Your perfect partner for corrosion protection

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