



HENSOTHERM® 920 KS

APPLICATION GUIDELINES

Two-pack (2C) fire protection coating with 100% volume solids for indoor and outdoor steel components, solvent free



Member of

DGNB

Deutsche Gesellschaft für Nachhaltiges Bauen
German Sustainable Building Council



APPROVED PRODUCT
CF 5994





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NOTE: These application guidelines are based on the experience gained with our two-pack fire protection coatings.
HENSOTHERM® 920 KS may be applied only by contractors we have certified in advance or by their trained specialists!

1. Product

Two-pack (2C) fire protection coating with 100 % volume solids for indoor and outdoor applications, solvent free

Colour: Approx RAL 7045 (Telegrey 1), matt

Pot life / application times: approx 45 minutes at material temperature of +30°C to +35°C /
approx 30 minutes at material temperature of +40°C to +45°C

NOTE: HENSOTHERM® 920 KS may **not be diluted!**

Packaging for single-component airless machines: 15 kg of base + 6 kg of hardener

Packaging for two-pack airless machines: 20 kg of base + 20 kg of hardener

225 kg of base + 225 kg of hardener

Packaging in small packaging for
brushed repair work:

2.5 kg of base + 1 kg of hardener

Volume solids: 100 % (determined according to ISO 3233)

Mixing ratio (mass): 2.5 : 1 (100 : 40)

Mixing ratio (volume): 2.4 : 1

Note: The mixing ratio of the two components must be checked regularly. The correct mixing ratio by weight is 2.5 : 1, whereby the range from 2.38 : 1 (minimum) to 2.61 : 1 (maximum) is acceptable. If the mixing ratio is outside this range, appropriate adjustments must be made. In addition to checking the mixing ratio, the pressure of the material pumps and the colour tone of the mixture during application must also be checked regularly.

Cleaning: HENSOTHERM® V22 available as 20 litre or 200 litre container

2. Airless spraying machines, nozzles, and spraying guns

The **airless spraying** of HENSOTHERM® 920 KS requires high performance single-component and two-pack airless spraying machines respectively.

Minimum requirements: Ratio \geq 70:1, volumetric flow per double stroke \geq 140 cm³

Two-pack airless spraying machines

For example:

WIWA FLEXIMIX 2

WIWA DUOMIX 333

Graco XP 50 (modified) / Graco XM 70 (modified) / Graco XP 70 (modified)

Graco E-Mix XT (electric)



If packaged in 200 litre drums, the material may be supplied with a drum pump, e.g. Graco 10:1 Ratio President® (no follow-up plate necessary!).

Single-component machines with stainless steel hopper

With a minimum ratio of 70:1, e.g.:

WIWA HERKULES

Graco XL 70:1 (modified)

Graco XL 80:1 (modified)

Material flow heater "Fluid Heater WIWA 3500"

We recommend for application **special spraying guns**, e.g. **GRACO XTR-7** or **WIWA 500F PFP** fitted with **the matching high-performance nozzles XHD** of 0.019–0.025".

Spray angle: > 30° | **Spray distance:** The spraying distance must be adequate for the spraying pressure.

NOTE: All filters in the spraying gun must be removed!



GRACO XTR-7
airless spraying gun

WIWA 500F PFP
airless spraying gun

Hoses and whips

Hose lengths may vary between 10 and 30 metres depending on the delivery ($\geq 3/8$ inch). Also an optional whip hose may be used from 1–3 metres in length and with a minimum diameter of ≥ 6 mm.

Compressed air connection SKG 25

There must be a compressed air connection (25 mm / 1" hose compressor coupling) for applications with a corresponding single-component or two-pack airless installation. If a mobile compressor is used, the output must be ≥ 4 m³/min under a pressure of at least 7 bar. Furthermore, there must be a storage vessel (buffer).

If necessary, e.g. at lower ambient temperatures ($< +15$ °C), the hoses may be insulated.

NOTE: There must be no use of heated hoses!

3. Conditions in the application hall

The hall used for workshop applications must be heatable. Application up to a temperature of +10 °C is possible. However, this has an effect on the visual appearance and extends the drying time.

4. Coating instructions

HENSOTHERM® 920 KS may be applied by contractors we have certified in advance or by their trained specialists.

For optimum processing and drying, the steel and air temperatures should be between +20 °C and +30 °C.

Irrespectively of the temperatures, the dew point must be observed during the application. In other words, the surface temperature of the component to be coated must be at least +3 °C above the dew point of the ambient air! See basic corrosion protection standard EN ISO 12944-7.

For warranty purposes, the ambient conditions must be documented in compliance with EN ISO 12944-7 and -8 during the application. All accompanying regulations such as EN ISO 12944-4, ETA or else must be taken into account during planning and execution. Accessibility for possible inspections must be ensured.

5. Airless applications

Preparing/mixing the material

The airless spraying of HENSOTHERM® 920 KS achieves an optimal effect (sagging resistance, drying time, spray pattern) when the material's temperature is about +20 °C to +30 °C .

We recommend keeping the coating materials (base and hardener) in an appropriately temperature controlled room for **at least 12 hours prior to their application**. If this is not possible, the coating materials can also be preheated with a milk heater for calf rearing as shown on the picture.

In the case of **single-component airless equipment with stainless steel hopper** – Using an electric agitator, stir thoroughly the component A (base) at a material temperature of at least +15 °C. While stirring, add the component B (hardener) in the specified mixing ratio, and continue mixing for at least 5 minutes until the compound becomes homogeneous. After homogenisation the temperature is between +25 °C and +35 °C.

In the case of **two-pack systems** – The coating materials Component A (base) and Component B (hardener) must present a homogeneous mixture at all times during the application.

Optimum **temperature of the flow heater** should be set to about +40 °C.

Temperatures over +50 °C are permitted in exceptional cases only.

The material's temperature at the nozzle must be between +35 °C and +43 °C.

Material supply with hopper charging set and short transition to pump with the largest possible **metal pipe diameter. Do not use suction nozzles!**

Application up to 2.5 mm depending on the specimen geometry possible in one layer.

NOTE: The possible to apply quantity in one layer and the surface quality depends on the specimen geometry, the required dry film thickness, the substrate temperature and the application temperature.

6. Rinsing / intermediate cleaning / final cleaning

There must be **preliminary and intermediate cleaning** during protracted work breaks, and **final cleaning** with the thinner **HENSOTHERM® V22**.

Material requirement per rinse:

approx 15–30 litres for single-component airless equipment / approx 5 - 10 litres for two-pack systems

On ending the rinsing procedure with HENSOTHERM® V22, drain the material completely out of the airless airless equipment and hoses. Until operations are recommenced, the airless equipment and hoses may be filled with HENSOTHERM® V22. Before the application is recommenced, HENSOTHERM® V22 must be drained completely from the airless equipment and the hoses. Sponge balls are ideal for the thorough cleaning of the hose packages.

7. Drying/hardening (drying time)

Hardening at a material, room, and substrate temperature of +20 °C:

Loadable after 24 hours for 1 mm DFT / after 36 hours for 3 mm DFT

Maximum overcoating interval with HENSOTHERM® 920 KS: 7 days

Maximum overcoating interval with HENSOTOP 2K PU: 7 days

NOTE: When the overcoating interval is exceeded the surfaces must be carefully roughened without exception (grain size approx P 60–80).



Milk heater

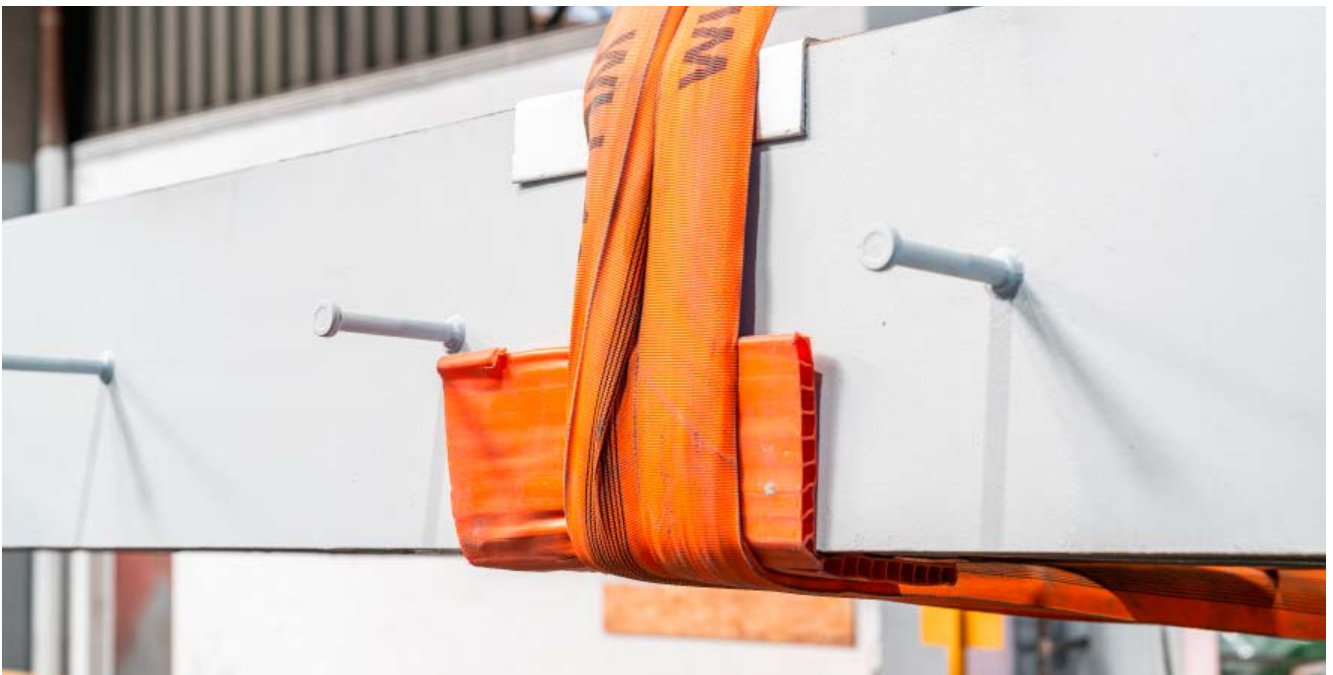
8. Storage and transport of coated steel sections

After the coating system has dried completely and thoroughly, the steel sections/components may be stored and transported as follows:

Once completely dry, HENSOTHERM® 920 KS (without primer and top coat, without environmental influences such as maritime climate or aggressive gases) can be weathered on site for up to 6 months. For subsequent indoor use.

When weathering the steel profiles or during the construction phase, permanently standing water (tub effect) must be excluded. Storage with gradient.

When transporting the coated components, belts and straps may only be used with suitable auxiliary constructions, e.g. with edge protection!



9. Work safety / labelling and environmental protection

Use HENSOTHERM® 920 KS in accordance with all applicable regulations for work safety and environmental protection. **Giscode: RE90**

Legal regulations change frequently. The labelling and environmental protection details must therefore be taken from the current safety data sheet. These may be downloaded from the product's webpage at www.rudolf-hensel.de/920KS

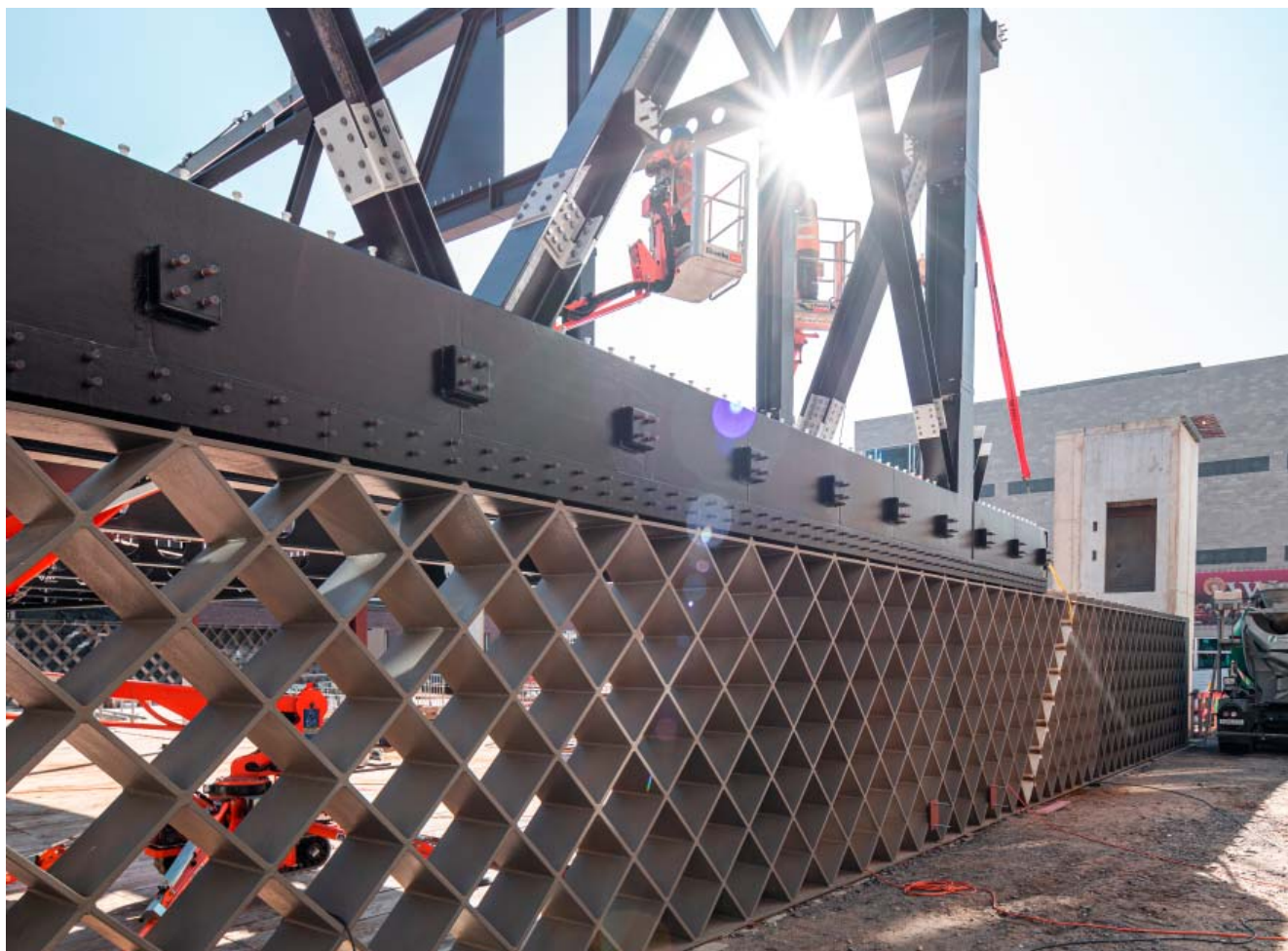
10. Storage and transport of coating materials

Storage and transport

Transport and store at temperatures between + 5 °C and + 30 °C.
The containers must be protected from frost and direct sunlight!
Opened containers must be carefully resealed.

Shelf life

The minimum shelf life of unopened containers at a storage temperature of + 20 °C is 15 months for the base and 15 months for the hardener from the date of manufacture. Outside this storage temperature, the minimum shelf life may be reduced.



Our technical advisers will be pleased to assist you with your enquiries.
 Further download details can be viewed at www.rudolf-hensel.de/920KS

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RUDOLF HENSEL GMBH

Lack- und Farbenfabrik

Lauenburger Landstraße 11
 21039 Börnsen | Germany

Tel. +49 40 72 10 62-10
 Fax +49 40 72 10 62-52

Email: contact-rh@rudolf-hensel.de
 Internet: www.rudolf-hensel.de

Extensions:
 Orders: -40
 Technical advice/ sales
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