



## **HENSOTHERM® 910 KS | HENSOTHERM® 920 KS**

### APPLICATION GUIDELINES

Two-pack (2K) fire protection coatings with 100% solids content  
for indoor and outdoor steel components, solvent free



Member of

**DGNB**

Deutsche Gesellschaft für Nachhaltiges Bauen  
German Sustainable Building Council







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**NOTE:** These application guidelines are based on the experience gained with our two-pack fire protection coatings.

**HENSOTHERM® 910 KS / HENSOTHERM® 920 KS** may be applied only by contractors we have certified in advance or by their trained specialists!



## 1. Product

**HENSOTHERM® 910 KS and HENSOTHERM® 920 KS** are two-pack epoxy fire protection coatings for indoor and outdoor applications, 100% 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® 910 KS / 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

200 kg of base + 200 kg of hardener

Packaging in small packaging for  
brushed repair work:

2.5 kg of base + 1 kg of hardener

Mixing ratio (mass): 100 : 40

Mixing ratio (volume): HENSOTHERM® 910 KS: 2.43 : 1 / HENSOTHERM® 920 KS: 2.33 : 1

Cleaning: With HENSOTHERM® V55 available as 20 litre or 200 litre container.

## 2. Airless machines, nozzles, and spraying guns

The **airless spraying** of HENSOTHERM® 910 KS and HENSOTHERM® 920 KS requires high performance single-component and two-pack airless sprayers respectively.

**Minimum requirements:** Ratio  $\geq 70:1$ , volumetric flow per double stroke  $\geq 140 \text{ cm}^3$

### Two-pack airless machines

For example:

WIWA FLEXIMIX 2

WIWA DUOMIX 333

Graco XM 70 (modified)

Graco XP 70 (modified)



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:**  $>30^\circ$  | **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  $\geq 4 \text{ m}^3/\text{min}$  under a pressure of at least 7 bar. Furthermore, there must be a storage vessel (buffer).

If necessary, e.g. at lower ambient temperatures ( $< +15^\circ\text{C}$ ), 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.

An optimal surface finish is obtained at a room temperature of  $+20^\circ\text{C}$  to  $+30^\circ\text{C}$ .

Room temperature must not fall under  $+15^\circ\text{C}$ .

Temporary temperatures  $< +12^\circ\text{C}$  are permitted, but they affect the visual appearance and flow properties, and extend the drying time!

For warranty purposes, the ambient conditions must be documented in compliance with EN ISO 12944-7 and -8 during the application.

### **4. Coating instructions**

The temperature of the steel surface and the ambient temperature must remain between  $+15^\circ\text{C}$  and max  $+35^\circ\text{C}$  during the application process.

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  $+3^\circ\text{C}$  above the dew point of the ambient air! See basic corrosion protection standard EN ISO 12944-7.

## 5. Airless applications

Preparing/mixing the material

The airless spraying of HENSOTHERM® 910 KS and 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.

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

Temperatures over +50 °C are permitted in exceptional cases only, e.g. for shorter drying times.

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!**



milk heater

**Application up to 2.5 mm** to the size of the specimens possible in one layer.

**NOTE:** The possible to apply quantity in one layer and the surface quality depends on the geometry of the structure, 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® V55** suitable for two-pack fire protection coatings.

**Material requirement per rinse:** approx 8 - 15 litres for single-component airless equipment / approx 5 - 10 litres for two-pack systems

On ending the rinsing procedure with HENSOTHERM® V55, 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® V55. Before the application is recommenced, HENSOTHERM® V55 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 TFD / after 36 hours for 3 mm TFD

The maximum follow-up application period with HENSOTHERM® 910 KS or HENSOTHERM® 920 KS is 7 days.

**NOTE:** When the follow-up application time is exceeded the surfaces must be carefully roughened without exception (grain size approx P 60 – 80).

### 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:

**Storage:** Profiles must be stored in gradient to avoid pool effect and ponding water!

**When transporting** coated sections, you may use belts or bands only with suitable auxiliary equipment, e.g. edge protectors!



### 9. Work safety / labelling and environmental protection

Use HENSOTHERM® 910 KS or HENSOTHERM® 920 KS in accordance with all applicable regulations for work safety and environmental protection. **Giscode: RE 1**

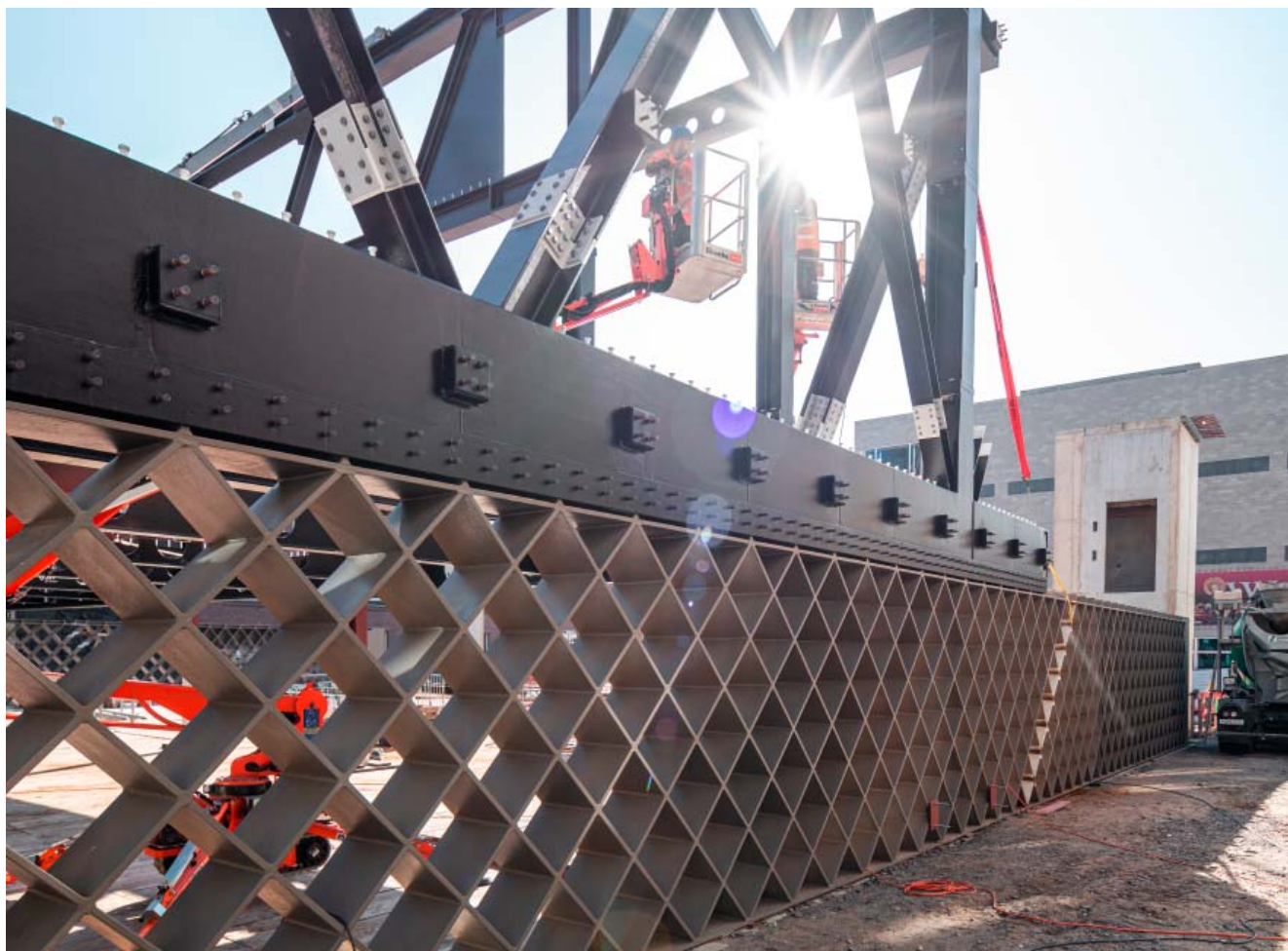
Legal regulations change frequently. The labelling and environmental protection details must therefore be taken from the current safety data sheet. These may be downloaded from the product's webpage at [www.rudolf-hensel.de/910KS](http://www.rudolf-hensel.de/910KS) or [www.rudolf-hensel.de/920KS](http://www.rudolf-hensel.de/920KS)

### 10. Storage and transport of coating materials

Storage: At min. +5 °C to max. +30 °C  
Close opened containers carefully!

Shelf life: Unopened containers 15 months at +20 °C

Transport: At min. -5 °C to max. +30 °C  
The material may be exposed to a temperature of -5 °C for a maximum of 7 days!



Our technical advisers will be pleased to assist you with your enquiries.

Further download details can be viewed at [www.rudolf-hensel.de/910KS](http://www.rudolf-hensel.de/910KS) and [www.rudolf-hensel.de/920KS](http://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

Technical Support / Sales -48

E-Mail: [contact@rudolf-hensel.de](mailto:contact@rudolf-hensel.de)

Internet: [www.rudolf-hensel.de](http://www.rudolf-hensel.de)

