

HENSOTHERM® 920 KS

PRODUCT INFORMATION

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

- Fire resistance rates R30 – R120, EN 13501-2 approved
- Application: beams / columns / compression members / tension-loaded profiles / trusses
- Max corrosion protection up to ≤ C5 very high, maintenance-free
- AgBB tested, emissions class A+
- ETA 21/0475, Certifire no. CF 5994



Member of

DGNB

Deutsche Gesellschaft für Nachhaltiges Bauen
German Sustainable Building Council



APPROVED PRODUCT
CF 5994



HENSOTHERM® 920 KS is a two-pack (2C) solvent-free fire protection coating for protecting indoor and outdoor steel sections and steel structures. HENSOTHERM® 920 KS impresses with its fire resistance rates up to 30/60/90/120 minutes, its working properties such as its optimal pot life, its thin layer thicknesses, its max achievable corrosivity category up to \leq C5 very high in the system.

Approval/classification

- ETA 21/0475
- Certifire no. CF 5994
- Max corrosion protection classification up to \leq C5 very high
- The product system is subject to internal and external monitoring.

Environment

- ✓ Solids content by volume: 100 % (determined according to ISO 3233), solvent free
- ✓ AgBB tested, emissions class A+
- ✓ Free of halogens, free of alkylphenol and benzyl alcohol
- ✓ Tested according to the criteria issued by the Committee for Health-related Evaluation of Building Products (AgBB) for VOC emissions from building products suitable for indoor use.
- ✓ Building certifications according to DGNB possible.

Field of application

- According to EAD 350402-00-1106 use categories X/Y/Z1/Z2, suitable for indoors and outdoors.
- According to EN 10025-1 for construction steels (designation S, but not S185), not suitable for machine steel (designation E)

Applications on sections

With fire resistance times of R30/60/90/120, this fire protection system is suitable for the following applications on steel structures:

Applications on standard R30 / R60 / R90 / R120 sections

- ✓ **Open sections:** Girders (bending girders) / compression members / columns
- ✓ **Open tension members:** Utilisation factor $\mu_{fi} \leq 0.50$ corresponds to ≤ 78 % in the cold measurement, acc. to aBG (Germany)
- ✓ **Hollow sections:** Compression members (Columns, circular / square)

Performance range of the two-pack epoxy fire-protection system HENSOTHERM® 920 KS

- Indoor and outdoor applications
- One system for R30/60/90/120 workshop applications
- Thin layer thicknesses, no fabric insert necessary
- Application does not require change of material from R30/60/90/120
- Max corrosivity category up to \leq C5 very high in the system (corrosion/fire protection)
- Optimised pot life and drying times for ease of application, also with suitable single-component airless sprayers
- Cleaning only during work breaks, otherwise no intermediate cleaning necessary



Packaging

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
 Packaging for two-pack airless machines: 200 kg of base + 200 kg of hardener

Packaging in small packaging for brushed repair work: 2.5kg of base + 1 kg of hardener
 Colour: Approx. RAL 7045 (Telegrey 1), matt
 Cleaning with HENSOTHERM® V22 available as 20 litre or 200 litre container.

Coating Structure

Set-up on blasted steel sections indoors		Indoors			
		C2 high C3 low C3 middle	C2 very high C3 high C4 middle	C4 very high C4 high C5 high	≤ C5 very high R60 / R90
Preparatory blasting for surface preparation grade 2.5		●	●	●	●
Corrosion protection	HENSOGRUND 2K EP (DFT)	○	● (60 µm)	● (80 µm)	● (160 µm)
Fire protection coating	HENSOTHERM® 920 KS	●	●	●	●
Top coats	HENSOTOP 2K PU (70 µm)	○ ²	○ ²	●	●
	HENSOTOP SB ¹	○	○ (on request)	-	-

DFT = dry film thickness

○ = dry indoors optional (when no adverse ambient effects)

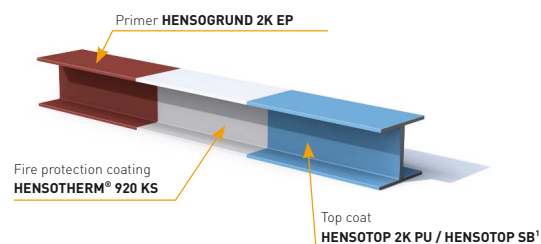
● = mandatory use!

- = not possible

¹ = Application only in dry indoor areas (cat. Z1, Z2).

Enquire about possible weathering time.

² = After complete drying, HENSOTHERM® 920 KS can be (without primer and top coat, without environmental influences such as maritime climate or aggressive gases) weathered on the construction site for up to 6 months. For subsequent indoor use.



Set-up on blasted steel sections outdoors		Outdoors		
		C2 very high C3 high C4 middle	C4 very high C4 high C5 high	≤ C5 very high R60 / R90
Preparatory blasting for surface preparation grade 2.5		●	●	●
Corrosion protection	HENSOGRUND 2K EP (DFT)	● (60 µm)	● (80 µm)	● (160 µm)
Fire protection coating	HENSOTHERM® 920 KS	●	●	●
Top coat	HENSOTOP 2K PU (70 µm)	●	●	●

DFT = dry film thickness

● = mandatory use!

Set-up on galvanized steel sections		Indoors		Outdoors		
		C2 very high C3 high C4 middle	C4 very high C4 high C5 high	C2 very high C3 high C4 middle	C4 very high C4 high C5 high	≤ C5 very high R60 / R90
Preparatory sweep blasting		●*	●	●	●	●
Adhesive primer	HENSOGRUND 2K (DFT)	● (60 µm)	● (60 µm)	● (60 µm)	● (80 µm)	● (160 µm)
Fire protection coating	HENSOTHERM® 920 KS	●	●	●	●	●
Top coats	HENSOTOP 2K PU (70 µm)	○ ²	●	●	●	●
	HENSOTOP SB ¹	○	-	-	-	-

DFT = dry film thickness

○ = dry indoors optional (when no adverse ambient effects)

● = mandatory use!

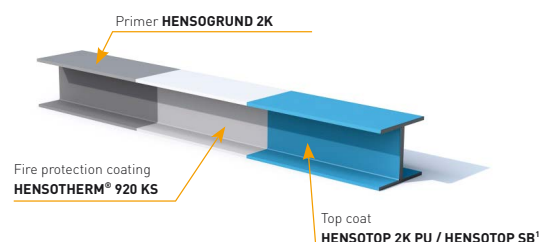
- = not possible

* = optional preparation with high-pressure cleaner (min. 80 °C hot water)

¹ = Application only in dry indoor areas (cat. Z1, Z2).

Enquire about possible weathering time.

² = After complete drying, HENSOTHERM® 920 KS can be (without primer and top coat, without environmental influences such as maritime climate or aggressive gases) weathered on the construction site for up to 6 months. For subsequent indoor use.



Notes on cladding and connections

The steel components treated with the reactive fire protection coating must not have any cladding or other sheathing that could prevent the intumescent coating from foaming. When connecting other components, the connection point must be designed in such a way that fire exposure of the component to be protected is sufficiently prevented, or the components to be connected must themselves be protected in such a way that they do not promote the heating of the component to be protected.

Application instructions

NOTE: For every application of reactive fire protection coating, the applicator must inform the customer in writing that the fire protection effects are ensured only when the reactive fire protection coating is maintained in a proper condition at all times, and he must specify the coating materials that may be used to repair and renew the reactive fire protection coating.

- The coating system may be processed **by trained professionals and certified companies only!**
- The coating materials Component A (base) and Component B (hardener) must present a homogeneous mixture at all times during the application.
- When each coating substance is being applied, the material, substrate, and air temperature may not fall below +15 °C nor the relative air humidity exceed 80 %.
- During the application, the surface temperature of the coated substrates must be at least +3 °C above the dew point of the ambient air.
- The treated substrate temperature may not exceed +35 °C.
- For warranty purposes, the ambient conditions must be documented in compliance with EN ISO 12944-7 during the application.

Preparing the steel sections

Uncoated sections must be blasted according to surface preparation level Sa 2.5.

Priming/galvanising

If corrosion protection requirements demand an additional primer coating for the entire system, this must be applied with **HENSOGRUND 2K EP** in advance. The same applies to galvanised surfaces with **HENSOGRUND 2K**. The galvanised components must have degassed completely prior to coating with **HENSOGRUND 2K** (blistering!) and bond damaging substances must have been removed without trace by means of sweep blasting. Please consult the respective Technical Data Sheets.

Joins, contacting surfaces, drill holes, and areas around bolted connections must be masked off with adhesive tape or magnetic plates in advance. From experience, the adhesive tape must be removed about 1 – 2 hours after HENSOTHERM® 920 KS has been applied.

Fire protection coating

Further details on how to apply the intumescent HENSOTHERM® 920 KS can be taken from the application guidelines.

Top coat

Top coat for outdoor applications to prevent UV effects, sporing, and chalking. The top coat is not resistant to physical effects and is used for indoor applications only for its colour effects.

The top coat **HENSOTOP 2K PU**, available in RAL or DB colour shades, may not be applied until **complete, thorough drying** of the last HENSOTHERM® 920 KS coating, i.e. no sooner than 24 hours and after a successful finger nail test.

No more than 7 days may pass between the last application of HENSOTHERM® 920 KS and the application of top coat. Otherwise, the surfaces must be roughened carefully without exception [grain size approx P 60 – 80].

HENSOTHERM® 920 KS bolt caps

Steel structures pre-coated in the factory with **HENSOTHERM® 920 KS** and assembled on site still require a time-consuming and usually unsightly-looking subsequent coating of the screw connections.

We have the solution!

Prefabricated **HENSOTHERM® bolt caps** made from the corresponding **HENSOTHERM® 2C**-system are now available for screw heads and screw nuts in diameters of Ø 12, 16, 20, 24, 27, 30 and 36 mm. The design can be carried out in accordance with ETA on the basis of the certificate for screw caps.

Further information can be found in our flyer and on our website www.rudolf-hensel.de/920KS



Assembly of bolt caps



Screw nuts / Screw heads

Benefits of HENSOTHERM® 2C systems

A two-pack system for fire resistance classes R 30/60/90/120: Faster application because no change of system necessary. Max corrosivity categories C5 High are possible in the system. The optimally adjusted (longer) pot life also allows working with suitable 1-component systems.



HENSOTHERM® 2C systems are applied in the workshop and are already optimally protected against mechanical stress and the weather after 24 hours' drying time. This means that steel elements that have already been coated can be stored outdoors and/or transported directly to the site of use and installed there so as to save time.



100 % solids volume, solvent-free, AgBB-tested, emission class A+, free from halogens, alkylphenol and benzyl alcohol, building certifications according to DGNB possible.

Excerpt from our two-pack references	Area	Fire resistance	Year
Zoo, Neuwied DE	1,400 m ²	R 30	2016
Berlin Tegel Airport DE	1,540 m ²	R 30	2017
Triple purpose sports hall, Passau DE	2,970 m ²	R 30	2017
New school, Laufen CH	3,850 m ²	R 30	2018
Lidl DK	8,500 m ²	R 15	2018
City centre, Stockholm SE	15,000 m ²	R 60	2018
Recreational baths, Würzburg DE	2,400 m ²	R 30	2018
Multistorey car park, Husum DE	5,800 m ²	R 30	2019
Toyota Lexus, Cologne DE	1,500 m ²	R 30	2019
Siemens, Marburg DE	3,500 m ²	R 30	2020
LVR MiQua museum, Cologne DE	15,000 m ²	R 30	2020/21
Hospital, Stavanger NO	2,500 m ²	R 30	2022
Loick Green Tec GmbH, Dorsten DE	6,000 m ²	R 30	2023
Datacenter Delfzijl NL	18,000 m ²	R 60	2024
Bora, Herford DE	3,500 m ²	R 30	2024
Multistorey car park BHZ, Erfurt DE	3,700 m ²	R 30	2024



Our technical advisers will be pleased to assist you with your enquiries.
Further details can be downloaded from: **www.rudolf-hensel.de/920KS**

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