HENSOTHERM® 310 KS RAPID

FIRE PROTECTION SYSTEM FOR STEEL
TECHNICAL DATA SHEET

- Fire resistance class R 30 – R 60; up to U/A 470 m^{-1}
- Approved according to EN 13501-2
- ETA 20/1259
- Solvent based, free from borates and silicones
- For indoor and outdoor applications
- AgBB tested: approved for use in common rooms
- Suitable for construction sites and workshop coatings

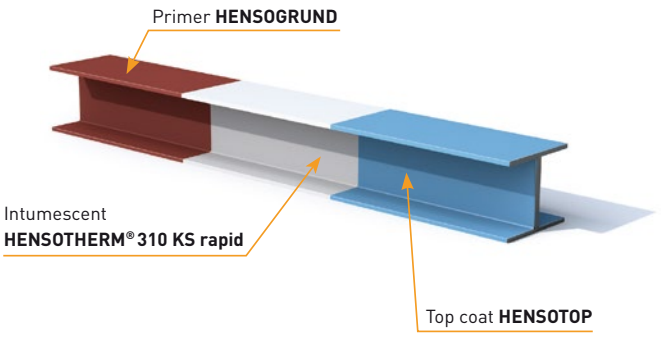
CE
ETA 20/1259
EOTA

rapid

Made in Germany

TECHNICAL INFORMATION

HENSOTHERM® 310 KS rapid is a solvent based, single component (1C) fire protection coating for upgrading steel sections and steel structures in indoor and outdoor areas and in open buildings. HENSOTHERM® 310 KS rapid presents a convincing combination of ultra thin coating thicknesses, short drying times, and high cost effectiveness. This maintenance-free fire protection system consists of the primer HENSOGRUND, the intumescent HENSOTHERM® 310 KS rapid, and the top coat HENSOTOP. In dry indoor areas (Z2) it is also suitable without top coat.



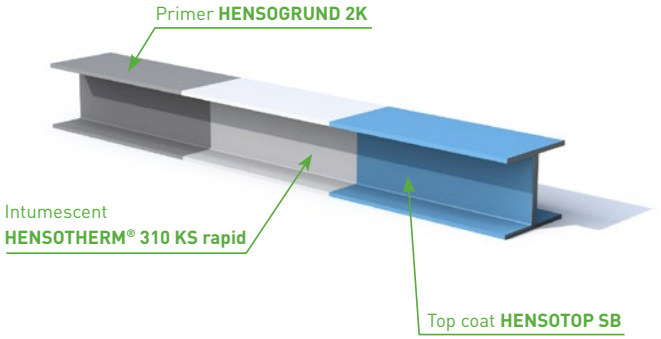
With a fire resistance time of R 30 – R 60, the fire protection system HENSOTHERM® 310 KS rapid is suitable for the following applications on steel structures:

coating of standard R 30/60 sections

✓**I/H sections:** girders / compression members / columns

✓**Hollow sections** (circular / square): compression members / columns

Suitable system components like e.g. primers and top coats can be taken from the following page 3. The 1C fire protection system is applied before shipping or directly on site. This poses no problems especially when applied as an upgrading or renovation measure in existing buildings.



Buildup on galvanised steel sections

- The galvanising plant must fulfil additional requirements if the zinc coating is subsequently treated or is to take an additional coating (see 6.3): DIN EN ISO 1461:2009-10, Annex A
- The galvanised components must have degassed completely prior to coating with HENSOGRUND 2K (blistering!)
- Clean / remove completely all coatings and residue compromising adhesion. Afterwards prime with HENSOGRUND 2K*

TECHNICAL INFORMATION

Approval / classification

- DIN EN 13381-8 tested
- ETA 20/1259 | aBG Z-19.51-2562
- VKF no. 24647
- CE marking in accordance with 93/68/EEC

Field of application

- According to EAD 350402-00-1106 use categories X/Y/Z1/ Z2, suitable for indoors and outdoors
- Stagnant moisture must be eliminated by the design! Bases, e.g. in multistorey carparks, must be designed accordingly.
- According to EN 10025-1 for construction steels (designation S, but not S185), not suitable for machine steel (designation E)

Notes on cladding, jacketing, connections

The steel components treated with this reactive fire protection coating may not be cladded or jacketed: this may prevent the intumescent from foaming.
The sites connecting to other components must afford adequate protection against the effects of fire on the treated component, or the connected components must suppress the heat transferred to the treated component.
Applying in all other cases is DIN 4102-4: "Fire behaviour of building materials and building components – Part 4: Synopsis and application of classified building materials, components and special components".

Coating instructions

NOTE: For every application of reactive fire protection coating, the applicator must inform the principal in writing that the fire protection effects are safeguarded 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. An inspection or visual examination must be performed once a year on outdoor applications.
The coated components must be accessible to inspection and maintenance work.

- The coating system may be processed by trained professionals only!
- When each coating substance is being applied, the material, substrate, and air temperature may not fall below +5 °C nor the relative air humidity exceed 80%.
- During the application, the surface temperature of the coated parts must be at least +3 °C above the dew point of the ambient temperature.
- The treated surface temperature may not exceed +25 °C.
- Higher ambient temperatures and strong air movements lead to an uneven surface (cloud formation) due to rapid drying.
- **For warranty purposes, the ambient conditions must be documented in compliance with EN ISO 12944-7 and -8 during the application.**
- **All supporting standards such as DIN 4102, aBG, DIN EN ISO 12944-4, etc., must be considered in the planning and application stages. Accessibility must be safeguarded for possible inspections.**
  Outdoor areas: Annual inspections
  Indoor areas: Inspections every two years

NOTE: Exclusion of warranty in outdoor areas!

Workshop coating

The temperature of the steel surface and the ambient temperature must remain between +10 °C and max +25 °C during the coating procedure. Please request our technical data sheet for the workshop coating.

Surface preparation / primer

NOTE: Adequate corrosion protection must be provided. This varies with the surface roughness.

Uncoated sections

- Blasting according to preparation level Sa 2.5, DIN EN ISO 12944-4; afterwards priming with HENSOGRUND 1966 E*, HENSOGRUND 1K AK*, or HENSOGRUND 2K EP*.
- There may have to be manual derusting according to preparation level PSt 2 / St 2, DIN EN ISO 12944-4; afterwards priming with HENSOGRUND 1K AK*.

Primed sections

- Third party primer tested for its suitability as a substrate for HENSOTHERM® 310 KS rapid; see data sheet "Testing old coatings on steel structures".
- If unsuitable, the third party primer must be removed. Then proceed as for uncoated sections.
- If suitable, it must be examined for damage and, if necessary, touched up with the primer used.

After extended weathering, primed sections must be examined for damage, and their dry film thickness measured and, if necessary, touched up prior to the application of HENSOTHERM® 310 KS rapid! Further details can be taken from the technical data sheets for our HENSOGRUND priming products.

Galvanised sections

- The galvanising plant must fulfil additional requirements if the zinc coating is subsequently treated or to take an additional coating (see 6.3): DIN EN ISO 1461: 2009-10, Annex A.
- The galvanised components must have degassed completely prior to coating with HENSOGRUND 2K* (blistering!)
- Clean / remove completely all coatings and residue compromising adhesion. Afterwards prime with HENSOGRUND 2K*.

Application

Before application, mix thoroughly with a slow agitator! Clean equipment with water immediately after use!

Airless spraying

- The optimal spraying results are obtained when HENSOTHERM® 310 KS rapid is at room temperature.
- The product may be diluted with max 5% HENSOTHERM® V 45 or HENSOTHERM® V 60.
- Suitable equipment is all airless pumps generating a material pressure of 200 – 250 bar, fitted with a spray nozzle of 0.017 " – 0.025 ", and delivering > 4 l/min.
- Equipment filters may be left in place, but all others should be removed.
- Up to 1,000 g/m² (approx 550 µm dry film thickness) can be applied in the one operation.

* Please consult the respective technical data sheet.

TECHNICAL INFORMATION

- If more than one spraying operation is needed to obtain the required dry film thickness, the first should not apply more than 500 g/m² (approx 275 µm dry film thickness). The next intumescent or top coat may not be applied until the material is fingernail proof.
- The actual quantity applied in the one operation varies with the section type.

Rolling and brushing

- Apply with a solvent resistant, short to medium pile or mohair roller
- Apply with a solvent resistant, long China bristle brush

NOTE: This product dries quickly, so brushes and rollers are recommended for touching up small areas only.

Drying time

- At a material, room, and substrate temperature of +20 °C and under a relative air humidity of 65 %, each coating (max 1,000 g/m²) requires at least 24 hours to dry.
- Each coating must have dried thoroughly before taking the next or touching up (fingernail proof).
- Lower temperatures, higher air humidities, and/or inadequate air circulation extend the drying time!

Top coats

HENSOTOP top coats offer a range of colours and protection against moisture and should be applied when the surfaces are exposed to environmental and cleaning effects. They may not be applied until the last HENSOTHERM® coating has dried thoroughly, i.e. no earlier than 24 hours and after a successful fingernail test! The top coat is not needed in dry indoor areas free of condensation. Dark top coats* should not be used on steel surfaces exposed regularly to temperatures in excess of +45 °C. HENSOTOP top coats are available in RAL and DB colours or matching custom colour samples.

HENSOTHERM® 310 KS rapid is compatible with the following top coat*: HENSOTOP SB, HENSOTOP 2K PU

Storage and transport

NOTE: The flash point is < +21 °C!

- Storage and transport at min +5 °C and max +30 °C.
- Shelf life: Unopened containers can be used for 20 months (stored at 20 °C).
- Seal opened packaging carefully!

NOTE: Temperatures outside of the specified limits reduce the shelf life.

Packaging

25 kg tinplate pails, other sizes on request

Work safety

Use HENSOTHERM® 310 KS rapid in accordance with all applicable regulations for work safety and environmental protection.
Giscode: M-DF01

Labelling and environmental protection

Legal regulations change frequently. The labelling and environmental protection details must therefore be taken from the current safety data sheet.

Identification plates

The structure coated with HENSOTHERM® 310 KS rapid must be provided with identification plates, available from Rudolf Hensel GmbH.

* Please consult the respective technical data sheet.

Our technical advisers will be pleased to assist you with your enquiries.
Further details can be downloaded from: **www.rudolf-hensel.de/310KSRA**

RUDOLF HENSEL GMBH
Lack- und Farbenfabrik

Lauenburger Landstraße 11
21039 Börnsen | Germany

Internet: www.rudolf-hensel.de

LLOYD'S REGISTER · LRQA
ISO 9001
UKAS MANAGEMENT SYSTEMS
001

Distributor Austria

KANSAI HELIOS

KANSAI HELIOS Austria GmbH
Ignaz-Köck-Straße 15 | 1210 Wien, Austria

Tel.: +43 1 27702-0
E-Mail: office@kansai-helios.at
Internet: www.kansai-helios.at