




## KÖSTER KSK SY 15

Technical Data Sheet W 815 105

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- Radon impermeability test - University of Saarland  
 - MPA Braunschweig "Testing according to DIN EN 13969" - July 2020  
 - Test report 2017100201d for determining the Radon diffusion length of a cold, self adhesive waterproofing membrane on HDPE foil (KSK) KÖSTER KSK SY 15 from Dr. Joachim Kemski  
 - Test report 2017103001d for determining the Radon diffusion length of a cold, self adhesive waterproofing membrane on HDPE foil (KSK) KÖSTER KSK SY 15 - Overlap area - from Dr. Joachim Kemski

### Cold self adhesive bitumen membrane with HDPE top foil (moisture barrier type A and ground water barrier type T) 1.5 mm x 1.05 m x 20 m, 21 m<sup>2</sup>

 0761-CPR-0424	KÖSTER BAUCHEMIE AG Dieselstraße 1-10, 26607 Aurich 20 <b>W 815</b> <b>EN 13969:2004</b> <b>KÖSTER KSK SY 15</b> <b>Cold self adhesive bitumen membrane with HDPE-top foil Moisture barrier (Type A) and ground water barrier (Type T) EN 13969:2004 + A1 2006</b>
Flammability Tensile strength lengthwise/crosswise Elongation at break lengthwise/crosswise Resistance to static loads Resistance to impact loads Resistance to impact loads Waterproof at 400kPa pressure Resistance of the joint seams to shearing Resistance of the joint seams lengthwise/crosswise Colt bending properties Straightness Permanently resistant to Aging: Chemicals:	Class E 265 ± 55 N/50 mm 255 ± 60 % 10 kg tight 20 cm (hard underlayment) 75 cm (soft underlayment) passed 130 ± 30 N/50 mm 175 ± 20 N > - 15 °C passed passed passed

- Crack-bridging
- Fast application due to the size of the membrane (1.05 m)
- Age resistant
- Laminated on the top side with a highly tear resistance foil
- Radon-proof tested
- Vapor tight  $\mu \leq 130\ 000$
- Can be applied to all mineral substrates as well as plastic and metal
- Self-sealing in case of small damage
- High seam resistance against water pressure and water vapor
- No need for use of external adhesive or mastics to ensure lap bonding or substrate adhesion
- Factory applied adhesive on the overlap areas improves security
- Less time needed for installation as product is ready to use
- Reduced material and labor costs on site

#### Technical Data

Working temperature	+ 5 °C to + 35 °C
(Air/substrate)	
Thickness according to DIN EN 1849-1 (MDV)	1.5 mm
Length according to DIN EN 1848-1	20 m
Width according to DIN EN 1848-1	1.05 m
Straightness according to DIN EN 1848-1 (MDV)	passed
Flammability according to DIN EN 13501-1	Class E
Tensile strength according to DIN EN 12311-1	265 ± 55 N / 50 mm
Elongation at break according to DIN EN 12311-1	255 ± 60 %
Waterproof 400 kPa according to DIN EN 1928 (72 h)	passed
Resistant to static loads DIN EN 12730 procedure B (10 kg)	tight
Resistance against artificial aging (heat aging) according to DIN EN 1928, procedure. B	passed
Resistance to impact loads acc. to DIN EN 12688	
Procedure A (AI-Underlayment)	tight
Procedure B (EPS-Underlayment)	tight
Resistance against artificial aging according to DIN EN 1296 and 1928, procedure. B (test pressure 60 kPa)	passed

#### Features

KÖSTER KSK SY 15 consists of a highly tear resistant, 2-layer cross laminated polyethylene foil with a plastic bitumen / rubber adhesive and sealing compound. It is cold applied and therefore no hot air or propane gas welding is required for application. Due to its high ductility it can easily be applied to difficult details. The sealing membrane is highly flexible, immediately waterproof, resistant to driving rain, and crack bridging. KÖSTER KSK SY 15 is radon proof. Suitable for waterproofing concrete structures or their elements in contact with the ground, to protect against the ingress of moisture and possibly dissolved salts (e.g. chloride).

#### Advantages:

- Cold applied, self-adhesive
- No hot air or propane gas welding is required
- Immediate waterproofing effect
- Uniform waterproofing layer
- Highly flexible due to rubber-bitumen basis
- Solvent-free

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Resistance against chemicals according to DIN EN 1847 and 1928 procedure B (Test pressure 60 kPa)

- 10 % NaCl	passed
- Lime milk	passed
- 6 % Sulfuric acid	passed

Resistance to water vapor diffusion  $\mu$  (MDV) 130,000

Resistance to continued tearing lengthwise / crosswise according to EN 12310-1 (MDV) 175 N  $\pm$  20 N

Cold bending properties according to DIN EN 1109 at - 15 °C free of cracks

Resistance of the joint seams to shearing according to DIN EN 12317-1 (MDV)

- butt weld	> 130 $\pm$ 30 N / 50 mm
- 10 cm overlap	> 200 $\pm$ 30 N / 50 mm

MDV = manufacturer's specifications within tolerance

### Fields of Application

KÖSTER KSK SY 15 is suitable for waterproofing horizontal and vertical surfaces of structures and/or structural members according to DIN EN 18533 such as foundation plates, wet rooms, basement floors, balconies, terraces, etc.

KÖSTER KSK SY 15 is also suitable for protection against radon gas.

KÖSTER KSK SY 15 is radon and methane proof. The previously stated application directions are suitable for carrying out radon proof layers.

### Main Fields of Application

- Foundation plates
- Structural members
- Vertical retaining walls
- Floor slabs from inside
- Basement floors
- All underground structures
- Tunnels
- Bridges
- Balconies
- Terraces
- Wet rooms

### Substrate

The substrate has to be clean, dry, even, and without sharp corners, ridges, gaps, or voids. It can be mineral, polystyrene, or wooden. In case of basement walls made of masonry, the joints have to be closed flush. As a primer a thin coat of KÖSTER KBE Liquid Foil is applied to the substrate (Consumption: approx. 250 – 500 g / m<sup>2</sup>). Alternatively, KÖSTER Primer BL (Consumption approx. 0,25 - 0,4 kg / m<sup>2</sup>), KÖSTER Bitumen Emulsion, KÖSTER Bitumen Primer (on old bituminous layers), or KÖSTER Polysil TG 500 can be used for priming. The priming layer must be allowed to dry completely. According to Norm a primer is not necessarily required on floor areas. Apply the membrane on the same day.

In case of strongly absorbent substrates, (e. g. porous concrete), a

second primer coat may be necessary.

Solid, well consolidated horizontal substrates may not require a primer.

At wall / floor, wall / wall junctions and on offset foundations, fillets with a leg length of 4 – 6 cm must be installed using a cement mortar such as KÖSTER Repair Mortar. It must be fully cured before the KÖSTER KSK SY 15 membranes are installed, (min. waiting time: 24 hours).

### Application

When cutting membranes always use a sharp knife. To avoid having the knife stick to the membrane wet the blade repeatedly. Avoid cutting the material when it has been exposed to heat or direct sunlight. Remove the backing paper after cutting the membrane.

Cutting membranes to length is facilitated by laying a piece of wood or straight edge on top of the membrane along the course of the cut as a guide and cutting support. Do not apply KÖSTER KSK SY 15 at temperatures below + 5 °C.

### Horizontal waterproofing

On top of the fillet, an approximately 30 cm wide strip is applied as corner reinforcement. Apply the vertical and horizontal layers on top of the strip. Roll out membranes or pre-cut pieces in a length of approx. 50 – 80 cm, remove approx. 30 – 50 cm of the backing paper at the beginning of the membrane and press the exposed adhesive layer onto the substrate beginning from the middle. Avoid trapping air and creating creases. Pull the backing paper through from under the roll and pull it off while unrolling the membrane. Firmly press the applied membranes onto the substrate. Use the KÖSTER Leister Hand Pressure Roller (40 mm) on the overlaps and edge areas. Overlap the membranes a minimum of 5 cm, national and local guidelines may vary. Connections to metal are achieved using a strip of KÖSTER Fix-Tape 10 ALU. Connections to vertical interior walls are made with KÖSTER Butyl Fix-Tape Fleece to act as a plaster base. All inside corners are to receive a fillet.

Cover roofs after waterproofing with a geotextile and cover with a screed or round gravel 16 / 32, 5 cm thick.

### Vertical waterproofing of basement walls

1. All interior and exterior corners are reinforced by applying pre-cut membrane pieces approximately 30 cm wide. Remove the backing paper just before applying the membrane to the surface.

2. For waterproofing of the especially demanding internal and external corners use specially cut pieces of membrane. Refer to the KÖSTER KSK application guidelines on the packaging for details.

3. Waterproof wall surfaces beginning approx. 30 cm above ground level, proceeding downwards to the wall floor junction and on to the side of the foundation. Pre-cut the membrane to the required length. Apply the membrane by removing the protective paper and pressing the membrane onto the substrate. Overlap the edge of the previously applied membrane by a minimum of 5 cm. All overlapping areas of the membranes must be firmly pressed together using a KÖSTER Leister Hand Pressure Roller (40 mm). Remove the backing paper from the self-adhesive edge before applying the next membrane.

4. In order to avoid water infiltration behind the membrane, seal all exposed edges of the waterproofing layers as well as around pipe penetrations and other junctions and endings with KÖSTER KBE Liquid Film. Mechanically fix the upper ends of the membranes with large headed zinc coated nails, (5 pieces / m), or with a fixing profile. In case of rough substrates or porous concrete, a second coat may be

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needed after the first coat has fully dried. Embed KÖSTER Glass Fiber Mesh into the KÖSTER KBE Liquid Film around pipe penetrations.

5. Protect the KÖSTER KSK SY 15 with KÖSTER Protection and Drainage Sheet 3-400 against damage due to backfilling. A layer of XPS Insulation (minimum 30 mm) also provides protection against backfill. The construction pit should be backfilled immediately after full cure of the KÖSTER KBE Liquid Film. Horizontal areas must be covered within two weeks of their application.

### Application Procedure

#### New construction:

It is necessary to prepare the substrate correctly to achieve the guaranteed durability. Edges must be rounded with appropriate tools and the surface of the walls must be intensively cleaned of any adhesion-inhibiting substances.

Surface roughness must be levelled according to depth. Level surfaces (i.e. voids and any irregularities, blowholes, or breakouts) with KÖSTER Repair Mortar Plus or KÖSTER Repair Mortar with the addition of a maximum of 30% KÖSTER SB Bonding Emulsion added to the mixing water.

Install fillets made from KÖSTER Repair Mortar Plus at the wall / floor junctions and respectively blinding layer / floor or at inside corners, (rounded fillets with leg length of 4- 6 cm). Alternatively KÖSTER Deuxan 2C can be used (with leg length of 2 cm). Moving joints must be sealed with KÖSTER Joint Tape 20 / 30 using KÖSTER KB-Pox as adhesive. Prime the surface with KÖSTER KBE Liquid Film. Apply an undiluted thin layer of primer over walls exterior surfaces including fillets and foundation. Alternatively KÖSTER KSK Primer BL can be used. An adhesion check is required to check if the substrate has reached the required adhesion level.

#### Restoration:

Clean the surface following proper methods to clear any adhesion-reducing substances. Seal the surface of the substrate with a coat of KÖSTER Polysil TG 500. Imperfections in old bituminous surfaces must be smoothed with KÖSTER BS Bitumen paste. Prime the bituminous substrate completely with KÖSTER Bitumen Primer and allow adequate drying time. Alternatively KÖSTER KBE Liquid Film or KÖSTER KSK Primer BL can be used as primer. An adhesion check is required to check if the substrate has reached the required adhesion level.

#### Consumption

Approx. 1.05 m<sup>2</sup> / m<sup>2</sup>

#### Cleaning

Clean cutting tools with KÖSTER Universal Cleaner.

#### Packaging

W 815 105 1.5 mm x 1.05 m x 20 m, 21 m<sup>2</sup> roll

#### Storage

- Store rolls standing upright. Do not place pallets on top of each other
- Protect from pressure and moisture
- Do not remove the roll from its package until the moment of application
- Do not expose rolls to low temperatures or direct sunlight
- Avoid keeping the product outside for long periods when the external temperature is higher than + 28°C
- Do not leave the roll outside overnight. If possible use the entire

product which has been removed from its original packaging in the same day

- Do not apply on dirty, wet, dusty or humid surfaces
- Do not apply when the weather is cold or humid and/or when the substrate is humid (the temperature of the areas in which the various materials are in contact should be at least + 10 °C)

#### Safety

Observe all governmental, state, and local safety regulations when installing the material.

#### Other

##### Packaging / Supply:

Unit: 21 m<sup>2</sup> roll (1.05 m x 20 m)

Pallet content: 15 rolls (315 m<sup>2</sup>)

Pallet size: Euro Pallet (1.2 m x 0.8 m x 0.14 m)

#### Related products

KÖSTER Leister Hand Pressure Roller 40 mm	Prod. code RT 998 001
KÖSTER Bitumen Primer	Prod. code W 110 010
KÖSTER KSK Primer BL	Prod. code W 120 015
KÖSTER KBE Liquid Film	Prod. code W 245
KÖSTER Glass Fiber Mesh	Prod. code W 411
KÖSTER Repair Mortar	Prod. code W 530 025
KÖSTER Butyl Fix-Tape Fleece	Prod. code W 815 015 F
KÖSTER KSK ALU 15	Prod. code W 815 096 AL
KÖSTER SD Protection and Drainage Sheet 3-400	Prod. code W 901 030
KÖSTER SD Protection and Drainage Sheet 3-250	Prod. code W 903 030
KÖSTER Roofing Nails	Prod. code W 981 001
KÖSTER Universal Cleaner	Prod. code X 910 010

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<b>Technical Data</b>	<b>Product Name: KÖSTER KSK SY 15</b>
Material Class	Cold self-adhesive membrane
Temperature range for application	+ 5 °C to + 35 °C
Consumption approx.	1.05 m <sup>2</sup> / m <sup>2</sup>
Layers	1 + primer
Color	Black
Solvent-Free	Yes
Mode of application	Hand application
Suitable for negative side waterproofing	Sandwich-Waterproofing
Waiting time until backfilling	No waiting time (protection is required)
Simplicity of application	+++
<b>Substrate</b>	
Masonry	+++
Cementitious plaster	+++
Concrete	+++
Polystyrene	++
Old Bitumen membranes / coatings	++
Plaster	+++
Concrete or ceramic bricks	+++
Screeds	+++
Old ceramic substrates	+++
Gypsum	Should be removed
Moisture condition of surface	Dry
<b>Performance</b>	
Waterproofing against max. load condition	Pressurized Water
Time until rainproof	Immediately
Chemical resistance	Good
Tested to be radon proof	Yes
Permeability to vapor diffusion	Very low
UV-resistance	Not long term resistant
Crack bridging	+++

Lower+ Medium++ High+++

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