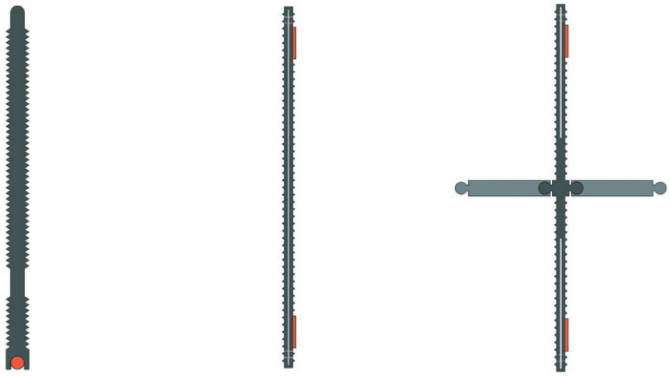
BUILDING TRUST

PRODUCT DATA SHEET

Sika® KAB combination joint waterbars waterstopping systems

Waterbars for waterproofing construction and crack induced shrinkage joints in new reinforced concrete structures

PRODUCT-DESCRIPTION



KAB 125/KAB 150 | KAB 175 S | KAB 175 SR mit SE 45

The Sika KAB combination waterbar for construction joints is a sealing profile made from thermoplastic PVC-P, for the waterproofing of construction joints and particularly crack induced (shrinkage) joints.

DESIGNATION	Sika Kombinationsarbeitsfugenband KAB [Größe]
PRODUCT CHARACTERISTICS	▪ High mechanical resistance ▪ Resistant to naturally occurring materials aggressive to concrete ▪ Resistant to a broad spectrum of chemicals (testing is recommended for specific chemical combinations) ▪ Robust cross-sections for handling on site ▪ Easy to install ▪ Weldable
PRINCIPLES OF USE	Design and installation principles as per General Appraisal Certificate abP.

USES	For use in watertight concrete structures, in in-situ concrete and in structures with cavity walls. - KAB 125, KAB 150: Waterproofing of base slab/wall construction joints - KAB 175 S: Wall/wall construction joints - KAB 175 SR Wall/wall crack induced joints For use together in a combined joint waterstopping system: KAB 125 or KAB 150 in the base slab/wall construction joint with KAB 175 S in the wall/wall construction joint and KAB 175 SR as the wall/wall crack inducer. Examples of use: Residential, Commercial and Public building basements, underground parking garages, water holding tanks etc.
STANDARDS / REGULATIONS	- General Appraisal Certificate abP (currently under preparation for KAB 175 S and KAB 175 SR) - DafStb WU Regulations - Operating instructions for welding machine SG 320 L - Installation and welding instructions
CERTIFICATION / APPROVALS	- Certificate of Compliance - Certificate of Conformity ÜH

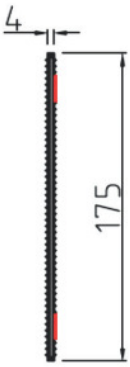
PRODUCT DATA

MATERIAL	Thermoplastic PVC-P NB, together with elastomer based hydrophilic swellable profiles, or thermoplastic hydrophilic swellable strips
COLOUR	Black
PACKAGING	- KAB 125, KAB 150 Boxed set comprising: 25 m roll with 50 installation ties, - KAB 175 S Boxed 25 m rolls - KAB 175 SR 4 x 2.75 m lengths with 8 x 2.75 m lengths with crack inducer SE 45, boxed
STORAGE	▪ Store on the pallet or on a flat base ▪ Long-term storage ≥ 6 months in enclosed areas: The storage area should be cool, dry, free from dust and well ventilated. Protect the waterbars from heat and strong light with high UV. ▪ Short-term storage > 6 weeks and < 6 months in enclosed areas: As for long-term storage. Outdoors on construction sites: - Protect by covering against direct sunlight, snow, ice or contamination - Store away from any materials, plant and equipment with the potential to cause damage, e.g. structural steel or fuel tanks - Store way from site roads - Keep dry ▪ Short-term storage ≤ 6 weeks outdoors on construction sites: - Protected from contamination and damage - Protected from damp and moisture - Protected by a cover from strong sunlight (summer) or snow and ice (winter)

MECHANICAL PROPERTIES

SHORE-A HARDNESS	83 ± 5 Shore-A	DIN 53505
TENSILE STRENGTH	≥ 8 MPa	DIN EN ISO 527-2
ELONGATION AT MAXIMUM FORCE	≥ 200 %	DIN EN ISO 527-2
TEAR PROPAGATION STRENGTH	≥ 12 N/mm	DIN ISO 34-1
REACTION TO COLD (-20°C) ELONGATION AT MAXIMUM FORCE	≤ 100 %	DIN EN ISO 527-2
BEHAVIOUR IN FIRE	Material class B2	DIN 4102-1

TYPES

Type	Cross-section	Water pressure [bar]	Component thickness [mm]
KAB 125		2	≥ 240
KAB 150		2	≥ 240
KAB 175 S with perforations at the edges for fixing		2	≥ 240
the edges for fixing		2	≥ 240

SPECIAL STRESSES

For resistance to stress from exposure to temperatures and/or chemical agents other than those defined in DIN 4033, specific additional tests are recommended.

SYSTEM DATA

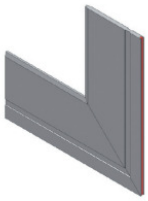
GENERAL

In accordance with DIN 18197, for the KAB combination construction joint waterbars, all connections produced on site should be butt joints and any other profile joints should be prefabricated off-site.
The prefabrication of these waterbar / waterstopping systems in factory quality controlled conditions also reduces the number and requirement for joints to be produced on site to a minimum.

PROFILES / SYSTEMS
FACTORY JOINTS

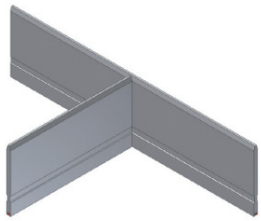
Prefabricated sections are specific, for the individual profiles and waterbar systems
Standard types
(special types are also available):

Flat L-piece, internal
Swellable profile

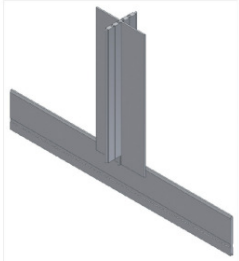


Flat L-piece, external
Swellable profile

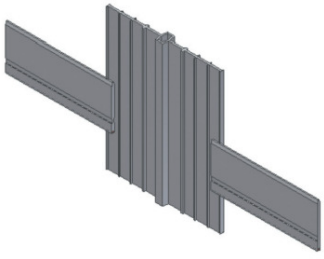
Vertical L-piece
Alternatively
for installation
in radius R = ca. 10 cm



Vertical T-piece



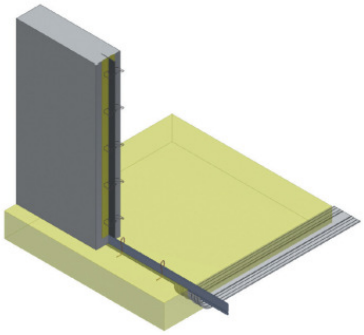
Flat T-piece, combined
KAB 125 with KAB 175 S / SR
KAB 150 with KAB 175 S / SR
Alternative jointing options on site:
Welding (i.e. SG 320 L welding machine)
Clamping (clamping bar KS 12/KS 15)
Bonding (SikaBond Q 300)



Flat cross piece, welded, combined D 320 / KAB

Normally these prefabricated sections are welded and connected into the overall waterstopping system with butt joints in the factory, or if necessary on site. The total maximum recommended length of these prefabricated waterstopping systems is up to approximately 25 m (total of all individual component lengths).

Waterstopping system (example)



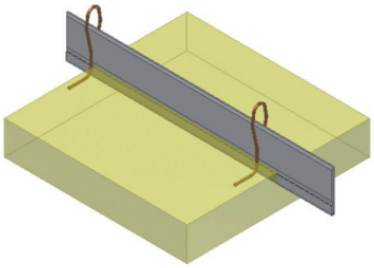
DOCUMENTATION

- Certificate of Compliance
- Certificate of Conformity ÜH
- System drawings of sections with details of component sizes..

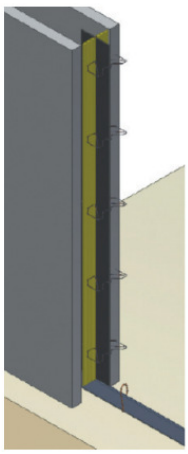
HANDLING AND INSTALLATION

- Handle waterbars and waterstopping system components with care on site
- Only install when these waterbar material temperatures are ≥ 0°C
- Inspect before, during and after installation for any possible damage
- Install in the correct position and fix with the correct fixings / ties

Installation examples



KAB 125/KAB 150



KAB 175 SR

- Protect the system until fully cast in
- Continue to protect any free waterbar ends
- Clean the waterbars before casting in
- Embed the waterbars fully and without voids when concreting
- After striking, inspect and repair any damage immediately

JOINTS ON SITE
KAB 125 / KAB 150

- Dry weather is required with ambient temperature minimum + 5°C.
- Site welds must only be formed by trained personnel with Certificates of Welding Competence not be more than 2 years old. Training is given by Sika Germany, Illertissen.

WELDING OF BUTT JOINTS

The welding procedure for a site joint is:

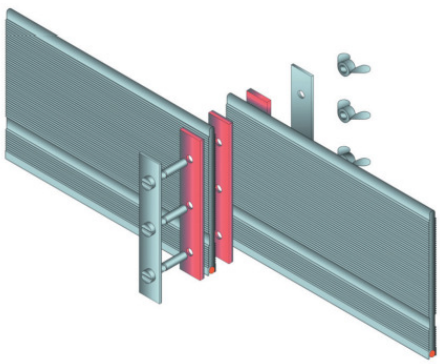
1. Cut the waterbar ends straight and square
2. Weld butt joints, prefeably with welding machine SG 320 L, or in special cases, manually with a welding axe.
   Welding process: Remove the swellable profile from the groove and bend it out slightly to prevent it touching the welding blade
   Steps
   Adjust
   Heat/melt
   Turn over
   Joint
   Cool (do not use coolant)
3. Cut the swellable profile and press back into the groove to form a contact joint
4. Inspect and protect the seam if necessary
   After cooling for about 30 minutes, the joint is finished and ready for installation.

Instructions are also enclosed with every welding machine, and are available for our customers on request.
Always comply with all relevant health and safety regulations when carrying out welding work.

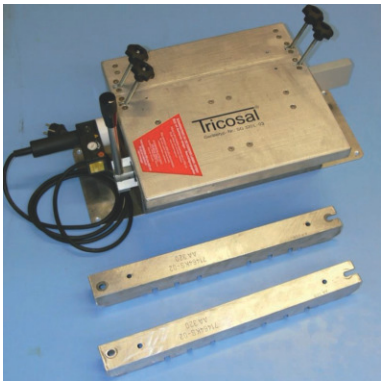
It takes approximately half an hour to an hour per joint to form welded site Butt joints, dependent on their location, the environment and working conditions. Therefore the process must be correctly scheduled in the programme and this must be completed promptly before any follow-on works. Two people are necessary for forming butt welds with a welding axe.

KAB 125/KAB 150 CLAMPING OF SITE JOINTS

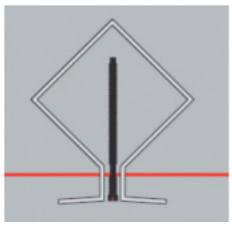
Butt jointing by clamping:
Lap jointing using a clamping bar with water swellable profiles,
Lap width ca. 20 mm,
Cut off lap protrusions flush.



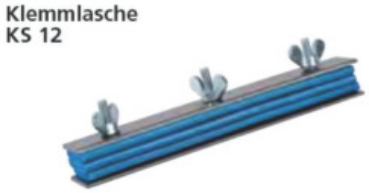
Butt joints do not generally occur. If required, butt welds are produced with the

KAB 175 S **KAB 175 SR** **SITE PRODUCED JOINTS**	weldung machine SG 320 L.
KAB 125 OR **KAB 150 WITH** **KAB 175 S OR** **KAB 175 SR** **FLAT T-PIECES**	Welding: Lap welding with a welding axe or hot air gun, lap ca. 2.5 cm Clamping: Lap ca. 3 cm with clamping bar and water swellable profiles Bonding: Lap ca. 4 cm, bonding with SikaBond Q 300 2-part rapid setting adhesive, fixing with retaining clips
WELDING MACHINES (ON HIRE)	 - Welding machine SG 320 L - KAB clamping bars As an electrically operated device, the welding machine is subject to the regular safety inspection under BGV A 3, the timing and prompt completion of which must be monitored by the hirer. The directions for use of the SG 320 L welding machine describe in detail all the steps required for welding waterbars and must be followed when jointing. Always use the welding machine only for its intended purpose and in accordance with the operating instructions.
HAND TOOLS	Cutting: Tape measure, metre rule, set square, marker pen, cutting blade / knife and a crescent-shaped trimming knife, scissors etc. Weld protection (With weld cord Ø ca. 4 mm): Scissors, Welding blade 50 W, Wire brush etc. Weld inspection  High-frequency spark tester

WELDING MATERIAL	Welding rod Ø ca. 4 mm Pack ca. 2.3 kg
ACCESSORIES	**KAB 125, KAB 150:** **Retaining clips** 25 No. in pack



Clamping bars
KS 12 and KS 15 as jointing set



KAB 175 S and KAB 175 SR:
Mounting brackets EH
for installation on site, 1 m lengths
Clamping bars
for clamped joints, as jointing set for
flat T-pieces with KAB 125/KAB 150
SikaBond Q 300
for bonded lap joints as flat T-pieces with KAB 125/150.
Application and use is covered by the current Product Data Sheet
and the relevant directions for use.
Retaining clips
for bonded lap joints as flat T-pieces with KAB 125/KAB 150
Crack inducer SE 45
for KAB 175 SR for cross-section weakening to induce crack joints

IMPORTANT INFORMATION

HEALTH & SAFETY	For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.
VALUE BASE	All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.
LEGAL NOTES	This information and, in particular, the suggestions relating to the application and end-use of our products, are based on our knowledge and experience in normal use, providing the products have been properly stored and applied. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of results achieved or liability arising out of any legal relationship whatsoever, can be inferred either from this information or from any advice offered by spoken word, unless we have been deliberately at fault or guilty of gross negligence. The user shall be required to prove that he has duly and in full extent submitted to Sika in writing all information necessary for Sika to make a fair and proper assessment. The user must test the products` suitability for the intended application and purpose. Sika reserves the right to change the product specifications. The proprietary rights of third parties must be observed. Orders are accepted subject to our current terms and conditions of sale and delivery. The most recent edition of the Product Data Sheet shall apply, copies of which should be requested from us.

Sika Deutschland GmbH
Flooring / Waterproofing
Kornwestheimer Straße 103-107
70439 Stuttgart
Deutschland

Telefon: 0711/8009-0
Telefax: 0711/8009-321
E-Mail: info@de.sika.com
www.sika.de