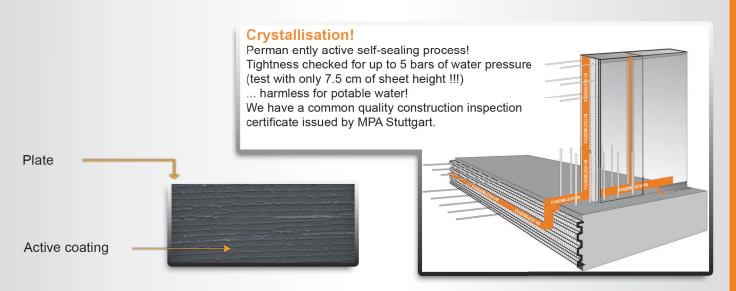




Active seal

Fugenblech VB – is a modern sealing system for 100% building tightness. It offers multiple times higher safety in relation to conventional solutions. Fugenblech VB eliminates all defects resulting from incorrect tape placement and connection of sections. Fugenblech VB active sheet is bilaterally covered with a special "active" patented coating which combined with a fresh concrete prevents diffusion of Fugenblech VB slotted sheet system. In addition to the strong connection with the surrounding concrete, a special coating supports the "active" natural sintering (active formation of lime and active crystallisation). Fugenblech VB active sheet causes no danger of pre-mature devastating activation. Use of Fugenblech VB is independent from weather conditions (rain, snow, high or low temperature). There is no need to use any protective foils which need to be removed during concreting. Concrete soiling is actively crystallised.



- 100% building tightness.
- Quick and easy installation on reinforcement
- Quick and easy connection of sections
- No need to use complicated fittings
- No need to use specialist equipment

Patented fixture system
Fast-connection brackets
Manual bending of sheets and bracket
No need to use welders, sealers, etc.



Product numb∈r	Typ€	Width [mm]	Length elem. [mm]	Quantity m/package
2000-100	VB100	100	2.00	100
2000-150	VB150	150	2.00	100

FUGENBLECH VB PRODUCTS CHARACTERISTICS

Galvanized steel sheet with a thickness of 0.75 mm. Length of elements: 2,000 mm. Height of elements 150 mm. Thickness of active coating is uneven to ensure higher adhesion of sheet to concrete and is about 0.5 mm. Also protects against corrosion.

Product number	Турє	Item type	Quantity m/package
2000-01		bracket	100
2000-02	omega	bracket	100

SEALS AND CONSTRUCTION JOINT SYSTEMS

Fugenblech VB

Active seal

Sheet tightening Fugenblech VB for construction joints is achieved by reaction of components in a patented special coating combined with concrete components. With osmosis, crystallisation penetrates deep into the concrete capillar system. A combination of various components creates a very fine crystallisation, or relatively sintering in a structure which tighten the capillaries and contraction slots while displacing the moisture.

The process occurs both from the side of pressing water and the opposite side. Without moisture, components of special coating are inactive or no longer active. In case of further water inflow, an independent chemical reaction takes place and another automatic tightening process is started. Crystallisation, or relatively sintering, penetrates even deeper into concrete structure. It is a result of unique properties of special-coated chemicals which constantly react to moisture and tighten ("active self-repair effect", or active self-tightening effect).

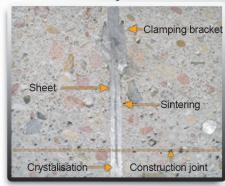
Sealing effect of Fugenblech VB sheet was proved at the Material Research Institute in Stuttgart and confirmed by the general construction supervision expert opinion.



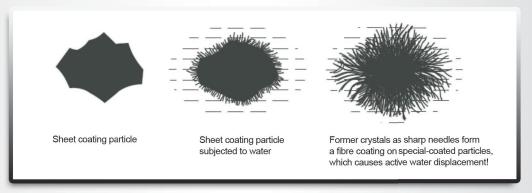
Fugenblech VB visible crystallisation



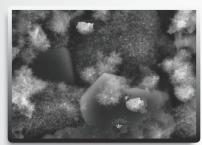
Fugenblech at contact area



Area where Fugenblech VB sheets interlap each other (only 10 cm) closes automatically under effect of water! Process is very fast, i.e. within few seconds (crystallisation + sintering)



Crystallisation process



Growth of crystal needles

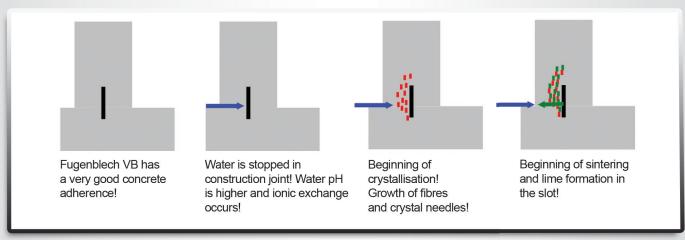
First crystals as sharp needles form a fibre coating on special-coated particles. Calcium hydroxide is clearly visible as larger crystals! During this process, calcium hydroxide precipitates in a pseudo-hexagonal form and provides sealing.



Growth of crystal needles

Needles grow towards the flowing water. Therefore, water is displaced from porous structure and construction joint so that tightness of the whole concrete structure is higher.

Built-in Fugenblach VB









Installation

Fugenblech VB active sheet is installed directly on reinforcement with special brackets to stabilise the sheet. Sections are lap-connected about 10 cm and connected with brackets included in the set. In case of rounding or corners, Fugenblech VB sheet should be bent into appropriate shape. It is not necessary to glue the joints as in other seals systems since tightening of contacts is automatic by active crystallisation and mineralisation and no foils should be removed before and during concreting, which is a great advantage of Fugenblech VB sheet. Contacts are tightened actively by crystallisation and mineralisation. Fugenblech VB active sheet can be also used as a sheet pushed into a fresh concrete and in this case there is no need to use any additional stabilising brackets.

An important and integral step for installation of Fugenblech VB sheet is to properly vibrate the concrete on both sides of sheet.

No limitations in installation arising from poor weather conditions: for sheets with bentonite, there is a risk of pre-mature activation, for sheets coated with bitumen or butyl, gluing of elements at high temperatures is possible, and at low temperatures, there is a need to warm the lap areas.



The sheet connecting **Fugenblech VB** with bilateral coating should be installed centrally in the slot and fixed (with Fugenblech VB fastener). Joints should be lap-connected only for 10 cm! They are tightened automatically!



For rounded corners, **Fugenblech VB** tightening sheet should be bent into appropriate shape.

Contaflexaktiv

Contaflexaktiv- system of active seals

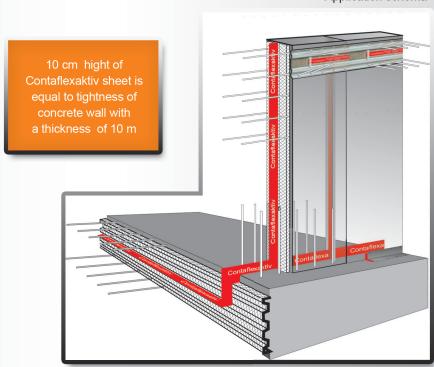
System technical description

Contaflexaktiv is a modern sealing system that provides a 100% tightness to the user. The system combines advantages of partition seals with active bentonite seal.

Contaflexaktiv eliminates all defects of seals made with PVC tapes and sheets arising from incorrect layout of tape, concrete vibration and fittings or connection of sections. At the same time, this system fully uses all advantages of bentonite seals.

Basic element of Contraflexaktiv is a galvanised sheet covered with active bentonite layer of several millimetres with a layer of soluble organic foil protecting bentonite against pre-mature expansion.

Application schema





Sheet Partition seal and bentonite carrier.

Bentonite

Active expansion seal and gel seal filling fractures and slots in the concrete.

Advantages of Contraflexaktiv System:

- 100% building tightness
- Quick and easy installation on reinforcement
- Quick and easy connection of sections
- No need to use complicated fittings
- No need to use specialist equipment

Combined advantages of PVC tapes and bentonite

Patented fixture system

Fast-connection brackets

Manual bending of sheets and bracket

No need to use welders, sealers, etc

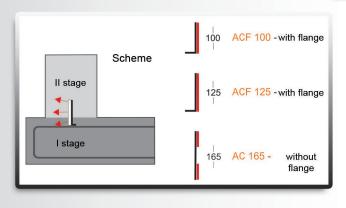
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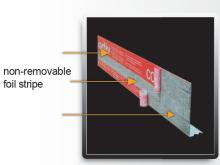
ACF- basic Contraflexaktiv system element made of galvanized sheet covered on one side with active bentonite and self-soluble organic foil delaying bentonite activation.



Product number	Type Contaflexaktiv	Width in mm	Length elem. in m	Quantity m/package
	ACF 100	100	2.25	22.50
207-12	ACF 125	125	2.25	22.50
207-16	AC 165	165	2.25	22.50

Product number	Турє	Item type	Quantity pcs/package
207-01	KA 18/3		50
207-02	MBA 18/3	bracket	50







ACF element is mounted directly on reinforcement with deflected plates. Further sections are connected with brackets.

Contaflexaktiv enables any fitting, corner or arc at the construction site.

Further sections are connected with brackets with a 10-cm lap.











SFA - Contaflexaktiv

SFA Strip

SFA Strip is used to obtain controlled fractures on walls. By installing SFA strips, we can concrete a long wall section.

Covering SFA Strip with a tape with active bentonite guarantees a tight joint.

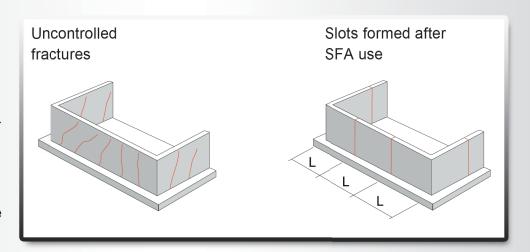
Product numb∈r	Strip type	Wall thickness	Width SFA in cm	L∈ngth in cm
207-07	SFA 80		8.0	
207-208	SFA 100	20-24	10.0	100
207-209	SFA 125	25-29	12.5	
207-2011	SFA 150	30-34	15.0	100
207-2013	SFA 175	35-39	17.5	100

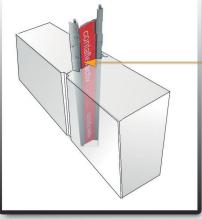


SFA

Uncontrolled fractures occur if no grouts are used.

In places where SFA strips are installed, controlled fractures occur on the whole thickness of a wall.





Connection with special locks

Calculation of fracture distance:

SFA strip mounted in the wall

$$L = \frac{H}{2 \times d}$$

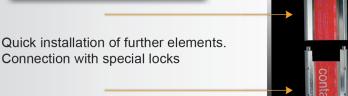
 $L = \frac{H}{2 \times d}$ H - wall height d - wall thickness

Example:

H=3,0 m, d=0,3 m

$$L = \frac{3,00}{2 \times 0,3} = 5,0 \text{ m}$$

Connected elements





Controlled fracture



SFA is mounted among wall reinforcement. For a key enabling the creation of slot we can use square timbers.

It is recommended to install SFA with ACF sheet.



QUELLSTOP Bentonite tapes



Use:

Tightening of vertical and horizontal expansion joints in reinforced concrete elements.

Product number	Type tapes	Dimensions in mm	Quantity m/roll
201-01	QUEL. 10-15	10X15	6
201-02	QUEL. 20-25	20X25	5

W∈ar

Quantity

Тур€

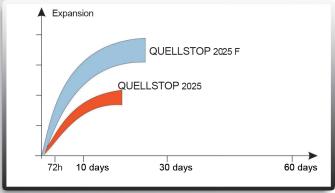
QUELLSTOP 20-25 bentonite tape

has a higher expansion capacity than ordinary tapes.

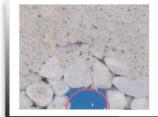
number			pcs/package
201-03	QUEL. S-GRID	1m/1m	30
201-04	QUEL. S-GLUE	1 package/10m	1
201-05	QUEL. S-NAIL	4 pcs./1m	100

Product

Comp



Bentonite tape expands under moisture and gelates filling fractures in the concrete







Laying of QUELLSTOP tapes is quick and easy. A reliable method is to use the nailed mounting grid.

Bentonite tapes provide tightness of expansion joints on uneven surfaces.



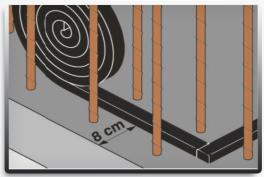
QUELLSTOP Installation

Basic dimensions:

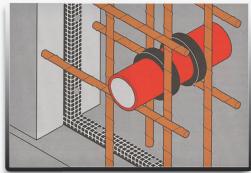
- min. QUEL distance from wall 8 cm
- nail spacing for QUEL.- ca. 25 cm
- min. QUEL spacing with double installation of QUEL on pipes - 4 cm
- min. QUEL distance from wall edge for installation on pipes - 6 cm

Note: for pipe connections, use only tape QUEL. 10 x 15 S.

Bentonite tape is installed on the reinforced concrete element. It is fixed to the ground with a grid made of galvanised wire.



QUELLSTOP bentonite tapes can be also used on vertical elements and as seals for passage of PVC, steel and concrete pipes.



Permanent plastic putty Typl i Typ2

Permanent plastic putty

Permanent plastic putty is a permanently flexible one-component adhesive type 2 and seal type 1 based on polymers, which binds under moisture from air and is characterised by a high mechanical resistance.

- for expansion joints and floor cuts inside and outside rooms with people and vehicle traffic (parking lots)
- for sealing of concrete, wooden and metal structures
- waste water plants, tunnel and bridge structures
- in whole construction site, e.g. within windows, doors and roof

Feature	Putty typ∈ l	Putty typ∈ 2
Colour	grey	black
Density	1,5 g/cm3	1,5 g/cm3
Hardness (Shore A type)		
Max. deformation	25%	10%
	-40°C up to +110°C	-40°C up to +90°C
Installation temperature	-3°C up to +40°C	+5°C up to +40°C
Time of use	арргох 2 – 3 h	approx 1 h
Downhole hardening	approx 2 mm / 24 h	approx 2 mm / 24 h

Properties of permanently plastic putty

- reacts with air moisture forming a soft-flexible structure (rubber-like seal)
- characterised by excellent resistance to weather and UV
- has no solvents or silicon (neutral smell)
- very low contractility
- Type1 can be used also on wet grounds
 Typ2 can be used under water
- can be used starting from -3 C
- can be used without primer (only one workflow)
- high chemical and microbiological resistance



- degreased, clean and absorbent ground
- ground can be wet
- grouts must be strong enough, min. width >= 10 mm
- max. width is 5 cm
- edges should be taped with adhesive tape
- introduce filling support polyetylene rope (causes 3-point adhesion, allows to save material)
- place putty evenly to the grout with a gun
- make the seal even smoothly and allow it to harden (see table)







InnoElast – example of a joint under water











Permanent plastic putty TypS i TypV

Permanently plastic mass Type S and Type V

Permanently plastic mass is a one-component, self-levelling, polymer modified seal used for sealing buildings according to DIN 18195 standard and as a seal placed on any vertical surfaces as a membrane for sealing roofs, walls and ceilings and for filling the expansion joint grout, etc. Can be used on the concrete, steel, roof tiles and other grounds, in internal and external rooms. Permanently plastic mass is a solution for protection against moisture and leak. Universal, resistant to water under pressure, surface system ideal for any types of ground.



Property (Mass Type S vertical and horizontal)	Mass Type V (horizontal)
Consistency/colour	Cream (fit for application)	Fluid (low adhesion)
Density	1,5 g/cm3	1,5 g/cm3
Hardness (Shore A)	арргох 35	approx 30
Fractures (slot) bridging as a membrane	up to 5 mm	up to 5 mm
Time of use after openir	ng** approx 30 min	approx 30 min
Downhole hardening*	approx 3 mm / 24 h	approx 3 mm / 24 h
Storage	cool	cool
Installation temperature	0°C up to +35°C	
*measured after 4 weeks hardening with significa moisture of 23 C/ 50%		at significant e of 23 C/ 50%



Major advantages of plastic mass

- easy installation method
- one-component (reacts with air moisture forming a soft-flexible rubber-like sealing membrane)
- fractures bridging (slots up to 5 mm)
- can be used on wet grounds
- can be used from temp. 0 C
- fit for any repair (also bitumic) of roof seals
- resistant to weather and UV





With the mass, it is not necessary to prime the grout







ARS - 3 SEALS AND CONSTRUCTION JOINT SYSTEMS

Quellgummi

Active tightening

Quellgummi – are innovative sealing profiles, expanding under effect of water, created for efficient sealing of joints and expansion joints in segment structures (concrete prefabricated products/segments) for water pressure of max. 5 bar.

Tape is made of butil rubber, resin expanding in water, polyetylene and silicon.

Quellgummi are used for sealing of:

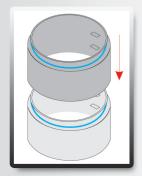
- tunnel structures built with TBM
- construction joints in reinforced concrete structures
- construction joints between prefabricated elements
- expansion joints between existing and new building
- expansion joints between prefabricated elements
- cable and pipe connectors





Expansion capability of more than 400%

During contact with water, expansion capacity is 4 times higher than original. Sealing is achieved by increasing expansion pressure. Tape will not lose its sealing function even when a slot has a variable size. Also any unevenness or roughness has no effect on tape expansion. Sealing is achieved by pressure. Expansion process is reversible.



Quellgummi mounted on connections of pre-fabricated elements

Product number	Турє	Dimensions in mm*	Quantity m/roll	Quantity m/package
200 -1870		18x7	12	72
200-2315	tape 23x15	23x15	6	30
200-2300	rope 23	Ø 23		25
200- 805 installation adhesive 805		sive 805	310	ml/carton box 12 pcs.

*on request, a tape of any dimensions can be manufactured



Diagram of sealing of expansion joint between existing and new building.

Technical Data		
shore hardness	38 Shore A	
tear elongation	490/770 %	
expansion volume	over 400%	
processing temperature	-30°C do +70°C	

Use for construction of tunnels.

Tunnel structures made by drilling with TBM currently have great meaning for constructions with high depth exposed to extremely difficult conditions of ground waters. This method is often used in such structures as subway, water supply lines, municipal sewage system lines, cable ducts, etc. QUELLGUMMI tapes can be used for such construction work. Recent trends regarding tunnel drilling methods provide for use of various tubing segments, which at higher depths and even higher water pressures must be sealed reliably and permanently.





Injection hose

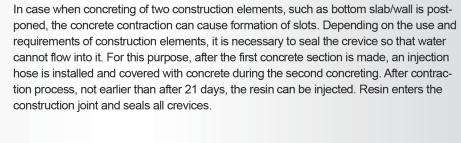


Use:

Injection hose is used for sealing construction joints in concrete construction elements, pipe culverts and other process joints. By using the injection hose, there is no need to create formwork for flanges or place any tapes or sheets to seal the seams. Injection hose is composed of PCV tube with circular holes for even injection of resin. Protection against penetration of concrete particles during concreting is covering made of thick fabric. The other external covering made of plastic protects the hoses against mechanical damage during layout or concreting. Both cover layers however permeate the resin even in low pressure. Resin is distributed evenly and finely fills the construction joint.



Procedure:





Installation:

Injection hose is laid centrally with cover of 8 cm thickness on a clean and even seam surface but with wall thickness of more than 50 cm in the distance of about 25 cm from the water inflow. Anchors with clamp or clamps with a hole are used for mounting, which are placed every ca. 15 cm. Other solution are circular mounting grids. Hose ends are entered into a casing socket which is to be placed where it can be accessed. Other solution is to use injectors. Length of one hose section should not exceed ca. 10 m. Check if the hose is not bent. When the hose is led first horizontally, and upwards, then the place where it passes from one position to other should have "S" shape. Hose cannot be placed too close to the further concrete edge to avoid the pressure during resin injection which may damage the concrete and prevent resin injection.



Notel

During concreting of second section, follow the guidelines regarding seam preparation and concreting process included in DIN 1045 and DBV Instructions. Please read the installation manual and general construction supervision approval.

Injection

Injection hose

Injection hose in fabric cover

Product [number			Pallet (m) quantity (m)
6874	5x13	100	3.300





Clamps

Product number	Турє	Bag quantity (pcs.)
8009		100/500
6884	clamps RD	100/5000





Injector

Product number	Hose (mm)	Unit package
8877	5-8	10





Box

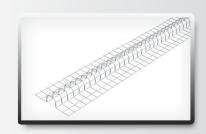
Product number	Designation	Unit package (pcs.)
6851	casing socket	5





Installation grid

Product	L∈ngth	Package
number	(m)	(m)
7872		



PVC Tapes

PVC Tapes are used for sealing of construction and expansion joints in concrete and reinforced concrete structures.

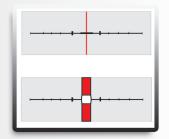
A-type Tapes are sealing tapes and can be used where joints in concreting are provided in compliance with a requirement to maintain the tightness of construction joint. D-type Tapes are expansion tapes and can be used where expansion slot is designed and formed as a result of contraction, temperature difference, uneven ground sinking, etc.

Characteristics

PVC tape division

Sealing tapes:

Expansion tapes:

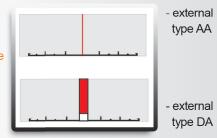


type A

internal type D

- internal

Tapes can be made as resistant to bitums and oils



To ensure tightness, expansion tapes should be connected with welding, curing or gluing.

Rules of selection and installation

- Tape width = thickness of reinforced concrete element
- 2. Minimum thickness of covering with concrete = 1/2 of tape width
- 3. Further sections should be heated.
- 4. Use pre-fabricated fittings.

Division of special tapes:

Angular sealing tapes AA Ecke



Example fittings:



Fittings are workshop made according to order.

Expansion corner tapes DA Ecke:



Installation recommendations

Concrete cover between tapes and reinforcement should be at least 20 mm.

Expansion closing tapes FA





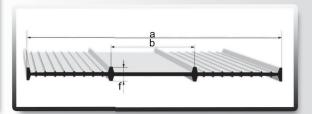




PVC Tapes

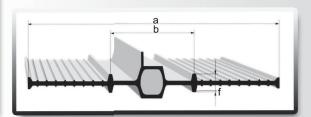
Type A internal

Тур∈	Dimension a	Dimension b	Dimension f
A15	150	55	15
A19	190	70	15
A24	240	80	15
A32	320	100	15
A50	500	140	15



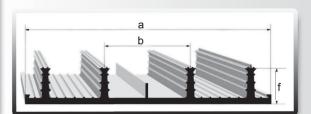
Type D internal

Тур€	Dimension a	Dimension b	Dimension f
D15	150	55	15
D19	190	70	15
D24	240	80	15
D32	320	100	15
D50	500	150	20



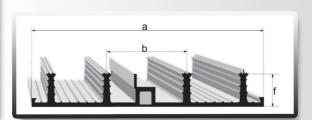
Type AA external

Турє	Dimension a	Dimension b	Dimension f	Dimension n
AA19		80		4
AA24	240	80	20	4
AA32	320	100	20	6
AA24/3	240	84	35	4
AA32/3	320	100		6
AA50/3	500	120	35	8

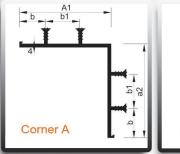


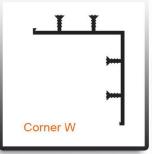
Type DA external

Тур€	Dimension a	Dimension b	Dimension f	Dimension n
DA19		80		4
AA24	240	80	20	4
DA32	320	100	20	6
DA24/3	240	84	35	4
DA32/3	320	100		6
DA50/3	500	120	35	8

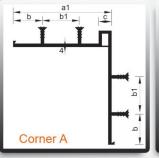


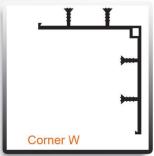
Corner tapes





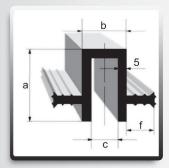
Тур€	Dimension al/a2	Dimension b	Dimension b1	Dimension n
AA 240 EA	120/120			4
AA 240 EW	120/120	25	35	4



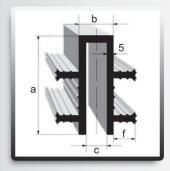


Турє	Dimension al/a2	Dimension b/b1	Dimension n	Dimension c
AD 240 E	A 140/120	25/45	4	20
A 240 EW	140/120	25/45	4	20

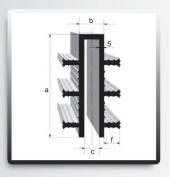
Closing tapes



Тур€	Dimension a	Dimension b	Dimension c	Dimension f	Dimension n
FA 50	50	30	20	20	2
FA 50/30	50	32	23	30	2
FA 70/40		32	23	40	2



Турє	Dimension a	Dimension b	Dimension c	Dimension f	Dimension n
FA90	90	30	20		4
FA 95/30	95	30	21	30	4



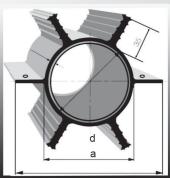
Тур€	Dimension	Dimension	Dimension	Dimension	Dimension
	a	b	c	f	n
FA 130	130	30	20	20	6

PVC Tapes

Sealing pipe

Sealing pipe is designed to isolate structural fractures (caused by contraction) from each other and seal them. These fractures depend on the use of triangular strips. For walls with a thickness of up to 350 mm, pipe Q1 is appropriate and for thicker walls, pipe Q2 should be used.





It can be found in sections:

Q1/Q2: 2.50m 3.00 m 4.00m, 5.00m Q3: 2.50m 2.75 m 3.00m 3.50m 5.00m

Тур€	Dimension a	Dimension d
Q1	150	90
Q2	235	175
Q3	105	60

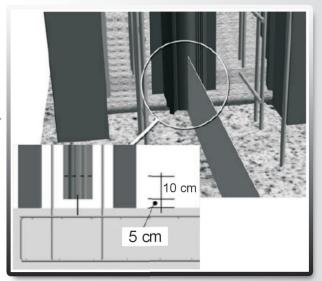
Advantages of use

- precise formation of crevice forced in a planned place caused by weakening of section with maintaining tightness of division
- tightening of forced crevices is done by anchors on the profile making it harder to infiltrate water through wall after crevice is formed
- tightness and higher resistance of walls
- low installation costs
- any long wall sections can be concreted

Installation method

- before installation, cut the sealing tube crosswise to smooth piping in order to connect the tube with sealing tape on the contact of the wall with foundation
- put the sealing tube on, for example, PVC tape which is mounted where the bottom slab joins the wall. Note that the spacing between the bottom section of tube and horizontal expansion is ca. 5 cm
- sealing tube should be mounted with its upper end and fixed by con necting special cylinders on the tube anchors.
- note that the height of poured concrete should be the same on both sides of the tube, not to interfere with the tube. Fixing elements should be placed at a distance of ca. 50 cm. Concrete should be finely vibrated.
- do not remove the stiffening PVC tube during concreting but only after concrete is hardened
- before ceiling concreting, remove the PVC stiffening tube and fill the inside of the sealing pipe with concrete





Arsform- toothed construction joints

Arsform is the newest solution for construction joints in reinforced concrete structures.

Its shape and 2.5 cm of profile depth complies with all international requirements for construction joints of top category.

The material used for recostal production ensures rough surface structure, which guarantees optimum connection.

Toothed shape of construction joint eliminates the "keying" between neighbouring reinforced plates and guarantees that the construction joint is constantly sealed.

Arsform is the only formwork supplied with factory mounted seal.

Program covers:

- Arsform 1000
- Arsform 2000
- Arsform + sealing

stay-in-place formwork without bearing structure

stay-in-place self-bearing formwork

with bentonite tape, injection or contaflexaktiv

Profile geometry



Arsform - profile geometry

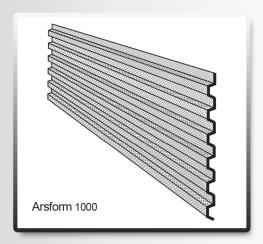
25

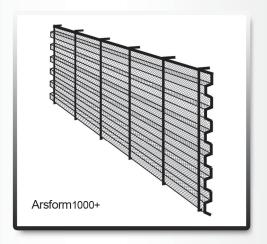
27,5°

2

Arsform

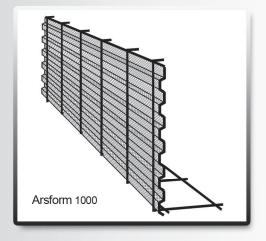
Arsform 1000





Element length

L = 2.0 m



Arsform 1000 is produced with no self-bearing structure. Arsform 1000+ has a stiffening structure.

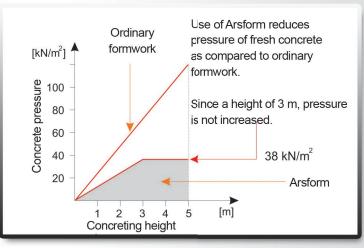
These elements require fixing and support.

Height range: porous recostal - to 14 cm

tooted recostal - from 14 cm to 300 cm

Asrform reduces concrete pressure



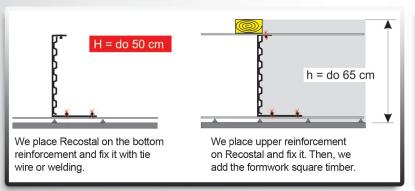


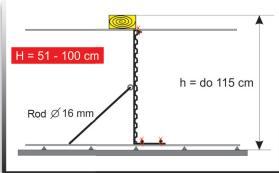


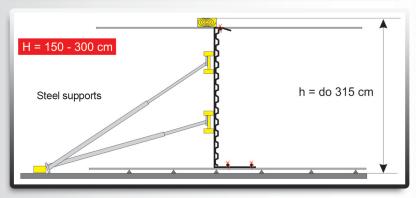


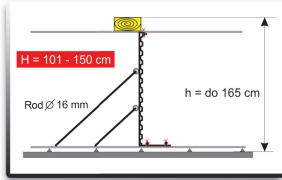


Rules of installation



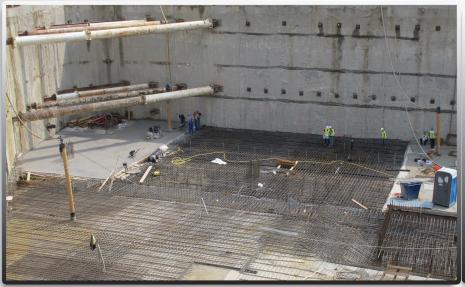


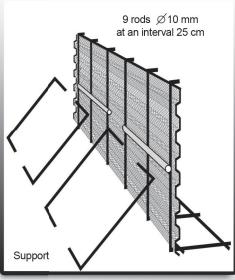




Use

Arsform 100 with a height of over 150 cm with a use of steel supports. Vertical timbers should be installed in spacing of < 60 cm.





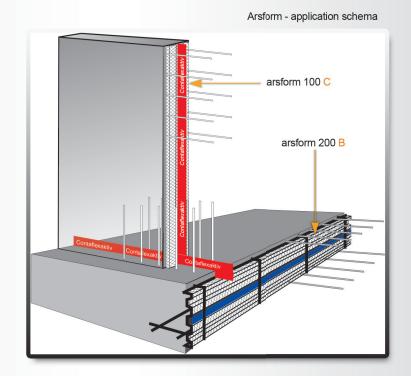
Arsfrom + Seals

Arsform 100 and Arsform 200 are manufactured with optional seal of construction joint.

Arsform 100 and 200 seals can be mounted individually using one type of seal or any combination.

Type or combination of seal is defined by a detailed design.

All seals used in Arsform are active.



Formwork with sealing

Types of sealing materials used:

- bentonite tape BT 20-25 S or BT 30-40
- injection hose
- Fugenblech VB sheet

Bentonite tape BT





Fugenblech



Injection hose







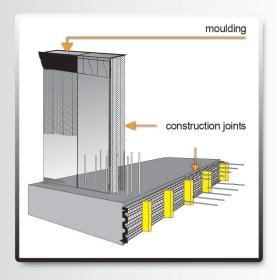


Streckmetall



Streckmetall - for concreting joints

Product no.	Thickness in mm	Weight kg/m²	Quantity m²/pack.	Quantity m²/pallet
703-30		2.22	30	1050
703-50	0.50	2.79	30	1050
703-60	0.60	3.90		750

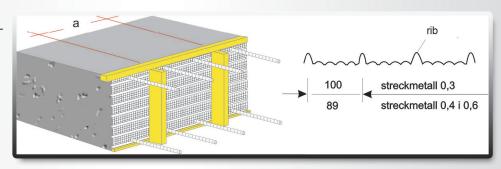


Recommended spacing of supports

concreting height [m]	Typ∈ 203-30	Typ∈ 203-60
0.25	0.70	0.90
0.50	0.60	0.80
1.00	0.50	
1.50	0.40	0.55
2.00		
2.50	0.25	0.30
3.00	0.20	0.25

Streckmetall – steel grid used as stay-inplace formwork. Can be used for:

- construction joints
- self-bearing vaults
- pipe connections
 - architectural details

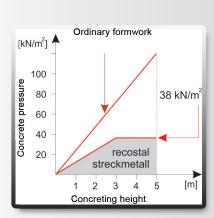


Use of Arsform and Streckmetall reduces pressure of fresh concrete as compared to ordinary formwork.

From height of 3 m, the pressure is not increased.

Conditions of installation and concreting:

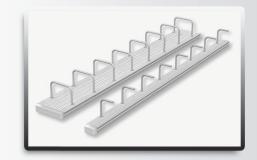
- gilts should be directed towards first concreting
- longitudinal lap should be made for the width of one stripe
- ends of sheets should have a lap of at least
- concrete should be poured 50 cm from grid vibrator should be used 45 cm from grid



Reinforcement connector BWA

Connectors facilitate and make the further constructed construction joint of wall or landing faster. During concreting, connecting rods are protected by the covers. Only during the second stage of pour filling, connectors are bent and used as connecting rods.

Reinforcement connectors are made of appropriate, cold-bent steel grade according to DBV Instructions "Bending of reinforcement steel for concrete".



Reinforcement connector with a profiled (rough) steel cover, one part of which remains in concrete.

Advantages:

Bent edges of the hole prevent concrete chipping and detachment of cover from concrete during bending of rods.

Profiling guarantees anchoring of steel cover in the concrete and is used to transfer the loads.

Trapezoidal arm of cover improves its fixing in concrete.

Retracted edges of steel cover section which remains the concrete prevent corrosion.

With special shape of steel cover, it can be removed easily.

Bent rods/on the rolls with appropriate diameter acc. to standard





Installation



BWA connector should be nailed to the formwork through the perforation.



After removing the formwork, remove the cover.



Bend the rods with a tube.



Place reinforcement and formwork



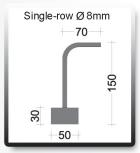
Ready concreted wall connector.

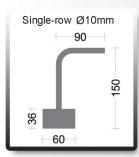
Reinforcement connector BWA

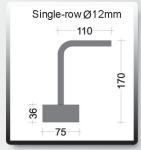
BWA single-row



Product	For wall	Rod diameterø	Rods spacing	Anchoring length	On pallet
	[mm]	[mm]	[mm]	[cm]	[m]
BK0810	90	8	100	32	350
BK0815	90	8	150	32	350
BK0820	90		200	32	350
BK0825	90	8	250	32	350
BK1010	90		100		250
BK1015	90	10	150	39	300
BK1020			200		300
BK1025	90	10	250	39	300
BK1210	130	12	100		175
BK1215	130	12	150	46	200
BK1220	130		200		200
BK1225	130	12	250	46	200



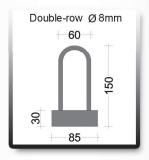


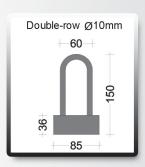


BWA double-row (loop width 6cm. Box width 8.5cm)



Product number	For wall	Rod diameter ø	Rods spacing	Anchoring length	On pallet
	[mm]	[mm]	[mm]	[cm]	[m]
BK081006	130		100	32	120
BK081506	130	8	150	32	120
BK082006	130		200	32	120
BK082506	130	8	250	32	120
BK101006	130		100		120
BK101506	130	10	150	39	120
BK102006	130		200		120
BK102506	130	10	250	39	120

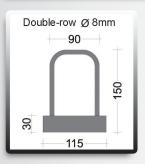


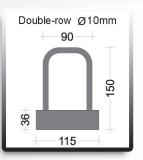


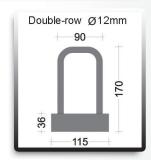
BWA double-row (loop width 9cm. Box width II.5cm)

Product number	For wall	Rod diameterø	Rods spacing	Anchoring length	On pallet
	[mm]	[mm]	[mm]	[cm]	[m]
BK081009	160-180	8	100	32	120
BK081509	160-180	8	150	32	120
BK082009	160-180		200	32	120
BK082509	160-180	8	250	32	120
BK101009	160-180		100		120
BK101509	160-180	10	150	39	120
BK102009	160-180		200		120
BK102509	160-180	10	250	39	120
BK121009	160-180	12	100	46	120
BK121509	160-180	12	150	46	120
BK122009	160-180	12	200	46	120
BK122509	160-180	12	250	46	120





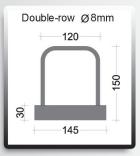


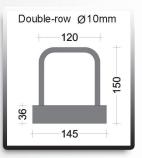


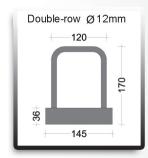
BWA double-row (loop width I2cm. Box width I4.5cm)

Product number	For wall	Rod diameterø	Rods spacing	Anchoring length	On pallet
IIdilibei	[mm]	[mm]	[mm]	[cm]	[m]
BK081012	180-200		100	32	100
BK081512	180-200	8	150	32	100
BK082012	180-200		200	32	100
BK082512	180-200	8	250	32	100
BK101012	180-200		100		100
BK101512	180-200	10	150	39	100
BK102012	180-200		200		
BK102512	180-200	10	250	39	100
	180-200	12	100	46	100
BK121512	180-200	12	150	46	100
BK122012	180-200	12	200	46	
BK122512	180-200	12	250	46	100







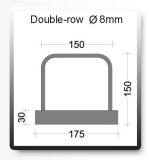


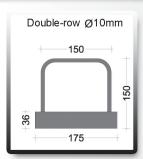
Reinforcement connector BWA

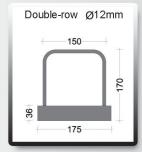
BWA double-row (loop width I5cm. Box width I7.5cm)



Product number	For wall	Rod diameterø	Rods spacing	Anchoring length	On pallet
	[mm]	[mm]	[mm]	[cm]	[m]
BK081015	200-240	8	100	32	100
BK081515	200-240	8	150	32	100
BK082015	200-240		200	32	100
BK082515	200-240	8	250	32	100
BK101015	200-240		100	39	100
BK101515	200-240	10	150	39	100
BK102015	200-240		200		100
BK102515	200-240	10	250	39	100
BK121015	200-240	12	100		100
BK121515	200-240	12	150	46	100
BK122015	200-240	12	200		100
BK122515	200-240	12	250	46	100



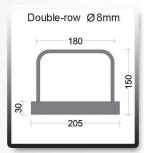


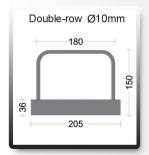


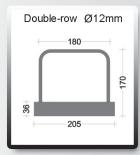
BWA double-row (loop width I8cm. Box width 20.5cm)



Product number	For wall	Rod diameterø	Rods spacing	Anchoring length	On pallet
	[mm]	[mm]	[mm]	[cm]	[m]
BK081018	240-270	8	100	32	80
BK081518	240-270	8	150	32	80
BK082018			200	32	80
BK082518	240-270	8	250	32	80
BK101018	240-270		100	39	80
BK101518	240-270	10	150	39	80
BK102018	240-270		200		80
BK102518	240-270	10	250	39	80
BK121018	240-270	12	100		80
BK121518	240-270	12	150	46	80
BK122018	240-270	12	200		80
BK122518	240-270	12	250	46	80



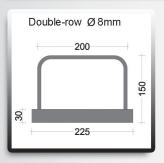


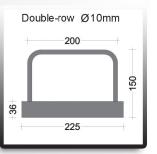


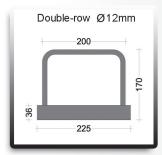
BWA double-row (loop width 20cm. Box width 22.5cm)

Product	For wall	Rod diameterø	Rods spacing	Anchoring length	On pallet
Hamber	[mm]		[mm]	[cm]	[m]
BK081020	270-290	8	100	32	80
BK081520	270-290	8	150	32	80
BK082020	270-290		200	32	80
BK082520	270-290	8	250	32	80
BK101020	270-290		100	39	80
BK101520	270-290	10	150	39	80
BK102020			200		80
BK102520	270-290	10	250	39	80
BK121020	270-290	12	100		80
BK121520	270-290	12	150	46	80
BK122020	270-290	12	200	46	80
BK122520	270-290	12	250	46	80





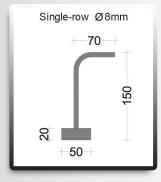


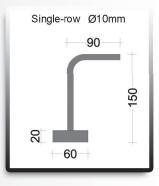


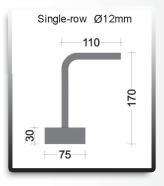
BWA-G single-row

Product number	For wall	Rod diameter Ø	Rods spacing	Anchoring length	On pallet
	[mm]	[mm]	[mm]	[cm]	[m]
BK0815AG	90		150	32	350
BK0820AG	90	8	200	32	350
BK1015AG	90	10	150	39	300
BK1020AG	90	10	200	39	300
BK1215AG	130	12	150	46	200







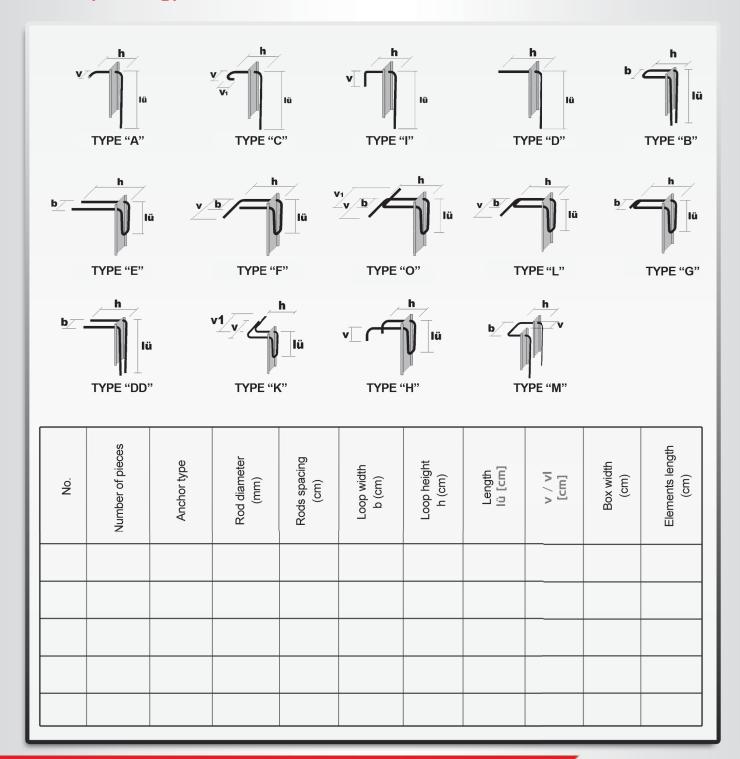


ARS-3

CONCRETE REINFORCEMENT TECHNIQUE

Mounting reinforced concrete walls with brick walls

BWA special-type



System of joining brick walls with reinforced concrete walls

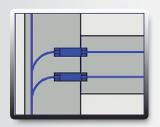


System of joining brick walls with reinforced concrete walls. Anchors are introduced into concreted rails during bricking by laying them on the mortar.

Product number	Тур€	Name of the element	Length in mm
1501-01	S 3020	rail (galvanized)	2500
1501-02	K 120	anchor (galvanized)	120
1501-03	K 275		275

SAS- Advantages and uses

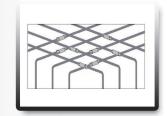
Main advantages



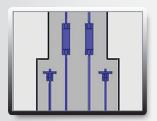


Construction joints





Reinforcement concentration





Reinforcement concentration

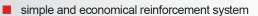
Advantages

- high quality of rods and connectors
- huge, self-cleaning thread on the whole length of rod
- advantages compared to metric thread
 - huge thread resistant to damage and pollution
 - cutting or merging of rods in any place
 - no need to use any special, expensive connectors
 - trouble-free connection at rod deflection of up to 3.5"
- possible connections (100%) of rods within one section
- lengths of rods acc. to custom orders
- rods and accessories available as galvanised
- approvals for rods of 12-50 mm available in European countries
- used for extreme loads (e.g. in nuclear power plants)
- co-operation with plans for design of structure and reinforcement













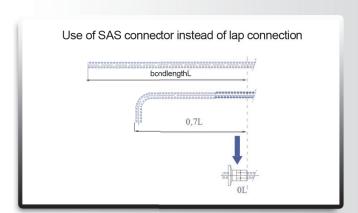
ARS - 3 CONCRETE REINFORCEMENT TECHNIQUE

Reinforcement connector SAS

Accessories

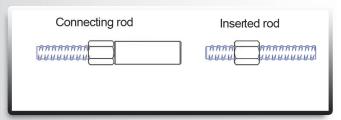
Saving space and material



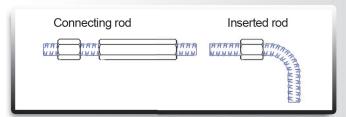


Main types of connections

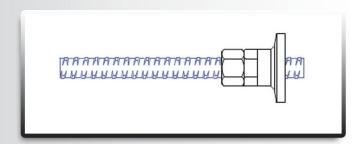
Connections of straight rods with circular connector



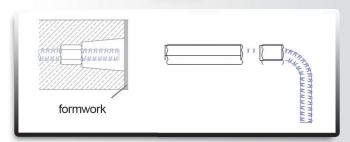
Connections of straight rods with circular connector



Anchoring



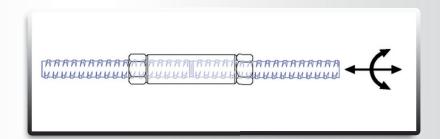
Connection with hexagonal connector and die cone formwork



Rod can be moved and turned.

Connector, standard T3003-Ø

Counter-nut T2003-Ø (T2040-Ø)



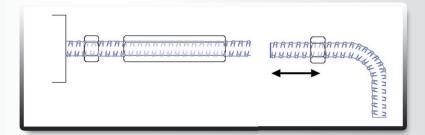
Accessories

Rod can be moved but cannot be turned

Hexagonal connector Counter-nut

T3010-Ø

T2003-Ø (T2040-Ø)

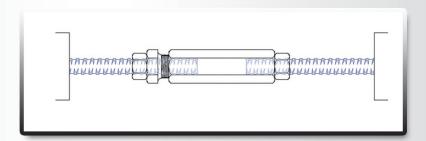


Rod cannot be moved and cannot be turned.

Spring connector T3105-Ø

Counter-nut

T2003-Ø (T2040-Ø)



MMMMMM

NHHHHHHHH

NATATATATATA

Connection of rods with different diameter

Reduction, circular connector T3102-Ø

Counter-nut

T2003-Ø (T2040-Ø)



Contact connector T3006-Ø



Reinforcement connector SAS

Anchoring

Anchoring for stretching

Anchoring Counter-nut, short

T2073-Ø T2040-Ø

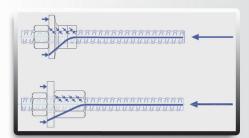
Anchor nut Anchor plate Counter-nut, short

T2002-Ø T2139-Ø T2040-Ø

Anchoring for compression

Counter-nut Anchoring T2040-Ø T2073-Ø

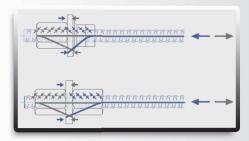
Counter-nut Anchoring plate Anchor nut T2040-Ø T2139-Ø T2002-Ø



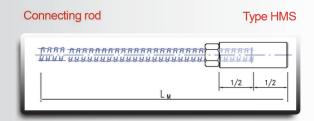
Anchoring for forces with variable directions

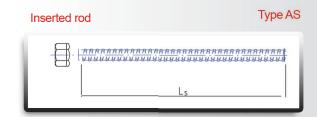
Anchor nut Anchoring T2002-Ø T2073-Ø

Anchor nut Anchoring plate Anchor nut T2002 - Ø T2139-Ø T2002-Ø

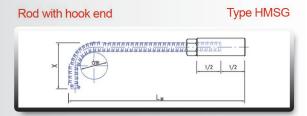


Planungsunterlagen

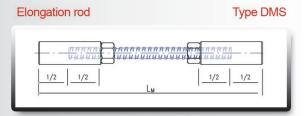


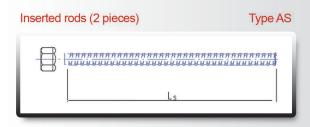


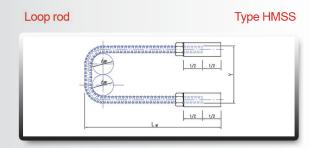
Planungsunterlagen

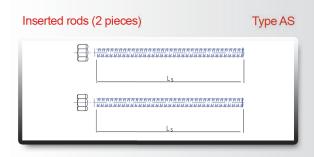


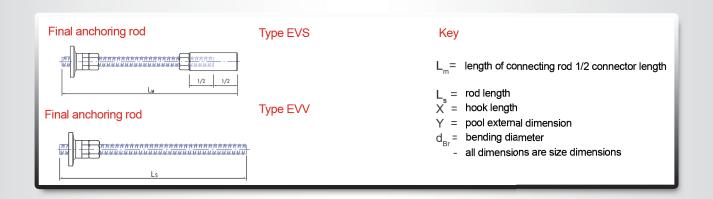








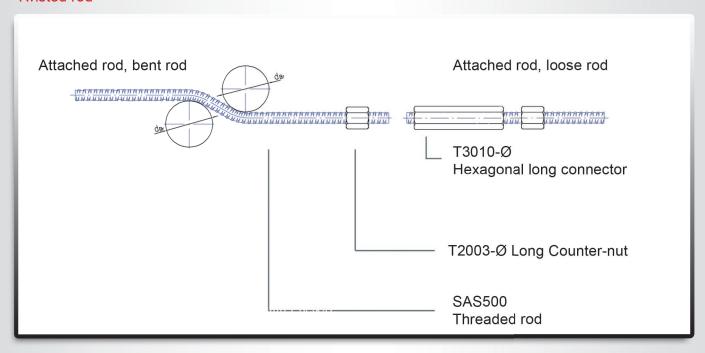




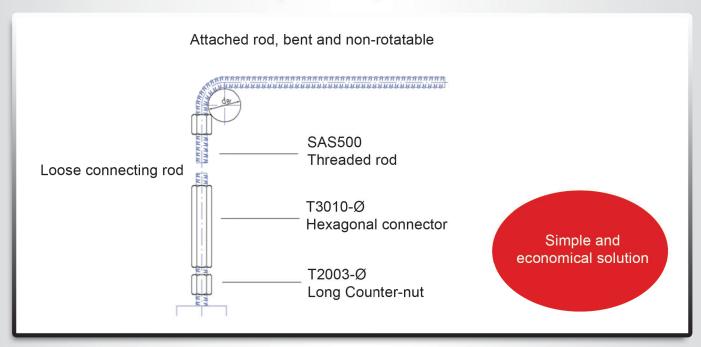
Reinforcement connector SAS

Planungsunterlagen

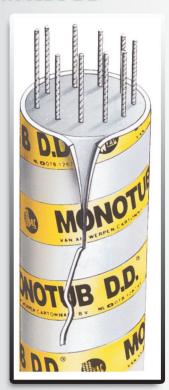
Twisted rod



Standard connection in frame structure (rod with beam).



Monotub∈ DD



Advantages of Monotub DD

Completely resistant to water so it can be used regardless of weather. It can be stored outdoors with no deterioration of quality. One-time concrete pouring reduces the cost and supports quick progress of work. Easy to install and remove, requires no cleaning or use of anti-adhesion agents. Appropriate technology prevents paper delamination after concrete pouring and dismantled later, allows for good concrete maturing and protects surface against damage.



Monotub DD

is made of water-proof, impregnated and laminated card board joined under high pressure.





Monotub DD is available in 3 versions: helical for full columns, smooth for exposed concrete, not requiring further finishing typo speed, also a smooth formwork is fitted with a ripping rope allowing for quick removal of formwork.

Monotub DD boarding is provided in 17 diameters from 130 mm to 1,200 mm with a length of 2.5 m to 6.0 m with optional merging for larger size. Also an order can be placed according to custom specification.





Article number	Diameter in mm	Wall thickness [mm]	Concrete in m³ per post	Tube weight in kg/mb
900-152	152		0.020	1.3
900-202	202	3	0.030	1.7
900-250	250		0.050	2.1
900-300	300	3	0.070	2.5
900-350	350		0.100	3.6
900-400	400	4	0.125	4.4
900-450	450	4	0.159	4.6
900-500	500	4	0.196	5.1
900-550	550		0.238	6.3
900-600	600	5	0.283	6.9
900-700	700	5	0.384	8.0
900-800	800	5	0.515	9.3
900-900	900	6	0.636	10.3
901-000	1000	6	0.785	11.5
901-200	1200		1.131	13.7

Structural mat

Advantages of structural mat

Structural mats are stripes which depending on user's needs give a various structure to the concrete surface. Structural mats are easy and simple in fixing and compatible with all formwork systems. Can be used with both vertical and horizontal formwork systems! More than 50 different versions are available!

Main product advantages:

- low mass
- very high flexibility
- high quality
- quick processing

- easy removal with no need to use adhesive agent
- 100% recyclable

All surface structures can be supplied shortly.

Examples of special shapes:



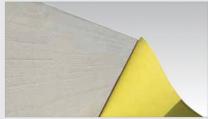
Mod. 001 - Abm. 4.000x1.300mm



Mod. 004 - Abm. 4.000x1.250mm



Mod. 053 - Abm. 4.000x1.210mm



Mod. 003 - Abm. 4.000x1.250mm



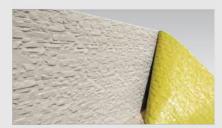
Mod. 005 - Abm. 4.000x1.300mm



Mod. 024 - Abm. 4.000x1.200mm

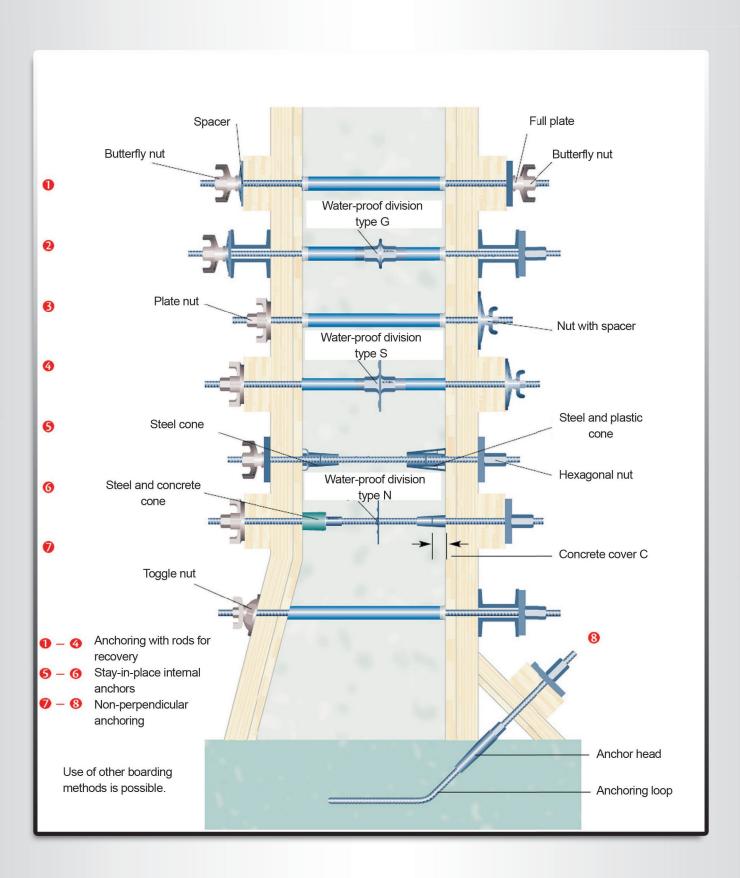


Mod. 008 - Abm. 4.000x1.285mm



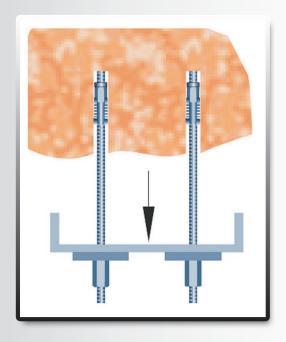
Mod. 051 · Abm. 4.000x1.220mm

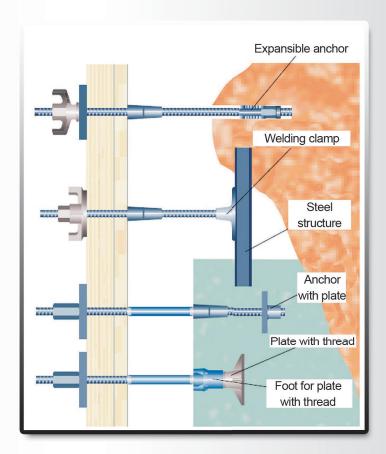
+/-2.0mm



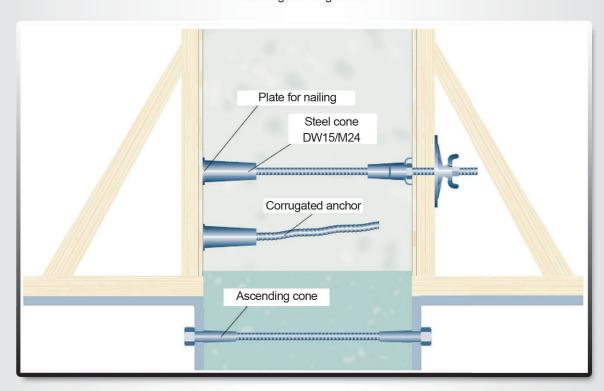
Steel accessories

Anchoring for expansible in stone and concrete





Ascending boarding cones

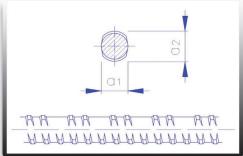


46

SAS 800/900 Type FB - hot-rolled/non-weldable

a1/a2 = 15/17 mm

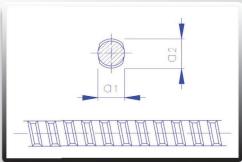




SAS 900/IIOO Type F - hot-rolled/non-weldable

a1/a2 = 15/17 mm a1/a2 = 20/23 mm a1/a2 = 26,5/30 mm

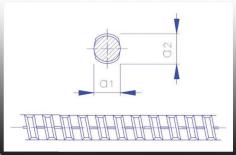




SAS 900/IIOO Type FA - hot-rolled/weldable

a1/a2 = 15/17 mma1/a2 = 20/23 mm

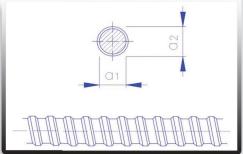




SAS 850 Type FS - cold-rolled/weldable

a1/a2 = 15/17 mm a1/a2 = 20/23 mm a1/a2 = 26,5/30 mm

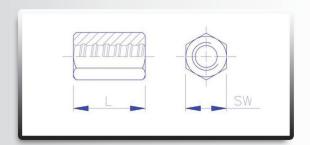






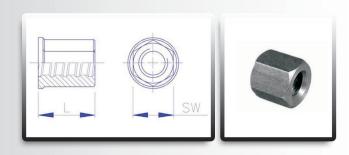
Nuts and connectors

Hexagonal nuts



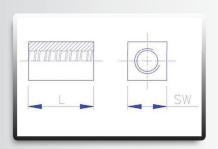
Ø	Catalogue number	Dimensions [mm]	Weight [kg]
12,5	12 F 22 050	SW24, L=50	
	12 F 22 050 G	SW24, L=50	0,13
15	15 F 22 030	SW30, L=30	
	15 F 22 030 G	SW30, L=30	0,15
	15 F 22 050	SW30, L=50	
	15 F 22 050 G	SW30, L=50	0,21
	15 F 22 070	SW30, L=70	0,30
	15 F 22 070 G	SW30, L=70	0,30
20	20 F 22 030	SW36, L=30	
	20 F 22 030 G	SW36, L=30	0,17
	20 F 22 060	SW36, L=60	0,34
	20 F 22 060 G	SW36, L=60	0,34
26,5	26 E 22 030	SW46, L=30	
	26 E 22 030 G	SW46, L=30	0,27
	26 E 22 060	SW46, L=60	
	26 E 22 060 G	SW46, L=60	0,55
	26 E 22 080	SW46, L=80	0,73
	26 E 22 080 G	SW46, L=80	0,73

Hexagonal nuts



Ø	Catalogue	Dimensions	W∈ight
	number	[mm]	[kg]
15	15 F 24 035 G	SW30, L=35	0,14

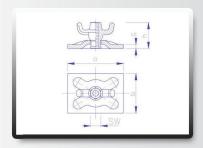
Welding nuts



Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
15	15 F 20 030	SW30, L=30	
	15 F 20 050	SW30, L=50	0,27
20	20 F 20 060	SW40, L=60	0,57

Universal nuts

Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
	15 F 72 010 G	SW27, a=120 b=120 c=10 h=67	1,44
	15 F 74 010 G	SW27, a=140 b=100 c=10 h=65	1,45
	15 F 75 010 G	SW27, a=200 b=150 c=10 h=68	2,70



Butterfly nuts

Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
15	15 F 32 026 G	SW27, a=95 b=36 h=55	
20	20 F 32 036 G	SW36, a=110 b=42 h=60	0,49
26,5	26 E 32 046 G	SW46, a=155 b=52 h=65	0,89

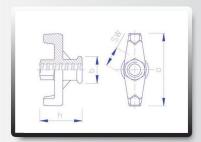


Plate nut

Ø	Catalogue	Dimensions	W∈ight
	number	[mm]	[kg]
	12 F 31 070 G	SW24, a=110 b=70 h=50	0,44

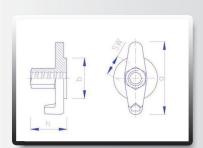
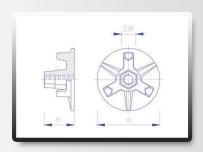


Plate nuts 3 wings

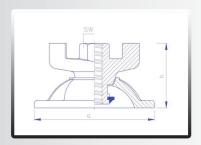
Ø	Catalogue number	Dimensions [mm]	Weight [kg]
15	15 F 31 070 G	SW27, a=70 h=55	0,47
	15 F 31 090 G	SW27, a=95 h=55	0,65
-	15 F 31 100 G	SW27, a=100 h=55	0,59
	15 F 31 110 G	SW27, a=110 h=55	0,65
_	15 F 31 130 G	SW27, a=130 h=55	0,86
20	20 F 31 130 G	SW36, a=130 h=65	1,30





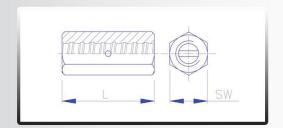
Nuts and connectors / Anchoring

Toggle nuts



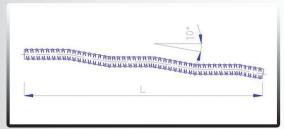
Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
-			
15	15 F 72 120 G	SW27, a=120 h=65	1,08
_		Okrągła	_
15	15 F 73 130 G	SW27, a=φ130 h=65	1,05
20	20 F 73 130 G	SW36, a=φ130 h=85	1, 52

Connection nuts



Ø	Catalogue number	Dimensions [mm]	Weight [kg]
12,5	12 F 28 090	SW24, L=90	
	12 F 28 090 G	SW24, L=90	0,24
15	15 F 28 100	SW30, L=100	0,43
	15 F 28 100 G	SW30, L=100	0,43
20	20 F 28 110	SW36, L=110	0,64
	20 F 28 110 G	SW36, L=110	0,64
26,5	26 E 28 120	SW46, L=120	
	26 E 28 120 G	SW46, L=120	1,10
-	26 E 28 150	SW46, L=150	1,37
	26 E 28 150 G	SW46, L=150	1,37

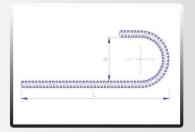
Corrugated anchor



Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
15	15 F 66 550 W	L=550	0,79
	15 FA 66 550 W	L=550	0,79
_	15 F 66 670 W	L=670	0,96
	15 FA 66 670 W	L=670	0,96
20	20 F 66 700 W	L=700	1,79
	20 FA 66 700 W	L=700	1,79
26,5	26 E 66 800 W	L=800	3,58

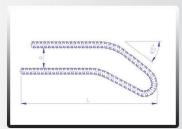
Hook anchor

Ø	Catalogue number	Dimensions [mm]	Weight [kg]
15	15 F 64 250 H	26 E 64 800 H	0,72
	15 FA 64 250 H	a=100 L=250	0,72
_	15 F 64 450 H	a=100 L=450	1,00
	15 FA 64 450 H	a=100 L=450	1,00
20	20 F 64 600 H	a=150 L=600	2,23
	20 FA 64 600 H	a=150 L=600	2,23
26,5	26 E 64 800 H	a=200 L=700	5,38



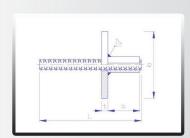
Anchoring loop

Ø	Catalogue number	Dimensions [mm]	Weight [kg]
15	15 F 65 550 S	a=230 L=550	1,87
	15 FA 65 550 S	a=230 L=550	1,87
20	20 F 65 600 S	a=300 L=600	3,94
	20 FA 65 600 S	a=300 L=600	3,94
26,5	26 E 65 800 S	a=400 L=800	8,96



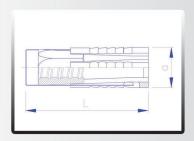
Anchor with plate

Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
15	15 F 63 160	a=50 b=100 t=10 L=160	1,15
	15 FA 63 160	a=50 b=100 t=10 L=160	1,15
	15 FS 63 160	a=50 b=100 t=10 L=160	1,15
20	20 F 63 275	a=60 b=120 t=15 L=275	2,75
_	20 FA 63 275	a=60 b=120 t=15 L=275	2,75
	20 FS 63 275	a=60 b=120 t=15 L=275	2,75



Expansible anchor

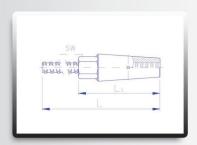
Ø	Catalogue number	Dimensions [mm]	Weight [kg]
15	15 F 63 037	a=34 L=110	0,37
20	20 F 63 053	a=39 L=125	D,37
			_
15	15 F 63 035	a=32 L=106	0,20
	15 F 63 034	a=32 L=90	0,20
26,5	26 E 63 063	a=50 L=130	0,57





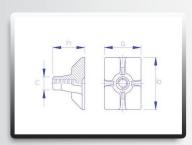
Anchoring

Anchoring head



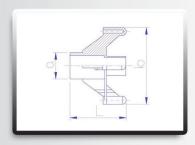
Ø	Catalogue	Dimensions	Weight
	number	[mm]	[kg]
15	15 F 30 130 G	L1=130 L=650 SW30	1,60

Cast iron anchor



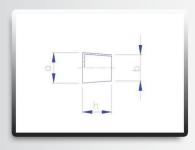
Ø	Catalogue number	Dimensions [mm]	Weight [kg]
15	15 F 61 055	a=55 b=80 c=26 h=58	0,42
15	15 F 61 070	a=70 b=100 c=26 h=58	0,48

Spacers for cast iron anchor



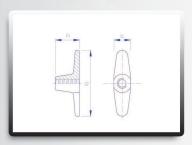
Ø	Catalogue	Dimensions	Weight
	number	[mm]	[kg]
15	15 F 62 055	а=Ф55 b= Ф 70 L=70	0,04

Reductor/cone



Ø	Catalogue	Dimensions	Weight
	number	[mm]	[kg]
15	15 F 62 055 A	a=21 b= 18 h=20	0,002

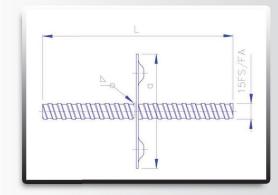
Welding cap



Ø	Catalogue	Dimensions	W∈ight
	number	[mm]	[kg]
	15 F 27 130	a=32 b= 128 h=47	0,41

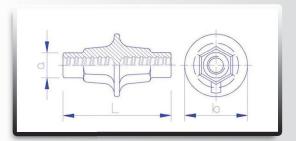
Seal with welded-in plate

Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
15	15 FA 43 000	a=120 L= variable	0,22+
15	15 FS 43 000	a=120 L= variable	0,22+
20	20 FA 43 000	a=120 L= variable	0,22+
20	20 FS 43 000	a=120 L= variable	0,22+
26,5	26 ES 43 000	a=120 L= variable	0,33+



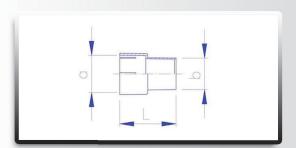
(Small) Stay-in-place cast iron seal

Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
15	15 F 44 110 S	a=26 b=65 L=112	0,51
20	20 F 41 150	a=31 b=90 L=150	1,37



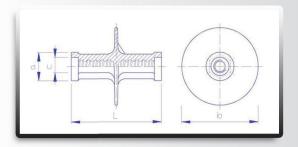
Reductor/cone

\$ Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
	15 F 44 110 A	a=26 b=22 L=40	0,01



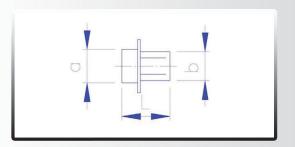
(Big) Stay-in-place cast iron seal

Ø	Catalogue	Dimensions	W∈ight
	number	[mm]	[kg]
15	15 F 41 130	a=40 b=110 c=26 L=130	1,10



Reductor/cone

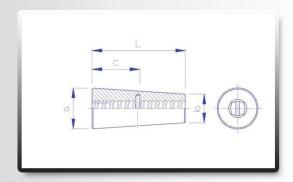
Ø	Catalogue	Dimensions	W∈ight
	number	[mm]	[kg]
15	15 F 41 130 A	a=26 b=22 L=33	0,01





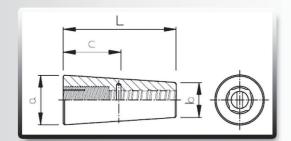
Cones

Cones type 30



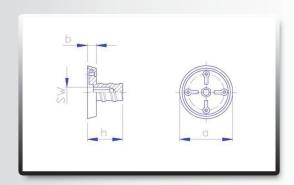
Ø	Catalogue	Dimensions	Weight
	number	[mm]	[kg]
15	15 F 17 030	a=43 b=30 c=46 L=98	0,57

Steel cones type 30/M24



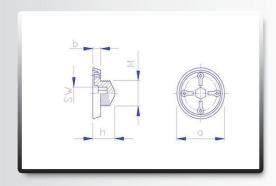
Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
15	15 F 15 030	a=43 b=30 c=46 L=98	0,59
26,5	26 E 15 040	a=54 b=40 c=76 L=148	0,90

Cone plate type 30



Ø	Catalogue	Dimensions	W∈ight
	number	[mm]	[kg]
15	15 F 17 030 N	a=48 b=8 h=32	0,01

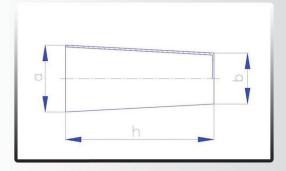
Cone plate type 30/M24



Ø	Catalogue number	Dimensions [mm]	Weight [kg]
15	15 F 15 030 N	a=48 b=8 h=22 SW 10 M 24	0,01
26,5	26 E 15 040 N	a=75 b=4 h=25 SW 17 M 36	0,20

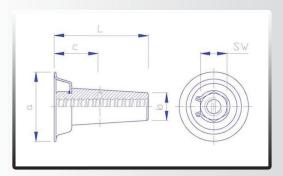
Plastic overlay for cones type 30 + 30/M24

Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
	15 F 15 030 K	a=43 b=31 h=95	
15	15 F 12 030 K	a=41 b=31 h=81	0,01
26,5	26 E 12 040 K	a=54 b=41 h=120	0,02
26,5	26 E 15 040 K	a=56 b=41 h=145	0,02



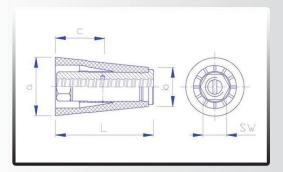
Steel cone type 30

Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
15	15 F 12 030	a=80 b=30 c=50 L=102 SW30	0,67
26,5	26 E 12 040	a=98 b=40 c=80 L=152 SW46	1,50



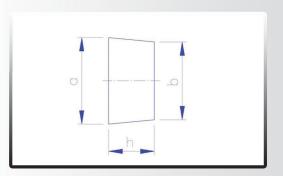
Steel and plastic cone type MKK

Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
15	15 F 14 100	a=60 b=40 c=50 L=100 SW27	
20	20 F 14 126	a=70 b=40 c=65 L=126 SW32	0,77
26,5	26 E 52 030	a=70 b=57 c=70 L=135 SW46	1,67



Concrete plug

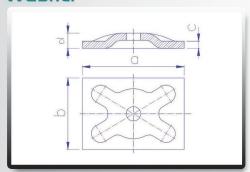
Ø	Catalogue number	Dimensions [mm]	Weight [kg]
15	15 F 14 100 S	a=58 b=52 h=30	0,15
20	20 F 14 126 S	a=69 b=59 h=40	0,20





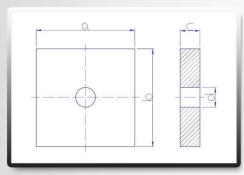
Other accessories

Washer



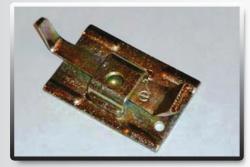
Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
15	15 F 52 010 G	a=120 b=120 c=10 d=21	
15	15 F 54 010 G	a=140 b=100 c=10 d=21	1,05
15	15 F 55 010 G	a=200 b=150 c=10 d=23	2,30

Plate



Ø	Catalogue number	Dimensions [mm]	W∈ight [kg]
20		a=120 b=120 c=20 d=25	
26,5	26 E 52 020	a=120 b=120 c=20 d=32	2,10
26,5	26 E 52 030	a=150 b=120 c=30 d=32	4,50

Steel wedge clamps



Catalogue	Dimensions	Weight
number	[mm]	[kg]
10 F 11 008	90x60mm	0,26

Cast iron wedge clamps



Catalogue number	Dimensions [mm]	Weight [kg]
10 F 11 010	110x40mm	0,43
10 F 11 013	110x40mm	0,46

Spring clamps



Catalogue	Dimensions	W∈ight
number	[mm]	[kg]
10 F 12 200	110x75mm	0,42

Wedge clamp wrench

Catalogue	Weight
number	[kg]
10 F 16 012	1,42



Spring clamp wrenches

Catalogue	W∈ight
number	[kg]
10 F 17 100	2,70



Catalogue	Weight
number	[kg]
10 F 18 100	



Tie cleaning tool

Catalogue	Weight
number	[kg]
15 F 71 001	0,40



Tie cleaning tools

Catalogue	Weight
number	[kg]
10 F 71 002 G	1,90





Other accessories

Cone wrenches



Catalogue number	Dimensions [mm]	Weight [kg]
15 F 16 100	SW 27	1,10
15 F 16 105	SW 30	1,40



Catalogue	W∈ight
number	[kg]
15 F 16 110	1,60

Tie tee



Catalogue number	W∈ight [kg]
15 F 66 300	0,42
20 F 66 300	0,43
26 E 66 300	0,44

Concrete tube from fibre concrete

Product number	Diameter mm	Quantity m/pallet	Quantity kg/pallet
2460-22	22/40	500	875
Length L = 125 cm			



Concrete plug - for concrete tubes

Product number	Diameter mm	Length mm	Quantity m/pallet	Quantity kg/pallet
2462-20	22	20		1000
2462-50	22	50	42.5	1000



Kegel concrete plug

Product	Ø DI	Ø D2	Length	Quantity
numb∈r	[mm]	[mm]	[mm]	kg/pallet
2462-7060	41,0	30	40	100



Sichtbetonkegel architectural concrete plug

Product	Quantity	Quantity	
numb∈r	pcs/package	pcs/pallet	
2462-7561	100	8400	





Flat contact - concrete spacer with wire

Product numb∈r	Cover in mm	Quantity pcs/package	Quantity pcs/pallet
2404-20	20	400	28000
2404-25	25	350	21000
2404-30	30	350	17500
2404-35	35	250	14000
2404-40	40	200	8750
2404-45	45	200	8750
2404-50	50	140	7000
2404-60	60	100	5250
2404-70	70	80	4500







Concrete spacers

Trapezoid- concrete spacer w/o wire



Product No.	Cov∈r in mm	Quantity pcs/package	Quantity pcs/pallet
2405-20	20	800	28000
2405-25	25	450	21000
2405-30	30	450	17500
2405-40	40	200	8750
2405-50	50	150	7000
2405-60	70	80	5250

Dice - concrete spacer with or w/o wire





Produc No.	t	Cover in mm	Quantity pcs/package	Quantity pcs/pallet
2420-233	B.D.U	20/25/30	1000	21000
2420-345	B.D.R	35/40/50	250	8750
2421-233	Z.D.R.	20/25/30	500	21000
2421-345	Z.D.R.	35/40/50	250	8750

Trapezoidal strip - concrete spacer





Product No.	Cover in mm	Quantity pcs/pallet	Quantity kg/pallet
		3500	980
2452-25	25	2000	975
2452-30	30	1300	980
2452-40	40	900	925
2452-45	45	800	972
2452-50	50	700	975
2452-60	60		975
2452-70 Length L = 50 cm	70	400	999



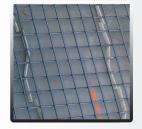
Trapezoidal strip - spacer with wires



Product No.	Cover in mm	Quantity pcs/pallet	Quantity kg/pallet
2455-20			929
2455-25	25	3750	964
2455-30	30	2800	
2455-35	35	2250	945
2455-40	40	1850	925
2455-45	45	1620	972
2455-50	50	1300	
2455-55	55	1180	991
2455-60	60	1000	990
2455-70 Length L = 50 cm	70	740	992

Concrete strip - concrete spacer

Product numb∈r	Cover in mm	Quantity pcs/pallet	Quantity kg/pallet
2482-20		2000	980
2482-25	25	1300	975
2482-30	30	900	980
2482-35	35	700	945
2482-40	40	600	925
2482-45	45	550	972
2482-50	50	450	975
2482-55	55	400	997
2482-60	60	300	975
2482-70	70	250	999
Length L=80 cm			





AL- ceiling spacing strip

Product number	Cover in mm	Quantity m/package	Quantity m/pallet
			5400
3350-20	20	100	4800
		100	4200
3350-30	30	100	3000
3350-35		80	2400
3350-40	40	80	2400
3350-50	50	80	1600
Length L=2 m			





ZZ- ceiling spacing strip

Product number	Cover in mm	Quantity m/package	Quantity m/pallet
3351-15		100	5000
3351-20	20	100	5000
3351-25		100	5000
3351-30	30	100	5200
3351-35		80	3200
3351-40	40	80	3200
3351-50	50	80	3840
Length L=2 m			





Styromax- polystyrene horizontal tee

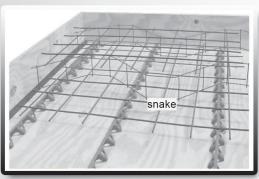
Product number	Type cover	Rod ∅ (mm)	Quantity package	On pallet (m)
381520	15 - 20	8-16	500	16000
382530	25 - 30	8-16	400	12800
384050	40 - 50		200	16000
385060	50 - 60	6-16	200	13600
387080	70 - 80		200	7200
389000	90-100	8-16	100	6400



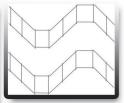


Dystanse PVC

Snake shape wire spacer



Example of wires for reinforcement spacing. Quantity of spacers used should be 1.5 mb/1 m2 of area.



Length L = 2.4 m Wire diameter 4 mm Wire spacer type Tube provides correct spacing between the bottom and upper reinforcement

Product number	Height m	Quantity m/package	Quantity mb/pallet
3330-06			3600
3330-07	7	60	2400
3330-08		60	2400
3330-09	9	60	2400
3330-10		60	2160
3330-11	11	60	1920
3330-12	12	60	1680
3330-13	13	60	1440
3330-14		60	1440
3330-15	15	60	1440
3330-16		60	1200
3330-17	17	60	1200
3330-18		60	1200
3330-20	20	60	960
330-38	38	60	960

Horizontal spacer



Product number	Cover in mm	Rod diameter in mm	Quantity pcs/pack.
012	25/41	8-32	500
013	35/51	8-32	500
014	42/58	8-32	500
015	50/66	8-32	500
Use for heavy reinfe	orcement		
- in latch with diame	eter of 8 to 16 mm	- in upper saddle	

TURM- Horizontal spacer



Product number	Cover in mm	Rod diameter in mm	Quantity pcs/pack.
012	25/41	8-32	500
013	35/51	8-32	500
014	42/58	8-32	500

Vertical spacer



Product number	Cover in mm	Rod diameter in mm	Quantity pcs/pack.
044/10	10		500
044/15	15	2-8	500
044/20	20		500
044/25	25	2-8	500
044/30	30	2-8	500

RSR- PVC tube for ties





Product number	w∈w. in mm	Quantity m/pack.	Quantity pcs/pack.
3360-22	22	100	2450
3360-26	26	50	1500
Length L= 2m Tube RSR with pl DS 22 and ST 22			

Octagon Tube

- Spacing tube with two OKTAGON plugs made from HDPE (not containing PCV, with high acid resistance), made as a whole and very stable.
- With the use of flanges with a diameter of 60 mm located 40 mm from the beginning of the tube, it is possible to achieve as high water-tightness as possible and ensure reliable binding with concrete. Spacing tubes are not loose with early boarding, which ensures higher water-tightness since water cannot enter the spacing tube.
- Delivery as a set: each spacing tube includes 2 plugs.
- Manufacturer is not liable in respect of warranty for correct installation of spacing tube!
- Manufacturer's warranty includes water-tightness of internal tube (verified under water pressure of up to 7 bar)

	Tests certificates:
V	ater-tightness test acc. to ONORM B 3303
F	ammability (F120 acc. to ONORM B 3800
	coustic insulation acc. to ONORM B 8115
Approved for contact	vith potable water acc. to ONORM B 5014

Product number	Тур€	Wall thickness [mm]	Quantity package	On pallet (m)
3360/150	O15/3T	150	100	2400
3360/175	O175/3T	175	100	2400
3360/180	O18/3T	180	100	2400
3360/200	*O20	200	100	2400
3360/220	O22/3T	220	100	2400
3360/240	*024	240	100	2400
3360/250	*O25	250	100	2400
3360/300	*O30	300	100	2400
	O35/3T	350	100	1500
3360/365	O365/3T	365	100	1500
3360/400	O40/3T	400	100	1500
3360/450	O45/3T	450	50	800
3360/500	O50/3T	500	50	800
3360/550	O55/3T	550	50	800
3360/600	O60/3T	600	50	800





UNI- Vertical spacer

Product number	Cover in mm	Rod diameter in mm	Quantity pcs/package	Collective pcs/pack
3340-15		4-10	1000	5000
3340-20	20	4-12	1000	4000
3340-25		4-12	500	2500
3340-30	30	4-12	500	1500
3340-35		4-12	200	1000
3340-40	40	5-14	125	750
3340-50	50	8-14	100	500





PVC spacers

UNIMAX- Vertical spacer



Product number	Cover in mm	Rod diameter in mm	Quantity pcs/pack	Collective pcs/pack
3346-20	20	6-20	250	2000
3346-25	25	6-20	250	1000
3346-30	30	6-20		1000
3346-35	35	6-20	125	1000
3346-40	40	6-20	125	500
3346-50	50	6-20	50	500

SA- For stabilisation of bottom edge of boarding



Product number	Diameter/height in mm	Weight kg/IOOpcs	Quantity pcs/pack	Collective pcs/pack
3370-30	50/30	2.22	100	1000
		Enable	es placement of boardin	ng in a straight line.

Cone for architectural concrete with seal



		Diameter ∅[mm]				
3206-22	K22S	22	40	10	500	2400

SK- Cone for PVC tubes



Product number	Tub∈Ø in mm	Quantity pcs/pack	Collective pcs/pack
3361-22	22	500	3000
3361-26	26	250	1500

SKD- Cone for PVC tubes



Product number	Tub∈Ø in mm	Instalation length [mm]	Quantity pcs/pack	Collective pcs/pack
3361-30	22	30	250	1000
3361-50	22	50	250	

ST- Cone for PVC tubes

Product number	Plug for	Quantity pcs/package	Collective pcs/pack
3363-01	RSR 22	500	10000
3363-02	SK 22 and KA 22	500	10000
3363-03	RSR 26	500	5000



KU- Connector for concrete and PVC tubes

Product number	Tub∈Ø in mm	Quantity pcs/package	Collective pcs/pack
3362-02	22	250	2500
3362-03	26	250	2500



DS- Rubber end cap

Product	Tube∅	Quantity	Collective
number	in mm	pcs/package	pcs/pack
3310-22	22	500	2500



KA- Concrete and PVC tube closing cone

Product	Tub∈∅	Quantity	Collective
number	in mm	pcs/package	pcs/pack
3362-01	22	250	5000



KD- Boarding plug

Product	Tub∈ Ø	Quantity	Collective
numb∈r	in mm	pcs/package	pcs/pack
3363-04	22	500	2500





Other

LT- Ordinary triangular strip





Product I	Dimensio A	ns in mr B	n Quantity mb/package	Quantity mb/pallet
3321-06		9.2	100	
3321-11	11	15.5	100	9000
			100	5600
3321-20	20	28.3	100	5500
3321-25		35.4	100	
3321-30 Length L = 2.5	30 m	42.2	100 A	B '

LT- Triangular strip with belt





Product number	Dim∈n A	sions i B	in mm C	Quantity mb/package	Quantity mb/pallet
3320-11	11	15.5	26	100	5400
3320-15	15	21.2	32	100	5500
3320-20	20			100	4500
3320-25	25	36.1	46	50	2450
3320-30	30	42.4	53	50	1800
Length L = 2	.5 m			A	В

Steel triangular strip



Product number	Typ∈ D	imensions A (mm)	Dimensions C (mm)	L∈ngth (cm)	Bundle (m)
20620	10 x 10 mm	10	14	400	100
20621	15 x 15 mm	15	21	400	100
20622	20 x 20 mm	20	28	400	100

Hot-rolled, straightened and cut steel triangular strips are used to produce cut corners in concrete pre-fabricated structures. They can be easily welded and are appropriate for steel formwork.

RL2- Phase gorge (drip) for balconies and hoods





Product number	Турє	Slot width (mm)	Quantity m/package
3323-15	RL 2	15	100
Length L = 2.5 n	n		

TP - PVC strip for joints

Product number	Тур€	Width in mm	Height in mm	Quantity mb/package
3319-01	TP 20/20	20	20	100
3319-02	TP 40/20	40	20	100
Length L = 2.5	5 m			



Antiadhesive liquid for boarding

Product number	Product number	Packaging	Quantity I/container
4131-01	10-25	Container	30
4131-02	10-26	Barrel	210
4131-03	10-27	Mauzer	1000



Pressure sprinkler

Product number	Capacity in L	Packaging
4132-01	10	Two additional nozzles included





Concrete plug two-component adhesive

Product	Wear	Weight	Packaging
number	kg/IOOOpcs	kg/package	
2461-00	6	6 kg	Set A+B



Tie wire - soft wire in rolls and rings

Product number	Турє	Ø wire in mm	Weight kg/package	Quantity kg/pallet
4502-12	DW 12	1.20	20-30kg	1000
4502-14	DW 14	1.40	by weight	1000





Other

SKA- PVC cover for reinforcement rods

Product numb∈r	Турє	∅ rod in mm	Quantity pcs/package
3123-01	SKA 8/16		250
3123-02	SKA 16/32	16-32	125
Can be used as	s health and safety cove	er for rods.	





SKA PVC protective profile for reinforcement rods

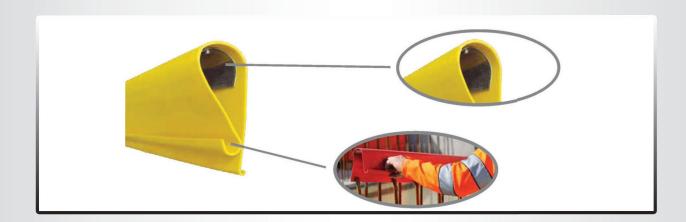
Product number	Тур€	Ø in mm	L∈ngth in m	Quantity pcs/package	Quantity pcs/package
3125-01	SP/100	8-40			294
3125-02	SPS/100 *	8-40	1	6	294

* SPS reinforced with steel insert

Product advantages:

- Resistance to puncture of 100 kg for a fall from height of 3 m.
- Can be mounted vertically and horizontally.
- Can be ordered in warning colours to improve visibility in dangerous places.





Druleg mounting pad

Product number	Cov∈r (mm)	Quantity pcs/package	Quantity pcs/pallet
3316-2		250	30.000
3316-3	3	250	30.000
3316-5		125	25.000
3316-7	7	125	15.000
3316-9		125	10.000
3316-10	10	125	10.000
3316-12	12	125	8.000
3316-15	15	50	8.000
3316-20	20	50	6.000





Technofiber- Polypropylene Fibres

Product number	Weight g/package	Dosage to concrete	Quantity package
4316-15	150	1 package/ 200 l	
4316-75	750	1 package/ 1 m	18
Eliminate formati	ion of surface fractures.		



Foil covers with zip fastener For construction designs

Product number	Турє	Format (mm)	Bunch (m)
420620	A1	650 x 900	10 / 200
420621	A0	900 x 1250 ³	5 / 125
420622	А	1000 x 1500	5 / 100



Construction nails

Product number	Dimensions		
43170-1	2,0 x 40	4,5 x 125	8,0 x 300
	2,2 x 50	5,0 x 150	
	2,5 x 60	$6,0 \times 175$	
	2,8 x 65	6,0 x 200	
	3,0 x 70	7.0×225	
	3,5 x 90	8,0 x 250	
	4,0 x 100	8,0 x 275	



Hardened nails

Product number	Dimensions
43170-2	2,0 x 40
	3,0 x 40
	$3,0 \times 50$
	$3,8 \times 50$
	4,0 x 50





Piany montażowe

Piany montażowe BORAMAX do uszczelniania styków szalunkowych, uszczelniania szalunków



Profesjonalna jednoskładnikowa piana poliuretanowa o nowej formule przeznaczona do montażu stolarki otworowej drewnianej, PCV oraz aluminium. To piana szybkoschnąca z bardzo krótkim czasem wstępnegou twardzenia. Pianka charakteryzuje się także dużą siłą wiązania, bardzo dobrze uszczelnia, wygłusza, izoluje i klei. Posiada nową formułę, co znacznie zwiększa jej wydajność. Produkt posiada także bardzo dobre właściwości dźwięko i termo izolujące. Piana jest odporna na grzyby i pleśń. Występuje także w wersji ZIMOWEJ, w której jej specjalnie zmodyfikowana formuła pozwala na pracę w niskich temperaturach otoczenia nawet do -10°C.

Piana wystepuje w wersji wężykowej oraz pistoletowej, którą należy nanosić za pomocą specjalnego pistoletu do aplikacji pian poliuretanowych.

Piany BORAMAX



Nazwa artykułu	Тур	Pojemność (ml)	llość szt. w opakowaniu	llość szt. na palecie
Boramax Gold	wężyk lato	500/750	12/16	768/1152
Boramax Gold	wężyk zima	500/750	12/16	768/1152
	pistolet lato	750	12	
Boramax Gold	pistolet zima	750	12	768
Boramax 45	wężyk lato	500/750	12/16	768/1152
Boramax 45	wężyk zima	500/750	12/16	768/1152
	pistolet lato	750	12	
Boramax 45	pistolet zima	750	12	768
Boramax Maxi Plus	wężyk lato	500/750	12/16	768/1152
Boramax Maxi Plus	wężyk zima	500/750	12/16	768/1152
Boramax Maxi Plus	pistolet lato	750	12	768
Boramax Maxi Plus	pistolet zima	750	12	768

BORAMAX klei do przyklejania płyt styropianowych w systemach dociepleń



Nazwa	Тур	Pojemność	llość szt.	llość szt.
artykułu		(ml)	w opakowaniu	na palecie
Boramax klej	pistolet	750	12	768

BORAMAX czyścik do pian poliuretanowych



Nazwa	Тур	Pojemność	llość szt.	llość szt.
artykułu		(ml)	w opakowaniu	na palecie
Boramax czyścik	pistolet	500	12	1152

Construction equipment - concrete containers

Hopper opening mechanism is made from appropriately profiled sheet with high abrasion resistance connected with a toothed strip driven by crank revolution. Appropriate parameters allow for a free, unforced opening of the container hopper. It is an important characteristic for sectional concreting and quick cut of concrete flow.

In the rear part of the platform, a container is built, which after being filled with sand or debris, balances the load of container operator in case of a need to operate the closing mechanism from the container platform.

Concrete container is marked by having rated plates mounted which include:

- container marking
- manufacturer's name and address
- container maximum weight
- manufacturing year
- allowable work platform load



Concrete container

	unit
Concrete container type A 0.75m	рс
Concrete container type A 1.00m	рс
Container yoke	рс
Container sleeve	mb



Concrete container with platform

	unit
Concrete container type B 0.75m	рс
Concrete container type B 1.00m	рс
Container yoke	рс
Container sleeve	mb

Debris containers

Construction equipment - concrete containers



Concrete container

Concrete container with a capacity of 0.7 to 1.5 m3 with oblique (lateral) nozzle.



Concrete container

Concrete container with working platform and oblique (lateral) nozzle with a capacity of 0.7 to 1.5 m3. With the use of a working platform, a worker can be transported with the container to the required height.



Debris container

Hopper for debris with a capacity of 0.6 to 1.5 m3. With a use of automatic hook, it enables automatic discharge.

Debris hopper



Hopper for debris with a capacity of 0.6 to 1.5 m3. With a use of automatic hook, it enables automatic discharge.



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