

# Bar Spacers & Special Spacers made of fibre concrete



# Bar spacers

## made of fibre concrete

Bar spacers are used to ensure that the concrete cover specified for structures and structural elements made of reinforced concrete is adhered to, both before and during concreting.

You should observe the following when selecting spacers:

- Required concrete cover according to DIN 1045, Para. 13.2 nom c dimension
- Spacer loading due to the weight of the reinforcement and additional loads e.g. during concreting
- Diameter and location of the reinforcement (wall/slab)
- Type of reinforcement (single bars or mats)
- Simple, rapid and economical placing
- External influences affecting the concrete, such as pressure, temperature, chemical attack, alternating moisture penetration (fire and corrosion)
- Possible imprint left by spacers on the concrete surface – exposed concrete
- Concrete surface finishing (stucco work)
- When single bar reinforcement is used and the bar spacers are specially laid, the bar spacers can also perform distribution-steel functions in floor slabs.

### Fibre concrete – the optimum material in combination with in-situ concrete

- High compressive strength, no deformation in heat or cold, the required concrete cover will be absolutely retained
- Eminently suitable for concrete impermeable to water, no hairline cracks between the spacer and the concrete
- Large support area – no pressing into formwork
- Substantial labour cost savings due to the rapid and simple laying
- Fire resistant to the highest requirements specified in DIN 4102 – Class 1A

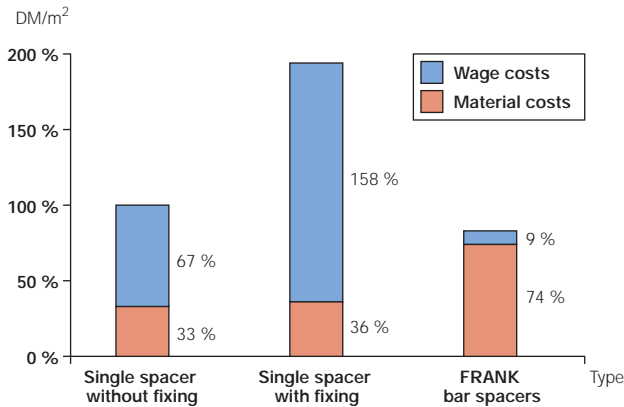


# Bar spacers

## made of fibre concrete

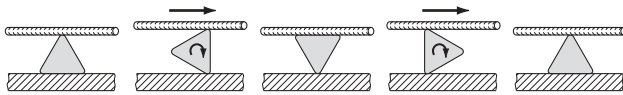
Economically and technically the optimum solution for ensuring the concrete cover

### Economic efficiency

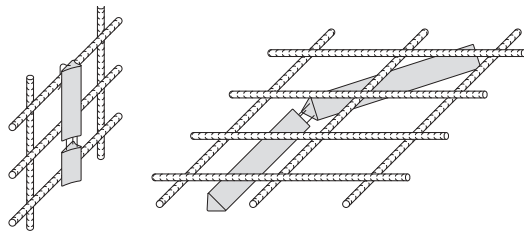


The costs incurred in solving the task of “ensuring the concrete cover” are composed of material and wage costs. The important factor is the sum of both costs - not just the material purchases. The wage costs for laying and fixing less suitable “cheaper” spacers can often be several times that of the material value. This fact is well-known throughout the construction industry and has recently been confirmed by a study carried out by the Institute of Ergonomics and Construction Economics in Leonberg.

### Application stability

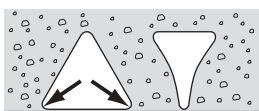


Always the same concrete cover in any position



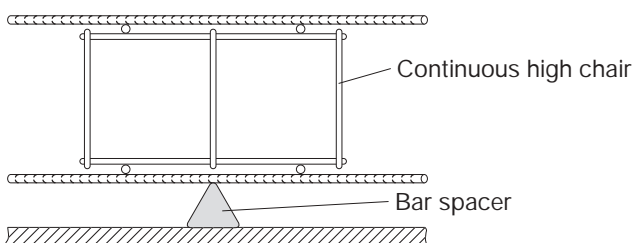
FRANK triangular bar spacers have exactly the same concrete cover in any stable position. Unintentional or forcible tipping and twisting does not result in a reduction of the specified concrete cover.

Any bar spacers which are unintentionally broken are held together by nylon threads and will remain completely functional. This prevents broken-off pieces falling into the closed formwork and causing problems.



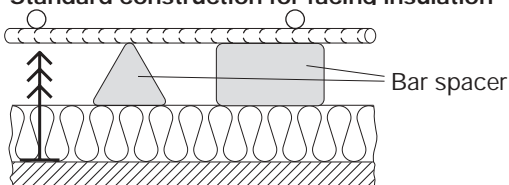
Excellent bonding between fibre concrete and in-situ concrete and positive interlocking into the in-situ concrete around the bar spacer give security, even if the component is dynamically loaded.

### Standard construction for slabs and bases with bar spacers and FRANK continuous high chairs



If the bar spacers and the continuous high chairs are laid immediately above one another, the reinforcement will have a high resistance to deflection and get very stable. This guarantees the correct structural height for the placed reinforcement.

### Standard construction for facing insulation



Single spacers would press through or into any facing formwork facing insulation or sealing films laid on the shuttering. The wide support surface of bar spacers prevents this.

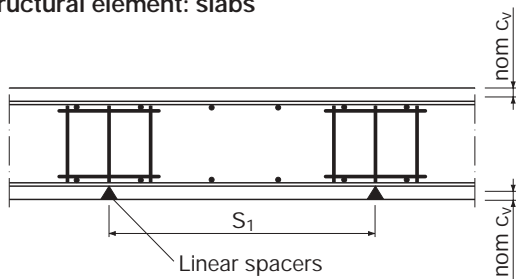
# Bar spacers

## Laying and determining number required

### Determining number required

According to the German Concrete Association (Deutscher Betonverein) Code of Practice for "Concrete cover and reinforcement" bar spacers are defined as spacers with a linear or a two-dimensional contact area. Normally, at least four single spacers can be replaced by one bar spacer.

### Structural element: slabs



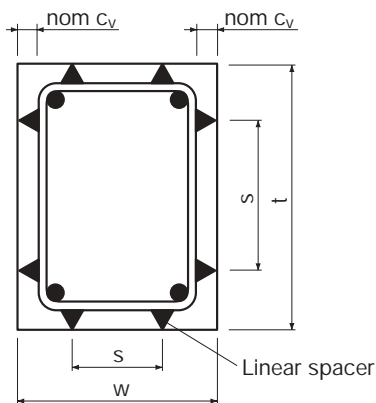
### Laying intervals and number of spacers required

Rebar Ø mm	max. S <sub>1</sub>	Pcs. required/m <sup>2</sup>		
		L = 18 cm	L = 33 cm	L = 100 cm
up to ø 14	50 cm	3.0	2.5	1.33
from ø 14	70 cm	1.6	1.4	0.84

### Caution! Thin supporting bars can bend during concreting!

The laying interval is based primarily on the accepted deflection at maximum loading, e.g. when the reinforcement is walked on, especially during concreting. When locating bar spacers in tension zones you should use shorter lengths with sufficient length overlapping.

### Structural element: columns and beams

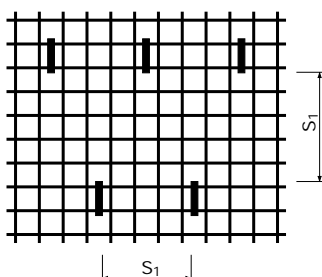


### Laying intervals and number of spacers required

Columns			
Vertical		Horizontal	
Rebar Ø mm	Laying distance cm	w x t* cm	Laying interval
up to ø 10	50	up to 100	min. 2 pcs./m
ø 12 - 20	100	above 100	min. 3 pcs./m
above ø 20	125	above 100	max. 75 cm
Beams			
Longitudinal direction		Transverse direction	
Rebar Ø mm	Laying distance cm	w x t* cm	Laying interval
up to ø 10	25	up to 100	min. 2 pcs./m
ø 12 - 20	50	above 100	min. 3 pcs./m
above ø 20	75	abover 100	max. 50 cm

\* w x t = Width x thickness of beam or column

### Structural element: walls



### Laying intervals and number of spacers required

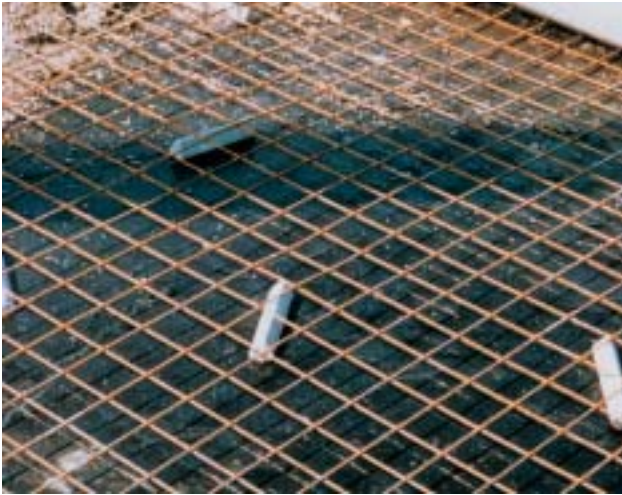
Rebar Ø mm	max. S <sub>1</sub>	Pcs. required/m <sup>2</sup>	
		L = 18 cm *	L = 33 cm *
up to ø 8	70 cm	1.6	1.4
ø ≥ 10	100 cm	1.0	0.8

\* In order to achieve a positive fixing we recommend spacer lengths of 18 cm for "Q" mats and spacer lengths of 33 cm for "R" mats.

The requirements in accordance with the Code of Practice for spacers, such as compressive strength in heat, impermeability to water or chemical resistance, have been proven.

# Triangular bar spacers

made of fibre concrete for horizontal mesh and rod reinforcement with continuous reinforcing threads



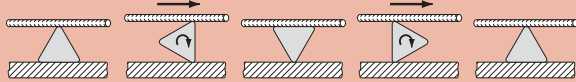
Standard length: approx. 100 cm

Article number	Concrete cover mm	Weight kg/pc.	Metres/pallet
FAHD015100	15	0.35	2000
FAHD020100	20	0.60	1500
FAHD025100	25	0.90	1000
FAHD030100	30	1.35	1000
FAHD035100	35	1.77	750
FAHD040100	40	2.29	500
FAHD045100	45	2.77	400
FAHD050100	50	3.55	400
FAHD055100	55	4.10	350
FAHD060100	60	5.10	300
FAHD070100	70	6.80	250
FAHD080100	80	8.10	100
FAHD090100	90	11.20	100
FAHD100100	100	12.70	100

Standard length: approx. 33 cm

Article number	Concrete cover mm	Pcs./carton	Weight kg/carton	Cartons/pallet
FAHD015033	15	250	29.9	44
FAHD020033	20	150	30.7	44
FAHD025033	25	110	33.7	44
FAHD030033	30	75	34.5	44
FAHD035033	35	60	36.1	44
FAHD040033	40	50	38.8	44
FAHD045033	45	40	37.6	44
FAHD050033	50	33	39.7	44
FAHD055033	55	30	41.6	44

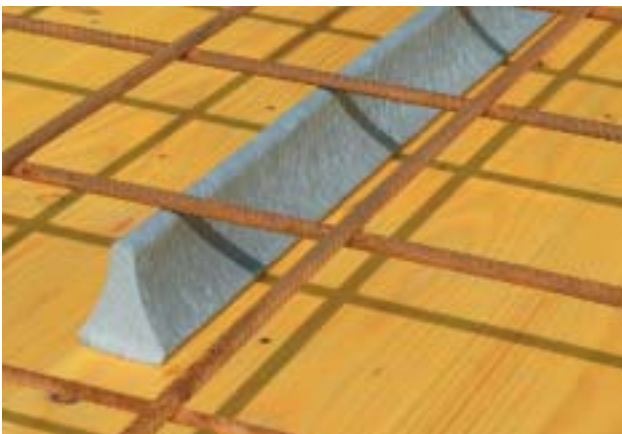
Application stability



Triangular bar spacers always provide the same concrete cover in any position.

# Triangular concave bar spacers

made of fibre concrete for horizontal mesh and rod reinforcement – lightweight version with continuous reinforcing threads

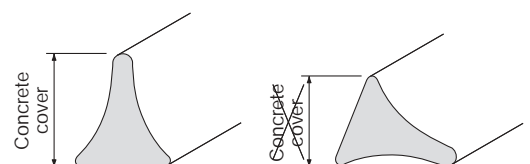


Standard length: approx. 100 cm

Article number	Concrete cover mm	Weight kg/pc.	Metres/pallet
FAHK025100	25	0.78	1000
FAHK030100	30	0.92	1000
FAHK035100	35	1.26	750
FAHK040100	40	1.55	600
FAHK045100	45	1.93	500
FAHK050100	50	2.31	500
FAHK055100	55	2.60	400
FAHK060100	60	3.05	350
FAHK070100	70	3.80	250
FAHK080100	80	5.00	150

Always place flat side downwards when laying horizontally. When laying on slab formwork please see curved bar spacers.

Triangular concave bar spacers are inexpensive but have the disadvantage that they do not provide the same concrete cover in every position they are placed.  
 → If there is a danger that they will tip over, you should use triangular bar spacers instead.



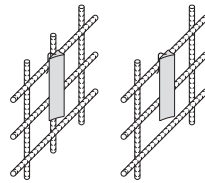
# Triangular concave bar spacers

made of fibre concrete with hook clips for vertical mesh and rod reinforcement



Standard length: approx. 18 cm

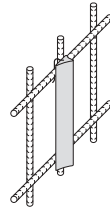
Specially made for O mesh reinforcement of bar spacing (mesh width) up to 15 x 15 cm: for horizontally fixed R mats square mesh 25 x 15 cm



Article number	Concrete cover mm	Pcs./carton	Weight kg/carton	Cartons/pallet
FAHDH15018	15	350	23.7	24
FAHDH20018	20	250	28.5	24
FAHDH25018	25	180	32.1	24
FAHDH30018	30	125	22.6	24
FAHDH35018	35	100	22.1	24
FAHDH40018	40	75	19.4	24
FAHDH45018	45	60	21.8	24
FAHDH50018	50	50	21.8	24
FAHDH55018	55	50	24.4	24
FAHDH60018	60	50	28.3	24

Standard length: approx. 33 cm

Specially made for R mesh reinforcement and single bar reinforcement with vertically positioned square mesh 15 x 25 cm



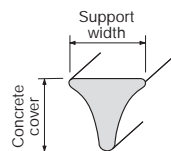
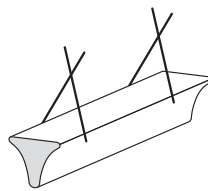
Article number	Concrete cover mm	Pcs./carton	Weight kg/carton	Cartons/pallet
FAHDH15033	15	250	30.7	24
FAHDH20033	20	150	31.2	24
FAHDH25033	25	110	35.8	24
FAHDH30033	30	75	24.8	24
FAHDH35033	35	60	24.2	24
FAHDH40033	40	50	23.4	24
FAHDH45033	45	40	26.5	24
FAHDH50033	50	33	26.2	24
FAHDH55033	55	33	29.3	24
FAHDH60033	60	30	31.0	24

Clip type "PL" for rebar  $\varnothing$  10 – 16 mm. Can be supplied with clip type "PX" for rebar  $\varnothing$  20 – 28 mm for concrete cover above 30 mm on request.

- For vertical reinforcement
- Simply clip to reinforcement

# Triangular concave bar spacers

made of fibre concrete with two tying wires for secure fixing in any position



Standard length: approx. 18 cm

Article number	Concrete cover mm	Support width mm	Weight kg/pcs.
FAHKZD300180	30	27	0.15
FAHKZD350180	35	31	0.20
FAHKZD400180	40	33	0.27
FAHKZD450180	45	45	0.34
FAHKZD500180	50	50	0.42
FAHKZD550180	55	55	0.50
FAHKZD600180	60	60	0.60
FAHKZD700180	70	70	0.82

Standard length: approx. 33 cm

Article number	Concrete cover mm	Support width mm	Weight kg/pcs.
FAHKZD300330	30	27	0.27
FAHKZD350330	35	31	0.37
FAHKZD400330	40	33	0.49
FAHKZD450330	45	45	0.62
FAHKZD500330	50	50	0.76
FAHKZD550330	55	55	0.92
FAHKZD600330	60	60	1.10
FAHKZD700330	70	70	1.49

Packaging: loose in large bundles, welded into foil

- Secure fixing in any position, even with overhanging reinforcement (tunnel construction)
- Bar spacers for several reinforcement or distribution bars
- Non-tipping due to the large support width

# Square bar spacers

made of fibre concrete for heavy vertical reinforcement with continuous reinforcing threads



- For particularly heavy reinforcement
- Large supporting surface for insulation

Standard length: approx. 100 cm

Article number	Concrete cover mm	Weight kg/pc.	Pcs./pallet
FAHV010010100	10 x 10	0.20	2000
FAHV015015100	15 x 15	0.45	2000
FAHV020020100	20 x 20	0.80	1500
FAHV025025100	25 x 25	1.30	1000
FAHV030030100	30 x 30	1.80	750
FAHV035035100	35 x 35	2.50	500
FAHV040040100	40 x 40	3.20	500
FAHV050050100	50 x 50	5.00	250
FAHV060060100	60 x 60	7.20	150
FAHV070070100	70 x 70	9.40	100
FAHV080080100	80 x 80	12.80	100
FAHV090090100	90 x 90	16.30	80
FAHV100100100	100 x 100	20.00	80
FAHV020010100	20 x 10	0.40	2000
FAHV030020100	30 x 20	1.20	1000
FAHV030025100	30 x 25	1.60	1000
FAHV040030100	40 x 30	2.40	500
FAHV050040100	50 x 40	4.10	250
FAHV060050100	60 x 50	6.10	200
FAHV070060100	70 x 60	8.40	150
FAHV080070100	80 x 70	11.20	100
FAHV090080100	90 x 80	14.20	80
FAHV100090100	100 x 90	17.40	80

Can be supplied without reinforcing threads on request.

# Round bar spacers

made of fibre concrete for horizontal reinforcement and exposed concrete with continuous reinforcing threads



- Eminently suitable for exposed concrete
- For precasting plant and construction site
- Almost invisible due to linear contact area

Standard length: approx. 100 cm

Article number	Concrete cover mm	Weight kg/pc.	Pcs./pallet
FAHR010100	10	0.16	2000
FAHR015100	15	0.35	2000
FAHR020100	20	0.65	1500
FAHR025100	25	1.00	1000
FAHR030100	30	1.40	750
FAHR035100	35	2.00	500
FAHR040100	40	2.40	400
FAHR050100	50	3.90	300
FAHR060100	60	5.60	200
FAHR070100	70	7.40	200
FAHR080100	80	10.30	125
FAHR090100	90	12.70	125
FAHR100100	100	16.10	125

Standard length: approx. 33 cm

Article number	Concrete cover mm	Pcs./carton	Weight kg/carton	Cartons/pallet
FAHR015033	15	250	29.9	44
FAHR020033	20	125	27.9	44
FAHR025033	25	90	30.7	44
FAHR030033	30	60	28.8	44
FAHR035033	35	45	30.7	44
FAHR040033	40	35	28.8	44

Can be supplied without reinforcing threads on request.

# "Snake" type bar spacers

made of fibre concrete for horizontal mesh and rod reinforcement



Suitable for rapid and inexpensive fixing of mesh and rod reinforcement.

Stable and non-tipping, simple laying.

Standard length: approx. 100 cm

Article number	Concrete cover mm	Weight kg/pc.	Pcs./pallet
FAHKS20100	20	0.56	1500
FAHKS25100	25	0.80	1000
FAHKS30100	30	0.95	1000
FAHKS35100	35	1.15	750
FAHKS40100	40	1.35	600
FAHKS45100	45	1.75	500
FAHKS50100	50	1.90	400
FAHKS55100	55	2.10	400
FAHKS60100	60	2.50	350

Standard length: approx. 80 cm

Article number	Concrete cover mm	Weight kg/pc.	Pcs./pallet
FAHKS20080	20	0.45	1500
FAHKS25080	25	0.64	1000
FAHKS30080	30	0.76	1000
FAHKS35080	35	0.92	750
FAHKS40080	40	1.08	600
FAHKS45080	45	1.40	500
FAHKS50080	50	1.52	400

Other lengths on request.

# "Banana" type bar spacers

made of fibre concrete for horizontal mesh reinforcement



Suitable for rapid and inexpensive fixing of mesh reinforcement.

Standard length 33 cm specially made for R mats and standard length 25 cm specially made for Q mats provide an optimum application stability and are non-tipping.

Standard length: approx. 33 cm, specially made for R mats

Article number	Concrete cover mm	Pcs./carton	Weight kg/carton	Cartons/pallet
FAHKB2033	20	150	27.7	27
FAHKB2533	25	125	28.5	27
FAHKB3033	30	100	26.1	27
FAHKB3533	35	80	28.5	27
FAHKB4033	40	70	26.6	27
FAHKB4533	45	50	21.8	27
FAHKB5033	50	40	21.9	27
FAHKB5533	55	40	24.3	27
FAHKB6033	60	30	19.0	27

Standard length: approx. 25 cm, specially made for Q mats

Article number	Concrete cover mm	Pcs./carton	Weight kg/carton	Cartons/pallet
FAHKB2025	20	200	28.0	27
FAHKB2525	25	150	25.9	27
FAHKB3025	30	130	25.7	27
FAHKB3525	35	110	29.7	27
FAHKB4025	40	100	28.8	27
FAHKB4525	45	90	29.7	27
FAHKB5025	50	80	33.2	27

Other lengths on request.

# "Snake N" type bar spacers

made of fibre concrete with notches for horizontal mesh and rod reinforcement



Contact with the formwork is reduced to a few points due to the notched contact surface. The spacer is therefore less visible on the finished concrete surface.

Suitable for fixing of single bar reinforcement when placed with overlaps.

Standard length: approx. 100 cm

Article number	Concrete cover mm	Weight kg/pc.	Pcs./pallet
FAHKSN20100	20	0.56	1500
FAHKSN25100	25	0.80	1000
FAHKSN30100	30	0.95	1000
FAHKSN35100	35	1.15	750
FAHKSN40100	40	1.40	600
FAHKSN45100	45	1.65	500
FAHKSN50100	50	1.90	400
FAHKSN55100	55	2.00	400
FAHKSN60100	60	2.35	350

Standard length: approx. 80 cm

Article number	Concrete cover mm	Weight kg/pc.	Pcs./pallet
FAHKSN20080	20	0.45	1500
FAHKSN25080	25	0.64	1000
FAHKSN30080	30	0.76	1000
FAHKSN35080	35	0.92	750
FAHKSN40080	40	1.12	600
FAHKSN45080	45	1.32	500
FAHKSN50080	50	1.52	400

Other lengths on request.

# "Banana N" type bar spacers

made of fibre concrete with notches for horizontal mesh reinforcement



Contact with the formwork is reduced to a few points due to the notched contact surface. The spacer is therefore less visible on the finished concrete surface.

Standard length 33 cm specially made for R mats and standard length 25 cm specially made for Q mats provide an optimum application stability and are non-tipping.

Standard length: approx. 33 cm, specially made for R mats

Article number	Concrete cover mm	Pcs./carton	Weight kg/carton	Cartons/pallet
FAHKBN2033	20	150	24.8	27
FAHKBN2533	25	125	26.8	27
FAHKBN3033	30	100	31.0	27
FAHKBN3533	35	80	28.8	27
FAHKBN4033	40	70	27.0	27
FAHKBN4533	45	50	22.6	27
FAHKBN5033	50	40	20.7	27
FAHKBN5533	55	40	23.8	27
FAHKBN6033	60	30	18.8	27

Standard length: approx. 25 cm, specially made for Q mats

Article number	Concrete cover mm	Pcs./carton	Weight kg/carton	Cartons/pallet
FAHKBN2025	20	200	25.0	27
FAHKBN2525	25	150	24.4	27
FAHKBN3025	30	130	30.6	27
FAHKBN3525	35	110	30.0	27
FAHKBN4025	40	100	29.3	27
FAHKBN4525	45	90	30.8	27
FAHKBN5025	50	80	31.4	27

Other lengths on request.

# "Rail" type bar spacers

made of fibre concrete for horizontal mesh and rod reinforcement

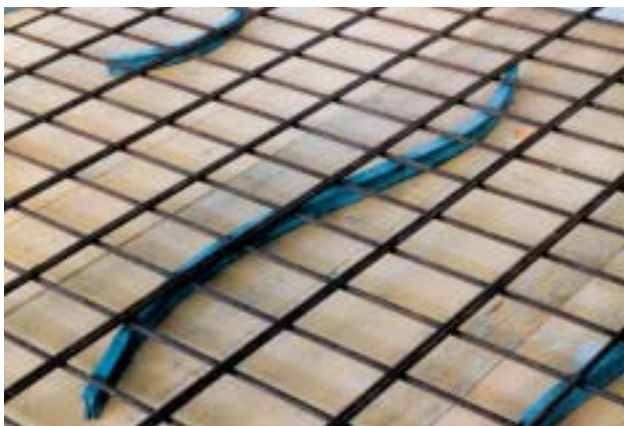


## Benefits of the FRANK rails

- High load-bearing capacity
- Excellent bonding
- Protects formwork
- Rapid, efficient laying
- Secure application
- Technically accurate and economical

Standard length: approx. 100 cm

Article number	Concrete cover mm	Weight kg/pc.	Pcs./pallet
FAHSS30100	30	0.85	1000
FAHSS35100	35	0.95	750
FAHSS40100	40	1.20	600
FAHSS45100	45	1.53	500
FAHSS50100	50	1.77	500
FAHSS55100	55	2.09	400
FAHSS60100	60	2.13	350



Standard length: approx. 80 cm

Article number	Concrete cover mm	Weight kg/pc.	Pcs./pallet
FAHSS30080	30	0.68	1000
FAHSS35080	35	0.76	750
FAHSS40080	40	0.96	600
FAHSS45080	45	1.22	500
FAHSS50080	50	1.42	500
FAHSS55080	55	1.67	400
FAHSS60080	60	1.70	350

- Suitable for rapid and inexpensive fixing of mesh and single bar reinforcement

# "Rail B" type bar spacers

made of fibre concrete for horizontal mesh reinforcement



Standard length: approx. 33 cm, specially made for R mats

Article number	Concrete cover mm	Pcs./carton	Weight kg/carton	Cartons/pallet
FAHSB3033	30	140	39.3	27
FAHSB3533	35	90	28.3	27
FAHSB4033	40	80	31.7	27
FAHSB4533	45	60	30.3	27
FAHSB5033	50	40	23.4	27
FAHSB5533	55	40	27.6	27
FAHSB6033	60	30	21.1	27

- Suitable for rapid and inexpensive fixing of mesh reinforcement
- Large supporting surface for insulation

# Combined spacers

## Fibre concrete spacers with profiled plastic strip



Suitable for reinforcement not walked on, especially in precasting plants

Standard length: approx. 100 cm with 5 spacers

Article number	Type	Concrete cover mm	Weight kg/pc.	Pcs./pallet
KOMBI20100	Kombi 20-1000*	20	0.22	1500
KOMBI25100	Kombi 25-1000	25	0.22	1000
KOMBI30100	Kombi 30-1000	30	0.24	1000
KOMBI35100	Kombi 35-1000	35	0.28	750
KOMBI40100	Kombi 40-1000	40	0.32	500
KOMBI45100	Kombi 45-1000	45	0.35	400
KOMBI50100	Kombi 50-1000	50	0.40	300

- Ideal for exposed concrete, low contact with the formwork
- Secure and efficient in the application
- Good bonding between spacer and concrete
- Reduced crane idle time

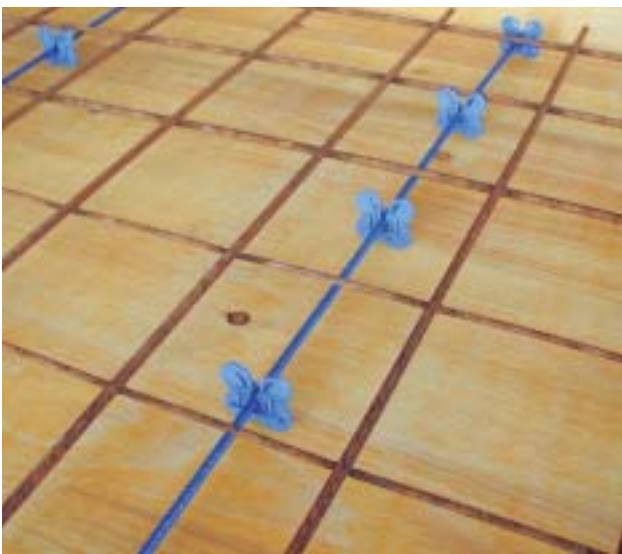
Standard length: approx. 33 cm with 3 spacers

Article number	Type	Concrete cover mm	Weight kg/pc.	Pcs./carton	Pcs./pallet
KOMBI20033	Kombi 20-330*	20	0.11	250	4500
KOMBI25033	Kombi 25-330	25	0.11	230	4140
KOMBI30033	Kombi 30-330	30	0.12	200	3600
KOMBI35033	Kombi 35-330	35	0.14	165	2970
KOMBI40033	Kombi 40-330	40	0.17	140	2520
KOMBI45033	Kombi 45-330	45	0.19	120	2160
KOMBI50033	Kombi 50-330	50	0.22	100	1800

\* If the concrete cover is 20 mm, the spacers have a semicircular form.

# Rebar spacer disks

## Plastic spacers with Ø 6 mm reinforcing steel



Suitable for reinforcement not walked on, especially in precasting plants

Standard lengths as required

Article number	Type	Concrete cover mm	Weight kg/lin. m
KSA15	KSA 15	15	0.236
KSA20	KSA 20	20	0.242
KSA25	KSA 25	25	0.247
KSA30	KSA 30	30	0.256

Can be supplied in lengths of 0.5 to 3.0 m

Clips can also be supplied singly.

- The reinforcement distribution bar is not within concrete cover.
- Ideal for exposed concrete, low contact with the formwork
- Secure and efficient in the application

# Special spacers

## made of fibre concrete

Special spacers are manufactured quickly and efficiently to your demands. We offer you numerous technically accurate and inexpensive possibilities from supporting profiles for internal formwork in bridge-building up to filigreed spacers.

- Special dimensions and special shapes can be produced quickly and efficiently to your drawings.
- Production in fibre concrete is also possible in small quantities and with low tool costs.
- High compressive strength, no deformation in heat or cold, the required concrete cover will be accurately retained.
- Spacers remain in position during erecting the formwork and concreting
- Eminently suitable for impermeable concrete, no hairline cracks between the spacer and the concrete
- Fire resistant to the highest requirements specified in DIN 4102 – Class 1A



# Special spacers

## made of fibre concrete

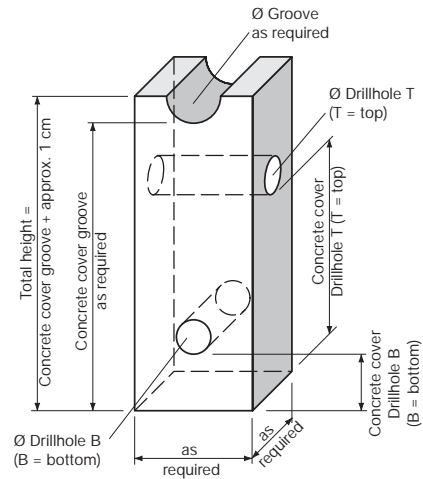
### Supporting profiles for longitudinal and transverse prestressed elements

Single cover spacers with square or rectangular cross-sections, with grooves and various crossholes for the end support of the reinforcement, sleeves, inserts for unstressed and prestressed reinforcement



#### Application:

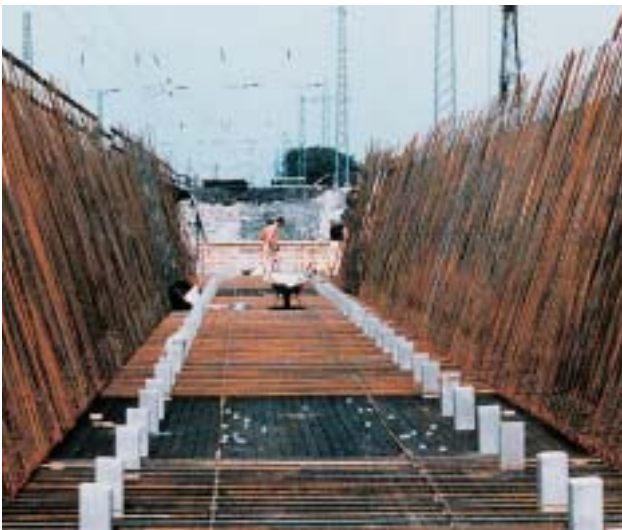
Bridge-building, foundations etc. for which varying concrete cover dimensions are required. Rapid production from fibre concrete square profile bars with no tool costs necessary.



### Supporting profiles for formwork

#### Supports for internal formwork in a bridge beam

The bottom slab and beams are to be concreted in one single pour. To support the internal formwork supporting profiles made of fibre-reinforced concrete are used, cut to the required slope from FRANK profile bars.



#### Field of application:

Support of the internal formwork for bridges, tanks, lift shafts, swimming pools etc., and for precast members, machinery and equipment.

Version: rectangular and round (also possible with drillholes  $\varnothing$  12 to 30 mm longitudinal and transverse to profile)

External dimensions: 50/50 mm, 80/80 mm, 100/100 mm  
 $\varnothing$  50 mm,  $\varnothing$  80 mm,  $\varnothing$  100 mm

Lengths: any length can be supplied, as required with straight or diagonal cut (haunch)

In order to determine the dimensions and number required, please take the total weight of the formwork to be supported and the permissible contact pressure of the base formwork into account.



# Special spacers

made of fibre concrete

## Erection shims, punched disks

made of fibre concrete for the exact alignment of precast concrete sections during assembly



When placing precast concrete slab components or element double walls you can shim these up with erection shims of various thicknesses in order to make adjustments for uneven foundation concrete when aligning the precast concrete sections.

- High compressive strength - no deformation even under high loads
- Thicknesses available from 4 mm up, in steps of 1 mm
- Dimensions: Ø 40 mm, Ø 50 mm, Ø 60 mm, Ø 80 mm, Ø 100 mm  
– Other lengths on request.

## Pile cage and diaphragm wall spacers

made of fibre concrete for bored piles and diaphragm walls



Spacers are required for bored pile foundation and when constructing diaphragm walls so that large reinforcement cages can be lowered into the correct position. The reinforcement is then centered in relation to the various geological layers with large contact surfaces.

### ■ Pile cage spacers

If pile cage spacers are fixed to the horizontal reinforcement, the cages can be accurately lowered into the borehole. If Tubbox column formers are in use, the use of pile cage spacers makes the insertion of the reinforcement cage much easier.

For concrete cover, cut width and price, please enquire!



### ■ Diaphragm wall spacers

The skid-shaped form allows the lowering of larger reinforcement elements without the risk of jamming.

For concrete cover, cut width and price, please enquire!

## Tunnel spacers

made of plastic for fixing tunnel sealing films at tunnel construction sites



- Concrete cover 50 mm
- Contact surface 60 x 68 mm – secure protection of tunnel sealing films against damage caused by the reinforcement
- Clip fixing at the reinforcement stirrup corners – secure fixing without twisting under load

Article number	Type	Weight g/pc.	Contents pcs./carton	Cartons/pallet	Weight kg/pallet
KTA50	KTA 50	58	200	24	approx. 280

FRANK



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