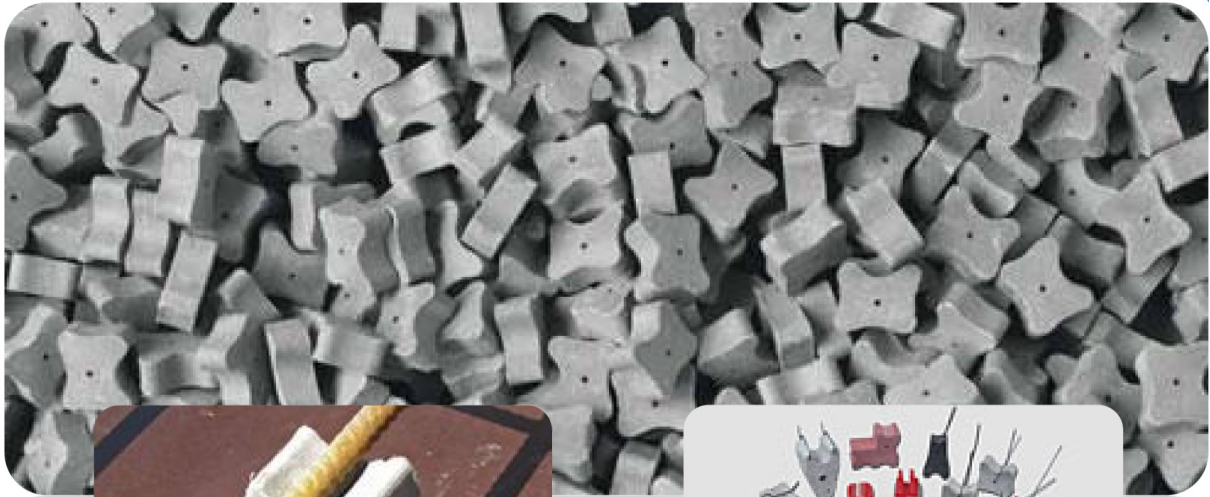


CONCRETE SPACERS



CONCRETE SPACERS

Extruded fibre-reinforced concrete spacers

FRANK's range of extruded fibre-reinforced concrete spacers ensures that the specified concrete cover to the reinforcement for structures and structural elements is achieved, both before and during concreting. These spacers help to guarantee the durability of all structures.



Spacers made of fibre concrete have an optimum material compatibility with in-situ concrete. FRANK spacers are produced in two main grades (Standard and Premium) with strength and durability properties to match most site and precast concrete applications. The outstanding material properties of fibre-reinforced concrete include:

- High compressive strength, accurate dimensional tolerances, no deformation with temperature fluctuations, excellent physical and chemical resistance
- Excellent bond with concrete, no hairline cracks between the spacer and concrete, suitable for impermeable concrete
- Fire resistant to the highest requirements specified in EN13501-1:2002 - Class 1A
- The performance of FRANK spacers meets the requirements of BS 7973 (British Standard for Spacers) and of the Concrete Best Practice Guide produced by the European Concrete Societies Network.

FRANK's wide range of single spacers and bar spacers offers the ideal spacer for any application. We manufacture extruded fibre-reinforced concrete special spacers with special dimensions and shapes upon request. From support profiles for internal formwork in bridge building to finely detailed spacers, we can offer numerous technically ideal solutions. Extruded fibre concrete spacers can be used for all precast and cast in-situ applications including buildings and infrastructure projects.

Spacers are used e.g. for precasting plants, for drinking water reservoirs, for tunnel constructions or for exposed concrete surfaces.



CONCRETE SPACERS

Single spacers

Extruded fibre concrete block spacers are dimensionally accurate and have consistent high compressive strength and excellent chemical and physical resistance. The bond with concrete produces no hairline cracks making these spacers ideal for all exposure classes. All spacer mixes have been independently tested for strength and durability properties.



Extruded fibre concrete block spacers are used to ensure that the concrete cover specified for structures and structural elements made of reinforced concrete is maintained both before and during concreting.

Block spacers can be supplied in different widths, varying profiles and with a number of attachment options: without wire (added on site), pre-wired or with double steel clips wholly located outside the cover zone. These provide a secure fixing to ensure that in any installation position the spacer does not tilt during formwork erection.

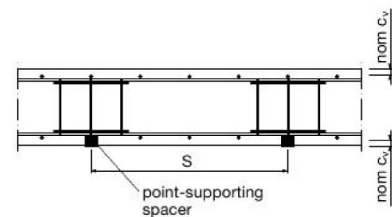
Standard and Premium grade spacers conform to the requirements of BS7973 (British Standard for Spacers). Both grades of spacer have known strength and durability properties. Spacers are also available in a Potable Water Approved version (BS6920) and with Class DC4 sulphate resistance.



Structural element: slabs

Spacer fixing distances S

Supported bars ds	max. S	Pcs. required per m ²			
		Single spacer	Bar spacers		
			L = 18 cm	L = 33 cm	L = 100 cm
up to 6.5 mm	50 cm	4	3.0	2.5	1.33
from 6.5 mm	70 cm	2	1.6	1.4	0.84



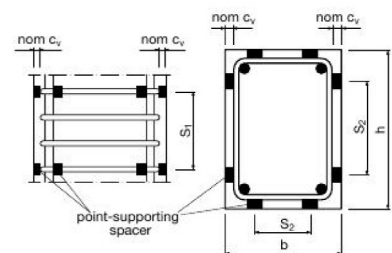
Structural component: beams and columns

Spacer fixing distances max. S_1 in longitudinal direction

longitudinal bars ds	columns	beams
up to 10 mm	50 cm	25 cm
12 to 20 mm	100 cm	50 cm
over 20 mm	125 cm	75 cm

Spacer fixing distances max. S_2 in transverse direction

Quantity, distances		
b or h	columns	beams
up to 1000 mm	2 pcs.	2 Stück
over 1000 mm	≥ 3 pcs.	≥ 3 pcs.
max. S_2	75 cm	50 cm

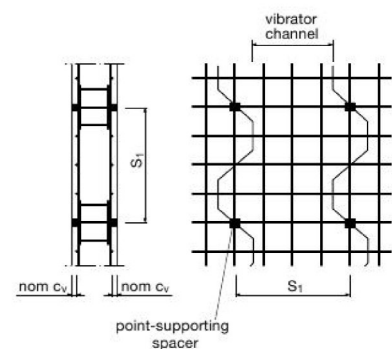


Structural element: walls

Spacer fixing distances S_1 and quantity







supporting bars ds	max. S_1	Pcs. required per m ² wall*		
		Single spacer	Bar spacers	
			L = 18 cm	L = 33 cm
up to 8 mm	70 cm	4	1.6	1.4
over 10 mm	100 cm	2	1.0	0.8

*and per wall side



Spacers without tying wire

made of fibre concrete for horizontal reinforcement

	Art. no.	Concrete cover mm	Cut width mm	Weight kg/100 pcs.	Sack contents pcs.	Weight kg/pallet	Price €/100 pcs.
	BAO15*	15	24	1.9	1500	1160	
	BAO20*	20	24	2.7	1000	1100	
	BAO25*	25	24	3.3	750	1010	
	BAO30*	30	24	3.6	750	1100	
	BAO35*	35	24	4.5	500	920	
	BAO40*	40	24	5.0	500	1020	
	BAO45*	45	24	6.7	250	690	
	BAO50*	50	24	7.5	250	770	
	AO2501*	25	20	3.6	500	740	
	AO3001*	30	20	4.2	500	860	
	AO3512*	35	24	6.1	500	1240	
	AO4012*	40	24	7.5	250	770	
	AO4512*	45	24	8.5	250	870	
	AO5013*	50	28	11.7	250	1190	
	AO5513*	55	28	13.1	250	1330	
	AO6013*	60	28	14.3	200	1164	
	AO1561	15/20	20	2.7	1000	1100	
	AO2561	25/30	24	4.5	500	920	
	AO3562	35/40	24	6.8	250	700	
	AO4562	45/55	24	11.4	250	1160	
	AO5062	50/60	24	12.0	250	1220	
	AO2071	20/25/30	20	2.8	750	860	
	AO3572	35/40/50	24	9.3	250	950	
	AO4573	45/55/60	28	17.0	125	870	







Packaging: 40 sacks per pallet.

* Tested according to DBV data sheet "Spacers" (7/02) DBV-c-L/F/T/A.

Concrete cover > 60 mm, available upon request.

Spacers with tying wire

made of fibre concrete for horizontal and vertical reinforcement

	Art. no.	Concrete cover mm	Cut width mm	Weight kg/100 pcs.	Sack contents pcs.	Weight kg/pallet	Price €/100 pcs.
	BAD15*	15	24	2.0	1500	1220	
	BAD20*	20	24	2.8	1000	1140	
	BAD25*	25	24	3.5	750	1070	
	BAD30*	30	24	3.8	750	1160	
	BAD35*	35	24	4.7	500	960	
	BAD40*	40	24	5.3	500	1080	
	BAD45*	45	24	7.0	250	720	
	BAD50*	50	24	7.8	250	800	
	AD2501*	25	20	3.8	500	780	
	AD3001*	30	20	4.4	500	900	
	AD3512*	35	24	6.3	500	1280	
	AD4012*	40	24	7.8	250	800	
	AD4512*	45	24	8.8	250	900	
	AD5013*	50	28	12.0	250	1220	
	AD5513*	55	28	13.4	250	1360	
	AD6013*	60	28	13.9	200	1132	
	AD1561	15/20	20	2.8	1000	1140	
	AD2561	25/30	24	4.7	500	960	
	AD3562	35/40	24	7.0	250	720	
	AD4562	45/55	24	11.7	250	1190	
	AD5062	50/60	24	12.3	250	1250	
	AD2071	20/25/30	20	2.9	750	890	
	AD3572	35/40/50	24	9.6	250	980	
	AD4572	45/55/60	24	15.3	125	785	

Surcharge when supplied with galvanised tying wire = POA.






Packaging: 40 sacks per pallet.

* Tested according to DBV data sheet "Spacers" (7/02) DBV-c-L/F/T/A.

Concrete cover > 60 mm, available upon request.

Spacers with steel clips

made of fibre reinforced concrete for vertical reinforcement

	Designation	Art. no.	Concrete cover mm	Cut width mm	Weight kg/100 pcs.	Sack contents pcs.	Weight kg/pallet	Price €/100 pcs.
	incl. clip type "KN" for rebar up to Ø 8 mm	AK15H	15	20	1.3	2000	1060	
		AK20H	20	20	1.6	1000	660	
		AK25H	25	20	2.3	1000	940	
		AK30H	30	20	3.0	1000	1220	
	Type "A" incl. clip type "KN" for rebar up to Ø 8 mm	AK20RA	20	20	2.3	1000	940	
		AK25RA	25	20	2.4	1000	980	
		AK30RA	30	20	2.9	1000	1180	
		AK35RA	35	20	3.5	500	720	
	Type "R" groove for rebar Ø 8 mm, incl. clip type "KN" for rebar up to Ø 8 mm	AK20ZR	20	20	3.0	500	620	
		AK25ZR	25	20	3.9	500	800	
		AK30ZR	30	20	4.0	500	820	
		AK35ZR	35	20	5.4	500	1100	
	Type "S" groove for rebar Ø 10 + 12 mm, clip type "SN" for rebar from Ø 10 to 16 mm on request.	AK30ZS*	30	20	5.5	500	1116	
		AK35ZS*	35	20	5.7	500	1160	
		AK40ZS*	40	20	6.6	250	680	
		AK45ZS*	45	20	7.6	250	780	
	Spacers for heavy single reinforcement. Groove for rebar up to Ø 16 mm, clip type "PL" for rebar from Ø 10 to 16 mm.	AK50ZS*	50	20	7.9	250	810	
		AK40E16*	40	40	12.0	125	620	
		AK45E16*	45	40	14.7	125	755	
		AK50E16*	50	40	16.5	125	845	
		AK55E16*	55	40	17.5	125	895	
		AK60E16*	60	40	17.9	125	915	

Packaging: 40 sacks per pallet.

Tested according to DBV data sheet "Spacers" (7/02) DBV-c-L/F/T/A.



* Can also be supplied with groove for larger rebar diameters.

Clip type "PX" for rebars Ø 20 – 28 mm (min. support width 70 mm) can also be supplied on request – Price on request.

Concrete cover > 60 mm, available upon request.

Spacers with cross-clips

made of fibre reinforced concrete for vertical reinforcement


	Designation	Art. no.	Concrete cover mm	Cut width mm	Weight kg/100 pcs.	Sack contents pcs.	Weight kg/pallet	Price €/100 pcs.
	Groove for rebar from Ø 3 to 10 mm	AK30S5Q10	30	36	7.0	250	720	
		AK35S5Q10	35	36	7.7	250	790	
		AK40S8Q10	40	40	9.1	250	930	
		AK45S8Q10	45	40	9.8	250	1000	
	Groove for rebar from Ø 12 to 16 mm	AK50S8Q10	50	40	10.8	250	1100	
		AK30S5Q16	30	36	7.0	250	720	
		AK35S5Q16	35	36	8.1	250	830	
		AK40S8Q16	40	40	9.0	250	920	
		AK45S8Q16	45	40	10.7	250	1090	
		AK50S8Q16	50	40	11.2	250	1140	

Packaging: 40 sacks per pallet.

Tested according to DBV-data sheet "Spacers" (7/02) DBV-c-L/F/T/A.

Spacers with plastic clips

made of fibre concrete, no tying wire within the concrete cover


	Designation	Art. no.	Concrete cover mm	Cut width mm	Weight kg/100 pcs.	Sack contents pcs.	Weight kg/pallet	Price €/100 pcs.
	Plastic clip for rebar from Ø 8 to 12 mm	AC20R6Z10	20	36	4.7	500	960	
		AC25R6Z10	25	36	5.7	500	1160	
		AC30R6Z10	30	36	7.5	250	770	
		AC35R6Z10	35	36	8.5	250	870	
		AC40R6Z10	40	36	10.1	250	1030	
		AC45R6Z10	45	36	11.6	250	1180	
		AC50R6Z10	50	36	12.5	250	1270	
		AC55R6Z10	55	36	14.5	125	745	
		AC60R6Z10	60	36	15.3	125	785	

Packaging: 40 bags per pallet.

Tested according to DRV data sheet "Spacers" (7/02) DRV-c-I /F/T/A.

Spacers with bevel cut for washed-out concrete

made of fibre reinforced concrete for vertical reinforcement

	Designation	Art. no.	Clamp for steel Ø mm	Concrete cover mm	Cut width mm	Weight kg/100 pcs.	Sack contents pcs.	Weight kg/pallet	Price €/100 pcs.
	Groove for rebar from Ø 4 to 6 mm	AK20WZ	4-8	20	20	1,4	1000	580	
		AK25WZ	4-8	25	20	2,1	1000	860	
		AK30WZ	4-8	30	20	2,4	1000	980	
		AK35WZ	4-8	35	20	2,9	500	600	


Non-stock item. Delivery time on request.

Packaging: 40 sacks per pallet.

Tested according to DBV data sheet "Spacers" (7/02) DBV-c-L/F/T/A.

"Rondo" spacer

round spacers made of fibre concrete for insertion of prefabricated reinforcement cages into formwork

	Art. no.	Concrete cover mm	Cut width mm	Weight kg/100 pcs.	Sack contents pcs.	Weight kg/pallet	Price €/100 pcs.
	RONDO03002512	30	25	21,8	125	1110	
	RONDO03502512	35	25	25,5	125	1295	
	RONDO04002512	40	25	34,2	75	1046	
	RONDO04502512	45	25	42,0	75	1280	
	RONDO05002512	50	25	60,2	50	1224	


For rebar diameters of up to 12 mm.

Non-stock item. Delivery time approx. 3 working days. Packaging: 40 sacks per pallet.

Tested according to DBV data sheet "Spacers" (7/02) DBV-c-L/F/T/A.

Spacers for fire protection reinforcement

made of fibre concrete to guarantee concrete cover for load and fire protection reinforcement in tunnel construction

	Art. no.	Concrete cover mm	Cut width mm	Weight kg/100 pcs.	Sack contents pcs.	Weight kg/pallet	Price €/100 pcs.
	AO5020BS	50/20	24	12,0	250	1220	
	AO6020BS	60/20	24	13,0	250	1320	
	AO7030BS	70/30	24	14,0	150	860	
	AD5020BS*	50/20	24	12,3	250	1250	
	AD6020BS*	60/20	24	13,3	200	1084	
	AD7030BS*	70/30	24	14,3	150	878	



* with tying wire, annealed black, for fixing of spacer to conventional reinforcement.

Concrete cover of fire protection reinforcement for steel mesh N94 or rebar ø 3 mm.

Packaging: 40 sacks per pallet. Delivery time: approx. 5 working days




Tunnel spacers

for fixing of sealing film in tunnel constructions

	Designation	Art. no.	Concrete cover mm	Weight kg/pc.	Carton contents piece	Cartons/pallet	Weight kg/pallet	Price €/pc.
	From fibre concrete, contact surface 80 x 100 mm, round-shaped corners	FBTA50*	50	0.50	–	–	–	
		FBTA60*	60	0.60	–	–	–	
	Made of synthetic material, contact surface 60 x 68 mm	KTA50	50	0.06	200	24	298	
		KTA60	60	0.07	170	24	306	



* Felt pad insert for FBTA can be supplied. Price on request.

Tying wire

	Designation	Art. no.	Wire thickness mm	Pack size kg	Packaging unit/pallet	Weight kg/pallet	Price €/kg
	Tying wire roll BR 1,4 black annealed	HSBDRS14	1,4	20	36	740	
	Tying wire roll BR 1,4 galvanised	HSBDRV14	1,4	20	36	740	
	Tying wire coil black annealed	HSBD1440	1,4	25-40	25	1020	

Spacers for concrete pipe production

extruded fibre concrete

	Designation	Art. no.	Concrete cover mm	Cut width mm	Weight kg/100 pcs.	Sack contents pcs.	Weight kg/pallet	Price €/100 pcs.
	transverse groove for rebar Ø 8 mm, clip for rebar Ø 6 mm	AK30Q3K	30	28	8.8	250	900	
		AK35Q3K	35	28	9.5	250	970	
		AK40Q3K	40	28	11.1	250	1130	
		AK45Q3K	45	28	12.6	250	1280	
		AK50Q3K	50	28	13.2	250	1340	
	longitudinal groove for rebar Ø 6 mm, clip for rebar Ø 8 mm	AK30L10K	30	55	7.5	250	770	
		AK35L10K	35	55	8.0	250	820	
		AK40L10K	40	55	9.0	250	920	
		AK45L10K	45	55	9.6	250	980	
		AK50L10K	50	55	10.1	250	1030	

Transverse or longitudinal groove for rebar Ø 8 = 10 mm can be supplied for all types.

Please state when ordering: e.g.: AK30Q3KE10 or AK30L10KE10.

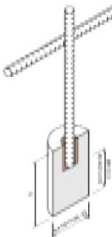
Spacers are a non-stock item – delivery time available on request. Other dimensions available on request.

Packaging 40 sacks per pallet or grid box.

Tested according to DBV data sheet "Spacers" (7/02) DBV-c-L/F/T/A.

Reinforcement end supports

made of fibre concrete used as stands for vertical single rebars

	Designation	Art. no.	External Ø mm	Concrete cover mm	Height h mm	Weight kg/pce.	Sack contents pcs.	Weight kg/pallet	Price €/pce.
	suitable for rebar diameter: smooth: 5.0 – 8.0 mm; ribbed: 4.0 mm – 8.0 mm	FBSP5352506*	27	25	40	0.05	500	980	
		FBSP5353006*	27	30	45	0.05	500	1100	
		FBSP5353506*	27	35	50	0.06	250	620	
		FBSP5354006*	27	40	55	0.07	250	680	
		FBSP5354506*	27	45	60	0.07	250	740	
		FBSP5355006*	27	50	65	0.08	250	800	
	suitable for rebar diameter: smooth: 6.0 – 10.0 mm; ribbed: 6.0 mm – 10.0 mm	FBSP53525	35	25	45	0.09	250	920	
		FBSP53530	35	30	50	0.10	250	1020	
		FBSP53535	35	35	55	0.11	250	1120	
		FBSP53540	35	40	60	0.12	250	1220	
		FBSP53545	35	45	65	0.13	200	1060	
		FBSP53550	35	50	70	0.14	200	1140	


Packaging: 40 sacks per pallet.

* Delivery time: approx. 5 working days.

Tested according to DBV data sheet "Spacers" (7/02) DBV-c-L/F/T/A.

Kickers made of fibre concrete

acting as continuous stop spacers between shutters, square profiles 40 x 40 mm with 2 nail holes


	Art. no.	Length mm	Weight kg/pce.	Carton contents piece	Weight kg/pallet	Price €/pce.
	SAV400150	150	0.38	95	1303	
	SAV400160	160	0.40	75	1100	
	SAV400180	180	0.45	75	1235	
	SAV400200	200	0.50	65	1190	
	SAV400250	250	0.63	50	1154	
	SAV400300	300	0.75	40	1100	

Packaging: 36 cartons per pallet.

Further dimensions available on request.

Kickers made of fibre concrete

acting as stop spacers between shutters

	Designation	Art. no.	External Ø mm	Height h mm	Weight kg/pce.	Pack size piece	Price €/pce.
	without nail insert	SAR60	60	40	0.23	100	
		SAR80	80	40	0.40	75	
	with nail insert (without nail)	SAR60N	60	40	0.23	100	
		SAR80N	80	40	0.40	75	
	Nail suitable for nail gun, shaft diameter 3.7 mm, shaft length 72 mm	SAFBRN72	–	–	0.01	100	

If nail guns are used, it is recommended that a trial installation is carried out to determine appropriate cartridge strength and tool settings on site in order to avoid damage to the kickers.