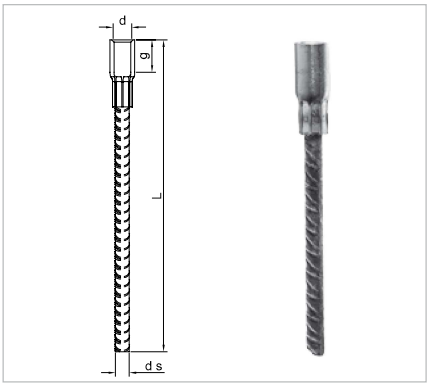
Dimensions

Load group	Dimensions [mm]				approx. weight per 100 pieces
	Mild steel (bk) / Galvanised + chromated steel (zn)				
	d x L	Order No.	g	d_s	[kg]
0.5	M/Rd 12 x 200	k3112gm/r	25	8	10.30
0.8	M/Rd 14 x 230	k3114gm/r	25	10	17.10
1.2	M/Rd 16 x 270	k3116gm/r	27	12	29.40
1.6	Rd 18 x 300	k3118gr	35	14	41.30
2.0	M/Rd 20 x 350	k3120gm/r	35	14	53.50
2.5	M/Rd 24 x 400	k3124gm/r	43	16	79.40
4.0	M/Rd 30 x 500	k3130gm/r	56	20	157.30
6.3	M/Rd 36 x 650	k3136gm/r	69	25	303.10
8.0	M/Rd 42 x 850	k3142gm/r	80	28	489.20
12.5	M/Rd 52 x 900	k3152gm/r	100	32	743.50





Stainless steel socket:
Also available with friction-welded stainless steel socket made from solid material for better corrosion resistance.
A true stainless steel fitting.

Lifting socket with straight bar.
The socket is anchored with a reinforcing bar. Owing to the relatively long anchorage length, these sockets are particularly suitable for casting into wall-type components parallel with the plane of the wall.

Material:
Lifting sockets made from steel tube for precision applications to DIN EN 10305 (grade E 355+N). Available in electrogalvanised steel with a 4-6 µm zinc coating, mechanically zinc plated or in stainless steel.
Stainless steel according to approval Z-30.3-6 from 22 April 2014, grade A4.
Anchor bar grade B500B to DIN 488.

This product complies with the requirements of VDI/BV-BS Guideline 6205 and the European Machinery Directive 2006/42/EC.

The thread is cut oversize.

All dimensions can be supplied with knuckle (Rd) thread.

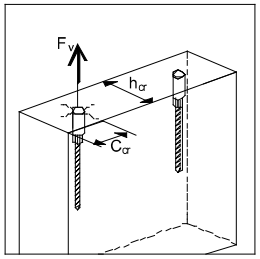
This product group is also available as GS-tested sockets.

Custom versions on request.
Errors and omissions excepted.
Position as of Jan 2015

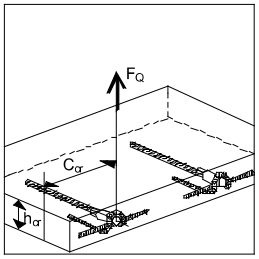
Permissible loads

Load group	Type	Typical installation situation		Permissible loads		
				Axial pull $_{perm}F_V$	90° pull $_{perm}F_Q$	Inclined pull $_{perm}F_S$ β ≤ 45°
		Element thickness h_{cr}	Edge distance c_{cr}	Alpha Goliath List 42	Alpha Goliath	Alpha Goliath List 42
	[M/Rd]	[cm]		[kN]		
Concrete strength f_{ck} ≥ 15 N/mm²						
0.5	12 x 200	6	14	9.0	3.5	6.0
0.8	14 x 230	6	18	10.0	3.5	6.0
1.2	16 x 270	8	18	14.0	4.0	7.0
1.6	18 x 300	10	20	28.0	8.0	11.0
2.0	20 x 350	10	25	28.0	10.0	11.0
2.5	24 x 400	10	30	40.0	10.0	17.0
4.0	30 x 500	14	35	57.0	22.0	31.0
6.3	36 x 650	14	40	80.0	22.0	35.0
8.0	42 x 850	16	50	110.0	22.0	57.0
12.5	52 x 900	20	60	160.0	42.0	62.0
Concrete strength f_{ck} ≥ 25 N/mm²						
0.5	12 x 200	6	14	11.0	4.5	8.0
0.8	14 x 230	6	18	13.0	4.5	8.0
1.2	16 x 270	8	18	19.0	5.0	8.0
1.6	18 x 300	10	20	34.0	10.0	14.0
2.0	20 x 350	10	25	34.0	13.0	14.0
2.5	24 x 400	10	30	45.0	13.0	21.0
4.0	30 x 500	14	35	65.0	29.0	40.0
6.3	36 x 650	14	40	100.0	29.0	45.0
8.0	42 x 850	16	50	130.0	29.0	74.0
12.5	52 x 900	20	60	180.0	54.0	81.0

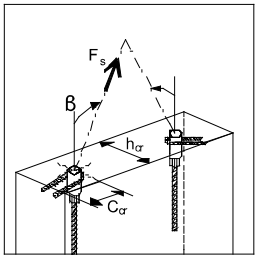
Axial pull in plane of element



90° pull perpendicular to plane of element



Inclined pull in plane of element



Load groups
The loading categories changed when the European Machinery Directive and VDI/BV-BS Guideline 6205 (lifting inserts/systems for PCC elements) came into force.
The load group is stamped on every anchor.
Given the load group and the defined typical boundary conditions in the table, it is possible to determine the permissible load of every anchor.

Level of safety
The permissible loads of lifting sockets include factors of safety $\gamma_{conc} = 2.5$ against concrete failure and $\gamma_{steel} = 3.0$ against steel failure. If the lifting sockets are not cast into concrete components under permanently quality-controlled factory conditions, then $\gamma_{conc} = 3.0$. The permissible loads must then be multiplied by the factor 0.84.
The loads were determined at government materials-testing laboratories.

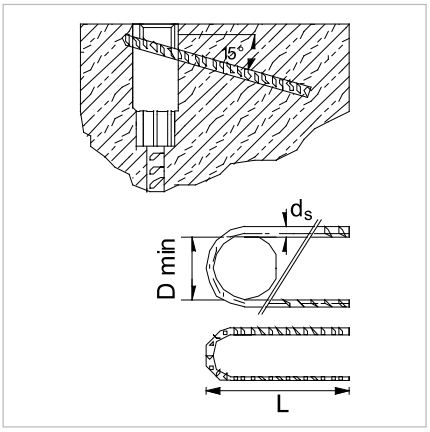
Element geometry
The permissible loads given in the tables are valid for the associated edge distances and element thicknesses ($s_{cr} \geq 2 \times c_{cr}$ then applies for the centre-to-centre spacing between two lifting sockets). However, these are not minimum spacings.
The permissible loads might need to be increased or decreased for other mounting conditions.
Just ask us - we'd be delighted to help you.

Minimum reinforcement
The permissible loads were determined with the sockets cast into concrete elements without the structural reinforcement required. Slab-type elements require two layers of Q 188 mesh as structural reinforcement.

Converting kN to t
A body with a mass of 1.0 t has a weight of approx. 10 kN.

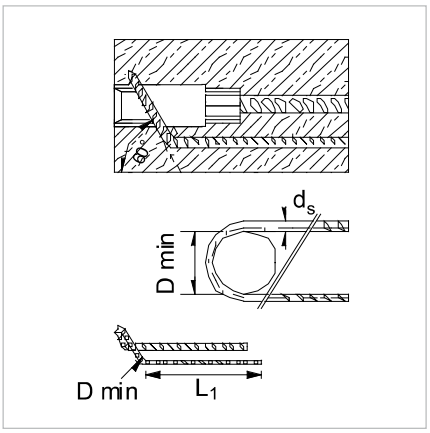
Additional reinforcement for inclined pull in plane of element

Additional reinforcement* B500B [mm]			
Thread [M/Rd]	Inclined pull		
	d_s	D_{min}	L
12	8	32	130
14	8	32	160
16	8	32	170
18	10	40	185
20	10	40	220
24	10	40	240
30	14	56	165
36	14	56	185
42	20	140	350
52	20	140	370



Additional reinforcement for 90° pull perpendicular to plane of element

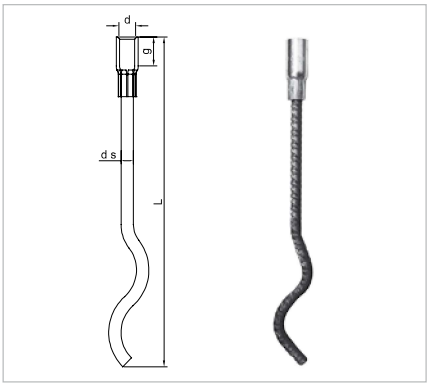
Additional reinforcement* B500B [mm]			
Thread [M/Rd]	90° pull		
	d_s	D_{min}	L_1
12	8	32	95
14	8	32	125
16	8	32	130
18	10	40	140
20	10	40	170
24	10	40	185
30	14	56	195
36	14	56	200
42	20	140	215
52	20	140	220



*The additional reinforcement must press against the socket.

Dimensions

Load group	Dimensions [mm]				approx. weight per 100 pieces
	d x L	Order No.	g	d_s	[kg]
0.5	M/Rd 12 x 300	k3112lm/r	25	8	14.60
0.8	M/Rd 14 x 310	k3114lm/r	25	10	22.60
1.2	M/Rd 16 x 320	k3116lm/r	27	12	34.80
1.6	Rd 18 x 360	k3118lr	35	14	50.90
2.0	M/Rd 20 x 400	k3120lm/r	35	14	61.90
2.5	M/Rd 24 x 450	k3124lm/r	43	16	90.40
4.0	M/Rd 30 x 600	k3130lm/r	56	20	186.90
6.3	M/Rd 36 x 750	k3136lm/r	69	25	347.10
8.0	M/Rd 42 x 850	k3142lm/r	80	28	498.90
12.5	M/Rd 52 x 900	k3152lm/r	100	32	756.10





Stainless steel version:
Also available with friction-welded stainless steel socket made from solid material for better corrosion resistance.
A true stainless steel fitting.

Socket with long wavy-tail bar. The socket is anchored with a reinforcing bar. Owing to the relatively long anchorage length, these sockets are particularly suitable for casting into wall-type elements parallel with the plane of the wall.

Material:
Lifting sockets made from steel tube for precision applications to DIN EN 10305 (grade E 355+N). Available in electrogalvanised steel with a 4-6 µm zinc coating, mechanically zinc plated or in stainless steel.
Stainless steel according to approval Z-30.3-6 from 22 April 2014, grade A4.
Anchor bar grade B500B to DIN 488.

This product complies with the requirements of VDI/BV-BS Guideline 6205 and the European Machinery Directive 2006/42/EC.

The thread is cut oversize.

All dimensions can be supplied with knuckle (Rd) thread.

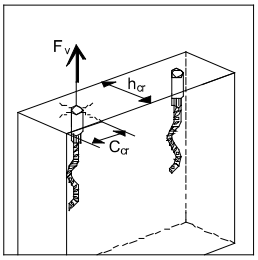
This product group is also available as GS-tested sockets.

Custom versions on request.
Errors and omissions excepted.
Position as of Jan 2015

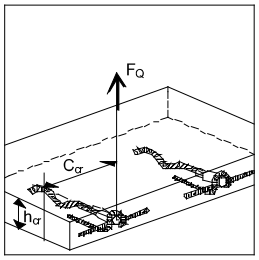
Permissible loads

Load group	Type	Typical installation situation		Permissible loads		
				Axial pull $_{perm}F_V$	90° pull $_{perm}F_Q$	Inclined pull $_{perm}F_S$ β ≤ 45°
		Element thickness h_{cr}	Edge distance c_{cr}	Alpha Goliath List 42	Alpha Goliath	Alpha Goliath List 42
	[M/Rd]	[cm]		[kN]		
Concrete strength f_{ck} ≥ 15 N/mm²						
0.5	12 x 300	6	14	10.0	3.5	13.0
0.8	14 x 310	6	18	11.0	3.5	14.0
1.2	16 x 320	8	18	16.0	4.0	16.0
1.6	18 x 360	10	20	28.0	8.0	18.0
2.0	20 x 400	10	25	30.0	10.0	20.0
2.5	24 x 450	10	30	40.0	10.0	23.0
4.0	30 x 600	14	35	57.0	22.0	44.0
6.3	36 x 750	14	40	90.0	22.0	49.0
8.0	42 x 850	16	50	122.0	22.0	61.0
12.5	52 x 900	20	60	180.0	42.0	75.0
Concrete strength f_{ck} ≥ 25 N/mm²						
0.5	12 x 300	6	14	11.0	4.5	16.0
0.8	14 x 310	6	18	14.0	4.5	18.0
1.2	16 x 320	8	18	21.0	5.0	20.0
1.6	18 x 360	10	20	34.0	10.0	24.0
2.0	20 x 400	10	25	34.0	13.0	25.0
2.5	24 x 450	10	30	45.0	13.0	28.0
4.0	30 x 600	14	35	65.0	29.0	57.0
6.3	36 x 750	14	40	100.0	29.0	65.0
8.0	42 x 850	16	50	130.0	29.0	78.0
12.5	52 x 900	20	60	180.0	54.0	98.0

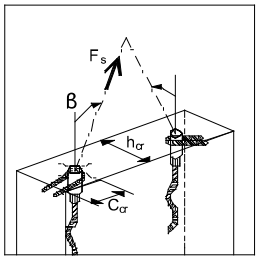
Axial pull in plane of element



90° pull perpendicular to plane of element



Inclined pull in plane of element



Load groups
The loading categories changed when the European Machinery Directive and VDI/BV-BS Guideline 6205 (lifting inserts/ systems for PCC elements) came into force. The load group is stamped on every anchor. Given the load group and the defined typical boundary conditions in the table, it is possible to determine the permissible load of every anchor.

Level of safety
The permissible loads of lifting sockets include factors of safety $\gamma_{conc} = 2.5$ against concrete failure and $\gamma_{steel} = 3.0$ against steel failure. If the lifting sockets are not cast into concrete elements under permanently quality-controlled factory conditions, then $\gamma_{conc} = 3.0$. The permissible loads must then be multiplied by the factor 0.84.
The loads were determined at government materials-testing laboratories.

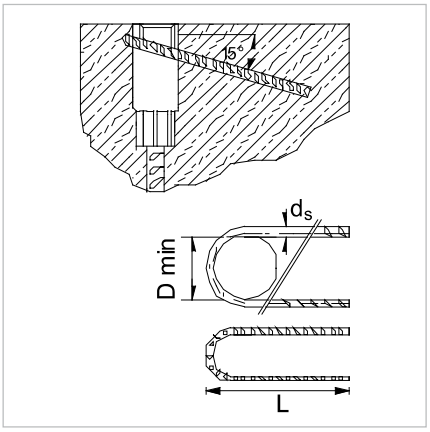
Element geometry
The permissible loads given in the tables are valid for the associated edge distances and element thicknesses ($s_{cr} \geq 2 \times c_{cr}$ then applies for the centre-to-centre spacing between two lifting sockets). However, these are not minimum spacings.
The permissible loads might need to be increased or decreased for other mounting conditions.
Just ask us - we'd be delighted to help you.

Minimum reinforcement
The permissible loads were determined with the sockets cast into concrete elements without the structural reinforcement required. Slab-type elements require two layers of Q 188 mesh as structural reinforcement.

Converting kN to t
A body with a mass of 1.0 t has a weight of approx. 10 kN.

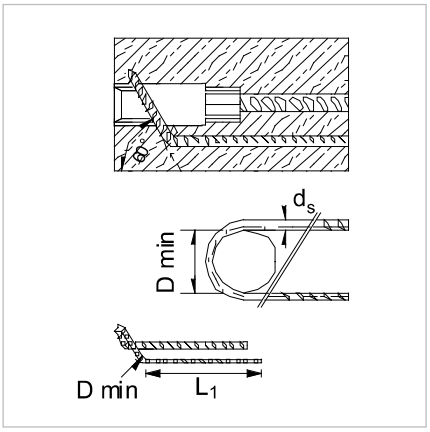
Additional reinforcement for inclined pull in plane of element

Additional reinforcement* B500B [mm]			
Thread [M/Rd]	Inclined pull		
	d_s	D_{min}	L
12	8	32	130
14	8	32	160
16	8	32	170
18	10	40	185
20	10	40	220
24	10	40	240
30	14	56	165
36	14	56	185
42	20	140	350
52	20	140	370



Additional reinforcement for 90° pull perpendicular to plane of element

Additional reinforcement* B500B [mm]			
Thread [M/Rd]	90° pull		
	d_s	D_{min}	L_1
12	8	32	95
14	8	32	125
16	8	32	130
18	10	40	140
20	10	40	170
24	10	40	185
30	14	56	195
36	14	56	200
42	20	140	215
52	20	140	220



*The additional reinforcement must press against the socket.

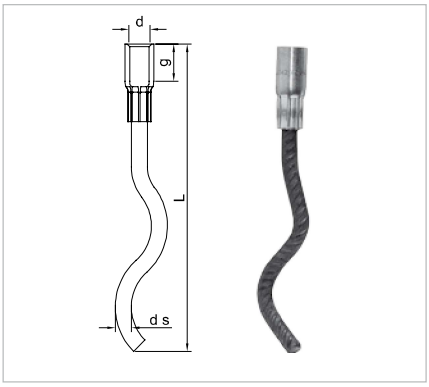
Lifting socket

with short wavy-tail bar

31
short

Dimensions

Load group	Dimensions [mm]				approx. weight per 100 pieces
	d x L	Order No.	g	d_s	[kg]
0.5	M/Rd 12 x 150	k3112km/r	25	8	8.50
0.8	M/Rd 14 x 180	k3114km/r	25	10	14.60
1.2	M/Rd 16 x 230	k3116km/r	27	12	26.80
1.6	Rd 18 x 260	k3118kr	35	14	38.80
2.0	M/Rd 20 x 260	k3120km/r	35	14	45.00
2.5	M/Rd 24 x 300	k3124km/r	43	16	66.80
4.0	M/Rd 30 x 420	k3130km/r	56	20	142.60
6.3	M/Rd 36 x 460	k3136km/r	69	25	253.30
8.0	M/Rd 42 x 500	k3142km/r	80	28	329.70
12.5	M/Rd 52 x 550	k3152km/r	100	32	516.00





Stainless steel version:
Also available with friction-welded stainless steel socket made from solid material for better corrosion resistance.
A true stainless steel fitting.

Socket with short wavy-tail bar. The socket is anchored with a reinforcing bar. Owing to the relatively short anchorage length, these sockets are particularly suitable for casting into wall-type elements perpendicular to the plane of the wall.

Material:
Lifting sockets made from steel tube for precision applications to DIN EN 10305 (grade E 355+N). Available in electrogalvanised steel with a 4-6 µm zinc coating, mechanically zinc plated or in stainless steel.
Stainless steel according to approval Z-30.3-6 from 22 April 2014, grade A4.
Anchor bar grade B500B to DIN 488.

This product complies with the requirements of VDI/BV-BS Guideline 6205 and the European Machinery Directive 2006/42/EC.

The thread is cut oversize.

All dimensions can be supplied with knuckle (Rd) thread.

This product group is also available as GS-tested sockets.

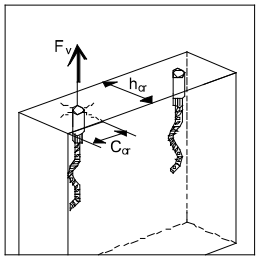
Custom versions on request.
Errors and omissions excepted.
Position as of Jan 2015

Friedrich Schroeder GmbH & Co. KG
Hönnestr. 24 | 58809 Neuenrade | Tel: +49 2394 91800 | Fax: +49 2394 918088 | info@schroeder-neuenrade.de | www.schroeder-neuenrade.de

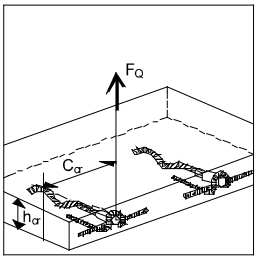
Permissible loads

Load group	Type	Typical installation situation		Permissible loads		
				Axial pull $_{perm}F_V$	90° pull $_{perm}F_Q$	Inclined pull $_{perm}F_S$ β ≤ 45°
		Element thickness h_{cr}	Edge distance c_{cr}	Alpha Goliath List 42	Alpha Goliath	Alpha Goliath List 42
	[M/Rd]	[cm]		[kN]		
Concrete strength f_{ck} ≥ 15 N/mm²						
0.5	12 x 150	6	14	5.0	2.0	6.0
0.8	14 x 180	6	18	8.0	2.4	6.0
1.2	16 x 230	8	18	14.0	7.4	7.0
1.6	18 x 260	10	20	20.0	9.0	10.0
2.0	20 x 260	10	25	20.0	9.0	11.0
2.5	24 x 300	10	30	23.0	9.0	17.0
4.0	30 x 420	14	35	36.0	20.0	31.0
6.3	36 x 460	14	40	59.0	20.0	35.0
8.0	42 x 500	16	50	70.0	20.0	57.0
12.5	52 x 550	20	60	100.0	38.0	62.0
Concrete strength f_{ck} ≥ 25 N/mm²						
0.5	12 x 150	6	14	7.0	2.6	8.0
0.8	14 x 180	6	18	11.0	3.1	8.0
1.2	16 x 230	8	18	18.0	9.6	8.0
1.6	18 x 260	10	20	26.0	11.6	14.0
2.0	20 x 260	10	25	26.0	11.6	14.0
2.5	24 x 300	10	30	30.0	11.6	21.0
4.0	30 x 420	14	35	47.0	25.8	40.0
6.3	36 x 460	14	40	76.0	25.8	45.0
8.0	42 x 500	16	50	90.0	25.8	74.0
12.5	52 x 550	20	60	130.0	49.0	81.0

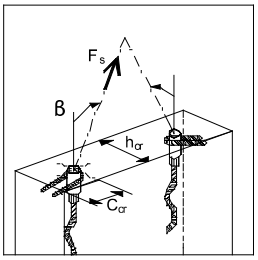
Axial pull in plane of element



90° pull perpendicular to plane of element



Inclined pull in plane of element



Load groups
The loading categories changed when the European Machinery Directive and VDI/BV-BS Guideline 6205 (lifting inserts/systems for PCC elements) came into force.
The load group is stamped on every anchor.
Given the load group and the defined typical boundary conditions in the table, it is possible to determine the permissible load of every anchor.

Level of safety
The permissible loads of lifting sockets include factors of safety $\gamma_{conc} = 2.5$ against concrete failure and $\gamma_{steel} = 3.0$ against steel failure. If the lifting sockets are not cast into concrete elements under permanently quality-controlled factory conditions, then $\gamma_{conc} = 3.0$. The permissible loads must then be multiplied by the factor 0.84.
The loads were determined at government materials-testing laboratories.

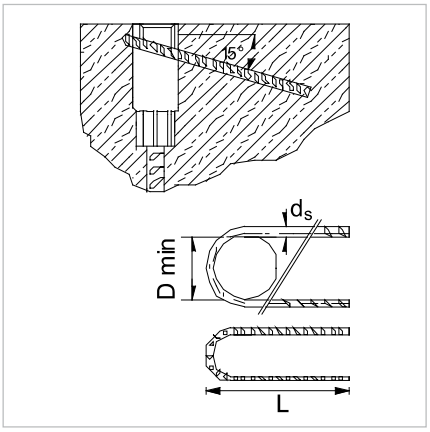
Element geometry
The permissible loads given in the tables are valid for the associated edge distances and element thicknesses ($s_{cr} \geq 2 \times c_{cr}$ then applies for the centre-to-centre spacing between two lifting sockets). However, these are not minimum spacings.
The permissible loads might need to be increased or decreased for other mounting conditions.
Just ask us - we'd be delighted to help you.

Minimum reinforcement
The permissible loads were determined with the sockets cast into concrete elements without the structural reinforcement required. Slab-type elements require two layers of Q 188 mesh as structural reinforcement.

Converting kN to t
A body with a mass of 1.0 t has a weight of approx. 10 kN.

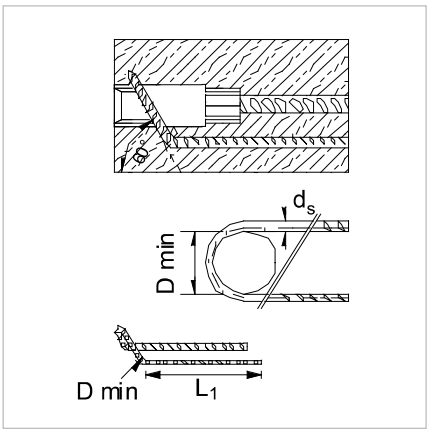
Additional reinforcement for inclined pull in plane of element

Additional reinforcement* B500B [mm]			
Thread [M/Rd]	Inclined pull		
	d_s	D_{min}	L
12	8	32	130
14	8	32	160
16	8	32	170
18	10	40	185
20	10	40	220
24	10	40	240
30	14	56	165
36	14	56	185
42	20	140	350
52	20	140	370



Additional reinforcement for 90° pull perpendicular to plane of element

Additional reinforcement* B500B [mm]			
Thread [M/Rd]	90° pull		
	d_s	D_{min}	L_1
12	8	32	95
14	8	32	125
16	8	32	130
18	10	40	140
20	10	40	170
24	10	40	185
30	14	56	195
36	14	56	200
42	20	140	215
52	20	140	220



*The additional reinforcement must press against the socket.