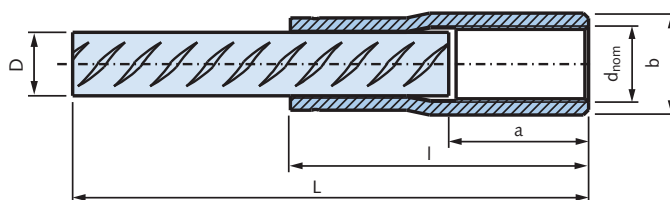


BAR ANCHORS

Bar Anchor 4010 GV



4010 GV



Anchor description

The bar anchor 4010 GV consists of a rebar B500B (untreated) according to EN 10080 (NEN 6008) with crimped sleeve. The sleeve has a metric ISO thread and is zinc galvanized (GV).

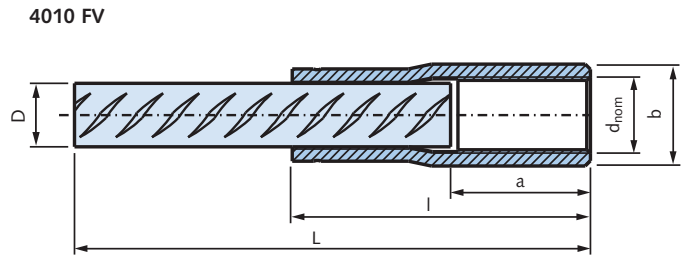
Bar anchor 4010 GV							
Order no.	Dimensions						Design loads ^②
	$d_{nom} \times L$ [mm]	D [mm]	a [mm]	b [mm]	l [mm]	A_s ^① [mm ²]	$N_{Rd,s}$ [kN] Steel
0052.070-00001	M16 × 415	12	25	21	58	113	48
0052.070-00002	M16 × 615	12	25	21	58	113	48
0052.070-00003	M16 × 840	12	25	21	58	113	48
0052.070-00022	M16 × 1040	12	25	21	58	113	48
0052.070-00004	M16 × 1540	12	25	21	58	113	48
0052.070-00024	M16 × 2040	12	25	21	58	113	48
0052.070-00006	M20 × 560	16	33	26	71	201	86
0052.070-00007	M20 × 810	16	33	26	71	201	86
0052.070-00008	M20 × 1060	16	33	26	71	201	86
0052.070-00009	M20 × 1480	16	33	26	71	201	86
0052.070-00025	M20 × 2240	16	33	26	71	201	86
0052.070-00026	M20 × 3540	16	33	26	71	201	86
0052.070-00011	M24 × 705	20	38	32	90	314	136
0052.070-00012	M24 × 1005	20	38	32	90	314	136
0052.070-00013	M24 × 1320	20	38	32	90	314	136
0052.070-00014	M24 × 1840	20	38	32	90	314	136
0052.070-00027	M24 × 2245	20	38	32	90	314	136
0052.070-00032	M24 × 3540	20	38	32	90	314	136
0052.070-00016	M30 × 1055	25	48	40	114	491	213
0052.070-00017	M30 × 1555	25	48	40	114	491	213
0052.070-00018	M30 × 2315	25	48	40	114	491	213
0052.070-00033	M30 × 3555	25	48	40	114	491	213
0052.070-00030	M42 × 1015	32	65	54	140	804	348
0052.070-00020	M42 × 1490	32	65	54	140	804	348
0052.070-00021	M42 × 2390	32	65	54	140	804	348
0052.070-00034	M42 × 3590	32	65	54	140	804	348

① A_s : stress area of the reinforcement bar in mm².

② Design loads are for tension and are the maximum values (yield strength) for pure steel of the rebars: $N_{Rd,s} = A_s \times f_{yd}$ ($f_{yd} = f_{yk} / 1.15$). In addition, the load capacity of the bar anchor embedded in concrete has to be checked for compliance with EN 1992-1-1, chapter 8.4 (NEN 6720 art. 9.6 and 9.16). The required bonding strength depends mainly on the strength class of the concrete and has to be verified.

BAR ANCHORS

Bar Anchor 4010 FV



Anchor description

The bar anchor 4010 FV consists of a rebar B500B (untreated) according to EN 10080 (NEN 6008) with a crimped sleeve. The sleeve has a metric ISO thread and is hot-dip galvanized (FV).

Bar anchor 4010 FV							
Order no.	Dimensions						Design loads ^②
	$d_{nom} \times L$ [mm]	D [mm]	a [mm]	b [mm]	l [mm]	A_s ^① [mm ²]	$N_{Rd,s}$ [kN] Steel
0052.070-00110	M16 × 415	12	25	21	58	113	48
0052.070-00114	M16 × 615	12	25	21	58	113	48
0052.070-00111	M20 × 560	16	33	26	71	201	86
0052.070-00115	M20 × 810	16	33	26	71	201	86
0052.070-00112	M24 × 705	20	38	32	90	314	136
0052.070-00116	M24 × 1005	20	38	32	90	314	136
0052.070-00113	M30 × 1055	25	48	40	114	491	213
0052.070-00117	M30 × 1555	25	48	40	114	491	213
0052.070-00118	M42 × 1015	32	65	54	140	804	348
0052.070-00119	M42 × 1490	32	65	54	140	804	348

① A_s : stress area of the reinforcement bar in mm².

② Design loads are for tension and are the maximum values (yield strength) for pure steel of the rebars: $N_{Rd,s} = A_s \times f_{yd}$ ($f_{yd} = f_{yk} / 1.15$). In addition, the load capacity of the bar anchor embedded in concrete has to be checked for compliance with EN 1992-1-1, chapter 8.4 (NEN 6720 art. 9.6 and 9.16). The required bonding strength depends mainly on the strength class of the concrete and has to be verified.

Technical Notes

According to the Dutch standard NEN 6146 "steel bars for the reinforcement of concrete", the rebars of the bar anchors must be manufactured with a tolerance of +5 mm / -2 × diameter (of rebar) → the existing bonding length of the bar anchors can be calculated as follows:

$$L_{bd} = L - l - 2 \times D \text{ [mm]}$$

with

$$L_{bd} = \text{bonding length [mm]}$$

$$L = \text{total length of bar anchor [mm]}$$

$$l = \text{length of sleeve [mm]}$$

$$D = \text{diameter of rebar [mm]}$$

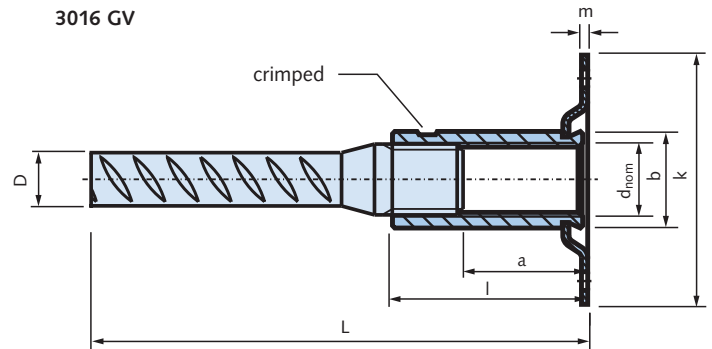
BAR ANCHORS

Bar Anchor 3016 GV



Anchor description

The bar anchor 3016 GV consists of a rebar B500B (untreated) according to EN 10080 (NEN 6008) with a screwed and crimped sleeve and with additional nailing plate (to fix the anchor to the formwork).



The sleeve is zinc galvanized (GV), the internal thread is metric ISO.

The maximum screw-in length for bolts is longer compared to the bar anchor 4010 → see table below.

Bar anchor 3016 GV									
Order no.	Dimensions								Design loads ^②
	$d_{nom} \times L$ [mm]	D [mm]	a [mm]	b [mm]	l [mm]	k [mm]	m [mm]	A_s ^① [mm ²]	$N_{Rd,s}$ [kN] Steel
0052.090-00001	M16 × 410	12	29	21	45	44	1.5	113	48
0052.090-00002	M20 × 565	16	35	26	55	48	1.5	201	86
0052.090-00003	M24 × 715	20	46	32	70	57	1.5	314	136

① A_s : stress area of the reinforcement bar in mm².

② Design loads are for tension and are the maximum values (yield strength) for pure steel of the rebars: $N_{Rd,s} = A_s \times f_{yd}$ ($f_{yd} = f_{yk} / 1.15$).
In addition, the load capacity of the bar anchor embedded in concrete has to be checked for compliance with EN 1992-1-1, chapter 8.4 (NEN 6720 art. 9.6 and 9.16). The required bonding strength depends mainly on the strength class of the concrete and has to be verified.

Technical Notes

According to the Dutch standard NEN 6146 "steel bars for the reinforcement of concrete", the rebars of the bar anchors are manufactured with an allowable tolerance of +5 mm / -2 × diameter (of rebar) → the existing bonding length of the bar anchors can be calculated as follows:

$$L_{bd} = L - l - 2 \times D \text{ [mm]}$$

with

$$L_{bd} = \text{bonding length [mm]}$$

$$L = \text{total length of bar anchor [mm]}$$

$$l = \text{length of sleeve [mm]}$$

$$D = \text{diameter of rebar [mm]}$$

BAR ANCHORS

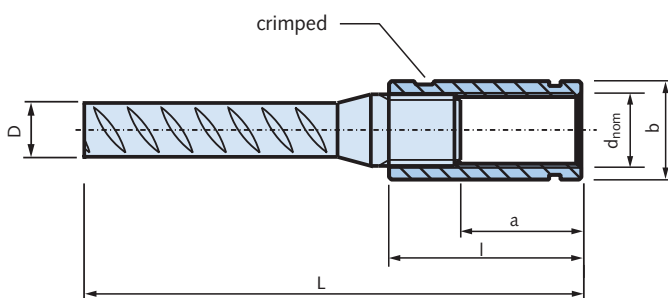
Bar Anchor 3010 A4-80



Anchor description

The bar anchor 3010 A4-80 consists of a rebar B500B (untreated) according to EN 10080 (NEN 6008) with a screwed and crimped sleeve.

3010 A4-80



The sleeve has a metric ISO thread and is made of stainless steel (strength class A4-80).

Bar anchor 3010 A4-80

Order no.	Dimensions						Design loads ^②
	$d_{nom} \times L$ [mm]	D [mm]	a [mm]	b [mm]	l [mm]	A_s ^① [mm ²]	$N_{Rd,s}$ [kN] Steel
0052.030-00006	M16 × 410	12	29	21	45	113	48
0052.030-00007	M20 × 565	16	35	26	55	201	86
0052.030-00008	M24 × 715	20	46	32	70	314	136
0052.030-00009	M30 × 1055	25	60	40	90	491	213

① A_s : stress area of the reinforcement bar in mm².

② Design loads are for tension and are the maximum values (yield strength) for pure steel of the rebars: $N_{Rd,s} = A_s \times f_{yd}$ ($f_{yd} = f_{yk} / 1.15$). In addition, the load capacity of the bar anchor embedded in concrete has to be checked for compliance with EN 1992-1-1, chapter 8.4 (NEN 6720 art. 9.6 and 9.16). The required bonding strength depends mainly on the strength class of the concrete and has to be verified.

Technical Notes

According to the Dutch standard NEN 6146 "steel bars for the reinforcement of concrete", the rebars of the bar anchors are manufactured with an allowable tolerance of +5 mm / -2 × diameter (of rebar) → the existing bonding length for bar anchors can be calculated as follows:

$$L_{bd} = L - l - 2 \times D \text{ [mm]}$$

with

L_{bd} = bonding length [mm]

L = total length of bar anchor [mm]

l = length of sleeve [mm]

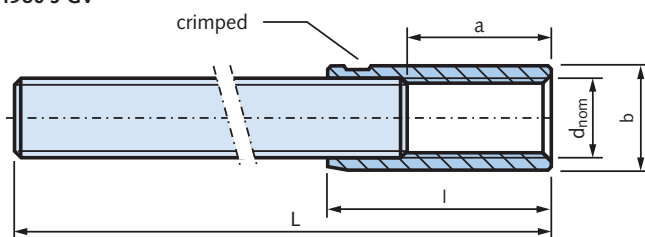
D = diameter of the rebar [mm]

BAR ANCHORS

Bar Anchor 1980-S GV



1980-S GV



Anchor description

The bar anchor 1980-S GV consists of a threaded rod (untreated, quality 4.6) with a screwed and crimped sleeve. The sleeve has a metric ISO thread and the surface is zinc galvanized (GV).

Alternatively sleeves are available on request as hot-dip galvanized or in stainless steel.

Bar anchor 1980-S GV						
Order no.	Dimensions					Design loads ^②
	$d_{nom} \times L$ [mm]	a [mm]	b [mm]	l [mm]	A_s ^① [mm ²]	$N_{Rd,s}$ [kN] Steel
0020.210-00001	M12 x 400	23	15.5	35	84	17
0020.210-00002	M12 x 600	23	15.5	35	84	17

① A_s : stress area of screwed in bolt/bar in mm².
 ② Design loads are for tension and are the maximum values for pure steel of the threaded bars.
 In addition, the load capacity of the bar anchor embedded in concrete has to be checked for compliance with EN 1992-1-1, chapter 8.4 (NEN 6720 art. 9.6 and 9.16).
 The required bonding strength depends mainly on the strength class of the concrete and has to be verified.

Technical Notes

The existing bonding length of bar anchors can be calculated as follows:

$$L_{bd} = L - l \text{ [mm]}$$

with

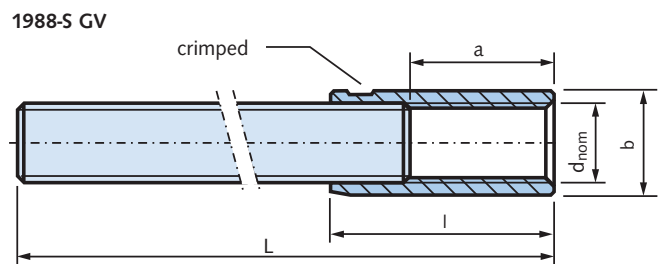
$$L_{bd} = \text{bonding length [mm]}$$

$$L = \text{total length of bar anchor [mm]}$$

$$l = \text{length of sleeve [mm]}$$

BAR ANCHORS

Bar Anchor 1988-S GV



Anchor description

The bar anchor 1988-S GV consists of a threaded rod (untreated, quality 8.8) with a screwed and crimped sleeve. The sleeve has a metric ISO thread and the surface is zinc galvanized (GV).

Alternatively, sleeves are available on request as hot-dip galvanized or in stainless steel.

Bar anchor 1988-S GV						
Order no.	Dimensions					Design loads ^②
	$d_{nom} \times L$ [mm]	a [mm]	b [mm]	l [mm]	A_s ^① [mm ²]	$N_{Rd,s}$ [kN] Steel
0020.210-00101	M12 x 435	23	15.5	35	84	33
0020.210-00102	M12 x 635	23	15.5	35	84	33
0020.210-00103	M16 x 585	29	21	45	161	63
0020.210-00104	M20 x 735	35	26	55	245	96

① A_s : stress area of the threaded connector in mm².

② Design loads are for tension and are the maximum values for pure steel of the threaded connectors.

In addition, the load capacity of the bar anchor embedded in concrete has to be checked for compliance with EN 1992-1-1, chapter 8.4 (NEN 6720 art. 9.6 and 9.16).

The required bonding strength depends mainly on the strength class of the concrete and has to be verified.

Technical Notes

The existing bonding length of bar anchors can be calculated as follows:

$$L_{bd} = L - l \text{ [mm]}$$

with

$$L_{bd} = \text{bonding length [mm]}$$

$$L = \text{total length of bar anchor [mm]}$$

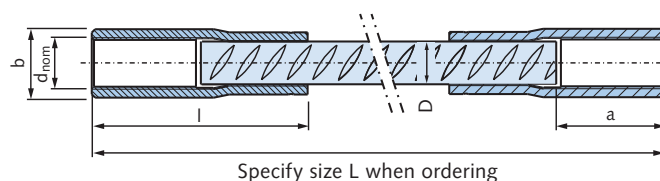
$$l = \text{length of sleeve [mm]}$$

BAR ANCHORS

Bar Anchor 4030 GV / FV



4030 GV/FV



Anchor description

The special bar anchors 4030 GV and 4030 FV consist of a rebar B500B (untreated) according to EN 10080 (NEN 6008) with a crimped sleeve on both ends.

The sleeves have metric ISO threads and are available either in zinc galvanized (GV) or hot-dip galvanized (FV).

This product is made on request; please specify required length when ordering.

Bar anchor 4030 GV

Order no.	Dimensions						Design loads ^②
	$d_{nom} - D$	L min	a	b	l	A_s ^①	$N_{Rd,s}$ [kN]
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm ²]	Steel
0052.159-00001	M16 - Ø12	225	25	21	58	113	48
0052.159-00002	M20 - Ø16	233	33	26	71	201	86
0052.159-00003	M24 - Ø20	238	38	32	90	314	136
0052.159-00004	M30 - Ø25	338	48	40	114	491	213
0052.159-00005	M42 - Ø32	395	65	54	140	804	348

Bar anchor 4030 FV

0052.159-00011	M16 - Ø12	225	25	21	58	113	48
0052.159-00012	M20 - Ø16	233	33	26	71	201	86
0052.159-00013	M24 - Ø20	238	38	32	90	314	136
0052.159-00014	M30 - Ø25	338	48	40	114	491	213
0052.159-00015	M42 - Ø32	395	65	54	140	804	348

① A_s : stress area of the reinforcement bar in mm².

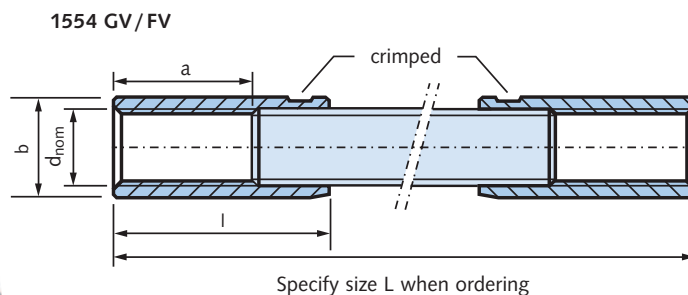
② Design loads are for tension and are the maximum values for pure steel of the rebars: $N_{Rd,s} = A_s \times f_{yd}$ ($f_{yd} = f_{yk} / 1.15$).

In addition, the load capacity of the bar anchor embedded in concrete has to be checked for compliance with EN 1992-1-1, chapter 8.4 (NEN 6720 art. 9.6 and 9.16).

The required bonding strength depends mainly on the strength class of the concrete and has to be verified.

BAR ANCHORS

Spacer 1554 GV / FV



Anchor description

The bar anchors 1554 GV and 1554 FV consist of a threaded rod (untreated, quality 4.6) with screwed and crimped sleeves on both ends. The sleeves have metric ISO threads and are available with a surface treatment either in zinc galvanized (GV) or in hot-dip galvanized (FV).

This product is made on request; please specify required length when ordering.

Spacer 1554 GV

Order no.	Dimensions						Design loads ^②
	d_{nom}	L min	a	b	l	A_s ^①	$N_{Rd,s}$ [kN]
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm ²]	Steel
0020.229-00001	M12	200	23	15.5	35	84	17
0020.229-00002	M16	200	29	21	45	157	31
0020.229-00003	M20	200	35	26	55	245	49
0020.229-00004	M24	200	46	32	70	355	71
0020.229-00005	M30	220	60	40	90	560	112
0020.229-00006	M36	250	74	47.5	110	817	163
0020.229-00007	M42	250	68	54	110	1122	224

Spacer 1554 FV

0020.229-00011	M12	200	23	15.5	35	84	17
0020.229-00012	M16	200	29	21	45	157	31
0020.229-00013	M20	200	35	26	55	245	49
0020.229-00014	M24	200	46	32	70	355	71
0020.229-00015	M30	220	60	40	90	560	112
0020.229-00016	M36	250	74	47.5	110	817	163
0020.229-00017	M42	250	68	54	110	1122	224

① A_s : stress area of screwed in bolt/bar in mm².

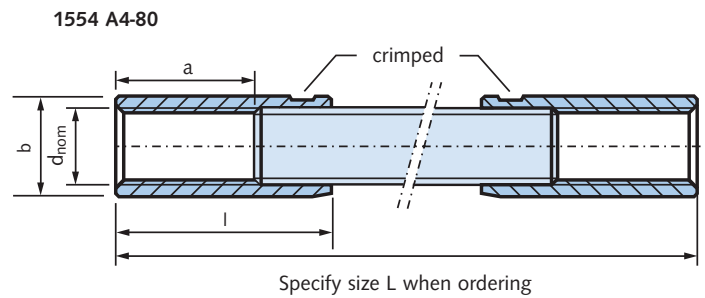
② Design loads are for tension and are the maximum values for pure steel of the threaded bars.

In addition, the load capacity of the bar anchor embedded in concrete has to be checked for compliance with EN 1992-1-1, chapter 8.4 (NEN 6720 art. 9.6 and 9.16).

The required bonding strength depends mainly on the strength class of the concrete and has to be verified.

BAR ANCHORS

Spacer 1554 A4-80



Anchor description

The bar anchor 1554 A4-80 consists of a threaded rod (untreated, quality 4.6) with screwed and crimped sleeves on both ends. The sleeves have metric ISO threads and are made of stainless steel (strength class A4-80).

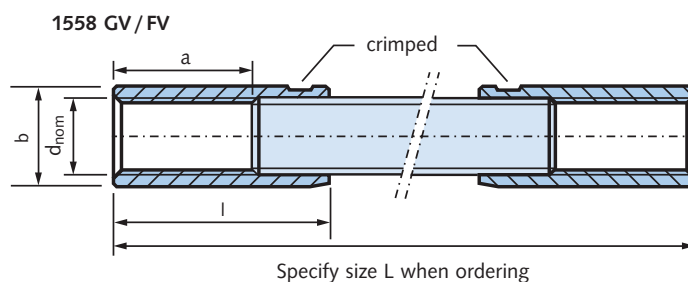
This product is made to order; please specify required length when ordering.

Spacer 1554 A4-80							
Order no.	Dimensions						Design loads ^②
	d _{nom} [mm]	L min [mm]	a [mm]	b [mm]	l [mm]	A _s ^① [mm ²]	N _{Rd,s} [kN] Steel
0020.229-00021	M12	200	23	15.5	35	84	17
0020.229-00022	M16	200	29	21	45	157	31
0020.229-00023	M20	200	35	26	55	245	49
0020.229-00024	M24	200	46	32	70	355	71
0020.229-00025	M30	220	60	40	90	560	112

① A_s: stress area of screwed in bolt/bar in mm².
 ② Design loads are for tension and are the maximum values for pure steel of the threaded bars.
 In addition, the load capacity of the bar anchor embedded in concrete has to be checked for compliance with EN 1992-1-1, chapter 8.4 (NEN 6720 art. 9.6 and 9.16).
 The required bonding strength depends mainly on the strength class of the concrete and has to be verified.

BAR ANCHORS

Spacer 1558 GV / FV



Anchor description

The bar anchors 1558 GV and 1558 FV consist of a threaded rod (untreated, quality 8.8) with screwed and crimped sleeves on both ends. The sleeves have metric ISO threads and are available either zinc galvanized (GV) or hot-dip galvanized (FV).

This product is made on request; please specify required length when ordering.

Spacer 1558 GV

Order no.	Dimensions						Design loads ^②
	d_{nom} [mm]	L min [mm]	a [mm]	b [mm]	l [mm]	A_s ^① [mm ²]	$N_{Rd,s}$ [kN] Steel
0020.229-00101	M12	200	23	15.5	35	84	33
0020.229-00102	M16	200	29	21	45	161	63
0020.229-00103	M20	200	35	26	55	245	96
0020.229-00104	M24	200	46	32	70	385	150
0020.229-00105	M30	220	60	40	90	605	237
0020.229-00106	M36	250	74	47.5	110	826	323
0020.229-00107	M42	250	68	54	110	1002	392

Spacer 1558 FV

0020.229-00111	M12	200	23	15.5	35	84	33
0020.229-00112	M16	200	29	21	45	161	63
0020.229-00113	M20	200	35	26	55	245	96
0020.229-00114	M24	200	46	32	70	385	150
0020.229-00115	M30	220	60	40	90	605	237
0020.229-00116	M36	250	74	47.5	110	826	323
0020.229-00117	M42	250	68	54	110	1002	392

① A_s : stress area of the threaded connector in mm².

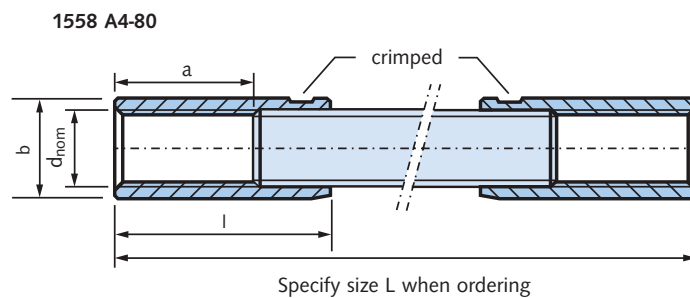
② Design loads are for tension and are the maximum values for pure steel of the threaded connectors.

In addition, the load capacity of the bar anchor embedded in concrete has to be checked for compliance with EN 1992-1-1, chapter 8.4 (NEN 6720 art. 9.6 and 9.16).

The required bonding strength depends mainly on the strength class of the concrete and has to be verified.

BAR ANCHORS

Spacer 1558 A4-80



Anchor description

The bar anchor 1558 A4-80 consists of a threaded rod (untreated, quality 8.8) with screwed and crimped sleeves on both ends. The sleeves have metric ISO threads and are made of stainless steel (strength class A4-80).

This product is made on request; please specify required length when ordering.

Spacer 1558 A4-80

Order no.	Dimensions						Design loads ^②
	d _{nom} [mm]	L min [mm]	a [mm]	b [mm]	l [mm]	A _s ^① [mm ²]	N _{Rd,s} [kN] Steel
0020.229-00121	M12	200	23	15.5	35	84	45
0020.229-00122	M16	200	29	21	45	157	84
0020.229-00123	M20	200	35	26	55	245	131
0020.229-00124	M24	200	46	32	70	355	189
0020.229-00125	M30	220	60	40	90	560	299

① A_s: stress area of screwed in bolt/bar in mm².

② Design loads are for tension and are the maximum values for pure steel of the threaded bars.

In addition, the load capacity of the bar anchor embedded in concrete has to be checked for compliance with EN 1992-1-1, chapter 8.4 (NEN 6720 art. 9.6 and 9.16).

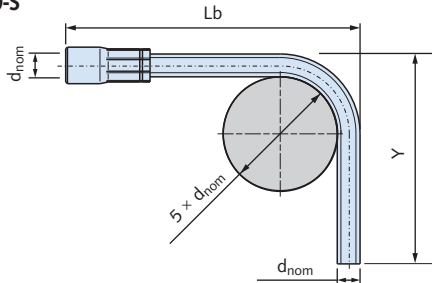
The required bonding strength depends mainly on the strength class of the concrete and has to be verified.

BAR ANCHORS

Bending of bar anchors

Custom bending

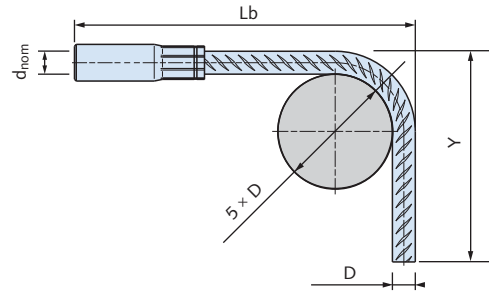
1980-S



1980-S				
Bending L	d _{nom} [mm]	Y min [mm]	Lb min [mm]	V ^① [mm]
max. 1250 mm	M12	200	145	33
max. 1250 mm	M16	200	165	45
max. 1250 mm	M20	200	195	55

① V = Change of length; $L = L_b + Y - V$
 Note: Required bonding length has to be verified acc. to valid national standards

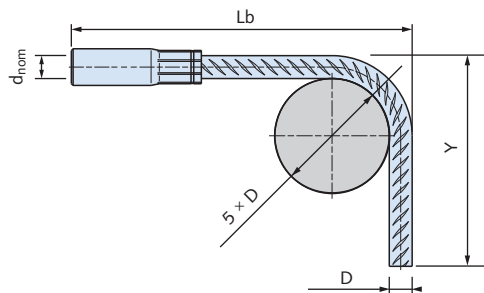
4010



4010				
D [mm]	d _{nom} [mm]	Y min [mm]	Lb min [mm]	V ^① [mm]
ø12	M16	200	140	33
ø16	M20	200	160	45
ø20	M24	200	210	55
ø25	M30	290	275	70
ø32	M42	330	325	90

① V = Change of length; $L = L_b + Y - V$
 Note: Required bonding length has to be verified acc. to valid national standards

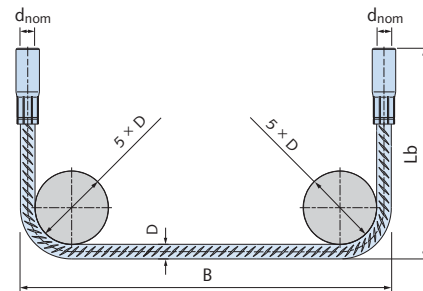
3010-3016



3010 - 3016				
D [mm]	d _{nom} [mm]	Y min [mm]	Lb min [mm]	V ^① [mm]
ø12	M16	200	145	33
ø16	M20	200	185	45
ø20	M24	200	215	55
ø25	M30	290	280	70

① V = Change of length; $L = L_b + Y - V$
 Note: Required bonding length has to be verified acc. to valid national standards

U-shaped bar anchors



U-shaped				
D [mm]	d _{nom} [mm]	B min [mm]	Lb min [mm]	2 x V ^① [mm]
ø12	M16	140	140	66
ø16	M20	165	160	90
ø20	M24	210	210	110
ø25	M30	290	275	140
ø32	M42	350	325	180

① V = Change of length; $L = L_b + Y - V$
 Note: Required bonding length has to be verified acc. to valid national standards



- 1988-S 8.8 cannot be bent!
- Bent bar anchors are made to order