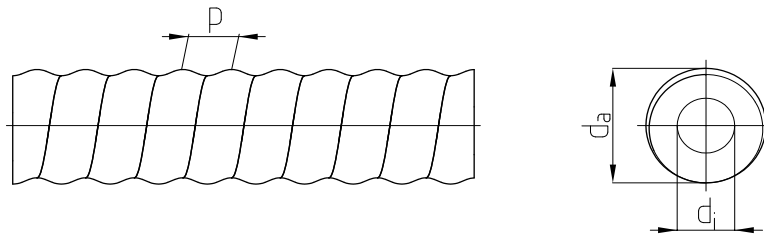


SELFDRILLING HOLLOWBAR SYSTEM



SELFDRILLING HOLLOWBAR SYSTEM



round thread R Ø 32 - 51 mm
cold rolled - left hand thread

type	Ø	[mm]	*R32	*R32	*R32	*R32	*R32	*R38	R38	*R51	R51
Bar No.			H 0210-32	H 0250-32	H 0280-32	H 0360-32	H 0400-32	H 0420-38	H 0500-38	H 0630-51	H 0800-51
d _a	[in]		1.22	1.22	1.22	1.22	1.22	1.50	1.50	1.97	1.97
d _i	[in]		0.79	0.75	0.69	0.57	0.43	0.87	0.73	1.30	1.14
p	[in]		0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Area	[in ²]		0.51	0.57	0.67	0.79	0.88	0.99	1.15	1.44	1.78
Weight	[lbs/ft]		1.75	1.95	2.28	2.69	2.96	3.36	3.90	4.91	6.05
Yield Load	[kips]		38	43	52	63	74	79	90	119	142
Ultimate Load	[kips]		47	56	63	81	90	94	112	142	180

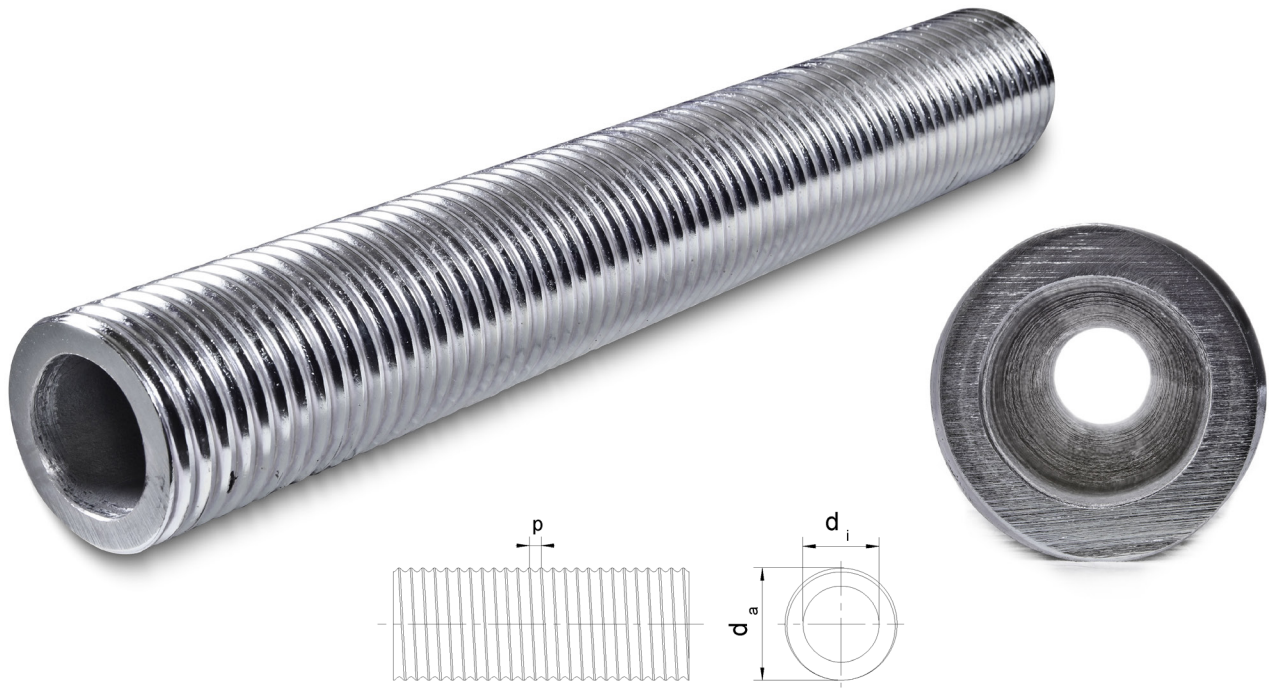
R-thread Ø 32 - 38 mm according to ISO 10208

R-thread Ø 51 mm according to factory standard

in stock

*available upon request

SELFDRILLING HOLLOWBAR SYSTEM



trapezoidal thread T Ø 64 - 108 mm
cold rolled - right hand thread

type Ø	[mm]	*T64	T64	*T76	T76	*T76	T108
Bar No.		H 1000-64	H 1200-64	H 1380-76	H 1600-76	H 1900-76	H 2500-108
d _a	[in]	2.52	2.52	3.03	3.03	3.03	4.25
d _i	[in]	1.65	1.52	2.13	2.03	1.87	3.25
p	[in]	0.32	0.32	0.32	0.32	0.32	0.32
Area	[in ²]	2.36	2.80	3.24	3.70	3.91	5.66
Weight	[lbs/ft]	7.73	9.07	10.62	11.96	13.24	18.68
Yield Load	[kips]	180	214	243	270	315	400
Ultimate Load	[kips]	225	270	315	360	405	540

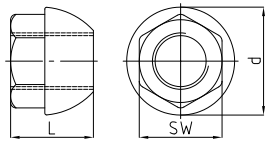
T-thread Ø 64 - 108 mm according to factory standard

■ in stock

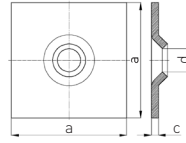
*available upon request

ACCESSORIES

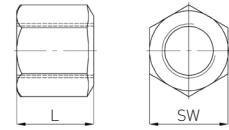
dome nut 55°



domed plate



hex nut flat bull nose



type
Ø [mm]

Bar No.

SW x d x L [in]

[lbs]

SW x L [in]

[lbs]

d x L [in]

[lbs]

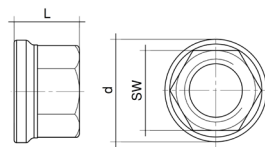
H 2001

HAC

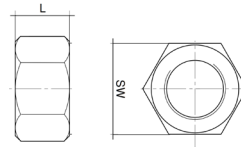
H 2002 / H 2963

type Ø [mm]	Bar No.	SW x d x L [in]	[lbs]	SW x L [in]	[lbs]	d x L [in]	[lbs]
32	H0210-32	1.81 x 2.36 x 1.81	0.99	5.91 x 0.31 x 1.22	3.08	1.81 x 1.97	0.88
32	H0250-32	1.81 x 2.36 x 1.81	0.99	5.91 x 0.31 x 1.22	3.08	1.81 x 1.97	0.88
32	H0360-32	1.81 x 2.36 x 1.81	0.99	7.87 x 0.39 x 1.38	8.14	1.81 x 1.97	0.88
32	H0400-32	-	-	7.87 x 0.39 x 1.38	8.14	1.81 x 1.97	0.88
38	H0420-38	2.17 x 2.76 x 2.17	1.32	7.87 x 0.47 x 1.61	8.14	2.17 x 1.97	1.32
38	H0500-38	2.17 x 2.76 x 2.17	1.32	7.87 x 0.47 x 1.61	8.14	2.17 x 1.97	1.32
51	H0630-51	2.95 x 3.54 x 2.76	3.52	7.87 x 0.59 x 2.09	9.9	2.95 x 2.76	3.52
51	H0800-51	2.95 x 3.54 x 2.76	3.52	7.87 x 0.79 x 2.09	12.98	2.95 x 2.76	3.52
64	H1000-64	-	-	-	-	3.35 x 2.76	4.18
64	H1200-64	-	-	-	-	3.35 x 2.76	4.18
76	H1380-76	-	-	-	-	3.94 x 3.15	6.49
76	H1600-76	-	-	-	-	3.94 x 3.15	6.49
76	H1900-76	-	-	-	-	3.94 x 3.15	6.49
108	H2500-108	-	-	-	-	5.12 x 3.94	13.53

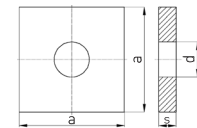
flanged hexnut



lock nut



pile head plate flat



type
Ø [mm]

Bar No.

SW x d x L [in]

[lbs]

SW x L [in]

[lbs]

d x L [in]

[lbs]

H 2163

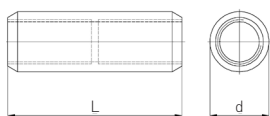
H 2040

HAC

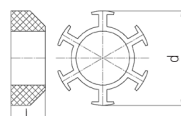
type Ø [mm]	Bar No.	SW x d x L [in]	[lbs]	SW x L [in]	[lbs]	d x L [in]	[lbs]
32	H0210-32	-	-	-	-	3.94 x 0.59 x 1.38	2.42
32	H0250-32	-	-	-	-	4.33 x 0.79 x 1.38	3.74
32	H0280-32	-	-	-	-	4.33 x 0.79 x 1.38	3.74
32	H0360-32	-	-	-	-	4.72 x 0.98 x 1.38	5.72
32	H0400-32	-	-	-	-	4.72 x 0.98 x 1.38	5.72
38	H0420-38	2.17 x 2.99 x 1.97	2.00	2.17 x 1.38	1.19	5.51 x 0.98 x 1.61	7.92
38	H0500-38	2.17 x 2.99 x 1.97	2.00	2.17 x 1.38	1.19	5.51 x 0.98 x 1.61	7.92
51	H0630-51	2.95 x 3.90 x 2.76	4.95	2.95 x 1.77	2.86	6.30 x 0.98 x 2.09	10.12
51	H0800-51	2.95 x 3.90 x 2.76	4.95	2.95 x 1.77	2.86	7.09 x 1.18 x 2.09	15.62
64	H1000-64	3.35 x 4.29 x 2.76	3.08	3.35 x 1.77	3.08	7.87 x 1.18 x 2.64	20.68
64	H1200-64	3.35 x 4.29 x 2.76	3.08	3.35 x 1.77	3.08	7.87 x 1.38 x 2.64	24.20
76	H1380-76	3.94 x 4.96 x 3.15	4.51	1.97 x 3.94	4.51	7.87 x 1.57 x 3.15	27.50
76	H1600-76	3.94 x 4.96 x 3.15	4.51	1.97 x 3.94	4.51	8.66 x 1.77 x 3.15	37.40
76	H1900-76	3.94 x 4.96 x 3.15	4.51	1.97 x 3.94	4.51	9.45 x 1.77 x 3.15	44.66
108	H2500-108	5.12 x 5.83 x 3.94	6.82	5.12 x 2.36	6.82	11.02 x 1.97 x 4.41	67.32

ACCESSORIES

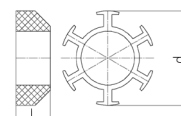
coupler



spacer PE

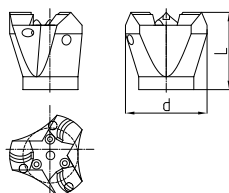


spacer steel

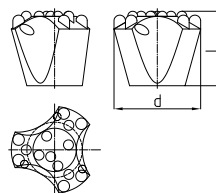


type Ø [mm]	Bar No.	d x L [in]	[lbs]	L x d [in]	[lbs]	L x d [in]	[lbs]
		H 3003		H 5085		H 5086	
32	H0210-32	1.65 x 4.92	1.54	0.98 x 2.76	0.07	-	-
32	H0250-32	1.65 x 4.92	1.54	0.98 x 2.76	0.07	-	-
32	H0280-32	1.65 x 4.92	1.54	0.98 x 2.76	0.07	-	-
32	H0360-32	1.65 x 4.92	1.54	0.98 x 2.76	0.07	-	-
32	H400-32	1.65 x 5.91	1.78	0.98 x 2.76	0.07	-	-
38	H420-38	2.01 x 6.42	2.86	0.98 x 3.54	0.09	1.38 x 2.76	1.32
38	H0500-38	2.01 x 6.42	2.86	0.98 x 3.54	0.09	1.38 x 2.76	1.32
51	H0630-51	2.52 x 7.09	3.96	0.98 x 4.33	0.11	1.57 x 3.35	3.52
51	H0800-51	2.52 x 7.09	3.96	0.98 x 4.33	0.11	1.57 x 3.35	3.52
64	H1000-64	2.99 x 6.30	4.18	-	-	1.57 x 4.92	4.18
64	H1200-64	2.99 x 6.30	4.18	-	-	1.57 x 4.92	4.18
76	H1400-76	3.74 x 7.09	12.10	1.97 x 5.51	0.22	1.97 x 5.51	6.49
76	H1600-76	3.74 x 7.09	12.10	1.97 x 5.51	0.22	1.97 x 5.51	6.49
76	H1800-76	3.74 x 7.09	12.10	1.97 x 5.51	0.22	1.97 x 5.51	6.49
108	H2400-108	5.00 x 8.66	14.08	-	-	2.36 x 6.69	13.53

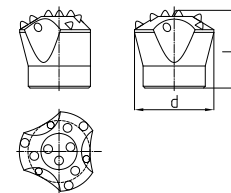
**tri crescent drill bit with
carbide inserts EYY-DC**



hardened button bit ES



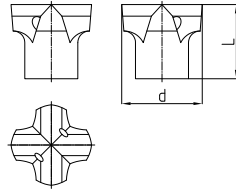
**button bit with carbide inserts
ESS**



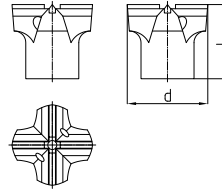
type Ø [mm]		d [in / mm]	[lbs]	d [in / mm]	[lbs]	d [in / mm]	[lbs]
		EYY-DC		ES		ESS	
32	-	3.0 / 76	2.20	2.0 / 51	1.10	2.0 / 5.1	1.10
38	-	3.0 / 76	1.98	3.0 / 76	2.64	3.0 / 76	2.64
38	-	3.5 / 90	2.42	3.5 / 90	3.74	3.5 / 90	3.74
51	-	-	-	3.5 / 90	3.20	3.0 / 76	3.08
51	-	-	-	4.0 / 100	3.96	3.5 / 90	3.96
51	-	-	-	-	-	4.0 / 100	6.60
51	-	-	-	-	-	4.5 / 115	7.92
51	-	-	-	-	-	5.0 / 130	9.90
64	-	-	-	-	-	4.5 / 115	7.15
64	-	-	-	-	-	5.0 / 130	8.58
76	-	-	-	5.0 / 130	8.80	5.0 / 130	9.57
76	-	-	-	6.5 / 170	15.9	7.0 / 175	18.90
108	-	-	-	-	-	6.0 / 150	17.9
108	-	-	-	-	-	8.8 / 200	24.6

ACCESSORIES

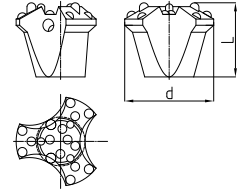
cross bit EX



cross bit with carbide inserts EXX

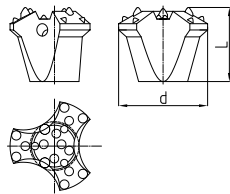


drop center hardened button bit ES-DC

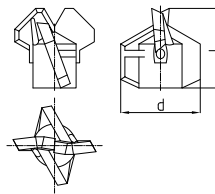


type Ø [mm]	EX			EXX			ES-DC			
			d [in / mm]	[lbs]			d [in / mm]	[lbs]		
32	-		2.0 / 51	0.88			2.0 / 51	0.88	-	-
32	-		3.0 / 76	1.65			3.0 / 76	1.65	-	-
38	-		3.0 / 76	2.64			3.0 / 76	2.78	-	-
38	-		-	-			3.5 / 90	3.26	4.5 / 115	4.40
51	-		-	-			3.0 / 76	2.68	-	-
51	-		3.5 / 90	2.42			3.5 / 90	2.31	-	-
51	-		-	-			4.5 / 115	7.04	-	-
64	-		4.5 / 115	4.62			4.5 / 115	4.84	-	-
64	-		5.0 / 130	5.40			5.0 / 130	5.61	-	-
76	-		-	-			4.5 / 115	7.92	-	-
76	-		5.0 / 130	6.60			5.0 / 130	7.92	-	-
76	-		7.0 / 175	11.8			7.0 / 175	11.1	-	-
108	-		6.0 / 150	10.0			6.0 / 150	9.90	-	-
108	-		8.0 / 200	14.7			8.0 / 200	15.0	-	-

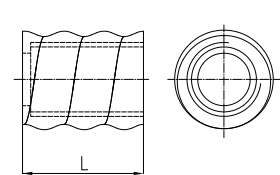
dropcenter button bit with carbide inserts ESS-DC



clay bit

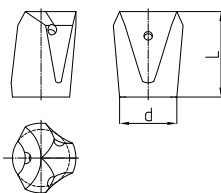


drill bit adapter

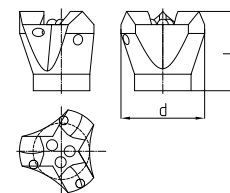


type Ø [mm]	ESS-DC			EW			H 4901-38/-51			
			d [in / mm]	[lbs]			d [in / mm]	[lbs]	L [in]	[lbs]
32	-		-	-			3.0 / 76	1.54	1.57	0.22
32	-		-	-			4.0 / 100	2.16	-	-
38	-		-	-			4.0 / 100	2.42	-	-
38	-		-	-			4.5 / 115	2.64	-	-
51	-		4.5 / 115	4.40			5.0 / 130	4.62	1.77	0.66
51	-		-	-			6.0 / 150	5.28	-	-
51	-		-	-			7.0 / 175	5.94	-	-
64	-		-	-			5.0 / 130	4.73	-	-
64	-		-	-			6.0 / 150	5.50	-	-
76	-		-	-			7.0 / 175	6.50	-	-
76	-		-	-			8.0 / 210	7.92	-	-
108	-		-	-			8.0 / 210	10.80	-	-
108	-		-	-			10.0 / 250	13.20	-	-

arc-shaped drill bit EC

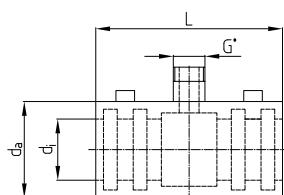


tri crescent drill bit EY-DC

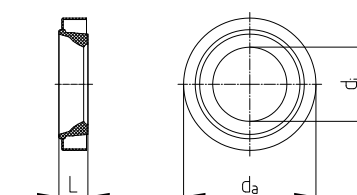


type Ø [mm]			d [in / mm]	[lbs]	d [in / mm]	[lbs]
			EC		EY-DC	
32	-		2.0 / 51	0.88	3.0 / 76	2.20
38	-		-	-	3.0 / 76	1.98
38	-		-	-	3.5 / 90	2.42
51	-		4.5 / 115	5.06	3.5 / 90	3.96

grouting and flushing head

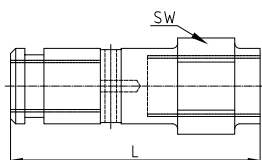


sealing (4 pcs. per head)

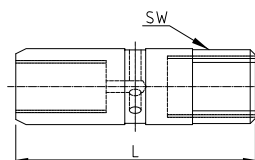


type Ø [in]	Part	di x da x L [in]	[lbs]	di x da x L [in]	[lbs]
-	flushing shaft 61	2.44 x 2.72 x 4.49	5.28	2.40 x 2.72 x 0.28	0.02
-	flushing shaft 75	2.99 x 4.25 x 7.09	9.02	2.95 x 3.54 x 0.39	0.02
-	flushing shaft 100	3.98 x 5.31 x 7.09	13.64	3.94 x 4.72 x 0.47	0.09

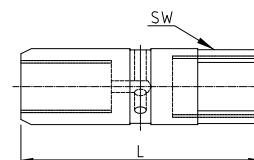
flushing shaft 61



flushing shaft 75



flushing shaft 100



type Ø [mm]		A** x L x SW [in]	[lbs]	A** x L x SW [in]	[lbs]	A** x L x SW [in]	[lbs]
		Filetage		Filetage		Filetage	
32	-	T 1.77 x 9.02 x 2.36	10.12	R 1.50 x 11.81 x 2.56	17.82	H 2.17 x 12.01 x 3.15	30.80
32	-	R 1.50 x 9.02 x 2.36	10.12	T 1.77 x 11.81 x 2.56	17.82	H 2.25 x 12.01 x 3.54	30.14
32	-	R 1.26 x 9.02 x 2.36	10.12	R 2.01 x 11.81 x 2.56	17.16	H 2.17 x 12.01 x 3.15	30.36
38	-	T 1.77 x 9.02 x 2.36	9.68	R 1.50 x 11.81 x 2.56	17.82	H 2.25 x 12.01 x 3.54	29.70
38	-	R 1.50 x 9.02 x 2.36	9.68	T 1.77 x 11.81 x 2.56	17.38	H 2.17 x 12.01 x 3.15	-
38	-	R 1.26 x 9.02 x 2.36	10.12	R 2.01 x 11.81 x 2.56	16.94	H 2.25 x 12.01 x 3.54	-

** hammer site, left hand thread (right hand thread on request)

* thread joint available for 1", 1 1/2" und 2"

DRILLBITS



ARC-SHAPED DRILL BIT EC

- hardened, triple edged drill bit
- universal drill bit for cohesive soils, mixed soils, weak sedimentary rock, medium limestone
- SPT 0-50



TRI CRESCENT DRILL BIT EY-DC

- hardened, triple edged with drop center
- improved directional stability
- universal drill bit for cohesive soils, mixed soils, weak sedimentary rock, medium limestone
- SPT 0-55



TRI CRESCENT DRILL BIT w/ CARBIDE INSERTS EYY-DC

- drill bit with carbide inserts
- triple edged with drop center
- for soils and weak to medium rock



CROSS BIT EX

- hardened drill bit
- universal drill bit for loose gravel, weak sedimentary rock, medium limestone
- UCS 100 MN/mm²



CROSS BIT w/ CARBIDE INSERTS EXX

- drill bit with carbide inserts
- for hard rock and concrete obstacles
- UCS 100 MN/mm²



BUTTON BIT ES

- hardened button bit
- for fractured and weak rock, soft and dry mudstone
- SPT 0-55
- hardened, triple edged drill bit



BUTTON BIT w/ CARBIDE INSERTS ESS

- button bit with carbide inserts
- for fractured, hard rock
- UCS 80 MN/mm²



DROP CENTER BUTTON BIT ES-DC

- hardened, button drill bit
- improved directional stability
- for fractured and weak rock, soft and dry mudstone
- SPT 0-55



DROP CENTER BUTTON BIT w/ CARBIDE INSERTS ESS-DC

- drill bit with carbide inserts
- improved directional stability
- for hard rock



CLAY BIT EW

- four hardened cross-blades
- Retroflush and sideflush
- for soft cohesive soils
- SPT 0-50

DRILLBIT SIZE AVAILABILITY

		R 32	R 38	R 51	T 64	T 76	T 108
EC Ø 51	ARC-SHAPED DRILLBIT EC	X					
EC Ø 115							
EY-DC Ø 76	TRI-CRESCENT DRILLBIT EY-DC	X	X				
EY-DC Ø 90			X	X			
EYY-DC Ø 76	TRI-CRESCENT DRILLBIT w/ CARBIDE INSERTS EYY-DC	X	X				
EYY-DC Ø 90			X				
EX Ø 51	CROSS BIT EX	X					
EX Ø 76		X	X				
EX Ø 90				X			
EX Ø 115					X		
EX Ø 130					X	X	
EX Ø 150							X
EX Ø 175						X	
EX Ø 200							X
EXX Ø 51	CROSS BIT w/ CARBIDE INSERTS EXX	X					
EXX Ø 76		X	X	X			
EXX Ø 90			X	X			
EXX Ø 115				X	X	X	
EXX Ø 130					X	X	
EXX Ø 150							X
EXX Ø 175						X	
EXX Ø 200							X
ES Ø 51	BUTTON BIT ES	X					
ES Ø 76			X				
ES Ø 90			X	X			
ES Ø 100				X			
ES Ø 115							
ES Ø 130						X	
ES Ø 170						X	
ESS Ø 51	BUTTON BIT w/ CARBIDE INSERTS ESS	X					
ESS Ø 76			X				
ESS Ø 90			X	X			
ESS Ø 100				X			
ESS Ø 115				X	X		
ESS Ø 130				X	X	X	
ESS Ø 150							X
ESS Ø 175						X	
ESS Ø 200							X
EW Ø 76	CLAY BIT EW	X					
EW Ø 100		X	X				
EW Ø 115			X				
EW Ø 130				X	X		
EW Ø 150				X	X		
EW Ø 175				X		X	
EW Ø 210						X	X
EW Ø 250							X
ES-DC Ø 115	DROP CENTER BUTTON BIT ES-DC			X			
ESS-DC Ø 115	DROP CENTER BUTTON BIT w/ CARBIDE INSERTS ESS-DC			X			

TECHNICAL FEATURES HOLLOWBAR NAILS

Hollow-bar nails consist of three main components: the nail head, the steel tendon – including coupler and lost drill bit – and the grout body. The steel tendon is a hollow steel bar with coldrolled round thread and can therefore be cut or joined at any desired point.

FEATURES:

- Nationally approved system with internal and external quality control
- Well suited to transport and assembly conditions thanks to delivery in parts with couplers
- A wide selection of drill bits allows use in a wide range of soil types
- Simple to adapt to required length on site, e.g. with varying geological conditions by using partial sections with couplers
- Excellent bond between SHS-bar and cement mortar thanks to threaded ribs
- Can be closely matched to the required loads thanks to wide range of cross-sections
- Facilitates rapid construction progress since drilling, installation and injection of the nail are carried out in a single operation

TYPES AVAILABLE:

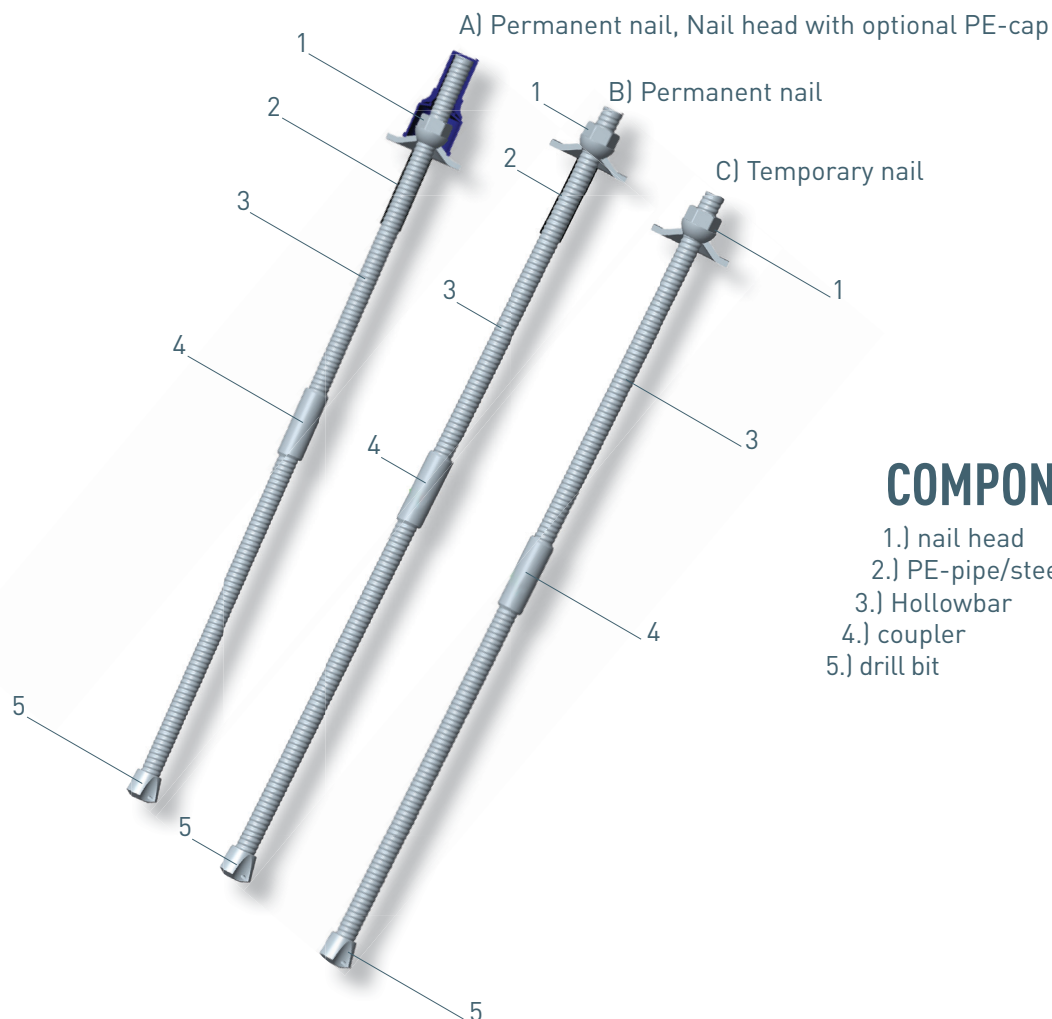
Temporary nails

- Temporary nails (service life up to 2 years)

Permanent nails

- Permanent nails, untreated, allowing for a soil-dependent corrosion rate (service life up to 50 years)
- Permanent nails, hot-dip galvanized, allowing for a soil-dependent corrosion rate (service life up to 50 years)

COMPONENTS OF HOLLOWBAR NAILS



COMPONENTS

- 1.) nail head
- 2.) PE-pipe/steelpipe
- 3.) Hollowbar
- 4.) coupler
- 5.) drill bit

TECHNICAL FEATURES HOLLOWBAR PILES

Hollow-bar piles consist of three main components: the pile head, the steel tendon or compression member - including coupler and lost drill bit - and the grout body.

The steel tendon or compression member is a hollow steel bar with a coarse, cold rolled round thread and can therefore be cut or joined at any desired point.

FEATURES:

- Nationally approved system with internal and external quality control
- Well suited to transport and assembly conditions as delivered in parts with couplers
- A wide selection of drill bits allows use in a wide range of soil types
- Simple to adapt to required length on site, e.g. with varying geological conditions by using partial sections with couplers
- Excellent bond between SHS-bar and cement mortar thanks to threaded ribs
- Can be closely matched to the required loads thanks to wide range of cross-sections
- Facilitates rapid construction progress since drilling, installation and injection of the pile are carried out in a single operation

TYPES AVAILABLE:

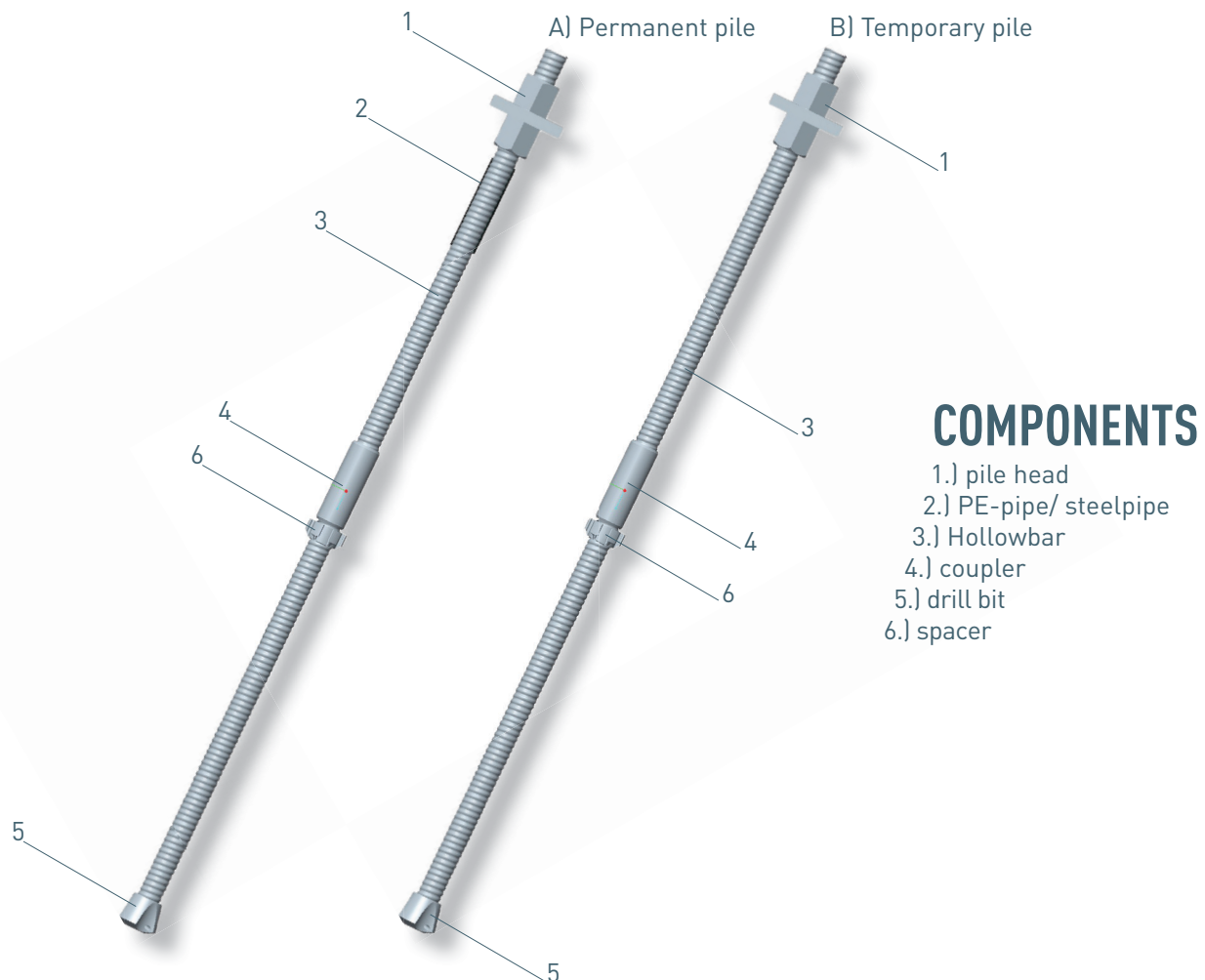
Temporary piles

- Temporary piles (service life up to 2 years)



Permanent piles (service life up to 50 years)

- Permanent piles, untreated, allowing for a soil-dependent corrosion rate (service life up to 50 years)
- Permanent piles, hot-dip galvanized, allowing for a soil-dependent corrosion rate (service life up to 50 years)

COMPONENTS OF HOLLOWBAR PILES



HOLLOWBAR

	<i>type-Ø</i>	<i>yield load</i>	<i>ultimate load</i>	<i>cross section area</i>	<i>weight</i>	<i>elongation</i>				
<i>areas of application</i>		[kips]	[kips]	[in²]	[lbs/ft]	Agt [%]				
hollow bar										
Geotechnics 	H0210-32*	38	47	0.51	1.75					
	H0250-32*	43	56	0.57	1.95					
	H0280-32*	52	63	0.67	2.28					
	H0360-32*	63	81	0.79	2.69					
	H0400-32*	74	90	0.88	2.96					
	H0420-38*	79	94	1.01	3.43					
tunneling / mining 	H0500-38	90	123	1.15	3.90					
	H0635-51*	119	142	1.44	4.91	5.0				
	H0800-51	142	180	1.77	6.05					
	H1000-64*	180	225	2.36	7.59					
	H1200-64	214	270	2.80	8.87					
	H1380-76*	243	315	3.24	10.55					
	H1600-76	270	360	3.70	11.63					
	H1900-76*	315	405	3.91	13.30					
	H2500-108	400	540	5.66	18.21					

accessories for all dimensions and applications available
 subject to technical changes
 * available on request

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