



MAXTECH
PRECAST TOOLS AND ADHESIVES

PRODUCT CATALOGUE

PRECAST TOOLS AND ADHESIVES

Professional solutions for lifting,
fixing and adhesives.

2026 EDITION



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STRENGTH IN EVERY CONNECTION, INNOVATION IN EVERY ELEMENT

MaxTech Precast Solutions is a supplier of precast tools, adhesives and steel accessories for the concrete industry. MaxTech Precast Solutions focuses on developing practical solutions to increase efficiency both at the precast element factory and at the building site. With a wide product range and a strong technical approach, MaxTech Precast Solutions supports customers with reliable products, responsive service and in-time deliveries.

THERE'S NO ROOM FOR MISTAKES IN OUR WORK

MaxTech Precast Solutions' certified production process meets strict requirements for the metal and precast industry, and quality management ensures a high level of reliability for the customer.

PRODUCT PORTFOLIO

- ▶ LIFTING ANCHORS
- ▶ SMOOTH BAR LIFTING HOOKS
- ▶ FIXING INSERTS
- ▶ FASTENING PLATES
- ▶ WIRE LOOP BOXES
- ▶ COLUMN SHOES
- ▶ WALL SHOES
- ▶ ANCHOR BOLTS
- ▶ SHUTTERING MAGNETS
- ▶ TYING WIRE
- ▶ BESPOKE STEEL PARTS



OUR PRODUCTS

1. THREADED LIFTING SYSTEMS



2. SPHERICAL HEAD LIFTING SYSTEMS

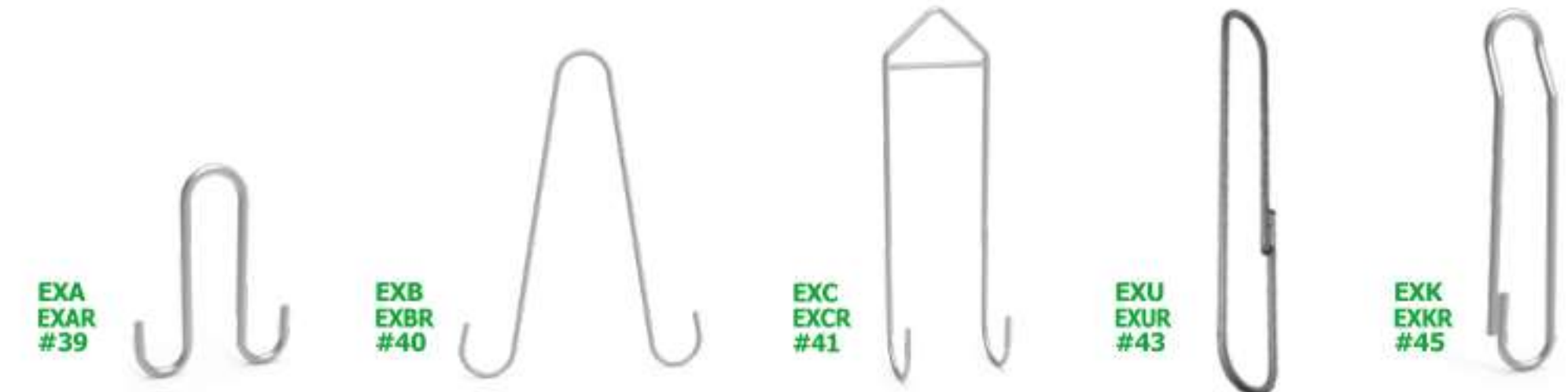


3. HOLE LOCK LIFTING SYSTEMS



OUR PRODUCTS

4. SMOOTH BAR LIFTING SYSTEMS



5. WIRE LOOP LIFTING SYSTEM



6. WIRE LOOP BOXES



7. FIXING INSERTS



8. BOLTED CONNECTIONS



OUR PRODUCTS

9. FASTENING SYSTEMS

EFP
#67



EHD
#69



EFPR
#72



10. RAILING SLEEVES



TURVA Railing sleeves
#74

11. MAGNETS



Magnets
#76

12. TYING WIRE & OTHER PRODUCTS



Tying
Wire
#79

1. THREADED LIFTING SYSTEMS

A Threaded Lifting System stands out as a cost-effective solution tailored for raising and transporting diverse precast concrete elements, including walls, beams, slabs, stairs, and more. This system excels in the realm of lifting, designed to facilitate the vertical movement of these elements efficiently and securely. Unlike its counterparts, this system focuses solely on lifting tasks rather than fixation, making it a specialized tool for enhancing the precision and ease of precast concrete handling processes.

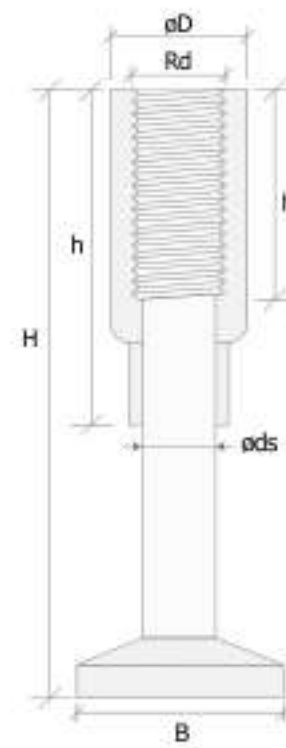
E LIFTING ANCHOR

E LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Part Name	Material	Material Type	Standard
Eez	Socket	S355J2 + N	Electro-Zincd	EN 10025
	Stud	S235J2	Uncoated	EN 10025
Es	Socket	1.4301	Stainless Steel	EN 10088
	Stud	S235J2	Uncoated	EN 10025
Ea	Socket	1.4401	Acid Resistant Steel	EN 10088
	Stud	S235J2	Uncoated	EN 10025

E LIFTING ANCHOR DIMENSIONS

Lifting Anchor	H [mm]	øD [mm]	Rd [mm]	øds [mm]	B [mm]	h [mm]	h1 [mm]
E 16	100	22	16	16	42	45	29
E 20	115	28	20	20	54	60	40
E 24	130	32	24	24	63	70	46
E 30	175	40	30	30	78	90	60
E 36	225	48	36	36	99	105	69



COMPONENTS RECOMMENDATION

✓ Balcony ✓ Stair ✓ Beam ✓ Foundation ✓ Column ✓ Wall ✓ Slab



SAFE WORKING LOAD FOR E LIFTING ANCHOR

Lifting Anchor	Design Load Capacity (Safe Working Load), kN			
	Wall Elements			Slab Elements
	$\beta = 0^\circ - 45^\circ$	$\gamma = 0^\circ - 10^\circ$	$\gamma = 10^\circ - 90^\circ$	$\beta = 0^\circ - 45^\circ$
E 16	12.0	12.0	6.0	12.0
E 20	20.0	20.0	10.0	20.0
E 24	25.0	25.0	12.5	25.0
E 30	40.0	40.0	20.0	40.0
E 36	63.0	63.0	31.5	63.0

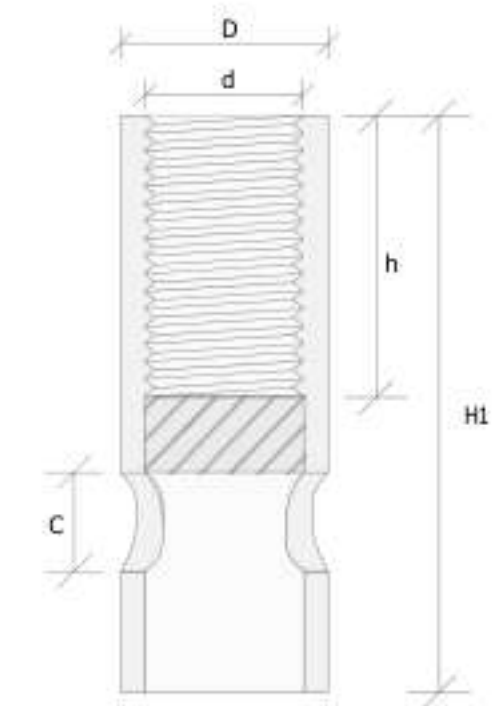
ECH LIFTING ANCHOR

ECH LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Material	Material Type	Standard
ECHez	S355J2 + N	Electro-Zincd	EN 10025
ECHs	1.4301	Stainless Steel	EN 10088
ECHa	1.4401	Acid Resistant Steel	EN 10088

ECH LIFTING ANCHOR DIMENSIONS

Lifting Anchor	D [mm]	d [mm]	H1 [mm]	h [mm]	c [mm]
ECH 12	15	Rd12	40	22	8
ECH 20	22	Rd20	54	33	13
ECH 16	21	Rd16	54	33	13
ECH 24	31	Rd24	78	43	18
ECH 30	40	Rd30	99	53	23
ECH 36	47	Rd36	125	68	27
ECH 42	54	Rd42	153	80	32
ECH 52	67	Rd52	195	97	40



SAFE WORKING LOAD FOR ECH LIFTING ANCHOR IN WALL

Lifting Anchor	Design Load Capacity (Safe Working Load), kN	
	$\beta = 0^\circ - 45^\circ$	$\gamma = 0^\circ - 90^\circ$
ECH 12	5.0	2.5
ECH 14	8.0	4.0
ECH 16	12.0	6.0
ECH 18	16.0	8.0
ECH 20	20.0	10.0
ECH 24	25.0	12.5
ECH 30	40.0	20.0
ECH 36	63.0	31.5
ECH 42	80.0	40.0
ECH 52	125.0	62.5

COMPONENTS RECOMMENDATION

✓ Stair ✓ Slab
✓ Column ✓ Wall



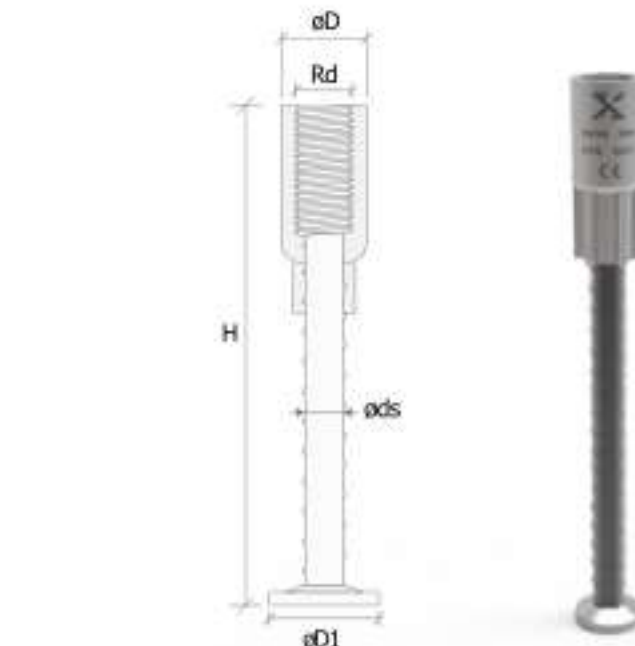
ETR LIFTING ANCHOR

ETR LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Part Name	Material	Material Type	Standard
ETRez	Socket	S355J2 + N	Electro-Zincd	EN 10025
	Ribbed Reinforcement	B500B	Uncoated	SFS 1300
ETRs	Socket	1.4301	Stainless Steel	EN 10088
	Ribbed Reinforcement	B500B	Uncoated	SFS 1300
ETRa	Socket	1.4401	Acid Resistant Steel	EN 10088
	Ribbed Reinforcement	B500B	Uncoated	SFS 1300

ETR LIFTING ANCHOR DIMENSIONS

Lifting Anchor	H [mm]	øD [mm]	Rd [mm]	øD1 [mm]	øds [mm]
ETR 12	150	15	12	24	8
ETR 14	155	18	14	30	10
ETR 16	175	21	16	36	12
ETR 18	225	24	18	42	14
ETR 20	250	27	20	42	14
ETR 24	275	31	24	48	16
ETR 30	350	40	30	60	20
ETR 36	450	47	36	75	25
ETR 42	500	54	42	84	28
ETR 52	700	67	52	96	32



COMPONENTS RECOMMENDATION

- ✓ Stair
- ✓ Beam
- ✓ Shaft
- ✓ Column
- ✓ Wall

SAFE WORKING LOAD FOR ETR LIFTING ANCHOR IN WALL

Design Load Capacity (Safe Working Load), kN

Lifting Anchor	Wall Thickness, B [mm]	$\beta = 0^\circ - 45^\circ$							
		$\gamma = 0^\circ - 90^\circ$							
		C12/15	C16/20	C20/25	C28/35	C12/15	C16/20	C20/25	C28/35
ETR 12	60	5.00	5.00	5.00	5.00	2.50	2.50	2.50	2.50
ETR 14	70	8.00	8.00	8.00	8.00	4.00	4.00	4.00	4.00
ETR 16	80	12.00	12.00	12.00	12.00	6.00	6.00	6.00	6.00
ETR 18	100	16.00	16.00	16.00	16.00	8.00	8.00	8.00	8.00
ETR 20	110	20.00	20.00	20.00	20.00	10.00	10.00	10.00	10.00
ETR 24	120	25.00	25.00	25.00	25.00	12.50	12.50	12.50	12.50
ETR 30	140	26.62	35.50	40.00	40.00	13.31	17.75	20.00	20.00
ETR 36	150	63.00	63.00	63.00	63.00	31.50	31.50	31.50	31.50
ETR 42	160	35.22	46.96	58.70	80.00	17.61	23.48	29.35	40.00
ETR 52	160	88.28	101.93	113.96	125.00	44.14	50.97	56.98	62.50

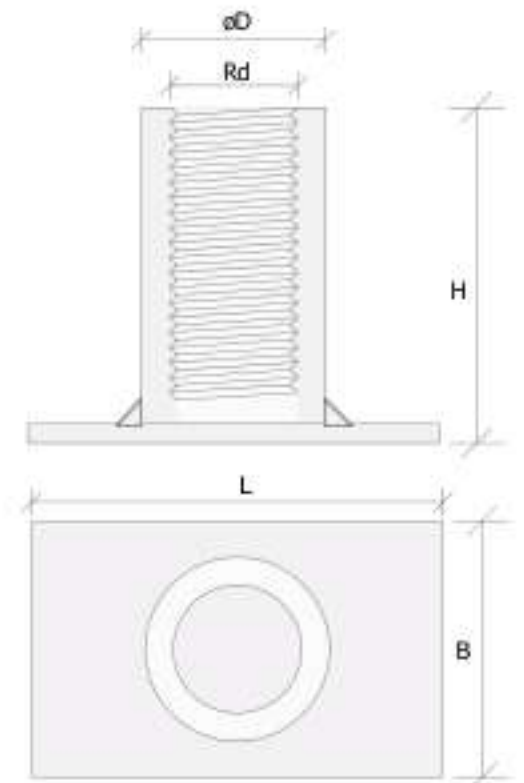
ETP LIFTING ANCHOR

ETP LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Material	Material Type	Standard
ETPez	S355J2 + N	Electro-Zincd	EN 10025
ETPs	1.4301	Stainless Steel	EN 10088
ETPa	1.4571	Stainless Steel	EN 10088

ETP LIFTING ANCHOR DIMENSIONS

Lifting Anchor	H [mm]	øD [mm]	Rd [mm]	L [mm]	B [mm]
ETP 12	30	15	12	35	25
ETP 14	33	18	14	35	35
ETP 16	35	21	16	50	35
ETP 20	47	27	20	60	60
ETP 24	54	31	24	80	60
ETP 30	72	40	30	100	80
ETP 36	84	47	36	130	100
ETP 42	98	54	42	130	130
ETP 52	117	67	52	150	130



SAFE WORKING LOAD FOR ETP LIFTING ANCHOR IN SLAB

Design Load Capacity (Safe Working Load), kN

Lifting Anchor	Slab Thickness, B [mm]	$\beta = 0^\circ - 45^\circ$			
		C12/15	C16/20	C20/25	C28/35
ETP 12	70	5.00	5.00	5.00	5.00
ETP 14	80	7.58	8.00	8.00	8.00
ETP 16	85	9.44	10.90	12.00	12.00
ETP 20	100	15.93	18.39	20.00	20.00
ETP 24	115	21.33	24.64	25.00	25.00
ETP 30	140	37.08	40.00	40.00	40.00
ETP 36	160	51.49	59.46	63.00	63.00
ETP 42	175	68.26	78.82	80.00	80.00
ETP 52	215	102.57	118.44	125.00	125.00



COMPONENTS RECOMMENDATION

- ✓ Slab
- ✓ Balcony
- ✓ Stair
- ✓ Pipe
- ✓ Foundation
- ✓ Shaft

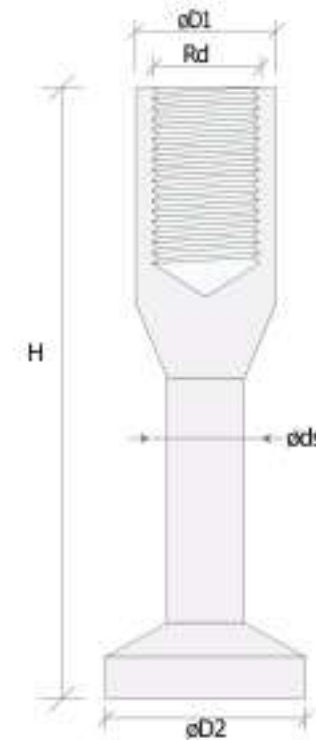
ECF LIFTING ANCHOR

ECF LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Material	Material Type	Standard
ECF _{ez}	S355J2 + N	Electro-Zincd	EN 10025
ECF _s	1.4301	Stainless Steel	EN 10088
ECF _a	1.4401	Acid Resistant Steel	EN 10088

ECF LIFTING ANCHOR DIMENSIONS

Lifting Anchor	H [mm]	øD1 [mm]	Rd [mm]	øD2 [mm]	øDs [mm]
ECF 12	60	17	12	17	10
ECF 14	70	19	14	19	10
ECF 16	80	21	16	21	12
ECF 20	100	27	20	27	15
ECF 24	115	31	24	31	18
ECF 30	150	40	30	40	20



COMPONENTS RECOMMENDATION

✓ Slab ✓ Balcony ✓ Pipe ✓ Foundation ✓ Joist



SAFE WORKING LOAD FOR ECF LIFTING ANCHOR IN SLAB

Lifting Anchor	Slab Thickness, B [mm]	Design Load Capacity (Safe Working Load), kN			
		$\beta = 0^\circ - 45^\circ$			
		C12/15	C16/20	C20/25	C28/35
ECF 12	80	5.98	6.91	7.72	9.14
ECF 14	90	7.39	8.67	9.69	11.47
ECF 16	100	9.15	10.56	11.81	13.97
ECF 20	120	12.94	14.94	16.71	19.77
ECF 24	135	16.00	18.48	20.66	24.45
ECF 30	170	24.29	28.05	31.36	37.71

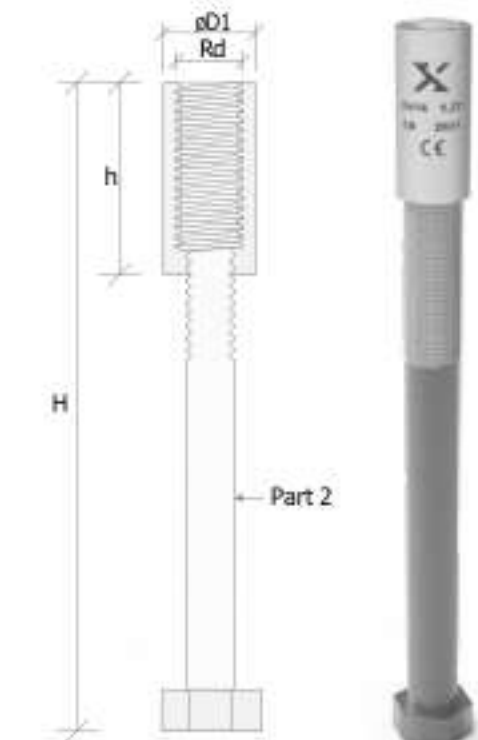
EB LIFTING ANCHOR

EB LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Material	Material Type	Standard
EB _{ez}	S355J2 + N	Electro-Zincd	EN 10025
EB _s	1.4571	Stainless Steel	EN 10088
EB (Bolt)	Grade 8.8	Medium Carbon Steel	ISO 898 - 1

EB LIFTING ANCHOR DIMENSIONS

Lifting Anchor	H [mm]	øD1 [mm]	Rd [mm]	h [mm]	Part (2) (bolt size) [mm]
EB 12	150	15	12	30	M12x120
EB 16	220	21	16	45	M16x180
EB 20	180	27	20	60	M20x130
EB 20	270	27	20	60	M20x220
EB 24	320	31	24	70	M24x260
EB 30	380	40	30	90	M30x300
EB 36	300	47	36	105	M36x300
EB 36	420	47	36	105	M36x320
EB 42	300	54	42	120	M42x200
EB 42	460	54	42	120	M42x360



COMPONENTS RECOMMENDATION

✓ Slab ✓ Balcony ✓ Pipe
✓ Stair ✓ Shaft ✓ Foundation

SAFE WORKING LOAD FOR EB LIFTING ANCHOR IN WALL

Lifting Anchor	Wall Thickness, B [mm]	Design Load Capacity (Safe Working Load), kN							
		$\beta = 0^\circ - 45^\circ$				$\gamma = 0^\circ - 90^\circ$			
		C12/15	C16/20	C20/25	C28/35	C12/15	C16/20	C20/25	C28/35
EB 12	60	5.00	5.00	5.00	5.00	2.50	2.50	2.50	2.50
EB 16	80	12.00	7.93	9.91	12.00	6.00	3.97	4.96	6.00
EB 20	110	20.00	13.40	16.75	20.00	10.00	6.70	8.38	10.00
EB 20	110	20.00	13.40	16.75	20.00	10.00	6.70	8.38	10.00
EB 24	120	25.00	17.91	22.39	25.00	12.50	8.96	11.19	12.50
EB 30	140	40.00	30.20	37.74	40.00	20.00	15.10	18.87	20.00
EB 36	150	59.47	44.87	50.26	59.47	29.74	22.44	25.13	29.74
EB 36	150	59.47	44.87	50.26	59.47	29.74	22.44	25.13	29.74
EB 42	160	60.69	45.88	51.29	60.69	30.34	22.94	25.65	30.34
EB 52	160	75.68	57.21	63.97	75.68	37.84	28.61	31.98	37.84

ETS LIFTING ANCHOR

ETS LIFTING ANCHOR MATERIALS AND STANDARDS

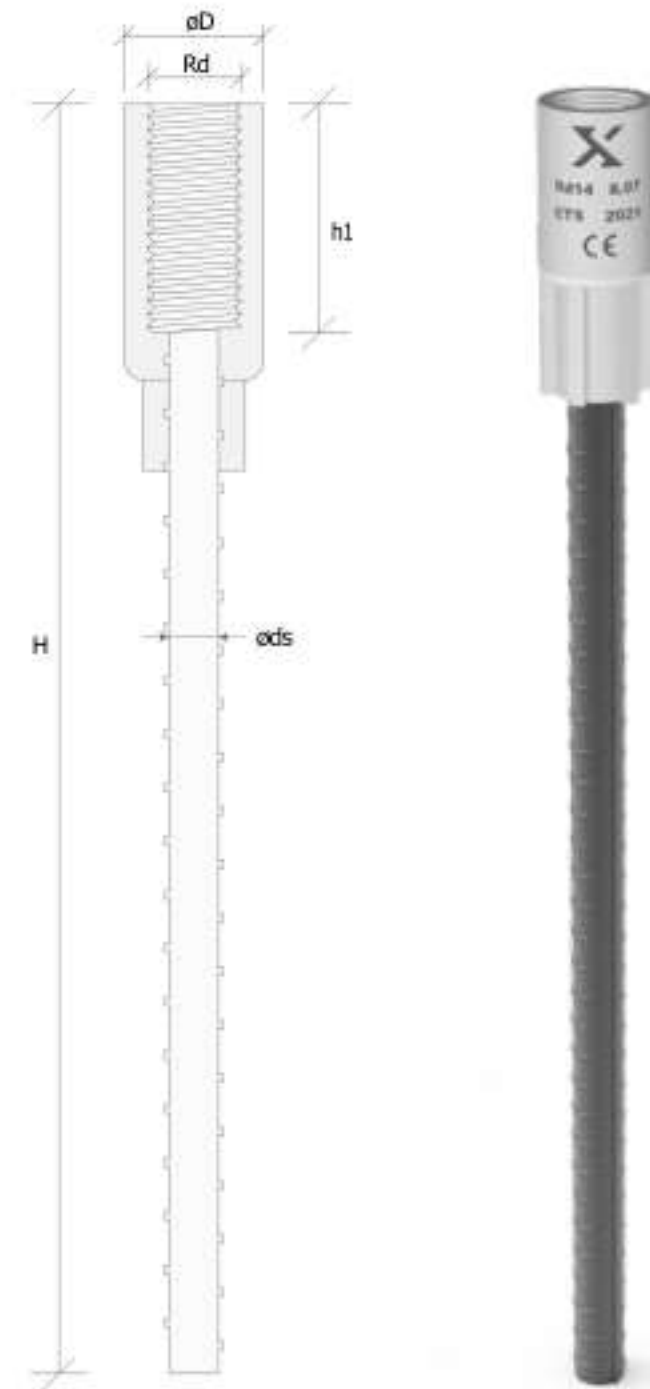
Lifting Anchor	Part Name	Material	Material Type	Standard
ETSez	Socket	S355J2 + N	Electro-Zincd	EN 10025
	Ribbed Reinforcement	B500B	Uncoated	SFS 1300
ETSs	Socket	1.4301	Stainless Steel	EN 10088
	Ribbed Reinforcement	B500B	Uncoated	SFS 1300
ETSa	Socket	1.4401	Acid Resistant Steel	EN 10088
	Ribbed Reinforcement	B500B	Uncoated	SFS 1300

ETS LIFTING ANCHOR DIMENSIONS

Lifting Anchor	H [mm]	øD [mm]	Rd [mm]	øh1 [mm]	øds [mm]
ETS 12	190	15	12	22	8
ETS 14	235	18	14	25	10
ETS 16	270	21	16	27	12
ETS 18	305	22.3	18	34	14
ETS 20	350	27	20	35	14
ETS 24	400	31	24	43	16
ETS 30	505	40	30	56	20
ETS 36	680	47	36	68	25
ETS 42	790	54	42	80	28
ETS 52	900	67	52	100	32

SAFE WORKING LOAD FOR ETS LIFTING ANCHOR IN WALL

Lifting Anchor	Design Load Capacity (Safe Working Load), kN	
	$\beta = 0^\circ - 45^\circ$	$\gamma = 0^\circ - 90^\circ$
ETS 12	5.0	2.5
ETS 14	8.0	4.0
ETS 16	12.0	6.0
ETS 18	16.0	8.0
ETS 20	20.0	10.0
ETS 24	25.0	12.5
ETS 30	40.0	20.0
ETS 36	63.0	31.5
ETS 42	80.0	40.0
ETS 52	125.0	62.5



COMPONENTS RECOMMENDATION

- ✓ Column
- ✓ Slab
- ✓ Shaft
- ✓ Beam
- ✓ Wall

ETBL LIFTING ANCHOR

ETBL LIFTING ANCHOR MATERIALS AND STANDARDS

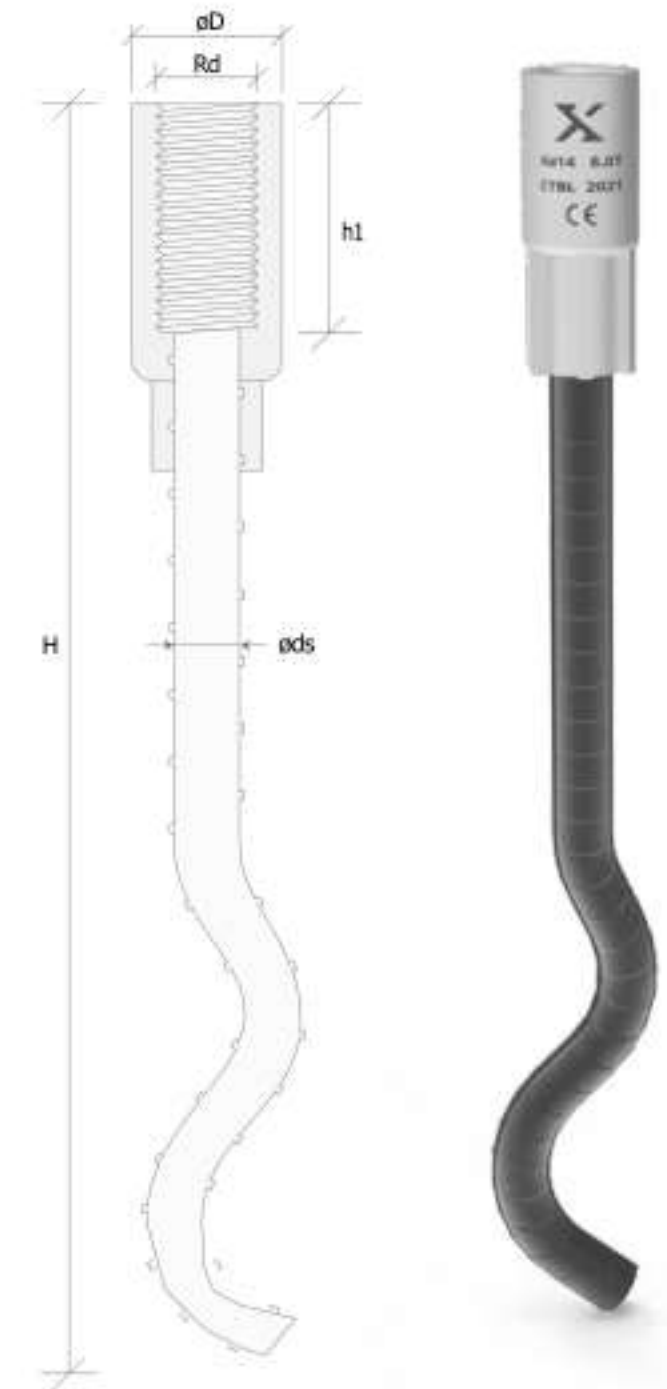
Lifting Anchor	Part Name	Material	Material Type	Standard
ETBLez	Socket	S355J2 + N	Electro-Zincd	EN 10025
	Ribbed Reinforcement	B500B	Uncoated	SFS 1300
ETBLs	Socket	1.4301	Stainless Steel	EN 10088
	Ribbed Reinforcement	B500B	Uncoated	SFS 1300
ETBLa	Socket	1.4401	Acid Resistant Steel	EN 10088
	Ribbed Reinforcement	B500B	Uncoated	SFS 1300

ETBL LIFTING ANCHOR DIMENSIONS

Lifting Anchor	H [mm]	øD [mm]	Rd [mm]	øh1 [mm]	øds [mm]
ETBL 12	137	15	12	22	8
ETBL 14	170	18	14	25	10
ETBL 16	216	21	16	27	12
ETBL 20	257	27	20	35	14
ETBL 24	350	31	24	43	16
ETBL 30	450	40	30	56	20
ETBL 36	570	47	36	68	25
ETBL 42	620	54	42	80	28
ETBL 52	880	67	52	100	32

SAFE WORKING LOAD FOR ETBL LIFTING ANCHOR IN WALL

Lifting Anchor	Design Load Capacity (Safe Working Load), kN	
	$\beta = 0^\circ - 45^\circ$	$\gamma = 0^\circ - 90^\circ$
ETBL 12	5.0	2.5
ETBL 14	8.0	4.0
ETBL 16	12.0	6.0
ETBL 20	20.0	10.0
ETBL 24	25.0	12.5
ETBL 30	40.0	20.0
ETBL 36	63.0	31.5
ETBL 42	80.0	40.0
ETBL 52	125.0	62.5



COMPONENTS RECOMMENDATION

- ✓ Wall
- ✓ TT Slab
- ✓ Joist
- ✓ Balcony
- ✓ Column

ETBS LIFTING ANCHOR

ETBS LIFTING ANCHOR MATERIALS AND STANDARDS

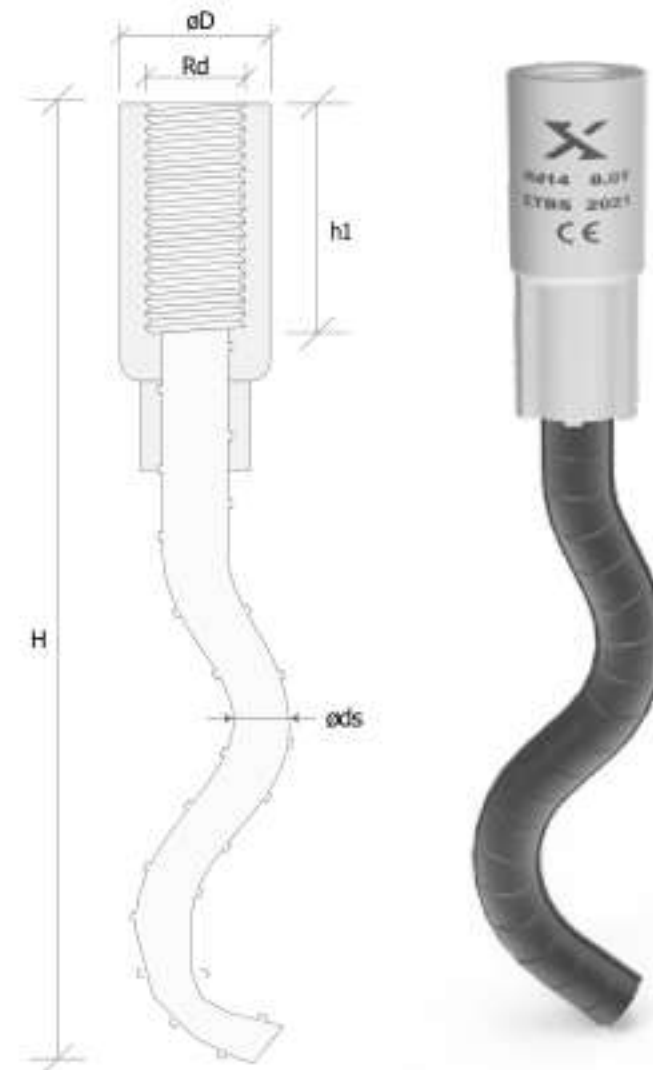
Lifting Anchor	Part Name	Material	Material Type	Standard
ETBS _{ez}	Socket	S355J2 + N	Electro-Zincd	EN 10025
	Ribbed Reinforcement	B500B	Uncoated	SFS 1300
ETBS _s	Socket	1.4301	Stainless Steel	EN 10088
	Ribbed Reinforcement	B500B	Uncoated	SFS 1300
ETBS _a	Socket	1.4401	Acid Resistant Steel	EN 10088
	Ribbed Reinforcement	B500B	Uncoated	SFS 1300

ETBS LIFTING ANCHOR DIMENSIONS

Lifting Anchor	H [mm]	øD [mm]	Rd [mm]	øh1 [mm]	øds [mm]
ETBS 12	108	15	12	22	8
ETBS 14	130	18	14	25	10
ETBS 16	167	21	16	27	12
ETBS 20	187	27	20	35	14
ETBS 24	240	31	24	43	16
ETBS 30	300	40	30	56	20
ETBS 36	380	47	36	68	25
ETBS 42	450	54	42	80	28

SAFE WORKING LOAD FOR ETBS LIFTING ANCHOR IN WALL

Lifting Anchor	Design Load Capacity (Safe Working Load), kN	
	$\beta = 0^\circ - 45^\circ$	$\gamma = 0^\circ - 90^\circ$
ETBS 12	5.0	2.5
ETBS 14	8.0	4.0
ETBS 16	12.0	6.0
ETBS 20	20.0	10.0
ETBS 24	25.0	12.5
ETBS 30	40.0	20.0
ETBS 36	63.0	31.5
ETBS 42	80.0	40.0



COMPONENTS RECOMMENDATION

- ✓ Stair ✓ Beam ✓ Slab
- ✓ Foundation ✓ Column

ETLL LIFTING LOOP

ETLL LIFTING LOOP MATERIALS AND STANDARDS

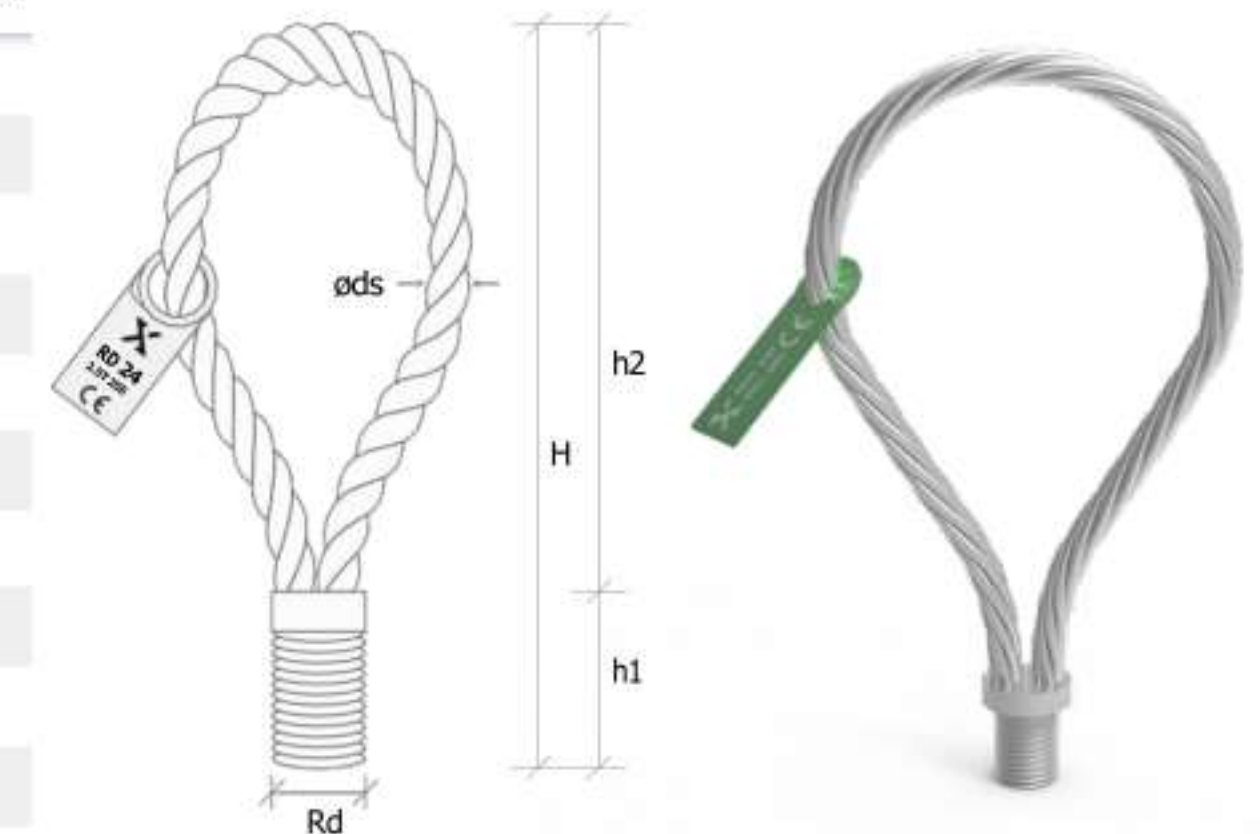
Lifting Loop	Material Type	Standard
ETLL (Wire)	High Strength Steel Wire	EN 12385 – 4
ETLL (Ferrule)	Metal	EN 10088

ETLL LIFTING LOOP DIMENSIONS

Lifting Loop	H [mm]	Rd [mm]	øds [mm]	h1 [mm]	h2 [mm]	Wire type
ETLL 12	155	12	6	22	133	6x19 IWRC
ETLL 14	155	14	7	25	130	6x19 IWRC
ETLL 16	155	16	8	27	128	6x19 IWRC
ETLL 18	190	18	9	34	156	6x19 IWRC
ETLL 20	215	20	10	35	180	6x19 IWRC
ETLL 24	255	24	12	43	212	6x19 IWRC
ETLL 30	300	30	16	56	244	6x36 IWRC
ETLL 36	340	36	18	67	273	6x36 IWRC
ETLL 42	425	42	20	80	345	6x36 IWRC
ETLL 52	510	52	26	97	413	6x36 IWRC

SAFE WORKING LOAD FOR ETLL LIFTING LOOP IN WALL

Lifting Loop	Design Load Capacity (Safe Working Load), kN
ETLL 12	5.0
ETLL 14	8.0
ETLL 16	12.0
ETLL 18	16.0
ETLL 20	20.0
ETLL 24	25.0
ETLL 30	40.0
ETLL 36	63.0
ETLL 42	80.0
ETLL 52	125.0



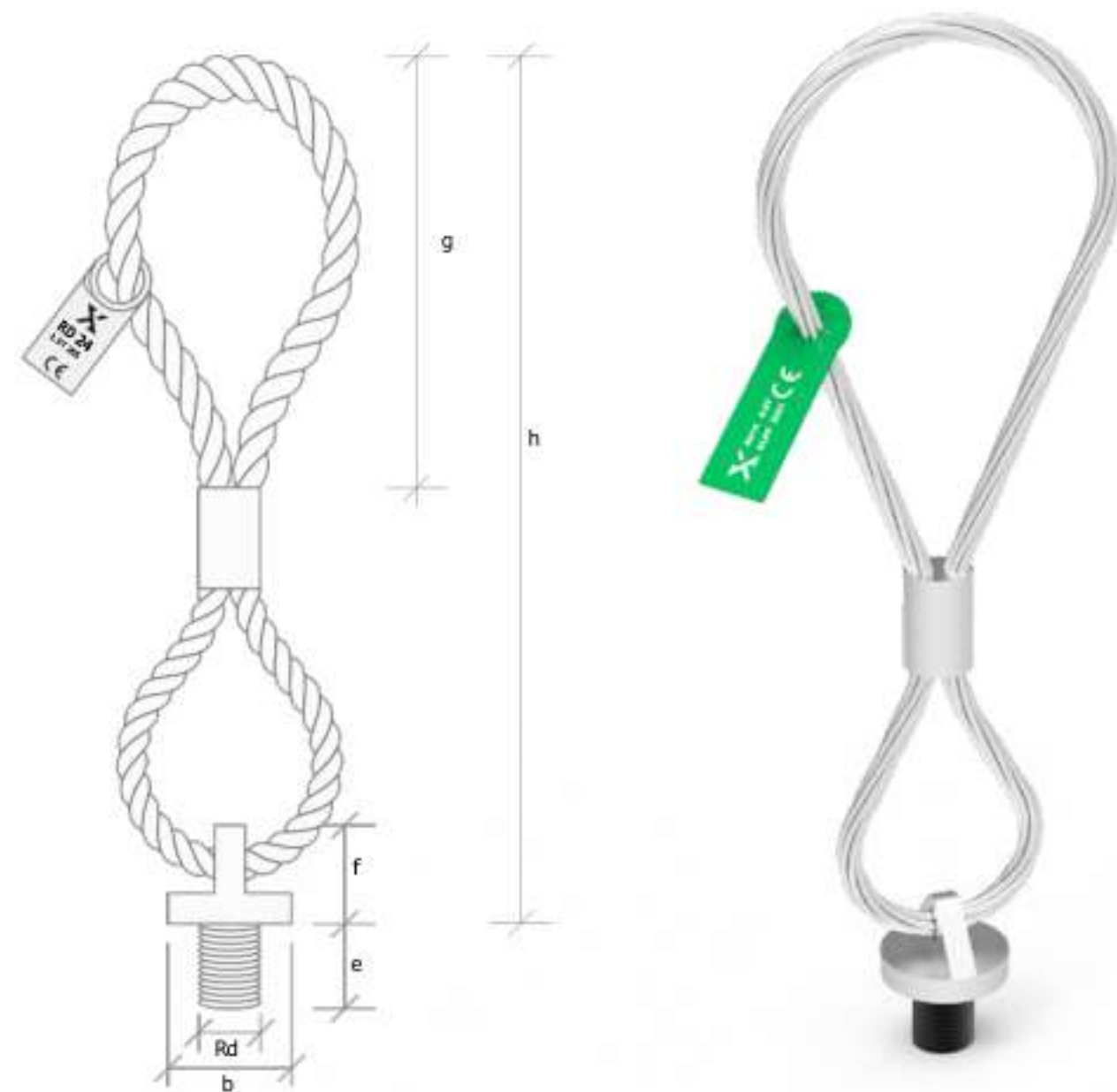
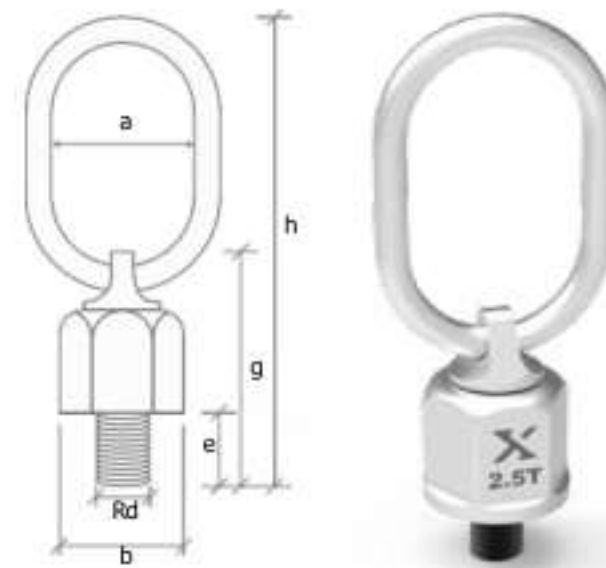
ACCESSORIES FOR THREADED LIFTING SYSTEMS

ELWP LIFTING KEY DIMENSIONS AND RESISTANCES

Rd/M	a [mm]	b [mm]	e [mm]	g [mm]	h [mm]	F _{all} [kN]
Rd 16	60	56	21	60	150	12
Rd 20	60	70	26	74	160	20
Rd 24	75	74	31	78	185	25
Rd 30	90	90	39	90	220	40
Rd 36	100	101	47	107	255	63

ELPP LIFTING LOOP DIMENSIONS AND RESISTANCES

Rd/M	b [mm]	e [mm]	g [mm]	h [mm]	f [mm]	F _{all} [kN]
Rd 16	56	21	180	345	34	12
Rd 20	68	26	220	410	44	20
Rd 24	74	31	220	435	55	25
Rd 30	90	39	240	490	65	40
Rd 36	103	55	300	650	90	63



2. SPHERICAL HEAD LIFTING SYSTEMS

Spherical Head Lifting Systems present a smart and practical solution for various precast element lifting needs. Crafted from round steel bars featuring forged ends, paired with rubber recess formers and lifting clutches, this system's straightforward design offers an ideal synergy for a wide spectrum of lifting applications. The thoughtful amalgamation of components ensures efficiency and convenience, making it an excellent choice for achieving secure and efficient precast element elevation.

ESB LIFTING ANCHOR

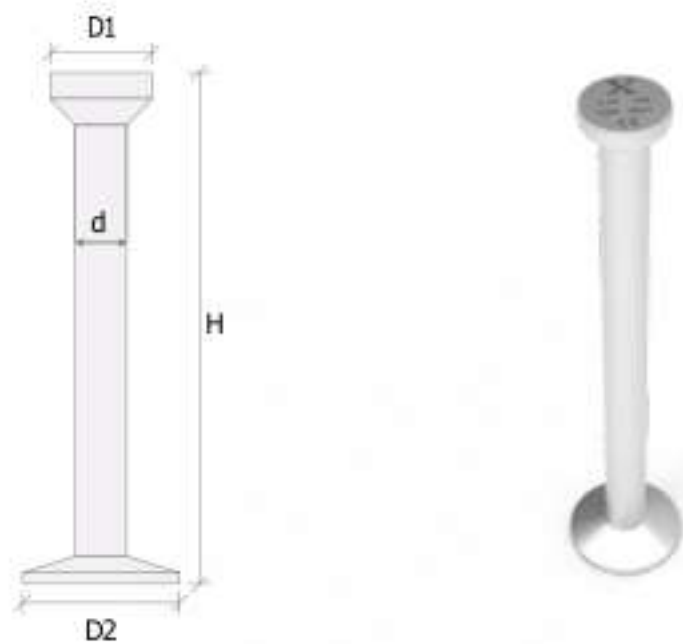
ESB LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Material	Material Type	Standard
ESB	S355J2	Uncoated	EN 10025
ESBez	S355J2	Electro-Zincd	EN 10025
ESBhdg	S355J2	Hot-Dip Galvanized	EN 10025
ESBs	1.4301	Stainless Steel	EN 10088
ESBa	1.4401	Acid Resistant Steel	EN 10088

* Spherical head lifting anchors are also available in heat treated versions.

ESB LIFTING ANCHOR DIMENSIONS

Lifting Group	H [mm]	D1 [mm]	D2 [mm]	d [mm]
1.3t	40, 50, 65, 85, 120, 240	18	25	10
2.5t	55, 65, 85, 120, 170, 280	25	35	14
4.0t	75, 100, 120, 170, 210, 340	36	45	18
5.0t	85, 95, 120, 180, 240, 340, 480	36	50	20
7.5t	100, 120, 140, 165, 200, 300, 540	46	60	24
10.0t	115, 135, 150, 170, 250, 340, 680	46	70	28
15.0t	140, 165, 200, 300, 400, 840	69	85	34
20.0t	200, 240, 250, 340, 500, 1000	69	98	38
32.0t	320, 700, 1200	88	135	50



COMPONENTS RECOMMENDATION

✓ Pipe	✓ Column	✓ Wall	✓ Manhole	✓ Foundation	✓ Beam
✓ Slab	✓ Balcony				

ESB LIFTING ANCHOR

SAFE WORKING LOAD FOR ESB LIFTING ANCHOR IN WALL

Load Group	Lifting Anchor	Wall Thickness, B [mm]	Design Load Capacity (Safe Working Loads)							
			$\beta = 0^\circ - 45^\circ$				$\gamma = 0^\circ - 90^\circ$			
			C12/15	C16/20	C20/25	C28/35	C12/15	C16/20	C20/25	C28/35
2.5t	2.5 – 120	80	18.33	21.16	23.66	25.00	9.16	10.58	11.83	12.50
		100	19.12	22.08	24.68	25.00	9.56	11.04	12.34	12.50
		120	19.91	22.99	25.00	25.00	9.95	11.49	12.50	12.50
		80	19.43	22.44	25.00	25.00	9.72	11.22	12.50	12.50
	2.5 – 170	100	20.76	25.00	25.00	25.00	10.38	12.50	12.50	12.50
		120	21.41	25.00	25.00	25.00	10.71	12.50	12.50	12.50
		80	19.10	22.44	25.00	25.00	9.55	11.22	12.50	12.50
		100	19.51	25.00	25.00	25.00	9.75	12.50	12.50	12.50
	2.5 – 280	120	19.91	25.00	25.00	25.00	9.96	12.50	12.50	12.50
		120	31.37	36.22	40.00	40.00	15.69	18.11	20.00	20.00
	4.0 – 170	140	32.31	37.31	40.00	40.00	16.16	18.66	20.00	20.00
		160	33.26	38.40	40.00	40.00	16.63	19.20	20.00	20.00
4.0t	4.0 – 210	120	34.66	40.00	40.00	40.00	17.33	20.00	20.00	20.00
		140	35.55	40.00	40.00	40.00	17.77	20.00	20.00	20.00
		160	36.43	40.00	40.00	40.00	18.21	20.00	20.00	20.00
		120	31.48	36.36	40.00	40.00	15.74	18.18	20.00	20.00
	4.0 – 340	140	32.71	40.00	40.00	40.00	16.35	20.00	20.00	20.00
		160	33.27	40.00	40.00	40.00	16.63	20.00	20.00	20.00
	5.0 – 240	160	45.46	50.00	50.00	50.00	22.73	25.00	25.00	25.00
		180	46.45	50.00	50.00	50.00	23.23	25.00	25.00	25.00
		200	47.44	50.00	50.00	50.00	23.72	25.00	25.00	25.00
		120	41.78	49.31	50.00	50.00	20.89	24.65	25.00	25.00
5.0t	5.0 – 340	140	42.49	50.00	50.00	50.00	21.25	25.00	25.00	25.00
		160	43.20	50.00	50.00	50.00	21.60	25.00	25.00	25.00
		100	35.58	41.09	45.94	50.00	17.79	20.54	22.97	25.00
		120	40.57	49.31	50.00	50.00	20.28	24.65	25.00	25.00
	5.0 – 480	140	41.08	50.00	50.00	50.00	20.54	25.00	25.00	25.00

ESB LIFTING ANCHOR

SAFE WORKING LOAD FOR ESB LIFTING ANCHOR IN WALL

Load Group	Lifting Anchor	Wall Thickness, B [mm]	Design Load Capacity (Safe Working Loads)							
			$\beta = 0^\circ - 45^\circ$				$\gamma = 0^\circ - 90^\circ$			
			C12/15	C16/20	C20/25	C28/35	C12/15	C16/20	C20/25	C28/35
7.5t	7.5 – 200	160	39.97	46.16	51.60	61.06	19.99	23.08	25.80	30.53
		180	40.98	47.32	52.91	62.60	20.49	23.66	26.46	31.30
		200	42.00	48.49	54.22	64.15	21.00	24.25	27.11	32.08
		160	63.27	75.00	75.00	75.00	31.63	37.50	37.50	37.50
	7.5 – 300	180	64.43	75.00	75.00	75.00	32.21	37.50	37.50	37.50
		200	65.59	75.00	75.00	75.00	32.79	37.50	37.50	37.50
		140	58.56	69.00	75.00	75.00	29.28	34.50	37.50	37.50
	7.5 – 540	160	59.21	75.00	75.00	75.00	29.61	37.50	37.50	37.50
		180	59.87	75.00	75.00	75.00	29.93	37.50	37.50	37.50
		200	34.67	40.03	44.75	52.95	17.33	20.01	22.38	26.48
	10.0 – 170	240	36.54	42.19	47.17	55.81	18.27	21.10	23.59	27.91
		280	38.41	44.36	49.59	58.68	19.21	22.18	24.80	29.34
10.0t	10.0 – 250	200	55.17	63.71	71.23	84.28	27.59	31.85	35.61	42.14
		240	57.43	66.31	74.14	87.72	28.71	33.16	37.07	43.86
		280	59.68	68.91	77.04	91.16	29.84	34.46	38.52	45.58
	10.0 – 340	200	81.65	94.28	100.00	100.00	40.83	47.14	50.00	50.00
		240	84.27	97.30	100.00	100.00	42.13	48.65	50.00	50.00
		280	86.88	100.00	100.00	100.00	43.44	50.00	50.00	50.00
	10.0 – 680	160	81.40	94.00	100.00	100.00	40.70	47.00	50.00	50.00
		180	83.36	100.00	100.00	100.00	41.68	50.00	50.00	50.00
		200	84.10	100.00	100.00	100.00	42.05	50.00	50.00	50.00

ESB LIFTING ANCHOR

SAFE WORKING LOAD FOR ESB LIFTING ANCHOR IN WALL

Load Group	Lifting Anchor	Wall Thickness, B [mm]	Design Load Capacity (Safe Working Loads)							
			$\beta = 0^\circ - 45^\circ$				$\gamma = 0^\circ - 90^\circ$			
			C12/15	C16/20	C20/25	C28/35	C12/15	C16/20	C20/25	C28/35
15.0t	15.0 – 300	300	75.16	86.78	97.03	114.80	37.58	43.39	48.51	57.40
		400	81.29	93.86	104.94	124.17	40.64	46.93	52.47	62.09
		500	87.42	100.95	112.86	133.54	43.71	50.47	56.43	66.77
	15.0 – 400	300	107.65	124.31	138.98	150.00	53.83	62.15	69.49	75.00
		400	114.71	132.46	148.09	150.00	57.36	66.23	74.05	75.00
		500	121.77	140.61	150.00	150.00	50.88	70.30	75.00	75.00
	15.0 – 840	200	96.98	127.22	142.23	150.00	48.49	63.61	71.12	75.00
		220	97.68	130.24	150.00	150.00	48.84	65.12	75.00	75.00
		240	98.39	131.19	150.00	150.00	49.19	65.59	75.00	75.00
	20.0 – 340	400	93.72	108.22	121.00	143.17	46.86	54.11	60.50	71.58
		500	100.23	115.73	129.39	153.10	50.11	57.87	64.70	76.55
		600	106.73	123.24	137.79	163.04	53.37	61.62	68.90	81.52
20.0t	20.0 – 500	400	151.03	174.39	194.98	200.00	75.51	87.20	97.49	100.00
		500	158.89	183.47	200.00	200.00	79.44	91.73	100.00	100.00
		600	166.75	192.55	200.00	200.00	83.38	96.27	100.00	100.00
	20.0 – 1000	240	162.38	197.46	200.00	200.00	81.19	98.73	100.00	100.00
		260	163.37	200.00	200.00	200.00	81.69	100.00	100.00	100.00
		280	164.37	200.00	200.00	200.00	82.19	100.00	100.00	100.00
	32.0 – 320	450	92.32	106.61	119.19	141.03	46.16	53.30	59.59	70.51
		550	98.70	113.96	127.042	150.76	49.35	56.98	63.71	75.38
		650	105.07	121.32	135.64	160.49	52.53	60.66	67.82	80.25
	32.0 – 700	450	241.38	278.72	311.64	320.00	120.69	139.36	155.81	160.00
		550	250.70	289.49	320.00	320.00	125.35	144.74	160.00	160.00
		650	260.03	300.25	320.00	320.00	130.01	150.13	160.00	160.00
32.0t	32.0 – 1200	300	305.07	320.00	320.00	320.00	152.53	160.00	160.00	160.00
		350	320.00	320.00	320.00	320.00	160.00	160.00	160.00	160.00
		400	320.00	320.00	320.00	320.00	160.00	160.00	160.00	160.00

ESBB LIFTING ANCHOR

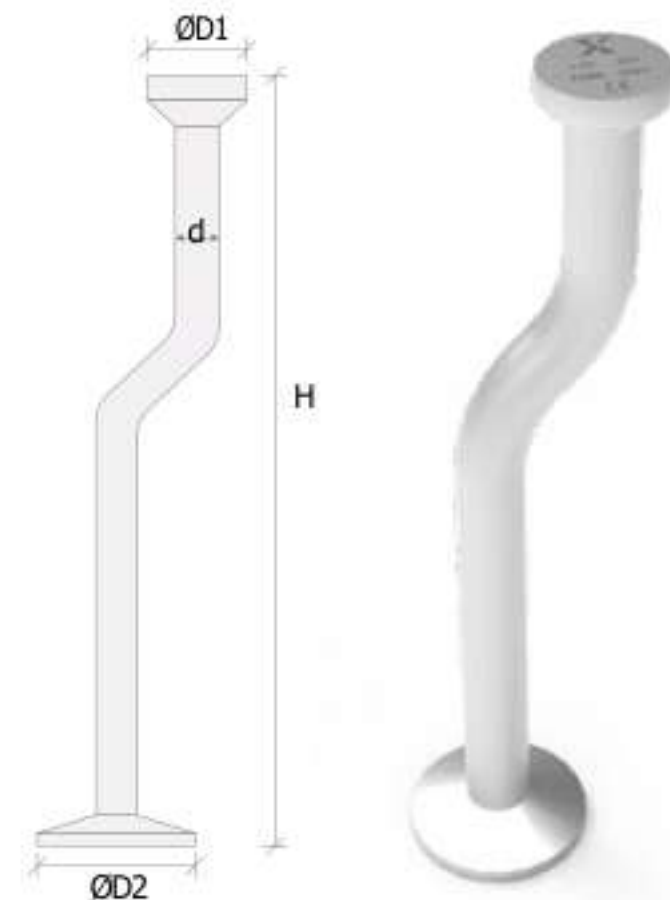
ESBB LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Material	Material Type	Standard
ESBB	S355J2	Uncoated	EN 10025
ESBBez	S355J2	Electro-Zincd	EN 10025
ESBBhdg	S355J2	Hot-Dip Galvanized	EN 10025
ESBBs	1.4301	Stainless Steel	EN 10088
ESBBa	1.4401	Acid Resistant Steel	EN 10088

* Spherical head lifting anchors are also available in heat treated versions.

ESBB LIFTING ANCHOR DIMENSIONS

Lifting Group	H [mm]	ØD1 [mm]	ØD2 [mm]	d [mm]
2.5t	265	25	35	14
	406	36	50	20
5.0t	466 – 1	36	50	20
	466 – 2	36	50	20
7.5t	664	46	60	24
10.0t	667	46	70	28



COMPONENTS RECOMMENDATION

✓ Sandwich Panels

SAFE WORKING LOAD FOR ESBB LIFTING ANCHOR IN WALL

Load Group	Lifting Anchor	Wall Thickness, B [mm]	Design Load Capacity (Safe Working Loads)							
			$\beta = 0^\circ - 45^\circ$				$\gamma = 0^\circ - 90^\circ$			
			C12/15	C16/20	C20/25	C28/35	C12/15	C16/20	C20/25	C28/35
2.5t	2.5 – 265	80 – 120	17.84	21.63	24.19	25.00	8.92	10.82	12.09	12.50
5.0t	5.0 – 406	120 – 160	41.43	49.50	50.00	50.00	20.71	24.75	25.00	25.00
5.0t	5.0 – 466-1	120 – 160	40.98	49.50	50.00	50.00	20.49	24.75	25.00	25.00
5.0t	5.0 – 466-2	160 – 200	42.03	50.00	50.00	50.00	21.02	24.75	25.00	25.00
7.5t	7.5 – 664	160 – 200	61.65	75.00	75.00	75.00	30.83	37.50	37.50	37.50
10.0t	10.0 – 667	200 – 280	81.69	100.00	100.00	100.00	40.85	50.00	50.00	50.00

ESE LIFTING ANCHOR

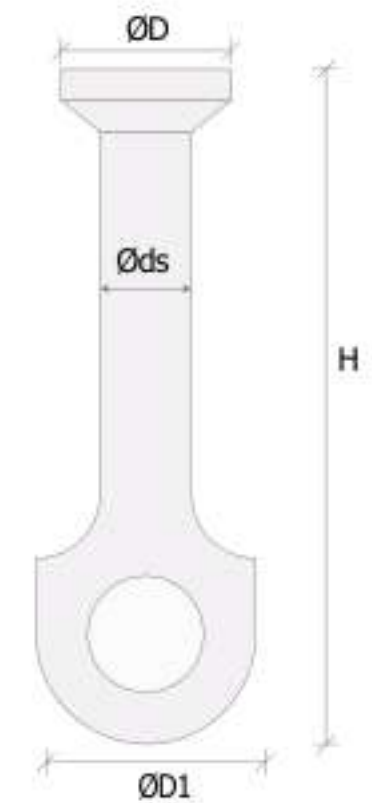
ESE LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Material	Material Type	Standard
ESE	S355J2	Uncoated	EN 10025
ESEez	S355J2	Electro-Zincd	EN 10025
ESEhdg	S355J2	Hot-Dip Galvanized	EN 10025
ESEs	1.4301	Stainless Steel	EN 10088
ESEa	1.4401	Acid Resistant Steel	EN 10088

* Spherical head lifting anchors are also available in heat treated versions.

ESE LIFTING ANCHOR DIMENSIONS

Lifting Group	H [mm]	ØD [mm]	ØD1 [mm]	Øds [mm]
1.3t	65	18	22	10
2.5t	90	25	32	14
5.0t	120	36	43	20
10.0t	180	46	57	28
20.0t	250	69	83	38
32.0t	300	88	100	50



COMPONENTS RECOMMENDATION

✓ Wall

✓ Column

✓ Joist

✓ Foundation

SAFE WORKING LOAD FOR ESE LIFTING ANCHOR IN WALL

Lifting Anchor	Design Load Capacity (Safe Working Loads) kN ($\beta = 0^\circ - 30^\circ$)
ESE – 1.3	13.0
ESE – 2.5	25.0
ESE – 5.0	50.0
ESE – 10.0	100.0
ESE – 20.0	200.0
ESE – 32.0	320.0



SPHERICAL HEAD ANCHOR ACCESSORIES

ELSC SPHERICAL HEAD ANCHOR LIFTING CLUTCH

spherical head lifting clutch is a time-saving and cost-effective lifting key that is used for transportation of all types of precast concrete elements with anchor loads ranging from 1.3 to 32tons. Both lifting clutch, lifting anchor and the recess former have to belong to the same group when using these items during casting or transportation stage.

ELSC SPHERICAL HEAD ANCHOR LIFTING CLUTCH LOAD GROUPS

ELSC	Load Group (t)
ELSC 13	1.3
ELSC 25	2.5
ELSC 40/50	5.0
ELSC 75/100	10.0
ELSC 150/200	20.0
ELSC 320	32.0
ELSC 450	45.0

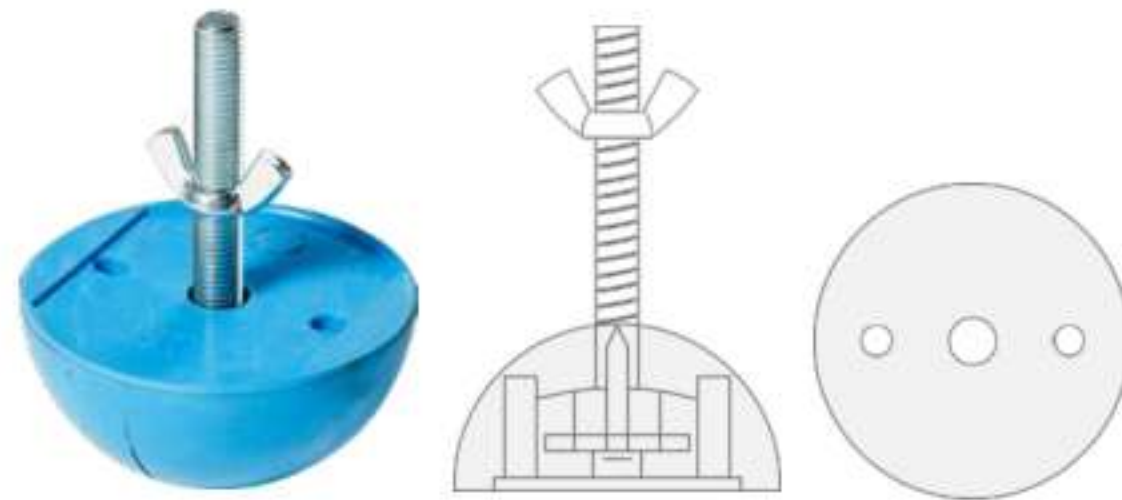


RECESS FORMERS

Recess former is a reusable lifting accessory that is used to accurately create a recess around the lifting anchor area. Once the element is casted, the corresponding lifting clutch precisely fits in the recess area, allowing the precast element to be transported safely and quickly. recess formers are available in rubber, magnetic and steel versions.

ERF RUBBER RECESS FORMERS LOAD GROUPS

Description	Load Group (t)
ERF 1.3	1.3
ERF 2.5	2.5
ERF 5.0	5.0
ERF 10.0	10.0
ERF 20.0	20.0
ERF 32.0	32.0



RECESS FORMERS

DIMENSIONS AND LOADS OF ESF

Description	Load Group (t)	Dimension		
		Ø _D (mm)	M (mm)	L (mm)
ESF 1.3	1.3	60	8	28
ESF 2.5	2.5	74	12	33
ESF 4.0	4.0	94	12	42
ESF 5.0	5.0	94	12	42
ESF 7.5	7.5	118	12	42
ESF 10.0	10.0	118	12	42



DIMENSIONS AND LOADS OF EMF

Description	SWL (kg)	Load Group (t)	Dimension		
			Ø _D (mm)	M (mm)	L (mm)
EMF	170	1.3	58	8	27
EMF	265	2.5	74	12	33
EMF	470	4.0/5.0	94	12	42
EMF	600	7.5/10	118	12	53



3. HOLE LOCK LIFTING SYSTEMS

The Hole Lock Lifting System stands out as a premium, cost-effective choice, providing exceptional versatility in lifting precast elements with utmost ease. Comprising a flat steel anchor, a recess former, and a lifting clutch, the Hole Lock system offers a straightforward yet highly efficient combination. This combination proves to be one of the most straightforward and expedient solutions for the transportation of precast elements in all lifting applications. The Hole Lock Lifting System allows for lifting in any direction, cementing its reputation as a high-quality and practical choice for diverse lifting needs.



EEA LIFTING ANCHOR

EEA LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Material	Material Type	Standard
EEAez	S355J2 + N	Electro-Zincd	EN 10025

*This anchor is also available in Plain Steel, HDG and Stainless Steel versions.

EEA LIFTING ANCHOR DIMENSIONS

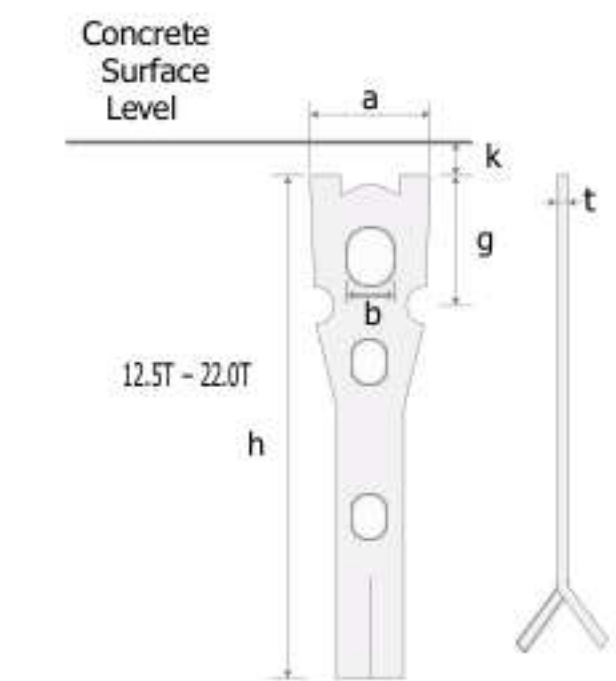
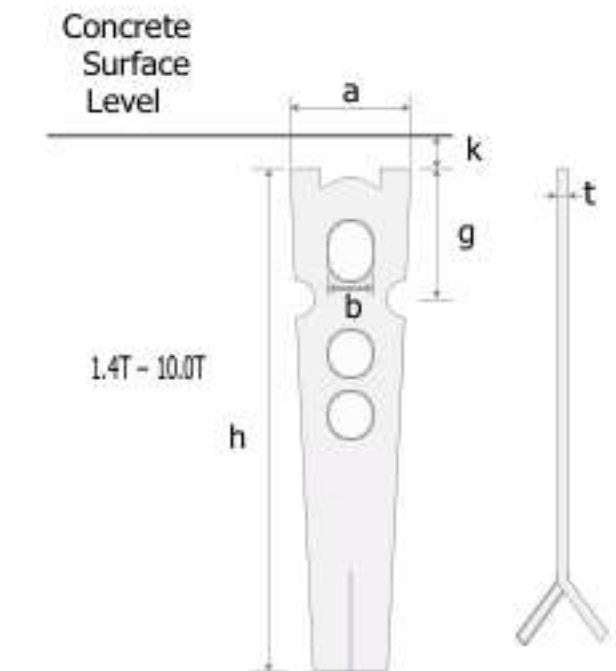
Lifting Anchor	h [mm]	a [mm]	t [mm]	b [mm]	g [mm]	k [mm]
EEA 1.4	200	55	6	14	45	10
EEA 2.5	230	55	10	14	45	10
EEA 4.0	270	70	12	18	70	10
EEA 5.0	290	70	15	18	70	10
EEA 7.5	320	95	15	26	90	15
EEA 10.0	390	95	20	26	90	15
EEA 12.5	500	148	20	35	90	15
EEA 17.0	500	148	25	35	90	15
EEA 22.0	500	148	30	35	90	15

SAFE WORKING LOAD FOR EEA LIFTING ANCHOR

Lifting Anchor	Design Load Capacity (SWL), kN		
	$\beta = 0^\circ - 45^\circ$	$\gamma = 0^\circ - 10^\circ$	$\gamma = 10^\circ - 00^\circ$
EEA 1.4	14.0	14.0	7.0
EEA 2.5	25.0	25.0	12.5
EEA 4.0	40.0	40.0	20.0
EEA 5.0	50.0	50.0	25.0
EEA 7.5	75.0	75.0	37.5
EEA 10.0	100.0	100.0	50.0
EEA 12.5	125.0	125.0	62.5
EEA 17.0	170.0	170.0	85.0
EEA 22.0	220.0	220.0	110.0

COMPONENTS RECOMMENDATION

✓ Column ✓ Trusses ✓ TT Slabs ✓ Tilting Applications ✓ Thin Wall Elements



ETH LIFTING ANCHOR

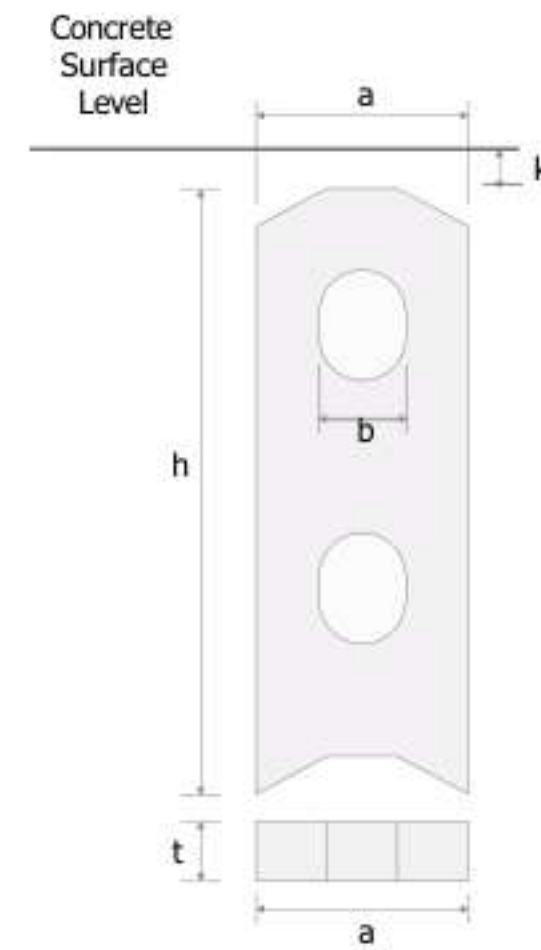
ETH LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Material	Material Type	Standard
ETHez	S355J2 + N	Electro-Zincd	EN 10025

*This anchor is also available in Plain Steel, HDG and Stainless Steel versions.

ETH LIFTING ANCHOR DIMENSIONS

Lifting Anchor	h [mm]	a [mm]	t [mm]	b [mm]	k [mm]
ETH 1.4	90	30	6	14	10
ETH 2.5	90	30	10	14	10
ETH 3.0	120	40	10	18	10
ETH 4.0	120	40	12	18	10
ETH 5.0	120	40	15	18	15
ETH 7.5	160	60	15	26	15
ETH 10.0	165	60	20	26	15
ETH 14.0	240	80	20	35	15
ETH 22.0	300	90	25	35	15
ETH 26.0	300	120	30	35	15



SAFE WORKING LOAD FOR ETH LIFTING ANCHOR

Lifting Anchor	Design Load Capacity (SWL), kN	
	$\beta = 0^\circ - 45^\circ$	$\gamma = 0^\circ - 10^\circ$
ETH 1.4	14.0	14.0
ETH 2.5	25.0	25.0
ETH 3.0	30.0	30.0
ETH 4.0	40.0	40.0
ETH 5.0	50.0	50.0
ETH 7.5	75.0	75.0
ETH 10.0	100.0	100.0
ETH 14.0	140.0	140.0
ETH 22.0	220.0	220.0
ETH 26.0	260.0	260.0



COMPONENTS RECOMMENDATION

- ✓ Walls
- ✓ Columns
- ✓ Slabs
- ✓ Beams

EHF LIFTING ANCHOR

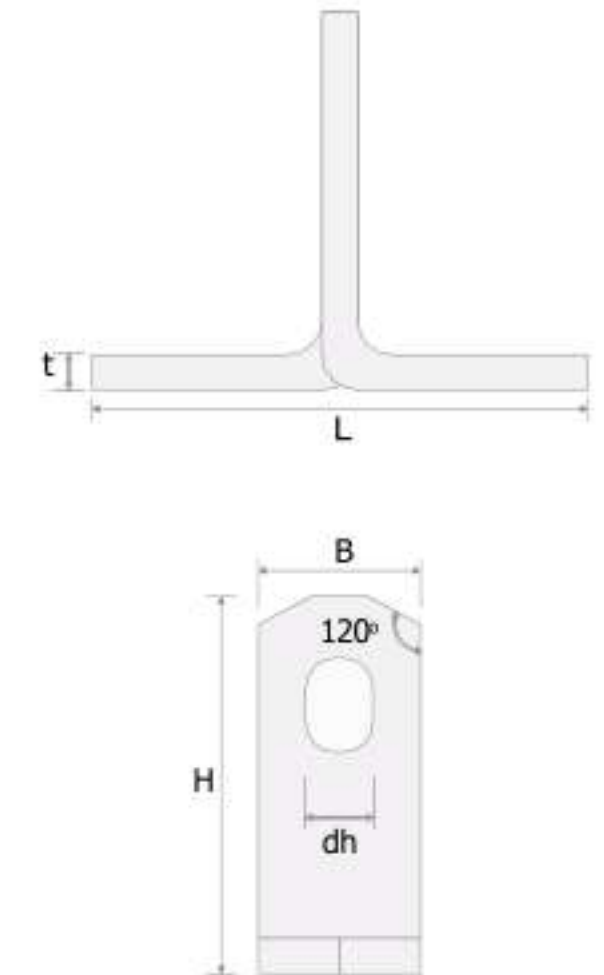
EHF LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Material	Material Type	Standard
EHFez	S355J2 + N	Electro-Zincd	EN 10025

*This anchor is also available in Plain Steel, HDG and Stainless Steel versions.

EHF LIFTING ANCHOR DIMENSIONS

Lifting Anchor	H [mm]	B [mm]	dh [mm]	t [mm]	L [mm]
EHF 0.7	65	30	14	5	70
EHF 1.4	65	30	14	6	70
EHF 2.0	70	30	14	8	80
EHF 2.5	75	30	14	10	94
EHF 3.0	90	40	18	10	100
EHF 4.0	110	40	18	12	100
EHF 5.0	125	40	18	15	105
EHF 7.5	170	60	26	16	120
EHF 10.0	200	60	26	20	120
EHF 12.5	220	80	35	16	200
EHF 17.0	270	80	35	20	200
EHF 22.0	310	80	35	28	200



SAFE WORKING LOAD FOR EHF LIFTING ANCHOR

Lifting Anchor	Design Load Capacity (SWL), kN ($\beta = 0^\circ - 30^\circ$)
EHF 0.7	7.0
EHF 1.4	14.0
EHF 2.0	20.0
EHF 2.5	25.0
EHF 3.0	30.0
EHF 4.0	40.0
EHF 5.0	50.0
EHF 7.5	75.0
EHF 10.0	100.0
EHF 12.5	125.0
EHF 17.0	170.0
EHF 22.0	220.0



COMPONENTS RECOMMENDATION

- ✓ Slabs
- ✓ Balconies
- ✓ Thin Elements

ETHB LIFTING ANCHOR

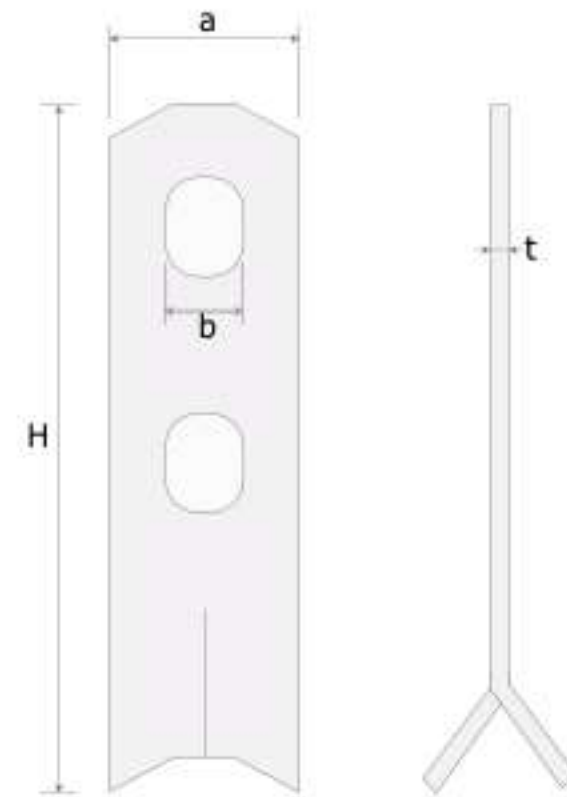
ETHB LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Material	Material Type	Standard
ETHBez	S355J2+N	Electro-Zincd	EN 10025

*This anchor is also available in Plain Steel, HDG and Stainless Steel versions.

ETHB LIFTING ANCHOR DIMENSIONS

Lifting Anchor	H [mm]	a [mm]	b [mm]	t [mm]
ETHB 1.4	110 – 210	30	14	6
ETHB 2.5	150 – 250	30	14	10
ETHB 3.0	160 – 280	40	18	10
ETHB 4.0	180 – 320	40	18	12
ETHB 5.0	180 – 400	40	18	15
ETHB 7.5	260 – 420	60	26	15
ETHB 10.0	300 – 520	60	26	20
ETHB 14.0	370 – 460	80	35	20
ETHB 22.0	500 – 620	80	35	26



SAFE WORKING LOAD FOR ETHB LIFTING ANCHOR IN WALL

Lifting Anchor	Design Load Capacity (SWL), kN		
	$\beta = 0^\circ - 45^\circ$	$\gamma = 0^\circ - 10^\circ$	$\gamma = 10^\circ - 00^\circ$
ETHB 1.4	14.0	14.0	7.0
ETHB 2.5	25.0	25.0	12.5
ETHB 3.0	30.0	30.0	15.0
ETHB 4.0	40.0	40.0	20.0
ETHB 5.0	50.0	50.0	25.0
ETHB 7.5	75.0	75.0	37.5
ETHB 10.0	100.0	100.0	50.0
ETHB 14.0	140.0	140.0	70.0
ETHB 22.0	220.0	220.0	110.0



COMPONENTS RECOMMENDATION

✓ Walls ✓ Columns ✓ TT Slabs ✓ Beams

EHP LIFTING ANCHOR

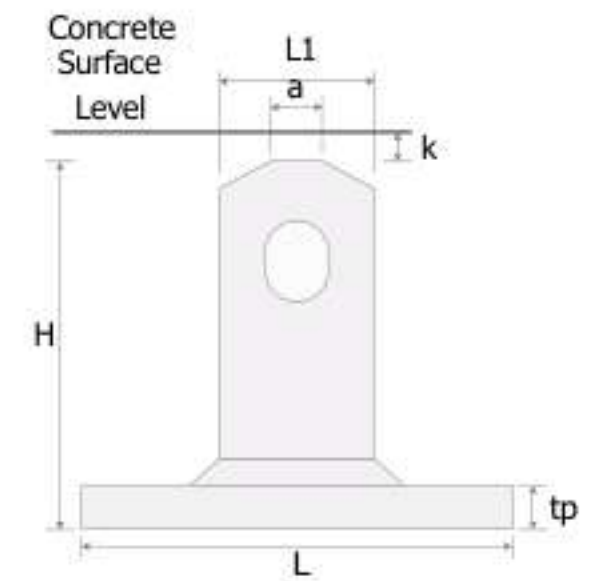
EHP LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Material	Material Type	Standard
EHPez	S355J2 + N	Electro-Zincd	EN 10025

*This anchor is also available in Plain Steel, HDG and Stainless Steel versions.

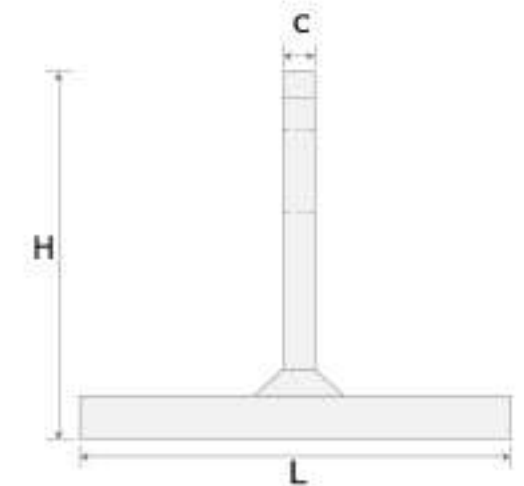
EHP LIFTING ANCHOR DIMENSIONS

Plate Lifting Insert	H [mm]	L1 [mm]	a [mm]	c [mm]	tp [mm]	L [mm]	K [mm]
EHP 1.4	55	30	8.5	6	8	80	10
EHP 2.5	80	30	8.5	10	8	80	10
EHP 5.0	120	40	12.0	15	10	100	10
EHP 10.0	160	60	17.5	20	12	140	15



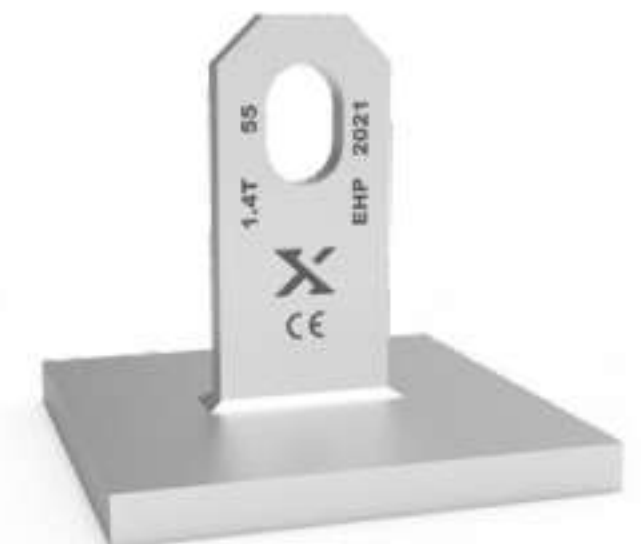
SAFE WORKING LOAD FOR EHP LIFTING ANCHOR IN WALL

Plate Lifting Insert	Design Load Capacity (SWL), kN ($\beta = 0^\circ - 45^\circ, \gamma = 0^\circ - 10^\circ$)
EHP 1.4	14.0
EHP 2.5	25.0
EHP 5.0	50.0
EHP 10.0	100.0



COMPONENTS RECOMMENDATION

✓ Thin Elements ✓ Slabs ✓ Balconies



EHS LIFTING ANCHOR

EHS LIFTING ANCHOR MATERIALS AND STANDARDS

Lifting Anchor	Material	Material Type	Standard
EHSez	S355J2 + N	Electro-Zincd	EN 10025

*This anchor is also available in Plain Steel, HDG and Stainless Steel versions.

EHS LIFTING ANCHOR DIMENSIONS

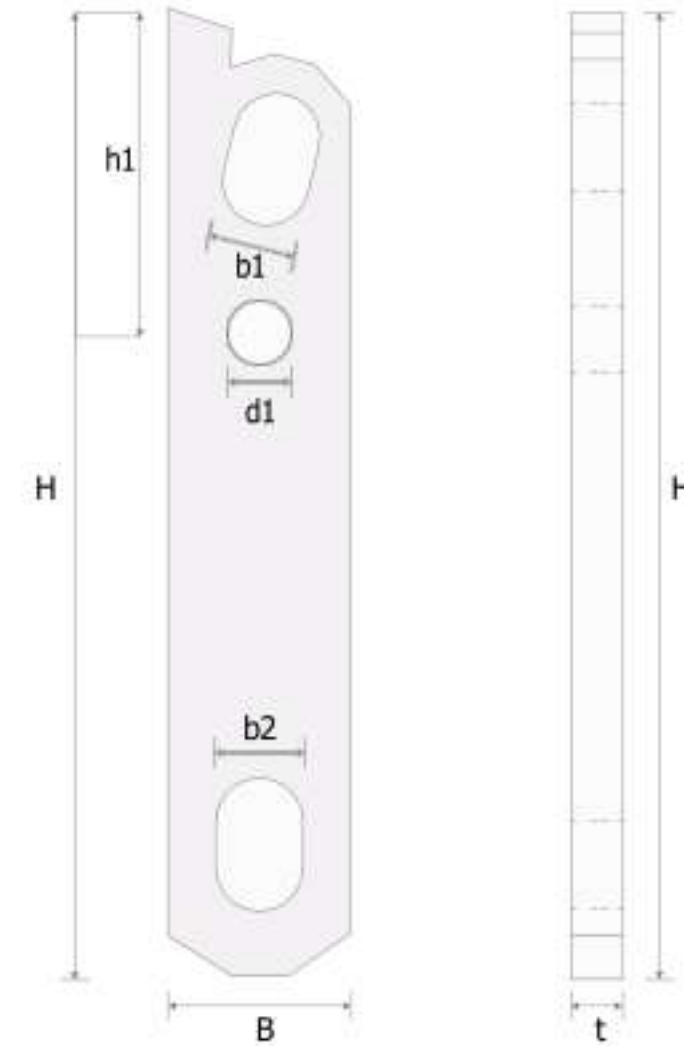
Lifting Anchor	H [mm]	B [mm]	t [mm]	h1 [mm]	b1 [mm]	d1 [mm]	b2 [mm]
EHS 2.5	250	40	10	72	14	14	18
EHS 5.0	300	60	16	92	18	17.5	26
EHS 7.5	350	80	16	123	26	25	46
EHS 10.0	350	80	20	123	26	26	35

SAFE WORKING LOAD FOR EHS LIFTING ANCHOR IN WALL

Lifting Anchor	Design Load Capacity (SWL), kN ($\beta = 0^\circ - 45^\circ$)
EHS 2.5	25.0
EHS 5.0	50.0
EHS 7.5	75.0
EHS 10.0	100.0

COMPONENTS RECOMMENDATION

✓ Sandwich Panels



HOLE LOCK LIFTING ANCHORS ACCESSORIES

EHRC HOLE LOCK LIFTING CLUTCH

hole lock lifting clutch is a time-saving and cost-effective lifting key that is used for transportation of various types of precast concrete elements with anchor loads ranging from 1.3 up to 26tons. Both lifting clutch, lifting anchor and the recess former have to belong to the same group when using these items during casting or transportation stage. hole lock lifting clutches are available in four different load groups (2.5; 5.0; 10.0 and 26.0 Tons).



HOLDING PLATE LOAD GROUPS

Load Group
2.5
5.0
10.0
26.0



RECESS FORMERS

Recess former is a reusable lifting accessory that is used to accurately create a recess around the lifting anchor area. Once the element is casted, the corresponding lifting clutch precisely fits in the recess area, allowing the precast element to be transported safely and quickly. recess formers are available in rubber, plastic, magnetic and steel versions.

ERFB RUBBER RECESS FORMER

Description	Load Group (t)
ERFB 1.3	1.3
ERFB 2.5	2.5
ERFB 5.0	5.0
ERFB 7.5	7.5
ERFB 10.0	10.0
ERFB 26.0	26.0





4. SMOOTH BAR LIFTING SYSTEMS

Smooth Bar Lifting Systems efficiently raise precast concrete wall panels, whether they are sandwich or standard. Crafted from bended or welded round steel bars, these systems come in different types and materials, including stainless steel. The innovative design eliminates the necessity for specific lifting clutches, offering a practical, customizable, and versatile solution for a wide range of lifting needs.

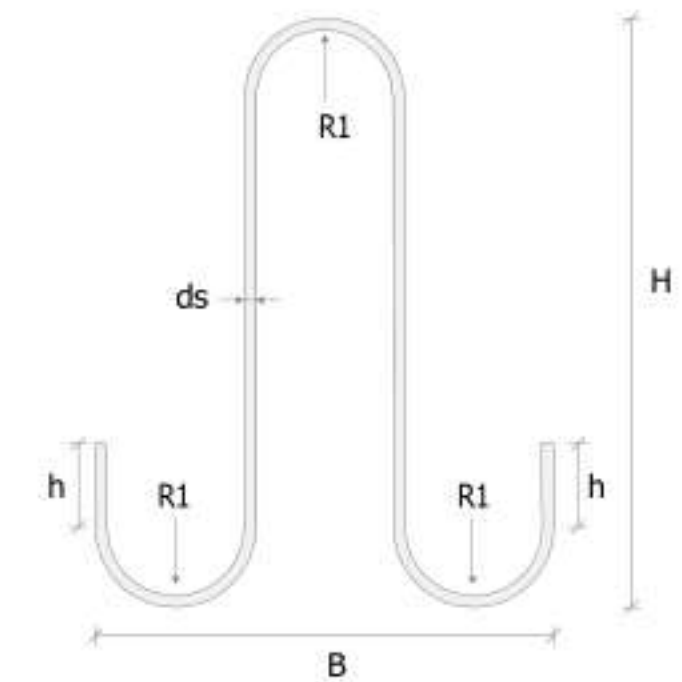
EXA AND EXAR LIFTING LOOPS

EXA AND EXAR LIFTING LOOPS MATERIALS AND STANDARDS

Lifting Loop	Material	Material Type	Standard
EXA	S355J2 + N	Plain Steel	EN 10025
EXAR	1.4301	Stainless Steel	EN 10088

EXA AND EXAR LIFTING LOOPS DIMENSIONS

Lifting loop Diameter [mm]	H [mm]	B [mm]	Øds [mm]	h [mm]	Bending Radius (R1) [mm]
6	250	114	6	15	15
8	300	152	8	20	20
10	300	190	10	25	25
12	300	228	12	30	30
14	300	266	14	35	35
16	300	304	16	40	40
20	300	380	20	50	50



SAFE WORKING LOAD FOR EXA AND EXAR LIFTING LOOPS

Lifting loop Diameter [mm]	NRd, [kN]	
	0°	30°
6	2.82	2.45
8	5.02	4.35
10	6.69	5.79
12	8.53	7.39
14	10.53	9.12
16	12.70	11.00
20	17.53	15.19

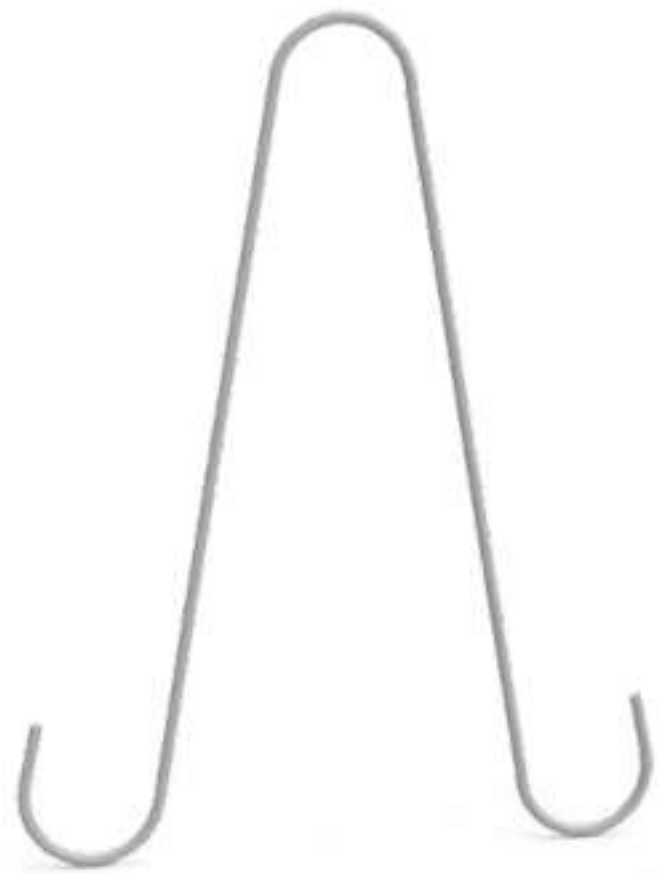
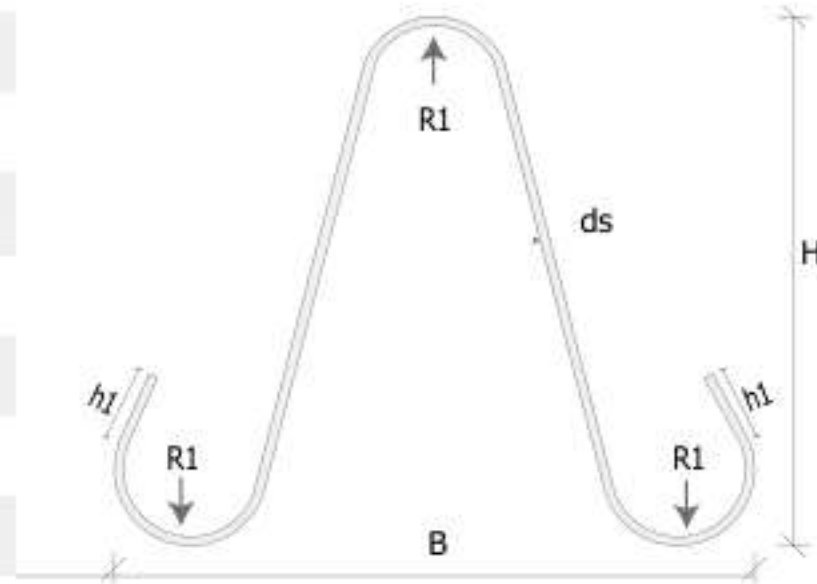
EXB AND EXBR LIFTING LOOPS

EXB AND EXBR LIFTING LOOPS MATERIALS AND STANDARDS

Lifting Loop	Material	Material Type	Standard
EXB	S355J2 + N	Plain Steel	EN 10025
EXBR	1.4301	Stainless Steel	EN 10088

EXB AND EXBR LIFTING LOOPS DIMENSIONS

Lifting loop Diameter [mm]	H [mm]	B [mm]	Øds [mm]	h [mm]	Bending Radius (R1) [mm]
12S	600	560	12	60	60
12	820	640	12	60	60
16S	830	750	16	80	80
16	1060	880	16	80	80
20S	1045	930	20	100	100
20	1380	1085	20	100	100
25SX	1170	1080	25	125	125
25S	1370	1180	25	125	125
25	1660	1330	25	125	125
32S	1590	1570	32	160	160
32	2120	1710	32	160	160



SAFE WORKING LOAD FOR EXB AND EXBR LIFTING LOOPS

Lifting loop Diameter [mm]	EXB N _{Rd} [kN]		EXBR N _{Rd} [kN]	
	0°	30°	0°	30°
12S	14.06	12.18	14.06	12.18
12	19.67	17.03	20.16	17.46
16S	28.57	24.74	28.57	24.74
16	34.97	30.28	37.06	32.10
20S	47.30	40.96	47.30	40.96
20	54.64	47.32	62.76	54.35
25SX	68.93	59.69	68.93	59.69
25S	80.46	69.68	80.46	69.68
25	85.37	73.93	97.19	84.17
32S	123.89	102.29	123.89	107.29
32	139.87	121.13	163.02	141.18

EXC AND EXCR LIFTING LOOPS

EXC AND EXCR LIFTING LOOPS MATERIALS AND STANDARDS

Lifting Loop	Material	Material Type	Standard
EXC	S355J2 + N	Plain Steel	EN 10025
EXCR	1.4301	Stainless Steel	EN 10088

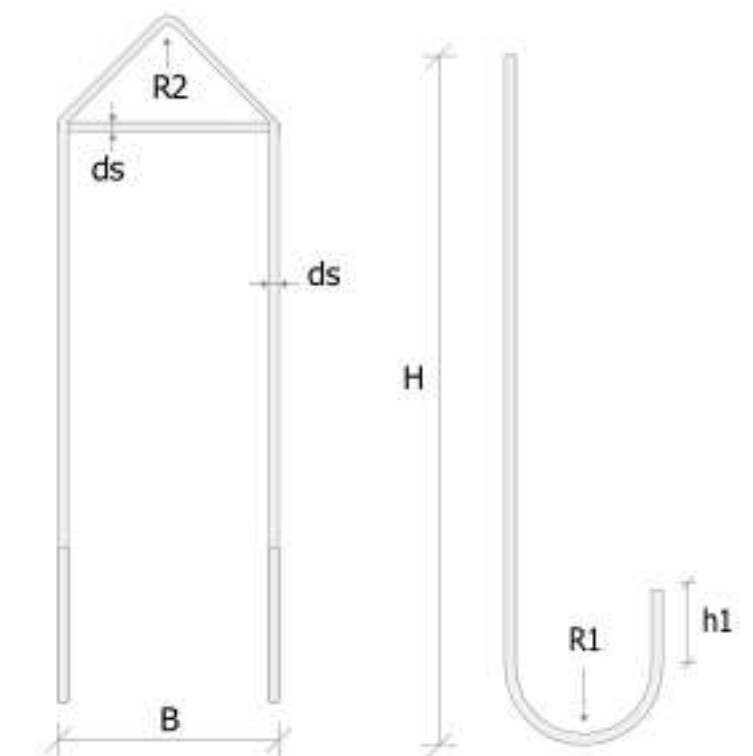
EXC LIFTING LOOP DIMENSIONS

Lifting loop Diameter [mm]	H [mm]	B [mm]	Øds [mm]	h [mm]	(R1) Bending Radius [mm]	(R2) Bending Radius [mm]
12	800	229	12	60	60	24
16S	810	237	16	80	80	32
16	1050	237	16	80	80	32
20S	1040	245	20	100	100	40
20	1390	245	20	100	100	40
25SX	1175	255	25	125	125	50
25S	1375	255	25	125	125	50
25	1675	255	25	125	125	50
32S	1600	269	32	160	160	64
32	2050	269	32	160	160	64



SAFE WORKING LOAD FOR EXC LIFTING LOOP

Lifting loop Diameter [mm]	NRd, [kN]	
	0°	30°
12	19.67	17.03
16S	28.57	24.74
16	34.97	30.28
20S	47.30	40.96
20	54.64	47.32
25SX	68.93	59.69
25S	80.46	69.68
25	85.37	73.93
32S	123.89	102.29
32	139.87	121.13



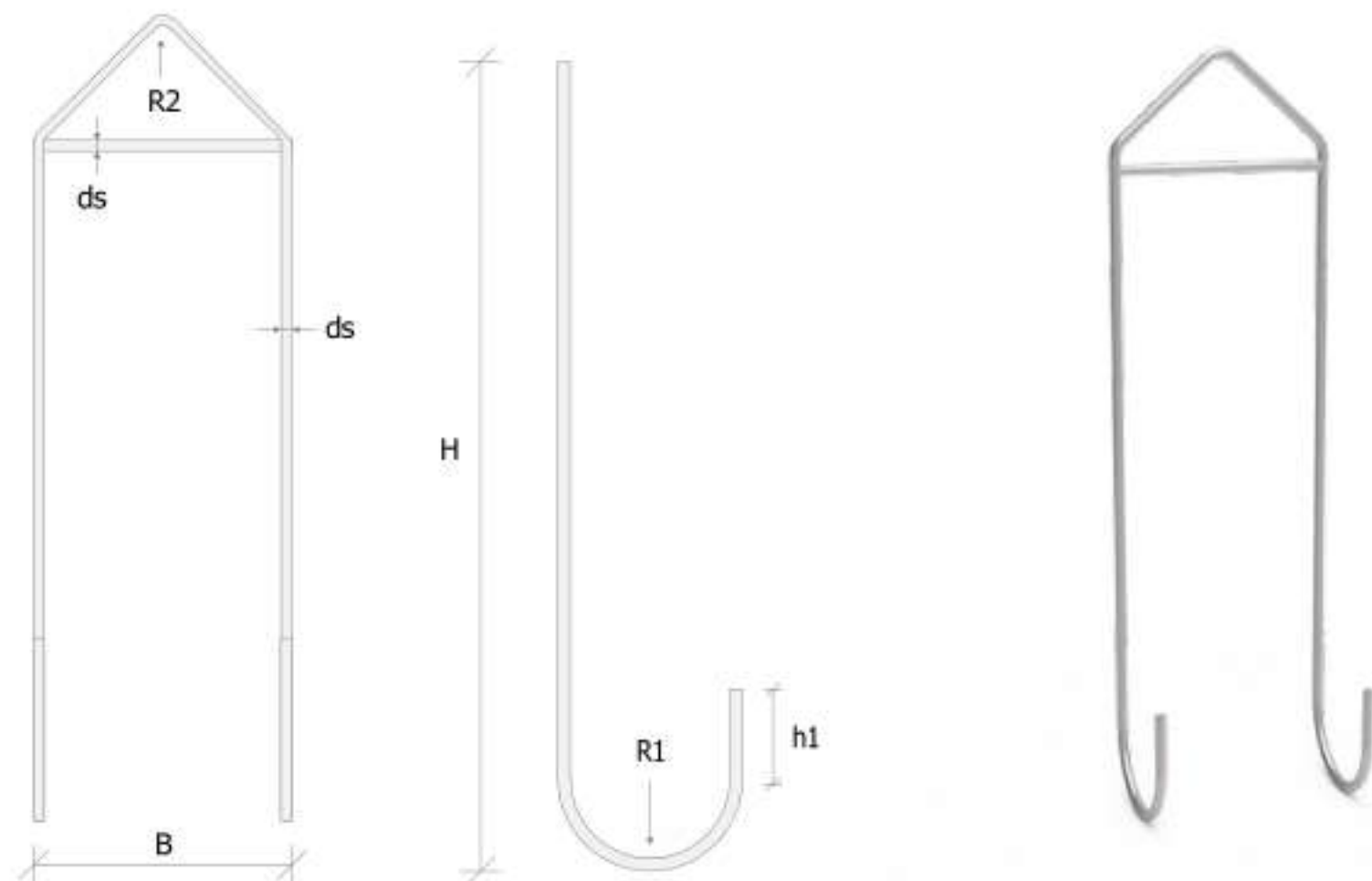
EXC AND EXCR LIFTING LOOPS

EXCR LIFTING LOOP DIMENSIONS

Lifting loop Diameter [mm]	H [mm]	B [mm]	Øds [mm]	h [mm]	(R1) Bending Radius [mm]	(R2) Bending Radius [mm]
12	800	229	12	60	60	24
16	810	237	16	80	80	32
20	1040	245	20	100	100	40
25	1175	255	25	125	125	50

SAFE WORKING LOAD FOR EXCR LIFTING LOOP

Lifting loop Diameter [mm]	NRd, [kN]	
	0°	30°
12	22.15	19.18
16	30.27	26.22
20	48.45	41.96
25	71.24	61.69



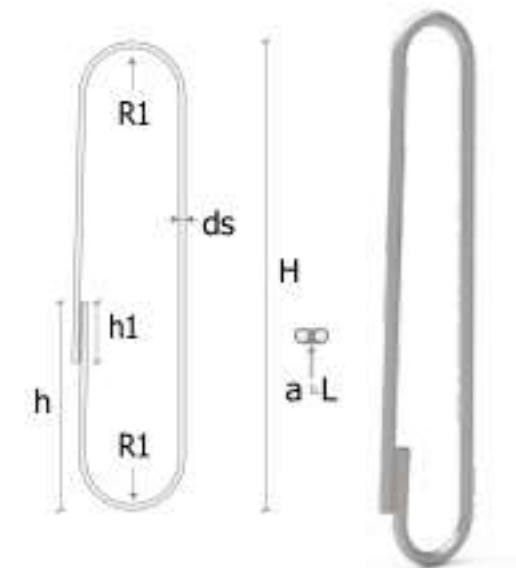
EXU AND EXUR LIFTING LOOPS

EXU AND EXUR LIFTING LOOPS MATERIALS AND STANDARDS

Lifting Loop	Material	Material Type	Standard
EXU	S355J2 + N	Plain Steel	EN 10025
EXUR	1.4301	Stainless Steel	EN 10088

EXU AND EXUR LIFTING LOOPS DIMENSIONS

Lifting loop Diameter [mm]	H [mm]	Øds [mm]	h [mm]	h1 [mm]	a [mm]	L [mm]	Bending Radius (R1) [mm]
10	700	10	260	70	4	75	50
12	900	12	312	90	4	100	50
14	1100	14	364	110	5	115	50
16	1250	16	416	130	5	145	50
20	1600	20	520	170	6	200	50
25	1800	25	650	260	6	260	50



SAFE WORKING LOAD FOR EXU AND EXUR LIFTING LOOPS

D [mm]	Grade	Wall Thickness, [mm]																	
		100		120		140		160		180		200		220		240		260	
		0°	30°	0°	30°	0°	30°	0°	30°	0°	30°	0°	30°	0°	30°	0°	30°	0°	30°
10	C12	14.4	12.5	16.1	14	16.1	14	16.1	14	16.1	14	16.1	14	16.1	14	16.1	14	16.1	14
	C15	16.1	14	18.7	16.2	18.7	16.2	18.7	16.2	18.7	16.2	18.7	16.2	18.7	16.2	18.7	16.2	18.7	16.2
12	C12	17.8	15.4	21.4	18.5	24.9	21.6	25.5	22	25.5	22	25.5	22	25.5	22	25.5	22	25.5	22
	C15	19.9	17.3	23.9	20.7	27.9	24.1	27.9	24.1	27.9	24.1	27.9	24.1	27.9	24.1	27.9	24.1	27.9	24.1
14	C12	21.1	18.3	25.3	21.9	29.6	25.6	33.8	29.2	36.8	31.9	36.8	31.9	36.8	31.9	36.8	31.9	36.8	31.9
	C15	23.6	20.4	28.3	24.5	33	28.6	37.8	32.7	37.9	32.8	37.9	32.8	37.9	32.8	37.9	32.8	37.9	32.8
16	C12	23.5	20.4	28.2	24.4	32.9	28.5	37.6	32.6	42.3	36.7	47	40.7	48.3	41.8	48.3	41.8	48.3	41.8
	C15	26.3	22.8	31.6	27.3	36.8	31.9	42.1	36.4	47.3	41	49.5	42.9	49.5	42.9	49.5	42.9	49.5	42.9
20	C12	29.0	25.1	34.8	30.1	40.6	35.2	46.4	40.2	52.2	45.2	58	50.2	63.8	55.3	69.6	60.3	75.4	65.3
	C15	32.4	28.1	38.9	33.7	45.4	39.3	51.9	44.9	58.4	50.6	64.9	56.2	71.4	61.8	77.4	67	77.4	67
25	C12	32.1	27.8	38.5	33.3	44.9	38.9	51.3	44.4	57.7	50	64.2	55.6	70.6	61.1	77	66.7	83.4	72.2
	C15	35.9	31.1	43	37.3	50.2	43.5	57.4	49.7	64.6	55.9	71.7	62.1	78.9	68.3	86.1	74.5	93.2	80.8

EXK AND EXKR LIFTING LOOPS

EXK AND EXKR LIFTING LOOPS MATERIALS AND STANDARDS

Lifting Loop	Material	Material Type	Standard
EXK	S355J2 + N	Plain Steel	EN 10025
EXKR	1.4301	Stainless Steel	EN 10088

EXK LIFTING LOOP DIMENSIONS

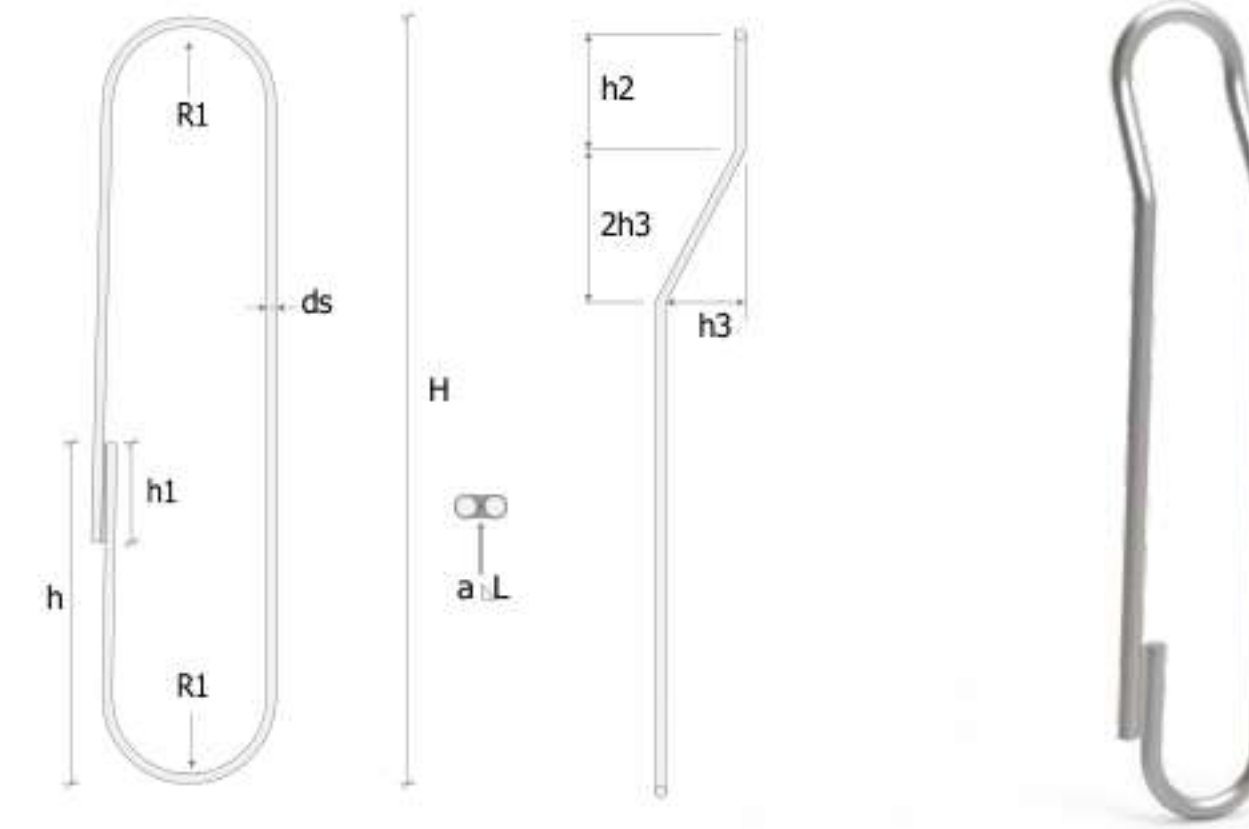
Lifting loop Diameter [mm]	H [mm]	Øds [mm]	h [mm]	h1 [mm]	h2 [mm]	h3 [mm]	a [mm]	L [mm]	Bending Radius (R1) [mm]
10	700	10	260	70	110	90	4	45	50
12	900	12	312	90	132	90	4	60	50
14	1100	14	364	110	154	90	5	70	50
16	1250	16	416	130	176	90	5	85	50
20	1600	20	520	170	220	90	6	110	50
25	1800	25	650	260	275	90	6	170	50

EXKR LIFTING LOOP DIMENSIONS

Lifting loop Diameter [mm]	H [mm]	Øds [mm]	h [mm]	h1 [mm]	h2 [mm]	h3 [mm]	a [mm]	L [mm]	Bending Radius (R1) [mm]
10	700	10	260	70	110	90	4	45	50
12	900	12	312	90	132	90	4	60	50
14	1100	14	364	110	154	90	5	70	50
16	1250	16	416	130	176	90	5	85	50
20	1600	20	520	170	220	90	6	110	50

EXK AND EXKR LIFTING LOOPS

SAFE WORKING LOAD FOR EXK AND EXKR LIFTING LOOPS



D [mm]	Grade	Wall Thickness, [mm]																	
		100		120		140		160		180		200		220		240		260	
		0°	30°	0°	30°	0°	30°	0°	30°	0°	30°	0°	30°	0°	30°	0°	30°	0°	30°
10	C12	14.4	12.5	16.1	14	16.1	14	16.1	14	16.1	14	16.1	14	16.1	14	16.1	14	16.1	14
	C15	16.1	14	18.7	16.2	18.7	16.2	18.7	16.2	18.7	16.2	18.7	16.2	18.7	16.2	18.7	16.2	18.7	16.2
12	C12	17.8	15.4	21.4	18.5	24.9	21.6	25.5	22	25.5	22	25.5	22	25.5	22	25.5	22	25.5	22
	C15	19.9	17.3	23.9	20.7	27.9	24.1	27.9	24.1	27.9	24.1	27.9	24.1	27.9	24.1	27.9	24.1	27.9	24.1
14	C12	21.1	18.3	25.3	21.9	29.6	25.6	33.8	29.2	36.8	31.9	36.8	31.9	36.8	31.9	36.8	31.9	36.8	31.9
	C15	23.6	20.4	28.3	24.5	33	28.6	37.8	32.7	37.9	32.8	37.9	32.8	37.9	32.8	37.9	32.8	37.9	32.8
16	C12	23.5	20.4	28.2	24.4	32.9	28.5	37.6	32.6	42.3	36.7	47	40.7	48.3	41.8	48.3	41.8	48.3	41.8
	C15	26.3	22.8	31.6	27.3	36.8	31.9	42.1	36.4	47.3	41	49.5	42.9	49.5	42.9	49.5	42.9	49.5	42.9
20	C12	29.0	25.1	34.8	30.1	40.6	35.2	46.4	40.2	52.2	45.2	58	50.2	63.8	55.3	69.6	60.3	75.4	65.3
	C15	32.4	28.1	38.9	33.7	45.4	39.3	51.9	44.9	58.4	50.6	64.9	56.2	71.4	61.8	77.4	67	77.4	67
25	C12	32.1	27.8	38.5	33.3	44.9	38.9	51.3	44.4	57.7	50	64.2	55.6	70.6	61.1	77	66.7	83.4	72.2
	C15	35.9	31.1	43	37.3	50.2	43.5	57.4	49.7	64.6	55.9	71.7	62.1	78.9	68.3	86.1	74.5	93.2	80.8



5. WIRE LOOP LIFTING SYSTEMS

EWRL Wire Loop Lifting offers robust efficiency for diverse precast elements. Crafted from quality steel wire rope, each loop includes a color-coded tag indicating Safe Working Loads and batch numbers. With cast-in loops designed for smooth production-to-installation transition, this system eliminates the need for specific lifting clutches, enhancing efficiency and safety in precast concrete handling.

EWRL WIRE LOOP LIFTING

EWRL WIRE LOOP LIFTING MATERIALS AND STANDARDS

Part	Material	Standard
Wire rope	High Strength Steel Wire minimum 1770 Mpa	EN 12385 – 4
Ferrule	Alloy	EN 13411 – 3
Plastic Belt	Polypropylene	
Dataring	Metal	

EWRL WIRE LOOP LIFTING DIMENSIONS

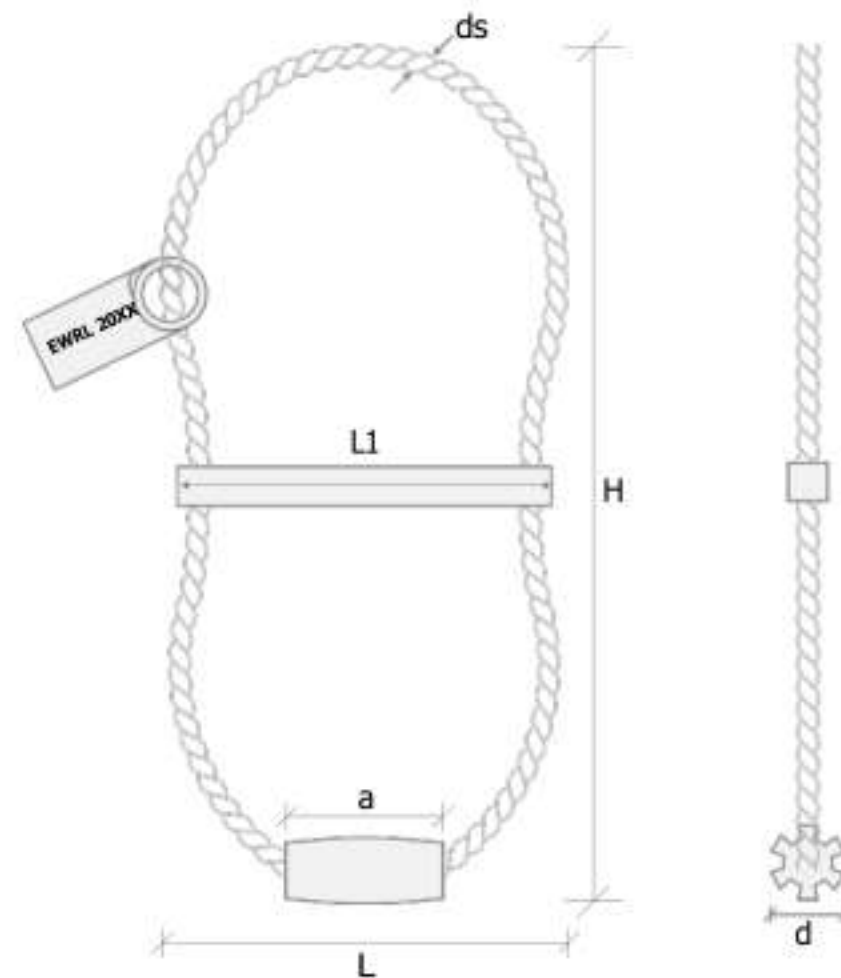
Lifting Loop	Load Class [kN]	H [mm]	L [mm]	ds [mm]	L1 [mm]	a	a1	d	Tolerance [d]	Wire Rope	Cutting Length
EWRL – 8	8	200	85	6	65	27	5	12	+0.15 -0.00	6x19 IWRC 6 mm	505
EWRL – 12	12	225	90	7	70	32	5	14	+0.15 -0.00	6x19 IWRC 7 mm	565
EWRL – 16	16	245	100	8	70	36	5	16	+0.15 -0.00	6x19 IWRC 8 mm	605
EWRL – 20	20	265	125	9	95	40	5	18	+0.15 -0.00	6x19 IWRC 9 mm	665
EWRL – 20	20	900	270	9	180	44	10	20	+0.15 -0.00	6x19 IWRC 9 mm	2130
EWRL – 25	25	285	140	10	115	45	5	20	+0.2 -0.00	6x19 IWRC 10 mm	760
EWRL – 40	40	345	160	12	130	54	5	24	+0.2 -0.00	6x19 IWRC 12 mm	900
EWRL – 52	52	390	180	14	160	63	5	28	+0.3 -0.00	6x19 IWRC 14 mm	990
EWRL – 63	63	415	210	16	180	72	5	32	+0.3 -0.00	6x19 IWRC 16 mm	1100
EWRL – 80	80	460	220	18	170	100	15	36	+0.4 -0.00	6x19 IWRC 18 mm	1250
EWRL – 100	100	510	250	20	180	90	10	40	+0.4 -0.00	6x19 IWRC 20 mm	1280
EWRL – 125	125	570	280	22	225	99	10	44	+0.4 -0.00	6x19 IWRC 22 mm	1430
EWRL – 160	160	640	295	24	240	108	10	48	+0.5 -0.00	6x19 IWRC 24 mm	1550
EWRL – 200	200	715	320	28	260	117	10	56	+0.5 -0.00	6x19 IWRC 28 mm	1800
EWRL – 250	250	800	380	30	300	126	10	60	+0.5 -0.00	6x19 IWRC 30 mm	1800

EWRL WIRE LOOP LIFTING

SAFE WORKING LOAD FOR EWRL WIRE LOOP LIFTING

Design Load Capacity (Safe Working Load), kN

Lifting Loop	$(\beta = 0^\circ - 45^\circ, \gamma = 0^\circ - 12.5^\circ)$		
	C12/15	C16/20	C20/25
EWRL – 8	4.9	5.9	6.9
EWRL – 12	12.0	12.0	12.0
EWRL – 16	15.9	16.0	16.0
EWRL – 20	19.4	20.0	20.0
EWRL – 20	20.0	20.0	20.0
EWRL – 25	23.2	25.0	25.0
EWRL – 40	33.7	40.0	40.0
EWRL – 52	44.4	52.0	52.0
EWRL – 63	54.4	63.0	63.0
EWRL – 80	67.3	80.0	80.0
EWRL – 100	82.9	100.0	100.0
EWRL – 125	101.9	123.5	125.0
EWRL – 160	124.9	151.3	160.0
EWRL – 200	162.8	197.2	200.0
EWRL – 250	195.1	236.4	250.0



6. WIRE LOOP BOX

Wire Loop Boxes offer efficient precast element connections for walls and columns. Made from galvanized steel boxes, wire ropes, and protective tape, they provide a durable solution. Attached using specialized magnets, these boxes streamline the assembly process for concrete wall panels. With standard sizes like EWL-60 to EWL-140, Wire Loop Boxes merge convenience and precision for seamless precast construction.

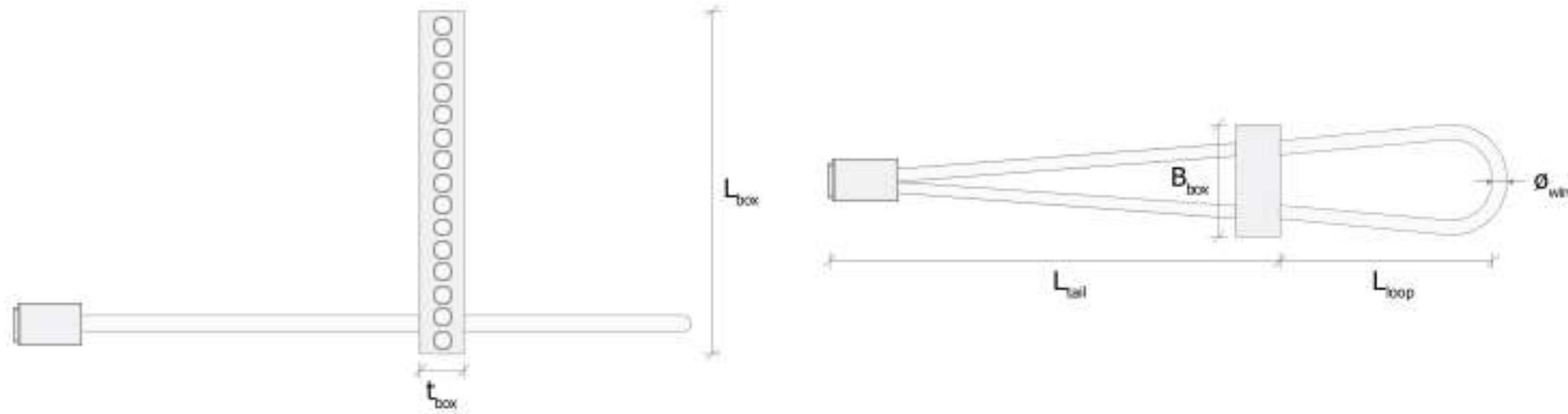
EWL SINGLE WIRE LOOP BOX

EWL SINGLE WIRE LOOP BOX MATERIALS AND STANDARDS

Part	Material	Standard
Box	Galvanized Steel Plate 0.5 ... 0.7 mm	SFS – EN 10130 1.0330
Ferrule	Steel Compression Sleeve 012 – L25 or 018 – L40	SFS – EN 10025.10046
Wire Rope	Steel Wire 06 6x19 IWRC or 08 6x19 IWRC	SFS – EN 12385 SE – zn (1770 MPa)
Protective Tape	Duct Tape	

EWL SINGLE WIRE LOOP BOX DIMENSIONS

Wire Loop	L_{box} [mm]	L_{loop} [mm]	L_{tail} [mm]	B_{box} [mm]	t_{box} [mm]	$\varnothing_{wire}$ [mm]
EWL – 60	160	60	190	55	20	6
EWL – 80	160	80	190	55	20	6
EWL – 100	160	100	190	55	20	6
EWL – 120	160	120	190	55	20	6
EWL – 140	200	140	350	75	30	8



SAFE WORKING LOAD FOR EWL SINGLE WIRE LOOP BOX

Number of Boxes	Shear Resistance of Joint with EWL – 60...120, [kN]					Shear Resistance of Joint with EWL – 140, [kN]				
	C30/37	C35/45	C40/50	C45/55	C50/60	C30/37	C35/45	C40/50	C45/55	C50/60
2	41.1	46.2	51.1	55.1	58.3	76.6	82.7	88.6	94.4	100.1
3	61.7	69.2	76.6	82.7	87.4	114.9	124.0	132.8	141.5	150.1
4	82.3	92.3	102.2	110.3	116.6	153.2	165.3	177.1	188.7	200.1
5	102.9	115.4	127.7	137.9	145.7	191.5	206.6	221.4	235.9	250.2
6	123.4	138.5	153.2	165.4	174.8	229.8	248.0	265.7	283.1	300.2
7	144.0	161.5	178.8	192.6	203.4	268.1	289.3	309.9	330.2	350.3
8	164.6	184.6	201.4	214.3	226.7	306.5	330.6	354.2	377.4	400.3
9	185.1	206.1	221.1	235.5	249.5	342.5	371.4	398.5	424.6	450.3
10	205.7	223.8	240.4	256.4	272.0	371.5	403.5	434.3	464.2	493.2

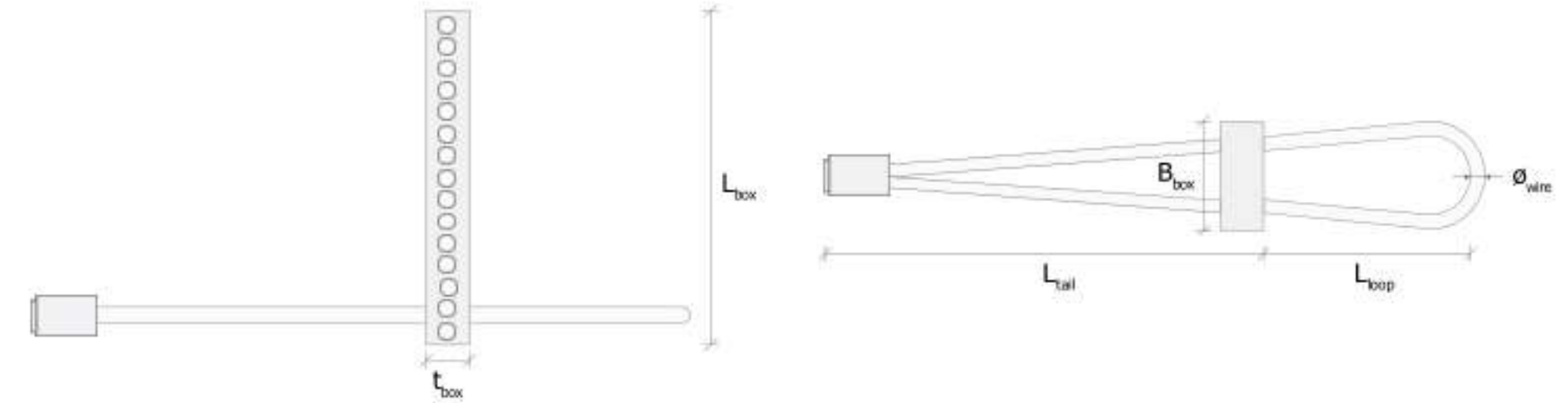
EWL – S SINGLE WIRE LOOP BOX

EWL – S SINGLE WIRE LOOP BOX MATERIALS AND STANDARDS

Part	Material	Standard
Box	Galvanized Steel Plate 0.5	SFS – EN 10130 1.0330
Ferrule	Steel Compression Sleeve 016 – L28	SFS – EN 10025.10046
Wire Rope	Steel Wire 05 6x7 IWRC	SFS – EN 12385 SE – zn (1770 MPa)
Protective Tape	Duct Tape	

EWL – S SINGLE WIRE LOOP BOX DIMENSIONS

Wire Loop	L_{box} [mm]	L_{loop} [mm]	L_{tail} [mm]	B_{box} [mm]	t_{box} [mm]	$\varnothing_{wire}$ [mm]
EWL – 60S	160	60	150	36	20	5
EWL – 80S	160	80	150	36	20	5
EWL – 100S	160	100	150	36	20	5
EWL – 120S	160	120	150	36	20	5
EWL – 140S	160	140	150	36	20	5



SAFE WORKING LOAD FOR EWL – S SINGLE WIRE LOOP BOX

Number of Boxes	Shear Resistance of Joint with EWL – 60S...140S, [kN]					
	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
4	22.53	23.64	24.69	25.70	26.66	27.59
5	26.00	27.12	28.17	29.18	30.14	31.07
6	29.48	30.60	31.65	32.65	33.62	34.55
7	32.96	34.07	35.13	36.13	37.10	38.02
8	36.44	37.55	38.61	39.61	40.57	41.50
9	39.92	41.03	42.08	43.09	44.05	44.98
10	43.40	44.51	45.56	46.57	47.53	48.46
11	46.87	47.99	49.04	50.05	51.01	51.94
12	50.35	51.47	52.52	53.52	54.49	55.41

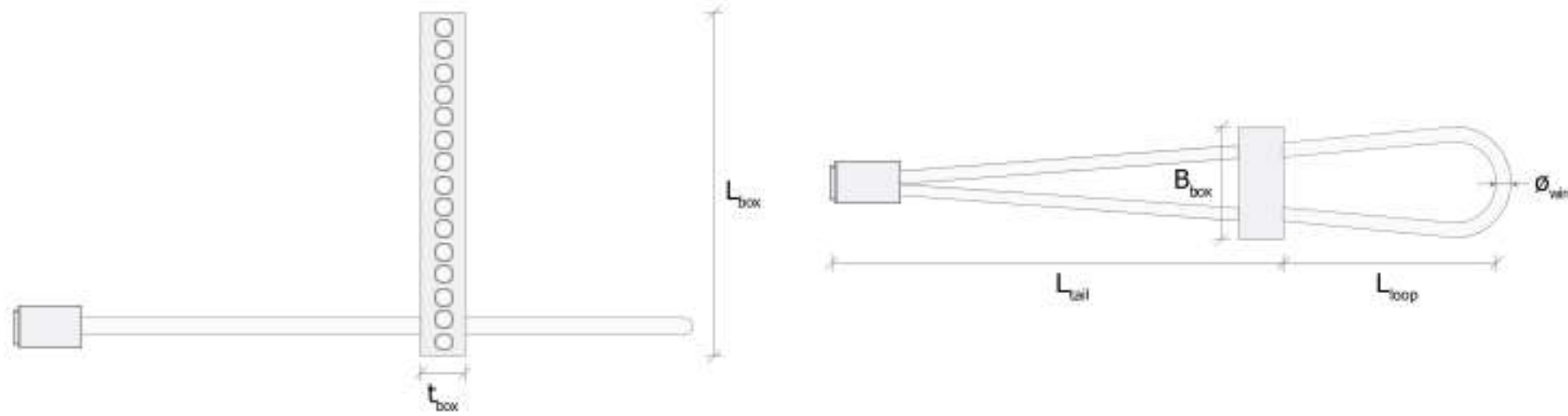
EWL – 9 SINGLE WIRE LOOP BOX

EWL – 9 SINGLE WIRE LOOP BOX MATERIALS AND STANDARDS

Part	Material	Standard
Box	Galvanized Metal Sheet	JIS G3302
Ferrule	Alloyed Steel	EN 13411 – 3/GB/T 8162 – 2018
Wire Rope	Grade = 1770 Steel wire Ø6 9x19 IWRC Steel wire Ø8 9x19 IWRC	EN 12385 – 2/GB/T 20118 – 2006
Protective Tape	Duct Tape	

EWL – 9 SINGLE WIRE LOOP BOX DIMENSIONS

Wire Loop	L_{box} [mm]	L_{loop} [mm]	L_{tail} [mm]	B_{box} [mm]	t_{box} [mm]	$\varnothing_{wire}$ [mm]
EWL – 80/9	120	80	250	60	30	9
EWL – 100/9	160	100	250	60	30	9
EWL – 120/9	160	120	250	60	30	9
EWL – 140/9	200	140	250	60	30	9



SAFE WORKING LOAD FOR EWL – 9 SINGLE WIRE LOOP BOX (N_{RD})

Wire Loop	B_{wall}	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
EWL – 80/9	≥150	22.17	26.27	30.20	34.09	37.94	41.77
EWL – 100/9	≥150	22.30	26.27	30.20	34.09	37.94	41.77
EWL – 120/9	≥150	22.30	26.27	30.20	34.09	37.94	41.77
EWL – 140/9	≥150	22.30	26.27	30.20	34.09	37.94	41.77

SAFE WORKING LOAD FOR EWL – 9 SINGLE WIRE LOOP BOX (F_{RD})

Wire Loop	B_{wall}	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
EWL – 80/9	150	30.12	35.34	40.30	44.98	49.40	53.55
EWL – 100/9	150	30.12	35.34	40.30	44.98	49.40	53.55
EWL – 120/9	150	30.12	35.34	40.30	44.98	49.40	53.55
EWL – 140/9	150	30.12	35.34	40.30	44.98	49.40	53.55



7. FIXING INSERTS

Fixing inserts emerge as indispensable tools for the temporary propping of precast elements, including wall panels and various structural components. This versatile system facilitates secure and efficient propping, ensuring stability during construction phases. Spanning a comprehensive range of sizes from M6 to M30, Fixing Inserts cater to various project demands. Available in electro-zinc, stainless, and acid-resistant versions, they are designed to withstand diverse environmental conditions, enhancing durability and longevity.

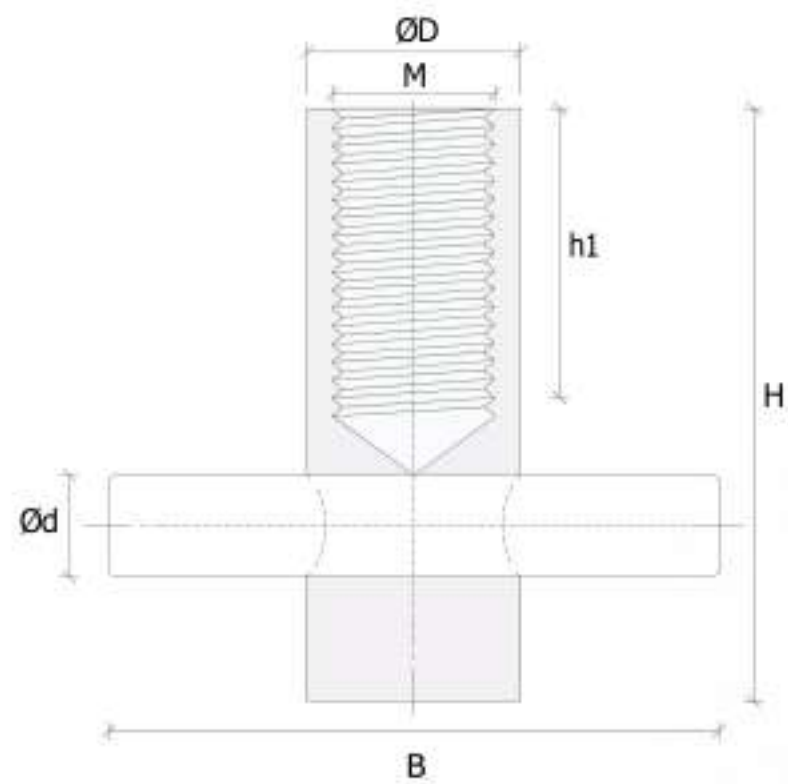
EV FIXING INSERT

EV FIXING INSERT MATERIALS AND STANDARDS

Fixing Inserts	Material	Material Type	Standard
Socket EV	S355J0	Electro-Zincd	EN 10025
Socket EVs	1.4301	Stainless Steel	EN 10088
Cross Pin	S355J0	Electro-Zincd	EN 10025

EV FIXING INSERT DIMENSIONS

Insert Size	M [mm]	H [mm]	h1 [mm]	ØD [mm]	Ød [mm]	B [mm]
M 10x45	10	45	20	15	6	50
M 10x50	10	50	20	15	8	60
M 10x60	10	60	20	15	8	60
M 12x50	12	50	24	18	8	60
M 12x70	12	70	24	18	10	75
M 16x50	16	50	28	24	8	60
M 16x70	16	70	32	24	10	75
M 16x90	16	90	32	24	10	75
M 20x100	20	100	35	28	12	85
M 24x120	24	120	45	34	15	110
M 24x150	24	150	45	34	15	110



EV FIXING INSERT

RESISTANCE FOR TENSION, N (EV INSERT)

Insert Size	C16/20 [kN]	C20/25 [kN]	C25/30 [kN]	C30/37 [kN]	C35/45 [kN]	C40/50 [kN]
M 10x45	3.35	3.74	4.19	4.59	4.95	5.30
M 10x50	3.48	3.89	4.34	4.76	5.14	5.49
M 10x60	4.13	5.17	5.97	6.54	7.07	7.56
M 12x50	3.48	3.89	4.34	4.76	5.14	5.49
M 12x70	6.18	6.94	7.76	8.50	9.18	9.81
M 16x50	3.48	3.89	4.34	4.76	5.14	5.49
M 16x70	6.84	7.64	8.55	9.36	10.11	10.81
M 16x90	11.32	12.66	14.16	15.51	15.75	17.91
M 20x100	11.19	12.51	13.99	15.32	15.55	17.69
M 24x120	15.86	17.73	19.82	21.72	23.46	25.08
M 24x150	27.02	30.21	33.77	36.99	39.96	42.72

RESISTANCE FOR SHEAR, V (EV INSERT)

Insert Size	C16/20 [kN]	C20/25 [kN]	C25/30 [kN]	C30/37 [kN]	C35/45 [kN]	C40/50 [kN]
M 10x45	5.02	5.62	6.28	6.88	7.43	7.94
M 10x50	5.21	5.83	6.52	7.14	7.71	8.24
M 10x60	7.17	8.02	8.96	9.82	10.60	11.34
M 12x50	5.21	5.83	6.52	7.14	7.71	8.24
M 12x70	9.31	10.41	11.64	12.75	13.77	14.72
M 16x50	5.21	5.83	6.52	7.14	7.71	8.24
M 16x70	10.26	11.47	12.82	14.04	15.17	16.22
M 16x90	16.99	18.99	21.23	23.26	25.12	26.82
M 20x100	16.78	18.76	20.98	22.98	24.82	26.54
M 24x120	23.79	26.60	29.74	32.57	35.18	37.16
M 24x150	40.52	45.31	50.66	55.49	59.94	64.07

EVF FIXING INSERT

EVF FIXING INSERT MATERIALS AND STANDARDS

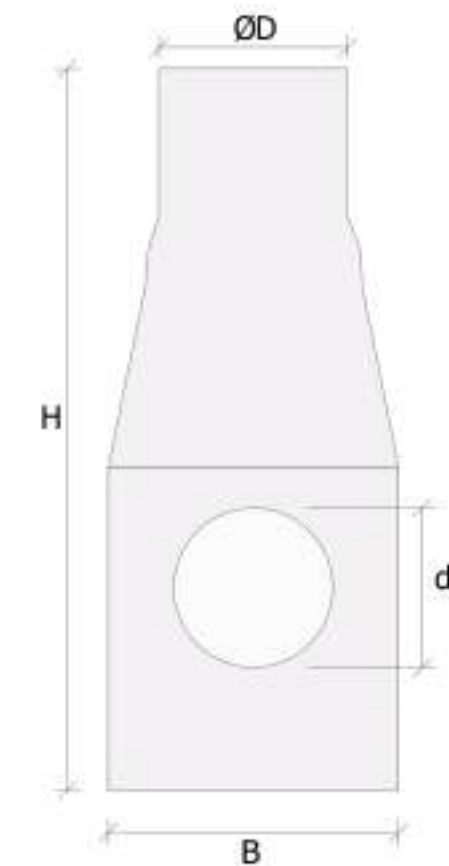
Fixing Inserts	Material	Material Type	Standard
EVF	S355J0	Electro-Zincd	EN 10025
EVFs	1.4301	Stainless Steel	EN 10088
EVFa	1.4401	Acid Resistant Steel	EN 10088

EVF FIXING INSERT DIMENSIONS

Insert Size	M [mm]	H [mm]	h1 [mm]	ØD [mm]	B [mm]	dh [mm]
M 6x35	6	35	5	8.5	13	6.3
M 6x40	6	40	5	8.5	13	6.3
M 6x50	6	50	5	8.5	13	6.3
M 8x40	8	40	8	12	17	8.3
M 10x45	10	45	9	14	20	10.3
M 10x57	10	57	9	15	21	10.3
M 12x55	12	55	11	17	24	12.1
M 12x65	12	65	11	17	24	12.1
M 16x80	16	80	15	22	32	12.1
M 16x100	16	100	15	22	32	12.1
M 20x95	20	95	17	28	40	14.2
M 20x100	20	100	17	28	40	14.2
M 20x120	20	120	17	28	40	14.2
M 24x120	24	120	20	32	46	14.2
M 30x150	30	150	28	40	57	16.0

DESIGN RESISTANCES FOR EVF FIXING INSERT

Insert Size	Design Resistances [kN]	
	Axial Pull Force, FR_d	Shear Force, VR_d
M 6x35	2.6	1.47
M 6x40	2.6	1.47
M 6x50	2.6	1.47
M 8x40	4.3	2.39
M 10x45	4.8	2.67
M 10x57	6.3	3.53
M 12x55	7.8	4.36
M 12x65	7.8	4.36
M 16x80	18.2	10.22
M 16x100	18.2	10.22
M 20x95	25.3	14.19
M 20x100	25.3	14.19
M 20x120	25.3	14.19
M 24x120	36.4	20.41
M 30x150	67.0	32.21



8. BOLTED CONNECTIONS

Bolted connections emerge as essential fastening components, serving as a rapid, secure, and effortless means to establish connections between various precast concrete elements. Whether it's the bond between column and foundation, column and column, or wall and wall, bolted connections play a pivotal role in a multitude of structures, ranging from warehouses to residential and industrial buildings. The significance of bolted connections lies in their ability to swiftly and reliably join precast concrete elements, ensuring structural integrity and stability. This method not only expedites construction processes but also upholds safety standards, offering a seamless solution for creating robust connections



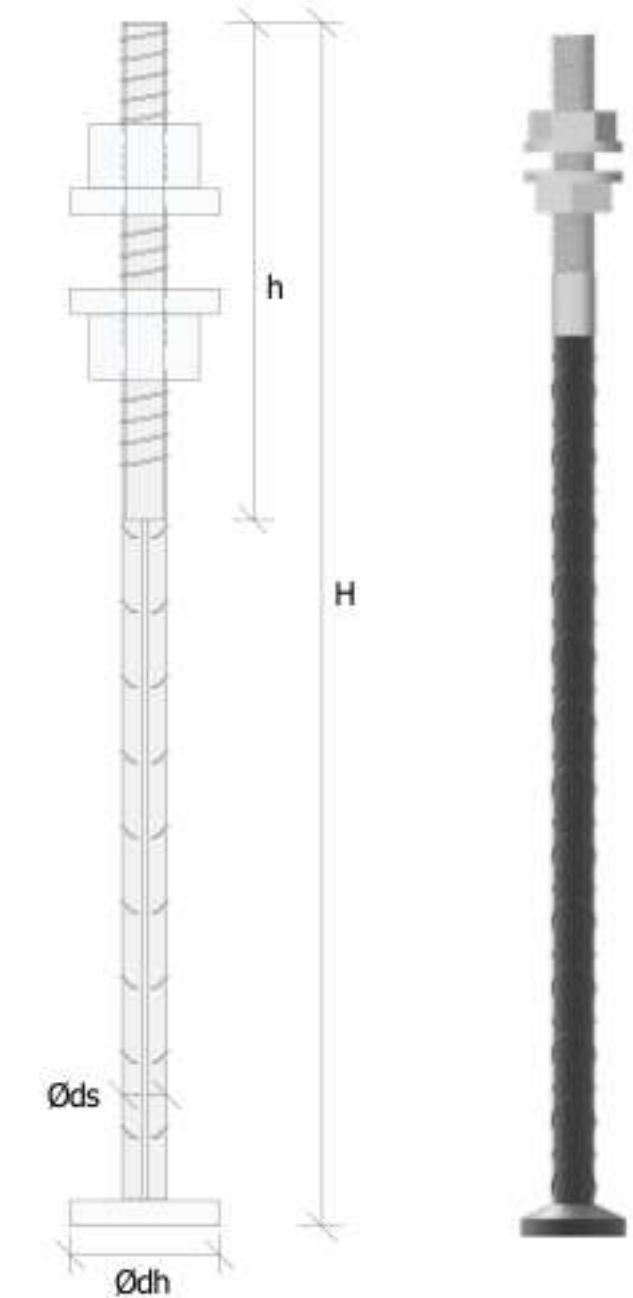
NKP – L TYPE ANCHOR BOLT

NKP – L TYPE ANCHOR BOLT MATERIALS AND STANDARDS

Component	Material	Standard
Ribbed reinforcement bars	B500B	EN10080:2006
Washers	S355J2 + N	EN10025-2:2019
Nuts (NKP bolts)	Class 8	ISO 4032:2023
Nuts (SKP bolts)	Class 10	ISO 4032:2023
Anchor plates	S355J2+N	EN10025-2:2019
Threaded bars (SKP bolts)	Imacro M $f_{yk} \geq 640 \text{ MPa}$; $f_{tk} \geq 800 \text{ MPa}$	EN 10027-1:2016, ISO 898-1:2013

NKP – L TYPE ANCHOR BOLT DIMENSIONS

Anchor Bolt	H [mm]	h [mm]	$\varnothing ds$ [mm]	$\varnothing dh$ [mm]
NKP – L – M16	280	140	16	36
NKP – L – M20	350	140	20	46
NKP – L – M24	430	170	25	55
NKP – L – M30	500	190	32	70
NKP – L – M39	700	200	40	90



SAFE WORKING LOAD FOR NKP – L TYPE ANCHOR BOLT AT INSTALLATION AND FINAL STAGE

Anchor Bolt	Installation stage (only one force acting)		Final stage (only one force acting)	
	$N_{Rd0, s}$ [kN]	$V_{Rd0, s}$ [kN]	$N_{Rd0, s}$ [kN]	$V_{Rd0, s}$ [kN]
NKP L/P – M16	62	4	62	20
NKP L/P – M20	97	8	97	31
NKP L/P – M24	140	12,5	140	45
NKP L/P – M30	220	24	220	71
NKP L/P – M39	385	39	385	125

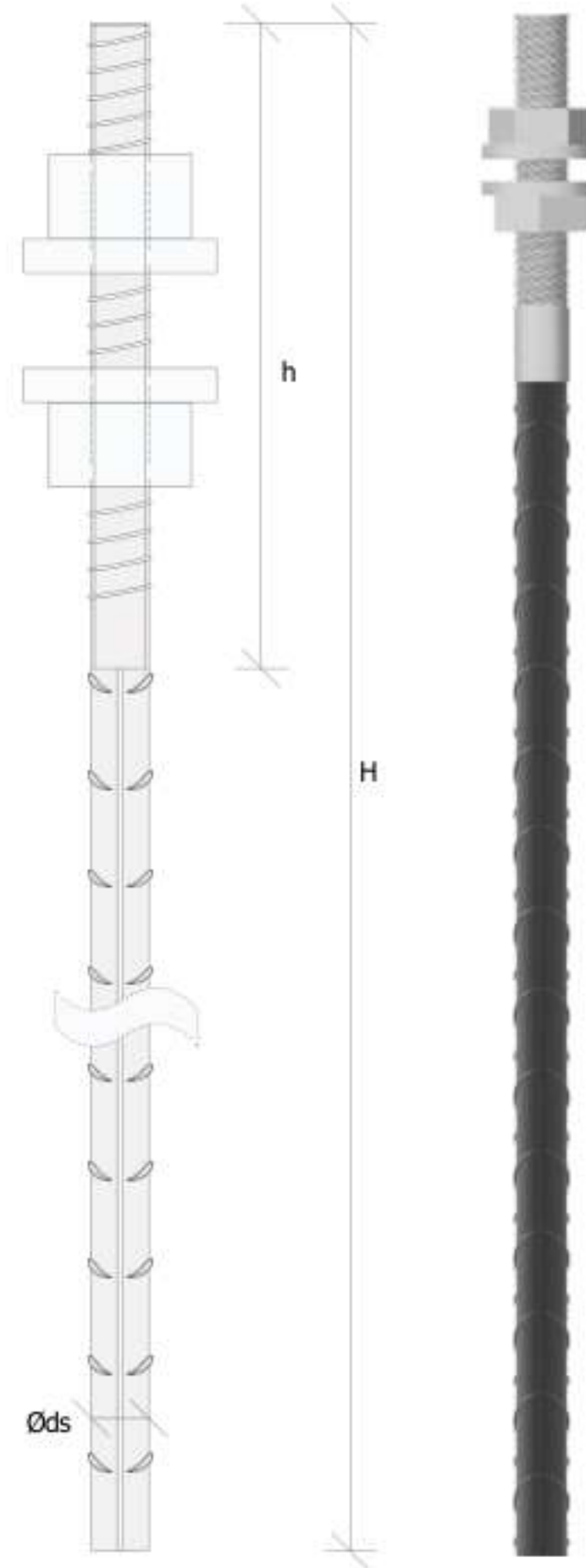
NKP – P TYPE ANCHOR BOLT

NKP – P TYPE ANCHOR BOLT MATERIALS AND STANDARDS

Component	Material	Standard
Ribbed reinforcement bars	B500B	EN10080:2006
Washers	S355J2 + N	EN10025-2:2019
Nuts (NKP bolts)	Class 8	ISO 4032:2023
Nuts (SKP bolts)	Class 10	ISO 4032:2023
Anchor plates	S355J2+N	EN10025-2:2019
Threaded bars (SKP bolts)	Imacro M $f_{yk} \geq 640 \text{ MPa}$; $f_{tk} \geq 800 \text{ MPa}$	EN 10027-1:2016, ISO 898-1:2013

NKP – P TYPE ANCHOR BOLT DIMENSIONS

Anchor Bolt	H [mm]	h [mm]	Øds [mm]
NKP – P – M16	810	140	16
NKP – P – M20	960	140	20
NKP – P – M24	1160	170	25
NKP – P – M30	1460	190	32
NKP – P – M39	2000	200	40



SAFE WORKING LOAD FOR NKP – P TYPE ANCHOR BOLT AT INSTALLATION AND FINAL STAGE

Anchor Bolt	Installation stage (only one force acting)		Final stage (only one force acting)	
	$N_{Rd0,s}$ [kN]	$V_{Rd0,s}$ [kN]	$N_{Rd0,s}$ [kN]	$V_{Rd0,s}$ [kN]
NKP L/P – M16	62	4	62	20
NKP L/P – M20	97	8	97	31
NKP L/P – M24	140	12,5	140	45
NKP L/P – M30	220	24	220	71
NKP L/P – M39	385	39	385	125

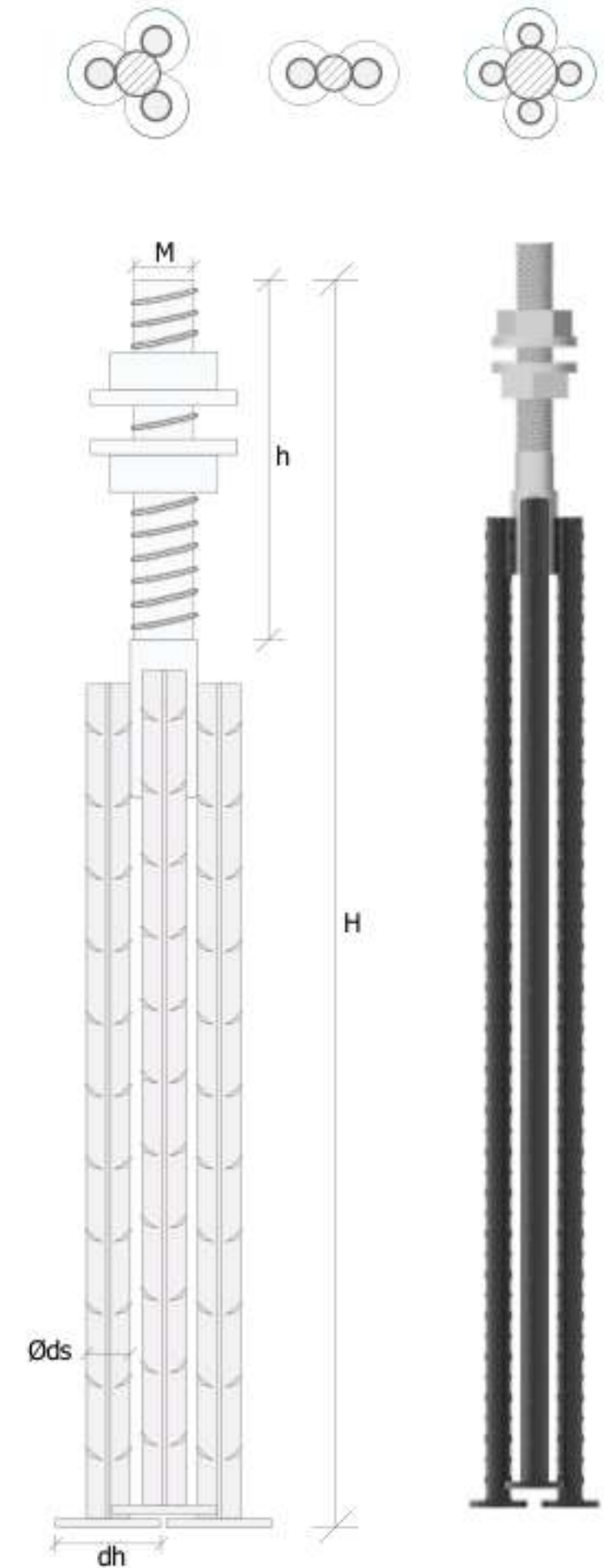
SKP – L TYPE ANCHOR BOLT

SKP – L TYPE ANCHOR BOLT MATERIALS AND STANDARDS

Component	Material	Standard
Ribbed reinforcement bars	B500B	EN10080:2006
Washers	S355J2 + N	EN10025-2:2019
Nuts (NKP bolts)	Class 8	ISO 4032:2023
Nuts (SKP bolts)	Class 10	ISO 4032:2023
Anchor plates	S355J2+N	EN10025-2:2019
Threaded bars (SKP bolts)	Imacro M $f_{yk} \geq 640 \text{ MPa}$; $f_{tk} \geq 800 \text{ MPa}$	EN 10027-1:2016, ISO 898-1:2013

SKP – L TYPE ANCHOR BOLT DIMENSIONS

High Strength Anchor Bolt	H [mm]	h [mm]	Øds [mm]	Ødh [mm]
SKP – L – M30	670	190	2 – 25	55
SKP – L – M36	740	190	4 – 20	46
SKP – L – M39	880	200	3 – 25	55
SKP – L – M45	980	220	4 – 25	55
SKP – L – M52	1140	250	4 – 32	70
SKP – L – M60	1330	310	4 – 32	70



SAFE WORKING LOAD FOR SKP – L TYPE ANCHOR BOLT AT INSTALLATION AND FINAL STAGE

Anchor Bolt	Installation stage (only one force acting)		Final stage (only one force acting)	
	$N_{Rd0,s}$ [kN]	$V_{Rd0,s}$ [kN]	$N_{Rd0,s}$ [kN]	$V_{Rd0,s}$ [kN]
SKP L/P – M30	299	32	299	71
SKP L/P – M36	435	50	435	103
SKP L/P – M39	520	59	520	124
SKP L/P – M45	695	82	695	165
SKP L/P – M52	938	119	938	219
SKP L/P – M60	1260	162	1260	225

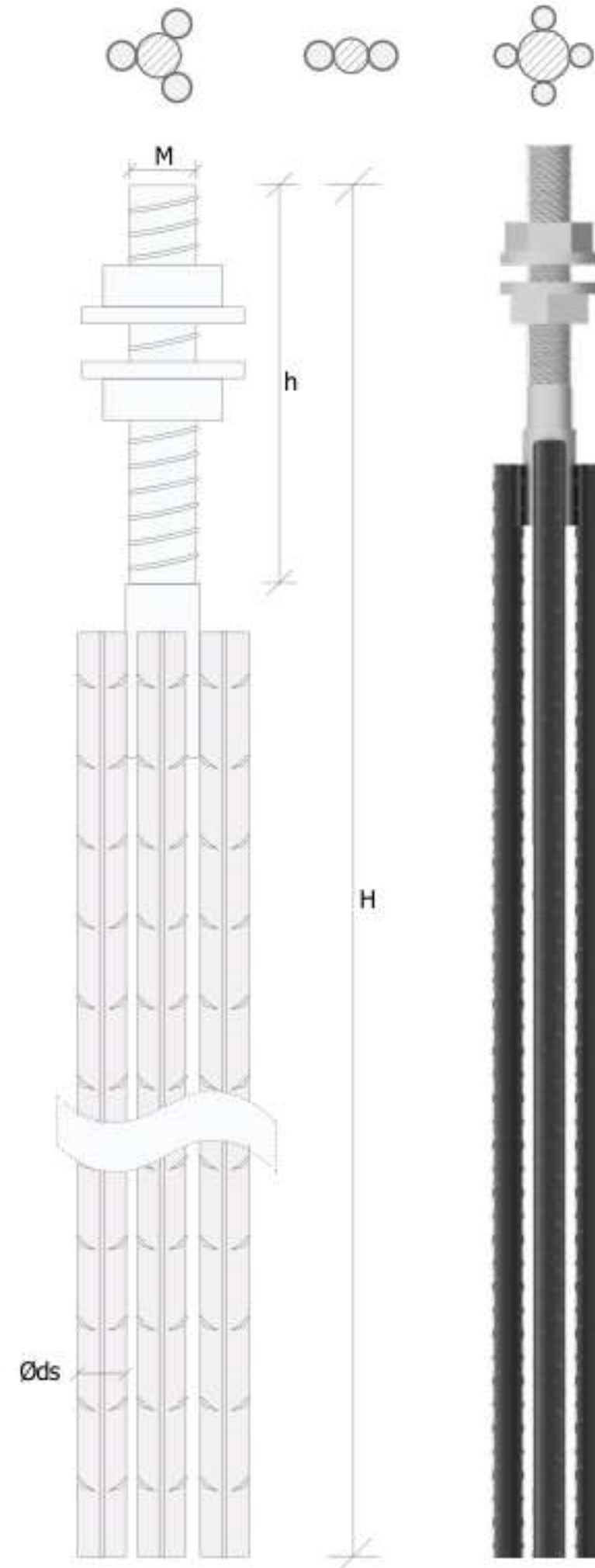
SKP – P TYPE ANCHOR BOLT

SKP – P TYPE ANCHOR BOLT MATERIALS AND STANDARDS

Component	Material	Standard
Ribbed reinforcement bars	B500B	EN10080:2006
Washers	S355J2 + N	EN10025-2:2019
Nuts (NKP bolts)	Class 8	ISO 4032:2023
Nuts (SKP bolts)	Class 10	ISO 4032:2023
Anchor plates	S355J2+N	EN10025-2:2019
Threaded bars (SKP bolts)	Imacro M $f_{yk} \geq 640 \text{ MPa}$; $f_{yk} \geq 800 \text{ MPa}$	EN 10027-1:2016, ISO 898-1:2013

SKP – P TYPE ANCHOR BOLT DIMENSIONS

High Strength Anchor Bolt	H [mm]	h [mm]	Øds [mm]
SKP – P – M30	1705	190	2 – 25
SKP – P – M36	1370	190	4 – 20
SKP – P – M39	1710	200	3 – 25
SKP – P – M45	1720	220	4 – 25
SKP – P – M52	1860	250	4 – 32
SKP – P – M60	2390	310	4 – 32



SAFE WORKING LOAD FOR SKP – L TYPE ANCHOR BOLT AT INSTALLATION AND FINAL STAGE

Anchor Bolt	Installation stage (only one force acting)		Final stage (only one force acting)	
	$N_{Rd0,s}$ [kN]	$V_{Rd0,s}$ [kN]	$N_{Rd0,s}$ [kN]	$V_{Rd0,s}$ [kN]
SKP L/P – M30	299	32	299	71
SKP L/P – M36	435	50	435	103
SKP L/P – M39	520	59	520	124
SKP L/P – M45	695	82	695	165
SKP L/P – M52	938	119	938	219
SKP L/P – M60	1260	162	1260	225

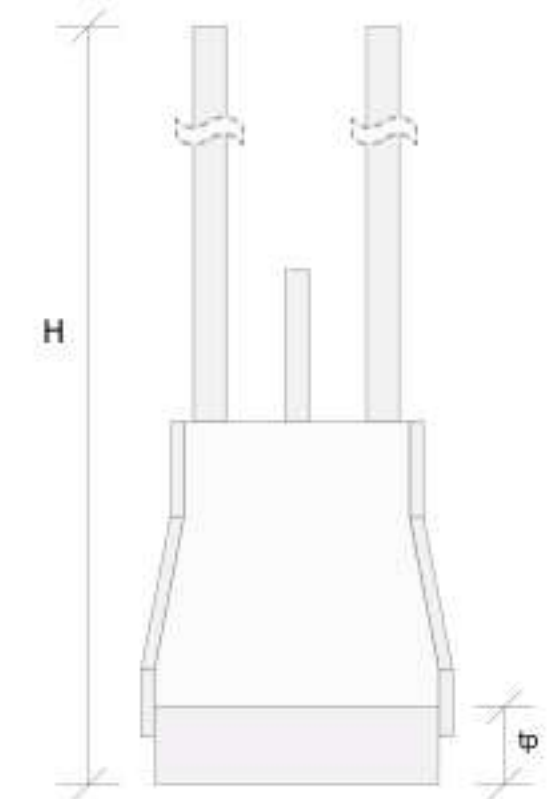
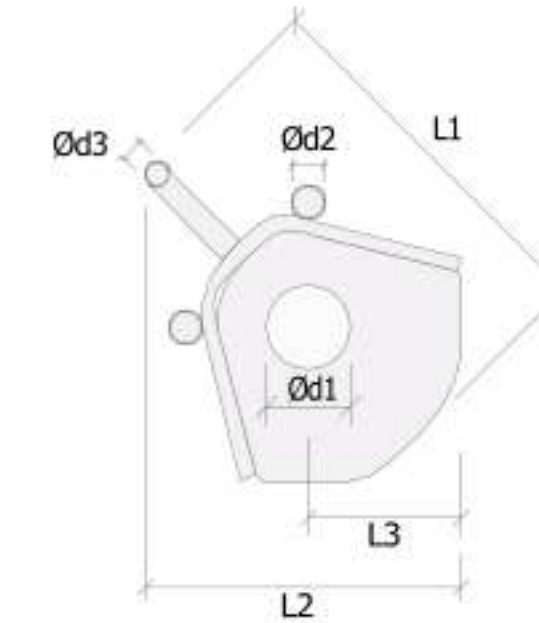
COLUMN SHOE

NKK – COLUMN SHOE MATERIALS AND STANDARDS

Part	Material quality	Standard
Ribbed reinforcement bars	B500B	EN10080:2006
Plates	S355J2+N	EN10025-2:2019

NKK – COLUMN SHOE DIMENSIONS

Column Shoe	H [mm]	L1 [mm]	L2 [mm]	L3 [mm]	Ød1 [mm]	Ød2 [mm]	Ød3 [mm]	tp [mm]	Weight [kg]
NKK – M16	597	124	104	50	28	12	8	15	2.3
NKK – M20	820	130	108	50	31	16	10	20	4.2
NKK – M24	1185	140	116	50	35	16	12	30	6.7
NKK – M30	1390	169	137	50	40	20	16	45	12.2
NKK – M39	1910	221	177	60	55	25	20	50	26.7



SAFE WORKING LOAD FOR NKK – COLUMN SHOE AT ERECTION AND FINAL STAGE

Anchor Bolt	Erection stage		Final stage		Lever arm l_s [mm]
	$N_{Ed0,s}$ [kN]	$V_{Ed0,s}$ [kN]	$N_{Ed,s}$ [kN]	$V_{Ed,s}$ [kN]	
NKK – M16	62	4	62	20	66
NKK – M20	97	8	97	31	70
NKK – M24	139	12,5	139	45	74
NKK – M30	222	24	222	71	80
NKK – M39	385	39	385	125	100

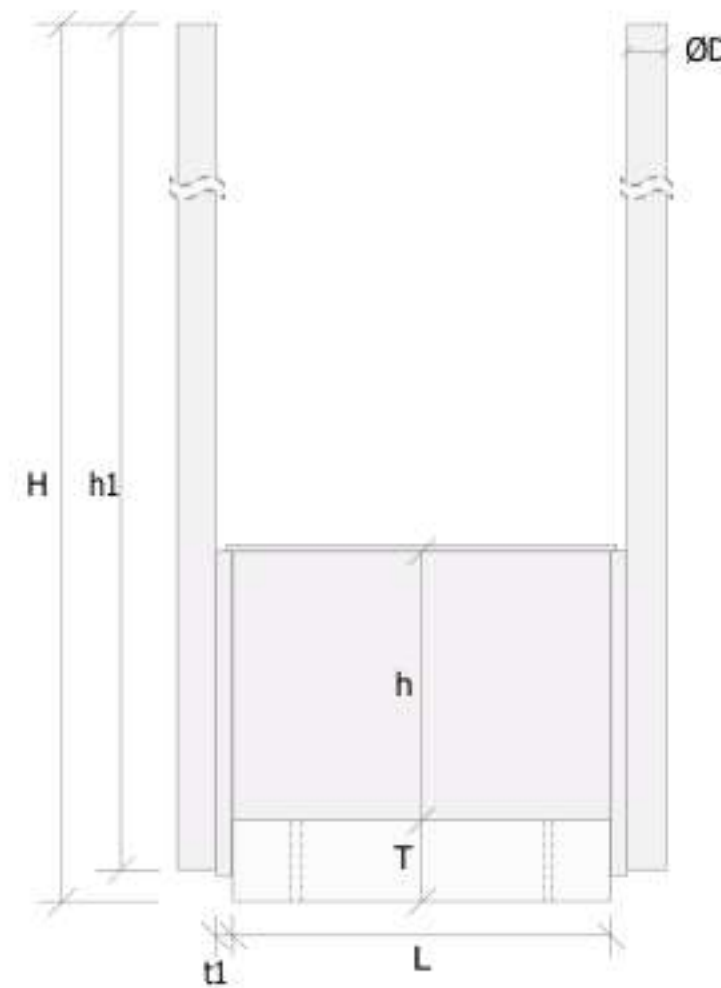
NORMAL CAPACITY WALL SHOE

NSK – WALL SHOE MATERIALS AND STANDARDS

Part	Material quality	Standard
Ribbed reinforcement bars	B500B	EN10080:2006
Plates	S355J2+N	EN10025-2:2019

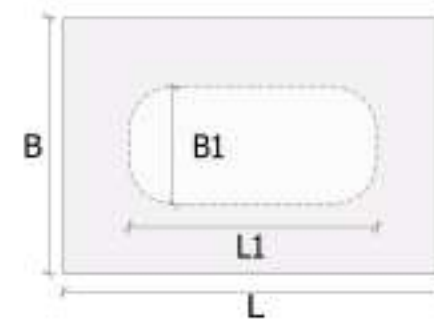
NSK – WALL SHOE DIMENSIONS

Wall Shoe	L [mm]	B [mm]	H [mm]	T [mm]	L1 [mm]	B1 [mm]	h [mm]	h1 [mm]	t1 [mm]	ØD [mm]
NSK – M16	119	80	630	30	76	36	80	620	5	12
NSK – M20	124	90	800	35	80	40	90	750	5	16
NSK – M24	129	110	965	35	84	49	105	950	6	20
NSK – M30	144	120	1130	40	90	55	115	1160	6	25
NSK – M39	165	145	1600	50	99	64	140	1580	10	32



SAFE WORKING LOAD FOR NSK – WALL SHOE

Wall Shoe	Anchor or Bolt	N _{Rd,s} [mm]
NSK – M16	M16	62
NSK – M20	M20	97
NSK – M24	M24	139
NSK – M30	M30	222
NSK – M39	M39	386



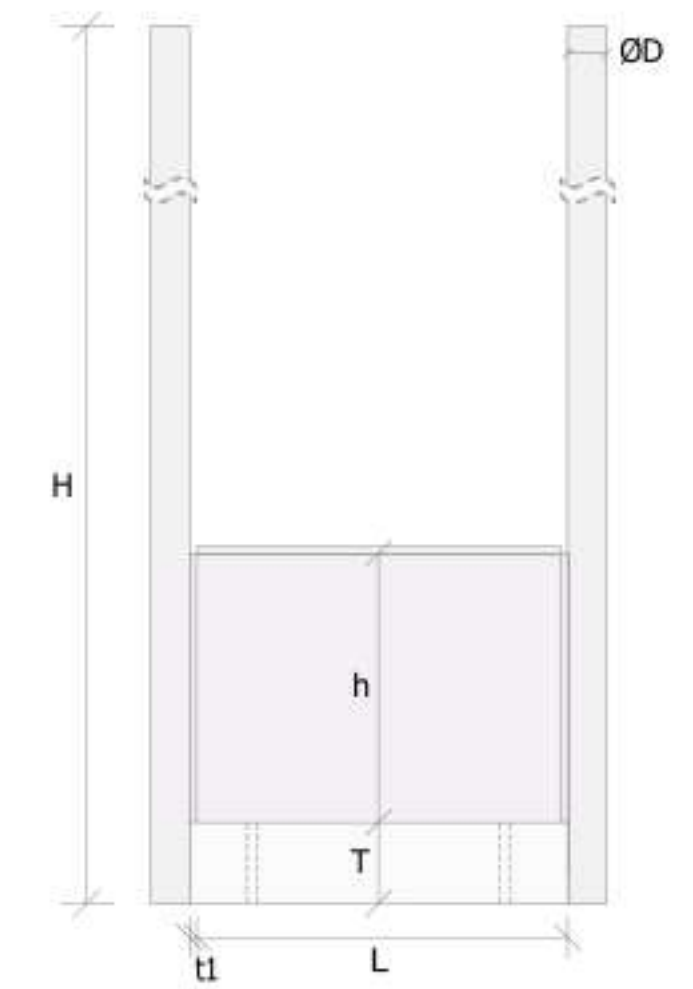
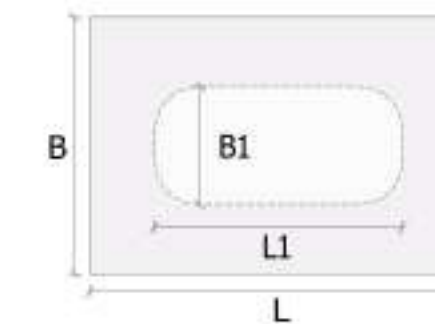
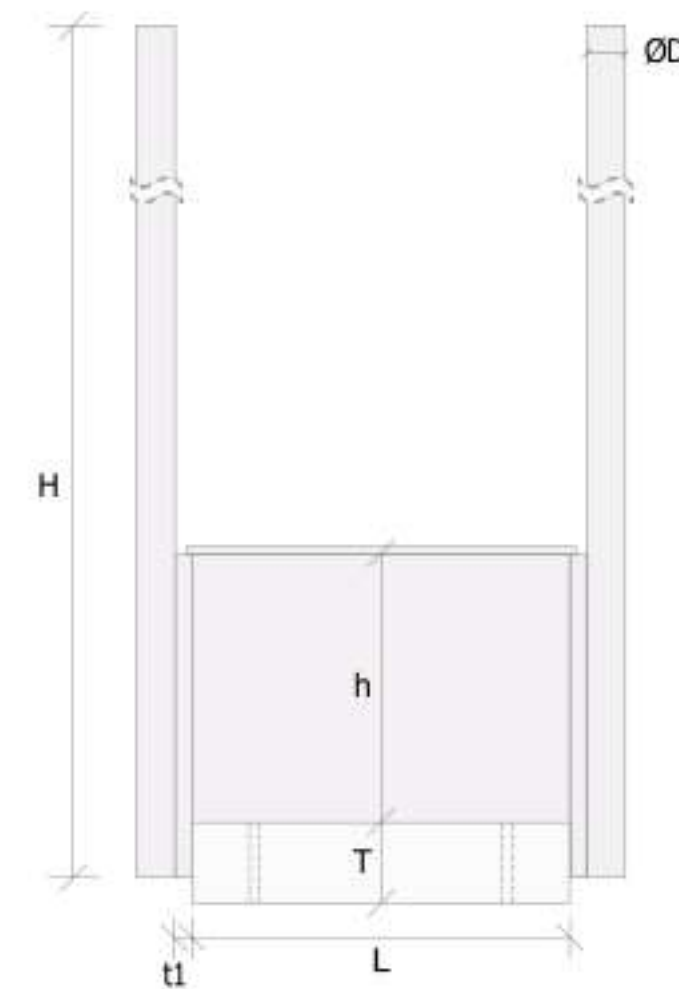
HIGH CAPACITY WALL SHOE

SSK – WALL SHOE MATERIALS AND STANDARDS

Part	Material quality	Standard
Ribbed reinforcement bars	B500B	EN10080:2006
Plates	S355J2+N	EN10025-2:2019

SSK – WALL SHOE DIMENSIONS

Wall Shoe	L [mm]	B [mm]	H [mm]	T [mm]	L1 [mm]	B1 [mm]	h [mm]	t1 [mm]	ØD [mm]
SSK – M30	145	130	1460	45	90	55	120	8	2x25
SSK – M36	164	150	1765	55	96	61	140	10	2x32
SSK – M39	165	150	1650	60	99	64	147	2	4x25
SSK – M45	180	175	2015	70	105	75	162	2	4x32
SSK – M52	210	230	2215	80	112	82	185	2	4x32



SAFE WORKING LOAD FOR SSK - WALL SHOE

Wall Shoe	Anchor or Bolt	N _{Rd,s} [mm]
SSK – M30	M30	299
SSK – M36	M36	435
SSK – M39	M39	520
SSK – M45	M45	696
SSK – M52	M52	937





9. FASTENING SYSTEMS

Fastening systems, a cornerstone of modern construction, empower seamless load transfer from various welded steel or concrete structures to concrete surfaces. Crafted for both efficiency and reliability, these systems feature steel plates adorned with welded anchoring studs that anchor securely into concrete. An embodiment of cost-effectiveness, fastening plates facilitate an economical approach to load distribution. Catering to diverse project requirements, they are available in an array of sizes ranging from compact 50x100 mm plates to substantial 600x600 mm ones, with anchoring depths spanning from 68mm to 435mm. Versatility is a hallmark of these systems, with plates and anchoring studs accessible in a variety of materials, including black, stainless, and acid-resistant steel. Moreover, bespoke fastening plates can be expertly tailored to align with project-specific drawings, ensuring

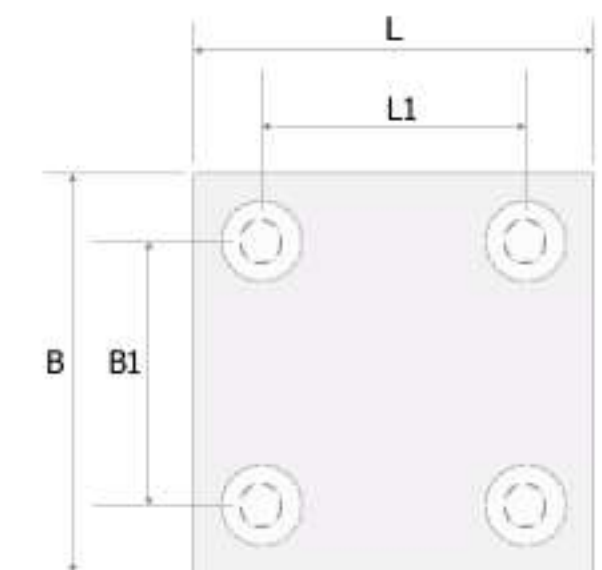
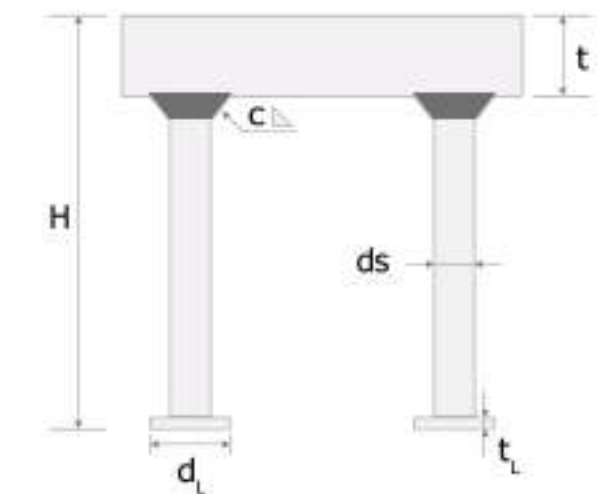
EFP FASTENING PLATE

EFP FASTENING PLATES MATERIALS AND STANDARDS

Type	Component	Material	Standard
EFP	Steel Plate	S355J2+N	SFS – EN 10025
	Anchor	SD1	SFS – EN ISO 13918
EFPs	Steel Plate	1.4301	SFS – EN 10088
	Anchor	SD1	SFS – EN ISO 13918
EFPa	Steel Plate	1.4401	SFS – EN 10088
	Anchor	SD1	SFS – EN ISO 13918
EFPss	Steel Plate	1.4301	SFS – EN 10088
	Anchor	SD3	SFS – EN ISO 13918
EFPas	Steel Plate	1.4401	SFS – EN 10088
	Anchor	SD3	SFS – EN ISO 13918

EFP FASTENING PLATES DIMENSIONS

L x B [mm] x [mm]	H [mm]	B1 [mm]	L1 [mm]	t [mm]	ds [mm]	dL [mm]	tL [mm]
EFP 100x50	68	0	60	8	10	19	7
EFP 100x50	108	0	60	8	10	19	7
EFP 100x100	68	60	60	8	10	19	7
EFP 100x100	108	60	60	8	10	19	7
EFP 150x100	70	60	90	10	10	19	7
EFP 150x100	110	60	90	10	10	19	7
EFP 200x100	72	70	120	12	13	25	8
EFP 200x100	112	70	120	12	13	25	8
EFP 200x100	162	70	120	12	13	25	8
EFP 300x100	165	60	180	15	16	32	8
EFP 150x150	70	90	90	10	10	19	7
EFP 150x150	110	90	90	10	10	19	7
EFP 150x150	162	90	90	12	13	25	8
EFP 200x200	72	120	120	12	13	25	8
EFP 200x200	112	120	120	12	13	25	8
EFP 200x200	162	120	120	12	16	32	8
EFP 300x200	165	120	180	15	16	32	8
EFP 250x250	165	170	170	15	16	32	8
EFP 300x300	165	180	180	15	16	32	8



EFP FASTENING PLATE

SAFE WORKING LOAD FOR EFP FASTENING PLATES

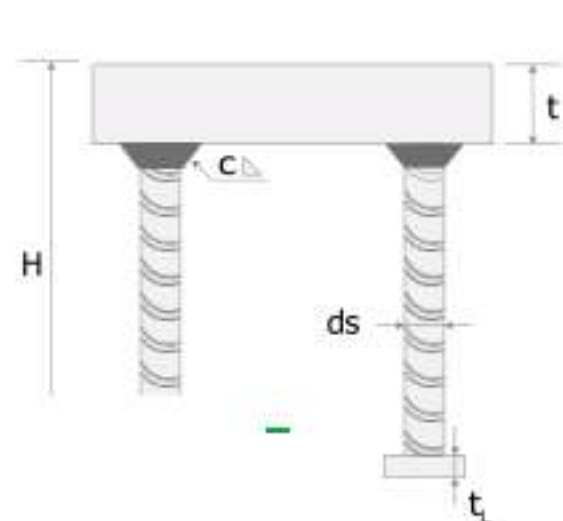
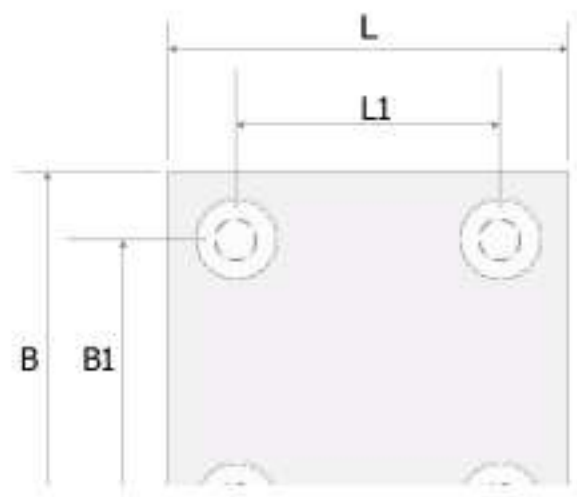
L x B [mm] x [mm]	H [mm]	N [kN]	V [kN]	ML [kNm]	MB [kNm]	T [kNm]
EFP 100x50	68	12.5	25.0	0.7	0.2	0.7
EFP 100x50	108	32.0	32.5	1.8	0.5	0.9
EFP 100x100	68	16.5	33.0	0.9	0.9	1.2
EFP 100x100	108	38.0	65.5	2.3	2.3	2.5
EFP 150x100	70	19.5	39.0	1.5	1.1	1.9
EFP 150x100	110	42.0	65.5	3.7	2.6	3.3
EFP 200x100	72	23.0	46.0	2.2	1.4	3.0
EFP 200x100	112	47.0	94.5	5.2	3.1	6.2
EFP 200x100	162	75.5	111.5	8.8	5.1	7.3
EFP 300x100	165	84.0	168.0	13.8	5.5	15.4
EFP 150x150	70	21.5	43.5	1.7	1.7	2.6
EFP 150x150	110	45.5	65.5	4.1	4.1	3.9
EFP 150x150	162	74.5	111.5	6.9	6.9	6.7
EFP 200x200	72	27.5	55.0	2.7	2.7	4.4
EFP 200x200	112	53.5	107.5	6.1	6.1	8.7
EFP 200x200	162	83.0	166.0	10.1	10.1	13.5
EFP 300x200	165	93.5	168.5	15.8	11.6	17.6
EFP 250x250	165	100.0	168.5	15.0	15.0	19.7
EFP 300x300	165	103.0	168.5	17.6	17.6	20.9



EHD FASTENING PLATE

EHD FASTENING PLATES DIMENSIONS

L x B [mm] x [mm]	H [mm]	B1 [mm]	L1 [mm]	t [mm]	ds [mm]	dL [mm]	tL [mm]
EHD 150x150	220	90	90	25	16	40	6
EHD 150x150	285	90	90	25	16	40	6
EHD 200x150	220	100	120	25	20	50	8
EHD 200x150	355	100	120	25	20	50	8
EHD 250x150	220	100	190	25	20	50	8
EHD 250x150	355	100	190	25	20	50	8
EHD 200x200	220	120	120	25	20	50	8
EHD 200x200	355	120	120	25	20	50	8
EHD 250x200	220	120	190	25	20	50	8
EHD 250x200	355	120	190	25	20	50	8
EHD 300x200	280	120	200	25	25	65	10
EHD 300x200	435	120	200	25	25	65	10
EHD 250x250	220	190	190	25	20	50	8
EHD 250x250	355	190	190	25	20	50	8
EHD 300x300	280	200	200	25	25	65	10
EHD 300x300	435	200	200	25	25	65	10
EHD 300x500	435	133	200	30	25	65	10
EHD 300x500	280	133	200	30	25	65	10
EHD 400x400	280	300	300	30	25	65	10
EHD 400x400	435	300	300	30	25	65	10
EHD 500x500	280	400	400	30	25	65	10
EHD 500x500	435	400	400	30	25	65	10
EHD 600x600	280	500	500	30	25	65	10
EHD 600x600	435	500	500	30	25	65	10



EHD FASTENING PLATE

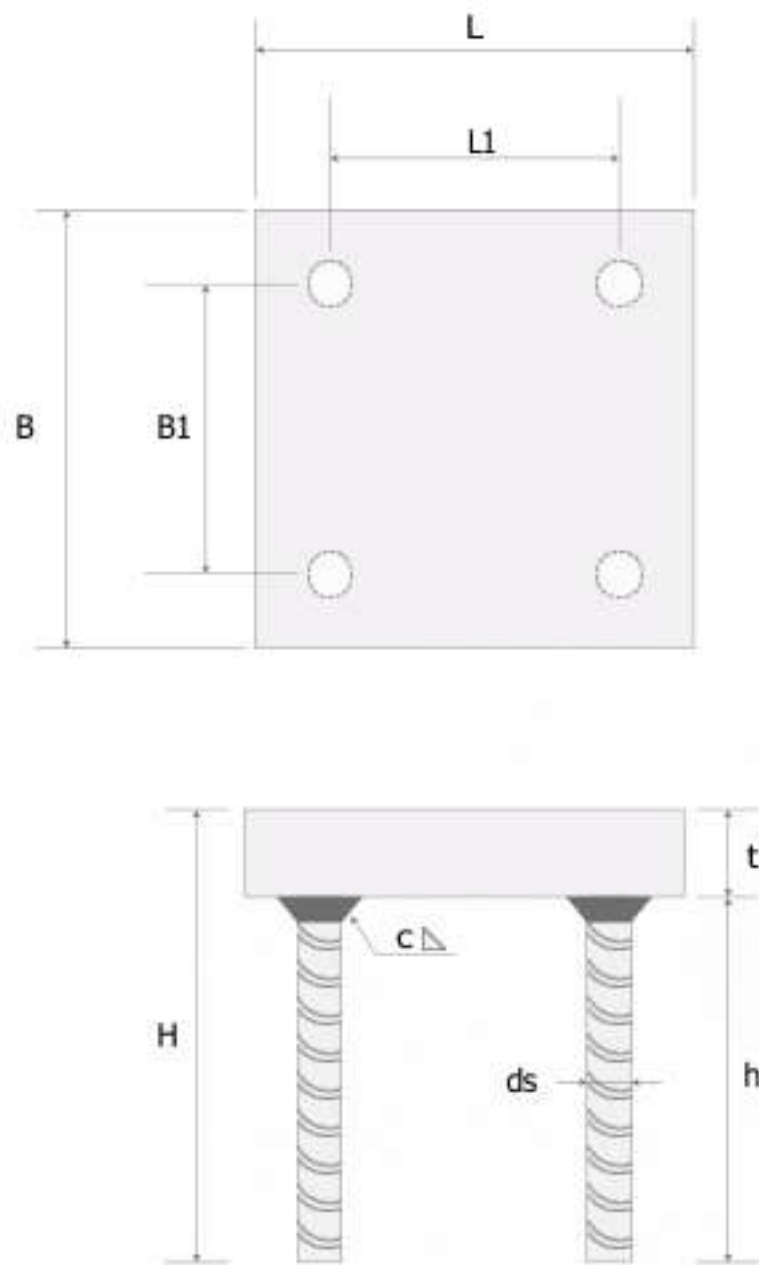
SAFE WORKING LOAD FOR EHD FASTENING PLATES

L x B [mm] x [mm]	H [mm]	N [kN]	V [kN]	ML [kNm]	MB [kNm]	T [kNm]
EHD 150x150	220	112.5	143.0	10.3	10.3	8.3
EHD 150x150	285	153.5	143.0	14.1	14.1	8.3
EHD 200x150	220	116.5	229.0	11.5	14.3	17.0
EHD 200x150	355	223.5	229.0	20.6	25.8	17.0
EHD 250x150	220	127.5	236.0	12.7	20.2	24.5
EHD 250x150	355	237.0	236.0	22.7	37.9	24.5
EHD 200x200	220	120.0	235.5	15.0	15.0	19.1
EHD 200x200	355	227.5	235.5	27.8	27.8	19.1
EHD 250x200	220	131.0	239.0	16.6	21.1	26.0
EHD 250x200	355	241.5	239.0	30.3	40.1	26.0
EHD 300x200	280	177.5	355.0	23.0	33.3	40.2
EHD 300x200	435	316.5	374.5	39.8	59.8	42.4
EHD 250x250	220	143.5	249.5	23.3	23.3	32.6
EHD 250x250	355	256.0	249.5	43.3	43.3	32.6
EHD 300x300	280	193.0	386.0	37.0	37.0	53.2
EHD 300x300	435	335.0	391.5	66.0	66.0	54.0
EHD 300x500	435	231.0	462.5	44.9	94.0	50.8
EHD 300x500	280	380.0	742.5	77.3	155.4	81.6
EHD 400x400	280	233.0	404.5	58.1	58.1	84.3
EHD 400x400	435	382.0	404.5	102.9	102.9	84.3
EHD 500x500	280	277.5	411.0	82.3	82.3	114.8
EHD 500x500	435	432.0	411.0	143.4	143.4	114.8
EHD 600x600	280	325.5	415.0	109.5	109.5	145.3
EHD 600x600	435	485.5	415.0	187.6	187.6	145.3

EFPR FASTENING PLATE

EFPR FASTENING PLATES MATERIALS AND STANDARDS

Type	Component	Material	Standard
EFPR	Steel Plate	S355J2+N	SFS – EN 10025
	Anchor	B500B, BSt 500 S	SFS – 1300, DIN 488
EFPRs	Steel Plate	1.4301	SFS – EN 10088
	Anchor	B500B, BSt 500 S	SFS – 1300, DIN 488
EFPRa	Steel Plate	1.4401	SFS – EN 10088
	Anchor	B500B, BSt 500 S	SFS – 1300, DIN 488



EFPR FASTENING PLATE

EFPR FASTENING PLATES DIMENSIONS

L x B [mm] x [mm]	H [mm]	B1 [mm]	L1 [mm]	t [mm]	ds [mm]	h [mm]	c [mm]
EFPR 100x50	218	0	60	8	12	210	5
EFPR 100x100	218	60	60	8	12	210	5
EFPR 150x100	220	60	90	10	12	210	5
EFPR 150x150	222	90	90	12	16	210	7
EFPR 200x100	222	60	120	12	16	210	7
EFPR 200x200	312	120	120	12	20	300	8
EFPR 250x250	315	150	150	15	20	300	8
EFPR 300x100	315	60	180	15	20	300	8
EFPR 300x200	315	120	180	15	20	300	8
EFPR 300x300	315	180	180	15	20	300	8

SAFE WORKING LOAD FOR EFPR FASTENING PLATES

L x B [mm] x [mm]	H [mm]	N [mm]	V [mm]	MB [mm]	ML [mm]	T [mm]
EFPR 100x50	218	15.0	17.2	0.5	1.2	0.5
EFPR 100x100	218	39.2	35.0	2.5	2.5	2.0
EFPR 150x100	220	45.0	35.0	2.7	4.4	2.5
EFPR 150x150	222	73.0	71.0	6.4	6.4	5.5
EFPR 200x100	222	58.5	62.2	3.4	7.4	5.9
EFPR 200x200	312	158	119.3	16.4	16.4	12.0
EFPR 250x250	315	195.6	124.5	24.5	24.5	15.1
EFPR 300x100	315	110.0	97.3	6.1	19.5	13.5
EFPR 300x200	315	170.0	119.3	17.4	26.5	15.5
EFPR 300x300	315	207.5	128.4	31.0	31.0	18.4

10. RAILING SLEEVES

Railing Sleeves are engineered from steel tubes featuring welded anchoring studs. These sleeves serve a crucial purpose in the secure, efficient, and swift installation of temporary safety rails onto precast walls. Designed for immediate use upon the delivery of wall panels, Railing Sleeves ensure streamlined safety rail setups. With their sturdy construction and welded studs, Railing Sleeves provide a reliable foundation for temporary safety rail installations. Their availability in both standard and project-specific sizes caters to a range of construction requirements, offering a tailored fit for various applications.



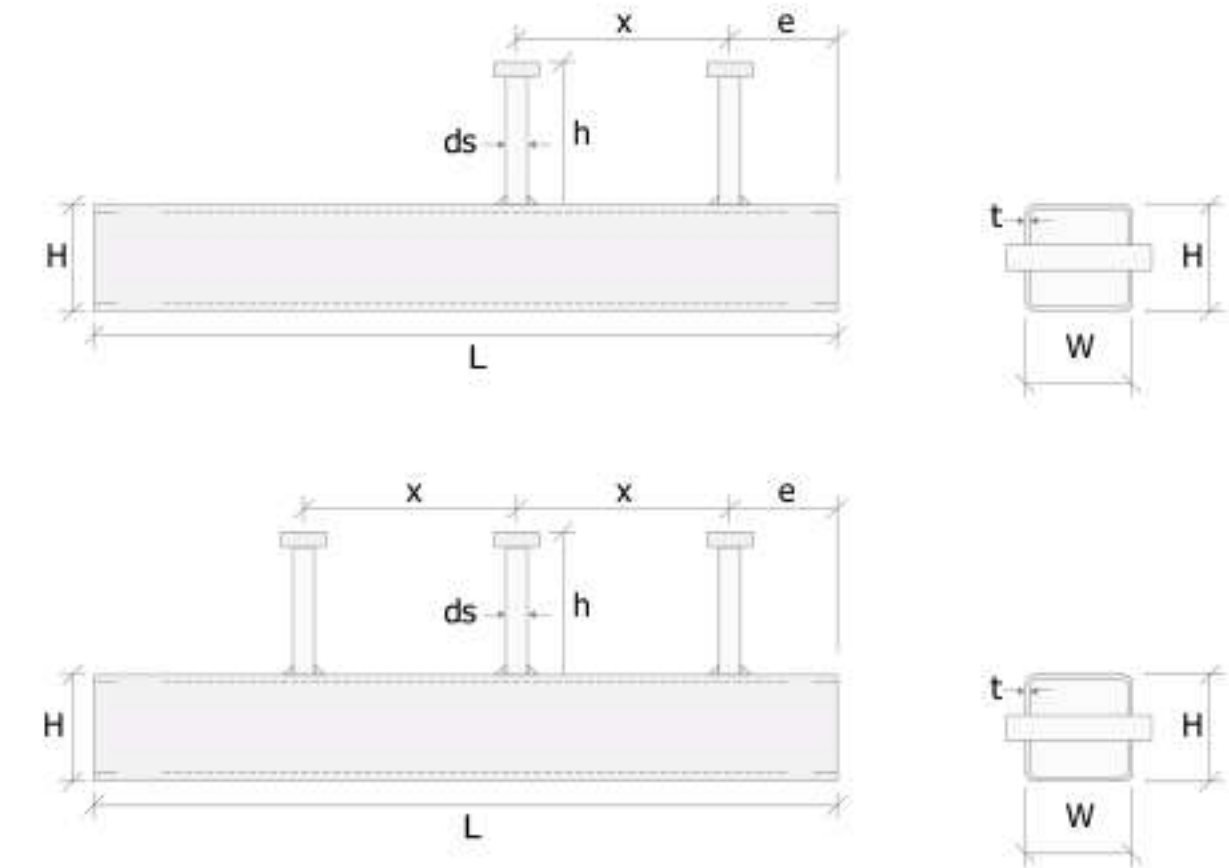
TURVA RAILING SLEEVES

TURVA RAILING SLEEVES MATERIALS AND STANDARDS

Component	Material	Material Type	Standard
Structural Tube	S355J2 + N	Uncoated	EN 10025
Stud Anchor	SD1	Uncoated	EN ISO 13918

TURVA RAILING SLEEVES DIMENSIONS

Railing Sleeve	H [mm]	h [mm]	t [mm]	L [mm]	e [mm]	x [mm]	ds [mm]	n [-]	W [mm]
TURVA-200/2	50	60	3	200	50	100	10	2	50
TURVA-600/2	50	60	3	600	20	100	10	2	50
TURVA-400/3	50	60	3	400	20	100	10	3	50
TURVA-500/3	50	60	3	500	20	100	10	3	50
TURVA-600/3	50	60	3	600	20	100	10	3	50



11. MAGNETS

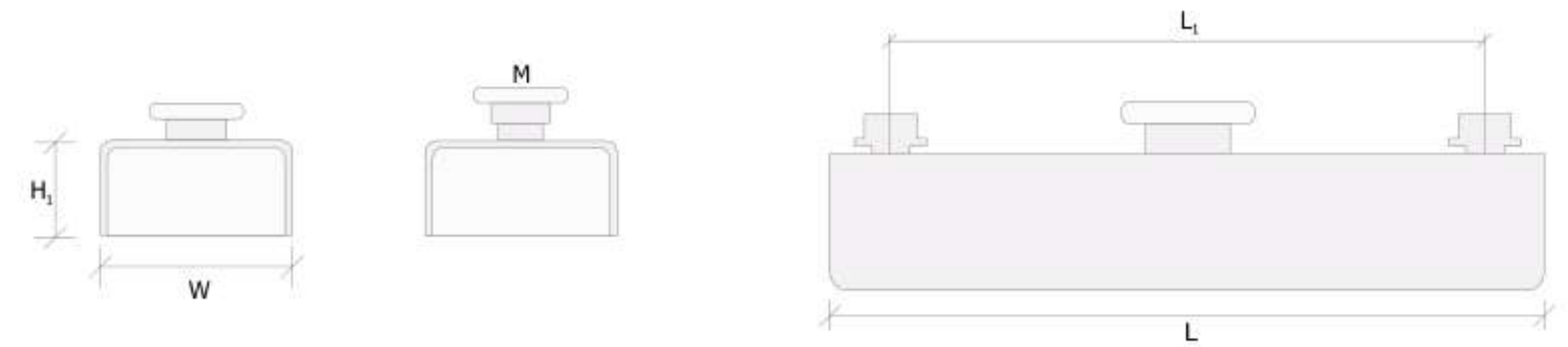
Within the realm of construction, magnets play a pivotal role in streamlining processes and ensuring precise execution. This group encompasses two key types: Shuttering Magnets and Socket Magnets, each offering unique benefits tailored to construction needs. Shuttering Magnets are designed to securely attach formwork to steel platforms, optimizing stability during concrete pouring. On the other hand, Socket Magnets provide a reliable solution for temporary fixing of precast elements during assembly. Both types of magnets contribute to increased efficiency, reduced labor, and enhanced accuracy in construction projects. By harnessing the power of magnets, construction professionals can elevate



SHUTTERING MAGNET

SHUTTERING MAGNET DIMENSIONS

Magnet Type	L [mm]	L ₁ [mm]	W [mm]	H ₁ [mm]	M [mm]
900 kg	280	230	70	60	13
1600 kg	270	218	120	60	16
2100 kg	320	270	120	60	16
2500 kg	320	270	120	60	16
3100 kg	320	270	120	60	16



RELEASING TOOL

For ease of removing the shuttering magnet, releasing tool is placed below the clamping handle and pushed down which pulls the clamping handle up and demagnetizes the shuttering magnet.

- ▶ Easy to use
- ▶ Ergonomic
- ▶ Durable

HOW TO USE

- ▶ Put the tool in position as shown in the image
- ▶ Push down the handle of tool to release the magnet
- ▶ Do not use hammer
- ▶ Release the magnet using the tools only



SAFETY AND USAGE INSTRUCTIONS

SAFETY

- ▶ Magnet is very strong and permanent with magnetic power "ON" all the time.
- ▶ Be careful while using magnet. Avoid putting hand, leg or any other body parts under the magnets.
- ▶ Do not use electronic devices near the magnet as the magnetic field can damage these devices.

USAGE INSTRUCTIONS

- ▶ DO NOT hit the magnet with hammer or any other tool under any circumstances. Warranty is not valid if any marks of misuse appear on the magnet.
- ▶ Use only special opening tool to open the magnet.
- ▶ Clean the magnet and surface of the table before placing the magnet on the table.
- ▶ Clean the magnet using stainless steel plate only.
- ▶ Always store the magnet in "OFF" position (clamping handle button up), side by side.
- ▶ Oil the magnet before the usage and before the storage.

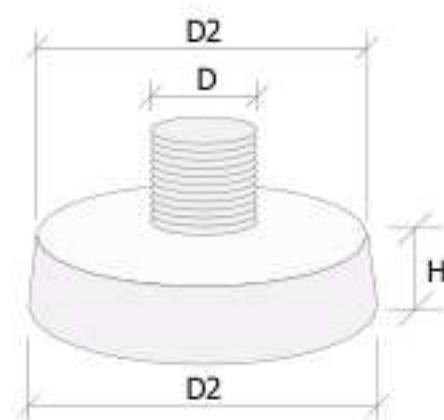


SOCKET MAGNETS

Efficient socket magnets used for fixing threaded cast-in inserts to steel formwork.

SOCKET MAGNET DIMENSIONS

Magnet Type	D	D1 [mm]	D2 [mm]	H [mm]
M8	8	45	40	8
M10	10	45	40	8
M12	12	54	48	10
M16	16	54	48	10
M20	20	60	53.8	10
M24	24	77.2	73	12



12. TYING WIRE & CUT AND BENT REBAR

Tying Wire, a fundamental component in the construction industry, serves as a versatile fastening solution for securing various structural elements. This wire is utilized to tightly bind together reinforcement bars, mesh, and other construction materials, ensuring structural integrity and stability. Its flexible and durable nature makes it an essential tool in a wide range of construction applications, facilitating secure connections that contribute to the robustness of various projects.

MTP43 | Hot Melt Adhesive for Precast Concrete Applications

GENERAL DESCRIPTION

MTP43 hot melt adhesive has been specially formulated for the precast concrete industry. It is designed to bond wood, plastic, metal and foam to mould bases. It offers fast setting, versatile adhesion and easy cleaning from mould bases.

Packaging: carton boxes approx. 10 kg,
approx. 180 pieces per box.



TECHNICAL CHARACTERISTICS

Parameter	Value
Composition	Synthetic resin
Solid content	100%
Size	43 mm +/- 2 mm x 43 mm +/- 2 mm
Ring & Ball softening point	125°C +/- 5°C
Brookfield viscosity	@180°C: 2,800 +/- 1,000 mPa·s
Setting time	10-15 seconds
Appearance	White
Recommended use temperature	180°C - 200°C

RECOMMENDED USE

Application area	Precast concrete industry
Typical use	Bonding accessories, inserts, foam, wood, plastic and metal components to mould bases
Substrates	Wood, plastic, metal and foam
Main advantages	Fast setting, good adhesion, low viscosity after melting and easy cleaning from mould bases

HANDLING & SAFETY

- ▶ Molten adhesive can cause severe burns.
- ▶ If contact occurs, cool the affected area immediately with cold water.
- ▶ Do not attempt to remove molten adhesive from the skin.
- ▶ Use in a well-ventilated area and avoid overheating.
- ▶ Use suitable gloves and eye protection when handling hot or molten product.
- ▶ For fire response, use dry powder or CO2 extinguisher. Do not use water on molten/burning product.

STORAGE

- ▶ Store between 5°C and 30°C.
- ▶ Keep in a cool, clean and dry place.
- ▶ Keep boxes closed and protected from direct sunlight and local heat sources.
- ▶ Use oldest stock first where applicable.

PRODUCT SUMMARY

- ▶ Product: MTP43
- ▶ Type: Hot melt adhesive
- ▶ Box: approx. 10 kg
- ▶ Pieces per box: approx. 180 pcs
- ▶ Designed for precast mould bases



13. HOT MELT ADHESIVE

MTP43 hot melt adhesive has been specially formulated for the precast concrete industry. It is designed to bond wood, plastic, metal and foam to mould bases. It offers fast setting, versatile adhesion and easy cleaning from mould bases.

TYING WIRE

Stainless (1.4301)	Copper	Hot-Dip Galvanized	Plain (Uncoated)
0.7 x 330	0.9 x 400	0.7 x 330	0.9 x 400
0.7 x 350	0.9 x 450	0.7 x 350	
0.9 x 300	1.1 x 400	0.7 x 450	
0.9 x 350	1.1 x 450	0.9 x 400	
0.9 x 400	1.2 x 450	1.2 x 450	
0.9 x 450	1.2 x 500	1.2 x 500	
0.9 x 550			



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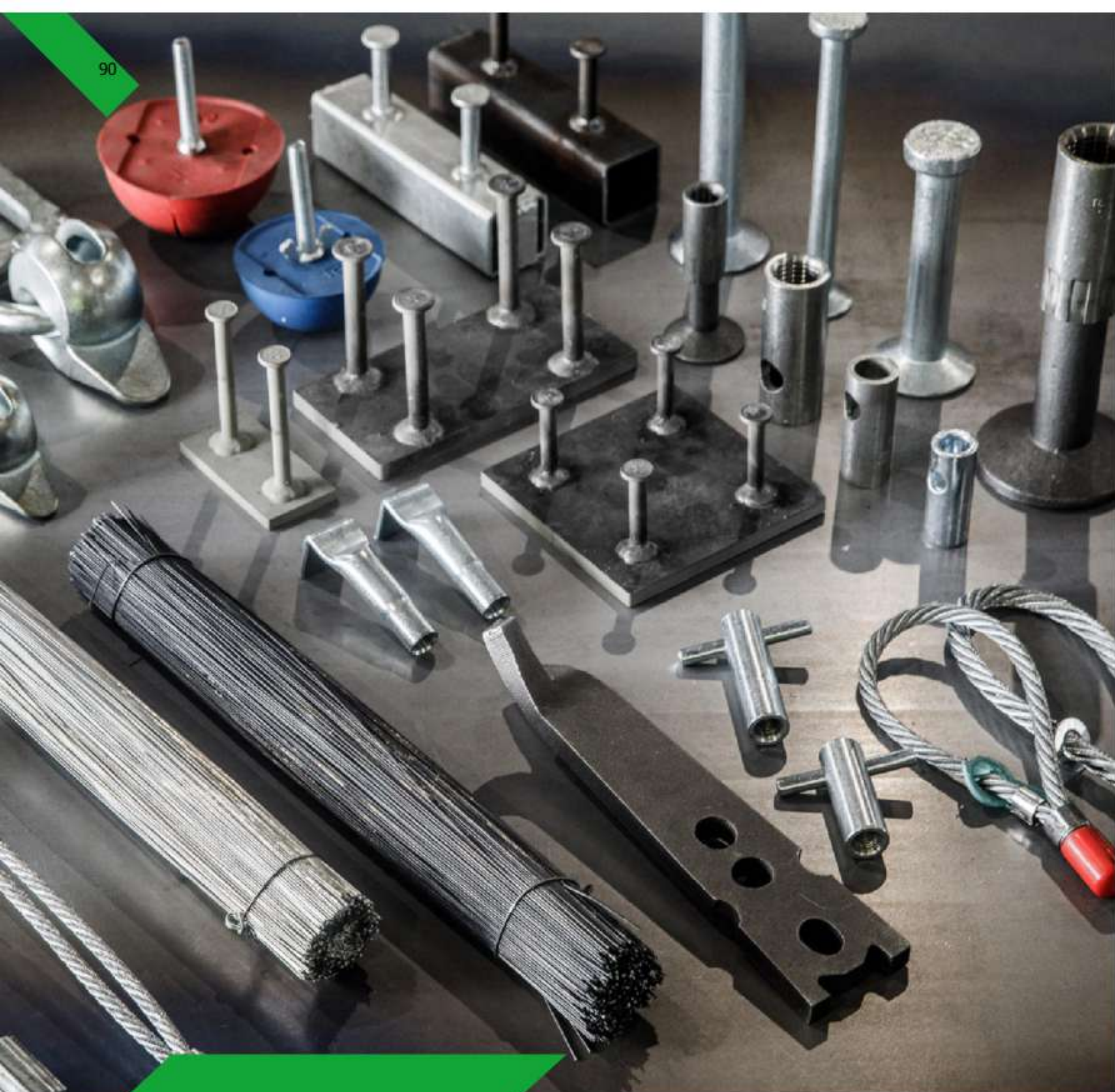


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