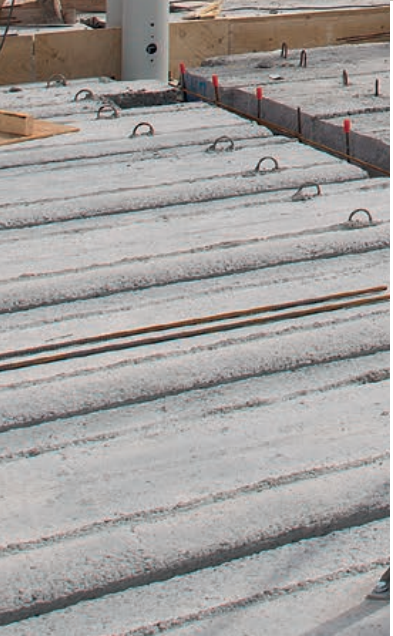
Anstar®



PRODUCT CATALOGUE

2025

Version 3.9.2025

APPROVALS AND QUALITY CONTROL

Our products have the necessary official approvals, and external quality control is carried out by Kiwa Inspecta Sertifiointi Oy. We have been granted the ISO 9001 and ISO 14001 quality and environmental certificates. Our production is certified according to EN 1090-1 and EN 3834-2.

PRODUCT LABELLING

Anstar Oy products are labelled with the manufacturer, metal part type and approval.

TECHNICAL SPECIFICATIONS

The technical specifications of the products can be found in the user manuals, which are available for download on our website at www.anstar.fi.

DELIVERY TERMS

Small-invoice surcharge
€10 + VAT on orders under €100.

Pallets
For pallets, we charge €20 + VAT.

Material certificates
For material certificates, we charge a processing fee of €20 + VAT.

Returns
Returns are agreed on a case-specific basis.

Other terms
In other respects, we follow the General procurement and delivery terms for construction products (RYHT 2000) of the Confederation of Finnish Construction Industries.

Anstar Oy is not liable for any errors in the product catalogue.

ANSTAR OY

Sales personnel can be found on our website www.anstar.fi and from pages 4–5 of the product catalog.

Requests for quotes on steel parts
orders@anstar.fi

Requests for quotes on composite beams
abeam@anstar.fi

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Estonia, sales office
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tel. +358 3 872 200
anstar@anstar.fi

Anstar®


GRAMO

CONTACT INFORMATION

Our technical support will help you with all your questions relating to concrete connections.
Do you have a connection-related challenge or do you need help choosing the right product?
Contact us and let's find a solution together!

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ANSTAR OY – FINNISH FAMILY BUSINESS

Anstar Oy is a family business established in 1981. For over 40 years, we have developed our products and can sincerely say that they are among the best in the industry.

We specialize in selling and manufacturing concrete structure connectors and composite beams. Anstar is an international player, one of the pioneers in the field. We assist with all questions related to fastening to concrete.

Our product range includes

- Fastening plates
- Bolts and shoes
- Brackets and support
- Ties
- Rebar couplers
- Balcony connections
- SMART FRAME®
- A-BEAM® composite beams
- Bracing connections

Our experts can also develop a solution for special fastening problems specific to the customer.

RESPONSIBILITY

Business responsibility is based on our values and our vision of the broader significance of business in society. Responsibility is part of our strategy, and we want to communicate our commitments to our stakeholders.

Only by making sustainable choices together can we leave a better legacy for future generations than we have received ourselves. Responsible business also enhances our competitiveness. In 2022, we made a responsibility program and set goals up to 2025.

We have defined the goals of our responsibility program into four different categories, that together include all our operations:

- Reduction of emissions
- Fair and safe work community
- Local cooperation
- Sustainable product range

This is our first responsibility report, and it covers the year 2022. In the report, we have utilized the GRI standard where applicable. Responsibility program made by Rodinia Oy.

Read the responsibility report:
anstar.fi/responsibility

HISTORY

1981
- Kari Viljakainen establishes Anstar Ky in Hollola's Alikartano.
- Staff: 2

1980s
- Main products include fastening plates, APK® pillar shoes, and ATP® and ALP® base bolts.
- The first welding robot is acquired.
- New premises in Villähde.

1990s
- AEP® concealed bracket is introduced to the market and the connection becomes the most used in the market.
- Our first dimensioning program, Coljoint, is released.

2000s
- A time of growth. During the decade, a new production hall is built, which is also expanded.
- A-beam production is started, and the A-BEAM® and a quick dimensioning program are introduced to the market.

2010s
- Strong development and release phase of new products and design programs.
- Anstar continues its internationalization, with deliveries to countries like Sweden, Germany, and the Baltics.

2020s
- Anstar Oy celebrates its 40th anniversary.
- Staff: 70.

2024
- The SMART FRAME® composite frame was added to the product range.
- A browser-based A-COLUMN® design tool was launched.

SMART STEEL™

Anstar's SMART STEEL™ concept enables efficient, modern construction even in difficult conditions.

The SMART STEEL™ concept represents intelligent construction, utilizing high-quality products and advanced design software. These tools enable the design of structural solutions and connections that meet the latest design standards. Anstar equips designers and builders with the best tools and technical support.

With our concept, you can achieve high-quality and modern solutions, such as:

- Long spans
- Spacious and adaptable spaces
- Versatile facade solutions
- SMART FRAME® composite frame system, allowing for the selection of lower-emission beams.

Our A-BEAM® products and Anstar's connection technology form part of a structural system offering cost-efficiency and flexibility in construction.

Save costs at the design stage
Up to 80% of project costs are determined during the design phase. Making the right choices early can significantly save time and resources. Our experience ensures timely and reliable deliveries, streamlining the construction process.

ANSTAR WAY – FROM DESIGN TO PRODUCTION

1. CHOOSE

80% of the final costs are decided in the project design phase.

2. DESIGN

Make use of the best design tools and technical support.

3. ORDER

Our Finnish background, lengthy experience and location ensure reliable deliveries on time.

4. IMPLEMENT

The construction process is made easier and quicker by mutually agreed technical solutions.

CONTENTS

SOFTWARE

Anstar has developed dimensioning software for designing the load-bearing frames of buildings. The software applications are used to specify the resistance and utilisation rates of the frame connections with Anstar products.

- The software has been designed for easy use and illustrative presentation.
- The software dimensions the connection according to the latest Euronorm standards.
- The software performs the calculation for the erection stage, final stage and accident situations.
- The software produces strength calculation materials for building control.
- The user interface and printing language options are Finnish and English.
- The downloadable software can be used on Windows 10 and 11.
- The use of the software applications is facilitated by the product-specific design instructions available on the website.

For structural design, Anstar has made Revit blocks, ACAD blocks and Tekla Structures components for its products, enabling the flexible use of Anstar products in the design work.

Standards used by the software:
- Design standards Eurocode 1, 2 and 3
- Finnish, Swedish and German NA

We have invested in software development to make the design process as seamless as possible for you. The latest downloadable software versions and the browser-based A-COLUMN® program can be found in our software portal:
ohjelmat.anstar.fi

Create an account in our system to start your design work!

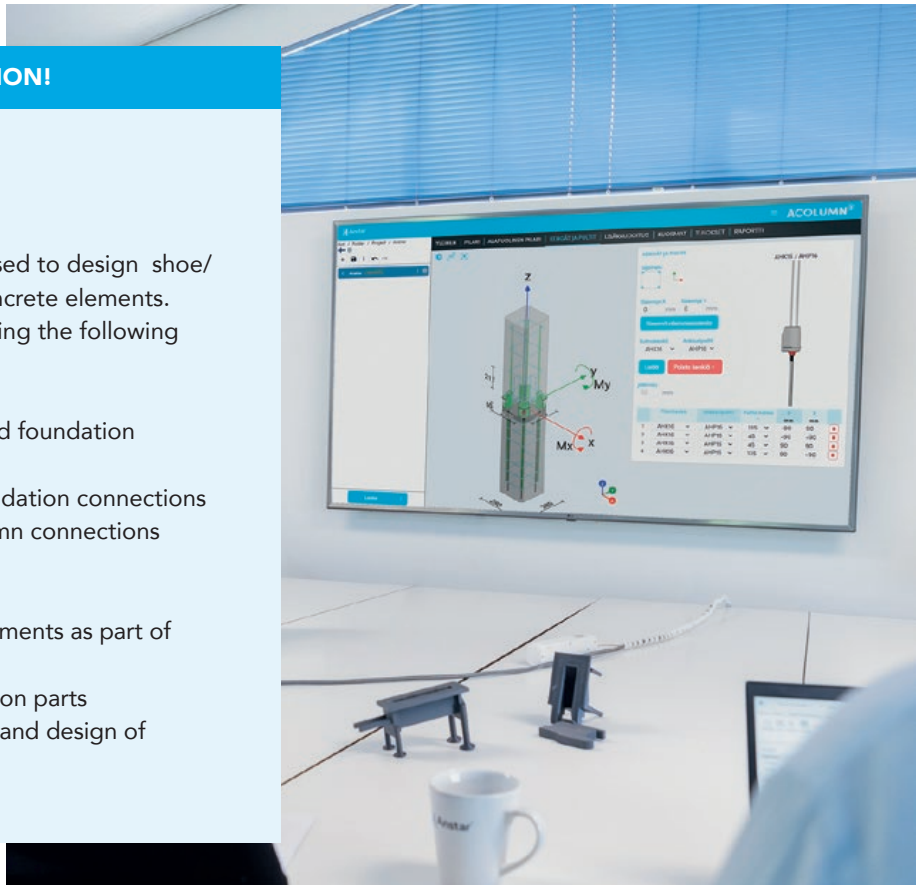
NEW BROWSER-BASED VERSION!

A-COLUMN®

The A-COLUMN® software is used to design shoe/anchor bolt connections for concrete elements. The software is used for designing the following types of element connections:

- Element column coupler and foundation connections
- Shear wall coupler and foundation connections
- Moment stiff beam-to-column connections

NEW!
- Utilization of crack reinforcements as part of shear reinforcement
- CO^2 calculation for connection parts
- Improvements in the layout and design of additional reinforcements



ASTEEL

The ASTEEL software is used for designing the following connections:

- Steel column bolt connections to concrete
- Fastening plates
- Concrete frame bracing truss connections ADE® and ADK®

ABEAM

The ABEAM software is used for preliminary design of A-BEAM S® - and W® -type composite beams in hollow-core slab floors for design-and-build deal reference plans.

- The software calculates the preliminary dimensions for composite beams based on the loads.
- The software uses the A-BEAM W® - and A-BEAM S® -type beam selection.
- Anstar is responsible for the final dimensioning of the beams.

Prodlib Bim-product library

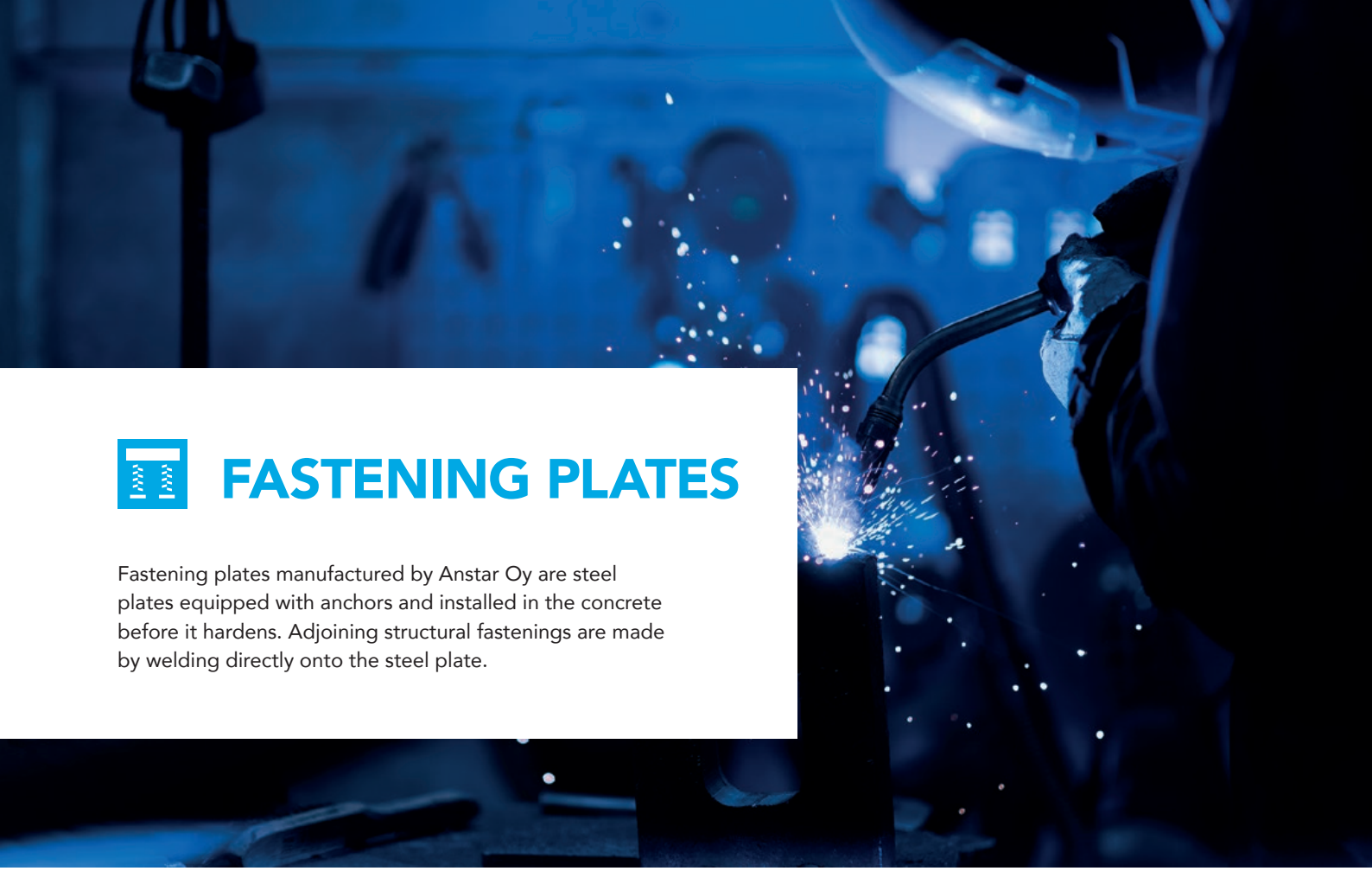
Anstar's products are available in a ProdLib product library. ProdLib is a free service that supports AutoCAD, AutoCAD LT, Revit and ArchiCAD software.

Tekla's 3D components for Anstar products

Components for Anstar products have been prepared in the Tekla Structures 3D modelling software and can be used for modelling the products. Downloads available on the Tekla Warehouse website.

AOK® hollow-core slab hanger tools updated for Tekla Structures

Two slab hanger modeling tools have been implemented for extending the capabilities of Tekla Structures software – locator tool "AnstarAOKLocator" and hanger designer tool "AnstarAOK".



FASTENING PLATES

Fastening plates manufactured by Anstar Oy are steel plates equipped with anchors and installed in the concrete before it hardens. Adjoining structural fastenings are made by welding directly onto the steel plate.

Standard fastening plates: AKL®, KL, JAL®, AKLP, AKLJ, AKKT, ASKT, AUKT

Standard fastening plates are used on cast-in-place and prefabricated structures to provide a mounting surface for welding. Wide range of sizes and capacities.

Customised fastening plate AKLC-Custom

Special plate with dimensions, number of pins and materials according to your needs. Anstar designs the plates based on the initial data provided.

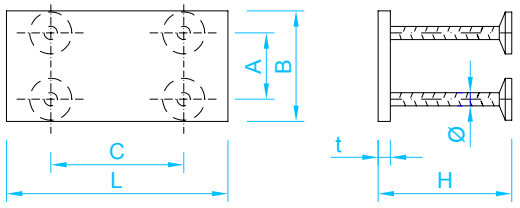
Fastening plates

AKL® fastening plates

Code B/L	Dimensions						Resistances						Fastening area
	H	t	A	C	Ø	weight	N_{Rd}	V_{RdB}	V_{RdL}	M_{RdL}	M_{RdB}	T_{Rd}	calculation profile
	mm	mm	mm	mm	mm	kg/pcs	kNm	kNm	kNm	kNm	kNm	kNm	mm x mm
AKL 100/100*	68	8	60	60	12	1,0	12	52	52	0,4	0,4	2,4	P60 x 60 x 4
AKL 100/150*	70	10	60	90	12	1,5	13	47	49	0,4	0,5	3,3	P60 x 80 x 4
AKL 150/150	162	12	90	90	12	2,8	75	70	70	3,2	3,2	5,2	P80 x 80 x 4
AKL 100/200	162	12	60	120	12	2,3	67	39	51	2,6	3,0	4,9	P60 x 100 x 4
AKL 100/300	165	15	60	180	16	4,7	91	96	123	2,9	5,2	13,7	P60 x 120 x 4
AKL 200/200	162	12	120	120	16	5,0	100	123	123	5,1	5,1	12,0	P100 x 100 x 4
AKL 250/250	165	15	170	170	16	8,6	140	129	129	9,0	9,0	16,3	P120 x 120 x 4
AKL 200/300	165	15	120	180	16	8,4	120	88	128	5,9	7,8	15,8	P100 x 120 x 4
AKL 300/300	165	15	180	180	16	12,0	140	128	128	9,3	9,3	17,0	P120 x 120 x 4

SBKL plates are delivered as AKL® fastening plates.

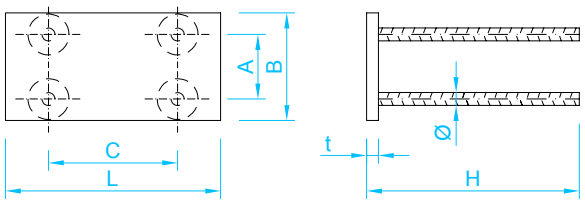
	Plate	Anchors
AKL	S355J2+N	B500B / 235JR+AR*
AKLR	1.4301	B500B
AKLRr*	1.4301	1.4301
AKLH	1.4401	B500B



KL fastening plates

Code B/L	Dimensions						Resistances						Fastening area
	H	t	A	C	Ø	weight	N_{Rd}	V_{RdB}	V_{RdL}	M_{RdL}	M_{RdB}	T_{Rd}	calculation profile
	mm	mm	mm	mm	mm	kg/pcs	kNm	kNm	kNm	kNm	kNm	kNm	mm x mm
KL 100/100	218	8	60	60	12	1,4	48	68	68	1,1	1,1	3,0	P60 x 60 x 4
KL 100/150	220	10	60	90	12	2,0	50	47	67	1,2	1,5	4,5	P60 x 80 x 4
KL 150/150	222	12	90	90	16	3,6	66	100	100	2,1	2,1	6,9	P80 x 80 x 4
KL 100/200	222	12	60	120	16	3,4	66	75	103	1,6	2,3	9,5	P60 x 120 x 4
KL 100/300	315	15	60	180	20	6,8	126	120	126	3,2	7,7	18,5	P60 x 160 x 4
KL 200/200	312	12	120	120	20	7,0	120	120	120	4,6	4,6	16,9	P100 x 100 x 4
KL 250/250	315	15	150	150	20	10,5	133	120	120	6,8	6,8	21,0	P120 x 120 x 4
KL 200/300	315	15	120	180	20	10,4	128	122	118	5,1	6,6	17,8	P100 x 120 x 4
KL 300/300	315	15	180	180	20	14,0	139	129	129	9,3	9,3	25,8	P150 x 150 x 4

	Plate	Anchors
KL	S355J2+N	B500B
KLR	1.4301	B500B
KLH	1.4401	B500B

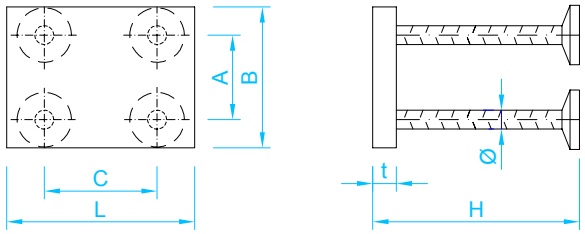


JAL® fastening plates

Code L/B	Dimensions						Resistances						Fastening area
	H	t	A	C	Ø	weight	N_{Rd}	V_{RdB}	V_{RdL}	M_{RdL}	M_{RdB}	T_{Rd}	calculation profile
	mm	mm	mm	mm	mm	kg/pcs	kNm	kNm	kNm	kNm	kNm	kNm	mm x mm
JAL 150/150	220	25	90	90	16	6,0	135	125	125	7,8	7,8	8,9	P100 x 100 x 4
JAL 150/200	220	25	90	120	20	8,5	150	145	187	8,4	9,3	17,2	P100 x 120 x 4
JAL 150/250	220	25	90	190	20	10,0	165	155	195	9,7	12,0	24,0	P100 x 120 x 4
JAL 200/200	220	25	120	120	20	10,3	147	195	195	9,7	9,7	19,5	P120 x 120 x 4
JAL 200/250	220	25	120	190	20	12,4	165	150	198	11,5	13,9	25,8	P120 x 140 x 4
JAL 250/250	220	25	190	190	20	14,9	194	204	204	16,7	16,7	30,5	P140 x 140 x 4
JAL 200/300	280	25	120	200	25	17,0	230	230	310	16,0	23,0	41,9	P120 x 180 x 4
JAL 300/300	280	25	200	200	25	23,0	295	327	327	32,0	32,0	50,5	P180 x 180 x 4
JAL 400/400	285	30	300	300	25	43,0	340	335	335	55	55	76,0	P250 x 250 x 4
JAL 500/500	285	30	400	400	25	64,0	425	340	340	84	84	100	P300 x 300 x 4

Larger fastening plates are designed case-specifically using the AKLC type.

	Plate	Anchors
JAL	S355J2+N	B500B
JALR	1.4301	B500B
JALH	1.4401	B500B

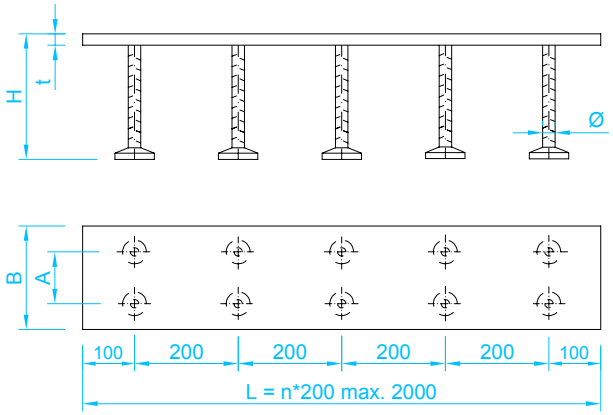


AKLP and AKLJ fastening plates

Code B/L	Dimensions					Resistances						Fastening area
	t	Ø	A	H	weight	N_{Rd}	V_{RdB}	V_{RdL}	M_{RdL}	M_{RdB}	T_{Rd}	calculation profile
	mm	mm	mm	mm	kg/m	kNm	kNm	kNm	kNm	kNm	kNm	mm x mm
AKLP 100/L	12	16	60	115	11,6	40	10	15	1,5	3,5	2,5	P60 x 120 x 4
AKLP 150/L	12	16	90	115	16,4	40	10	15	1,5	3,5	2,5	P80 x 120 x 4
AKLP 200/L	12	16	100	115	21,2	46	14	14	2,8	4,3	2,8	P100 x 120 x 4
AKLP 300/L	12	16	200	115	30,2	46	17	15	4,5	4,3	3,5	P120 x 120 x 4
AKLP 400/L	12	16	200	115	40,0	50	18	15	5,3	5,3	3,5	P120 x 150 x 4
AKLJ 300/L	20	20	200	215	54,0	86	19	16	9,0	10,0	3,2	P120 x 120 x 5
AKLJ 400/L	25	20	300	220	86,0	95	21	18	13,0	12,0	5,0	P120 x 150 x 4
AKLJ 500/L	25	20	200	220	109,0	110	25	24	22	12	5,0	P300 x 150 x 4
AKLJ 600/L	25	20	250	220	129,0	120	30	25	25	12	6,5	P400 x 150 x 4

Not a standard product in stock.

	Plate	Anchors
AKLP/AKLJ	S355J2+N	B500B
AKLPR/AKLJR	1.4301	B500B
AKLPH/AKLJH	1.4401	B500B



AKKT fastening angle bars

Type	Dimensions					
	L-steel	Ø	A	C	H	weight
	mm	mm	mm	mm	mm	kg
AKKT 50	50 x 50 x 5	12	55	250	160	32
AKKT 80	80 x 80 x 8	12	60	250	185	67
AKKT 100	100 x 100 x 10	16	80	200	195	108

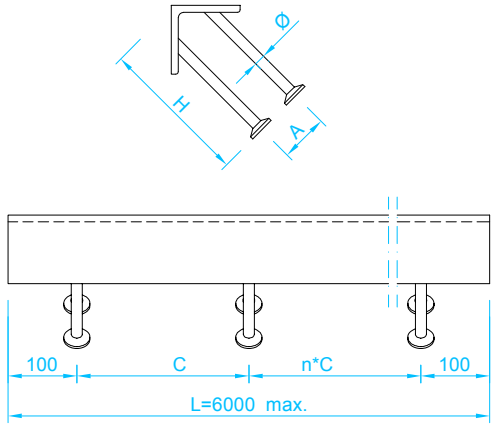


	Plate	Anchors
AKKT	S235JR+AR	B500B
AKKTR	1.4301	B500B
AKKTH	1.4401	B500B

In addition, available in hot-dip galvanized (HDG) as well.

METSÄ GROUP BIO PRODUCT MILL, ÄÄNEKOSKI

Building owner: Metsä Fibre Oy

KEMI BIOPRODUCT MILL, KEMI

Builder: Fimpec Oy

Standard steel parts

AVT 57 corner protector

Type	Dimensions weight kg/pcs
AVT 57	6,3

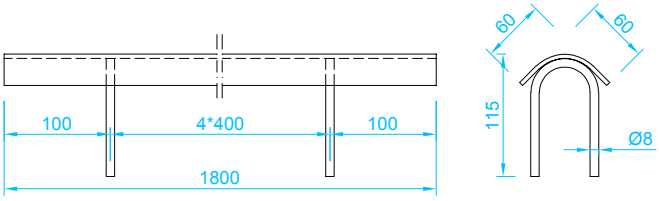
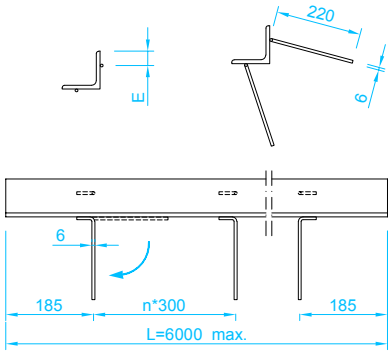


	Plate	Anchors
AVT	S235JR+AR	B500B
AVTR	1.4301	B500B
AVTH	1.4401	B500B

In addition, available in hot-dip galvanized (HDG) as well.

ASKT corner anchor

Type	Dimensions L-steel mm	E mm	weight kg
ASKT 50	50 x 50 x 5	25	26,6
ASKT 80	80 x 80 x 8	30	62,0
ASKT 100x50	100 x 50 x 8	30/20	58,0
ASKT 100	100 x 100 x 10	30	94,6

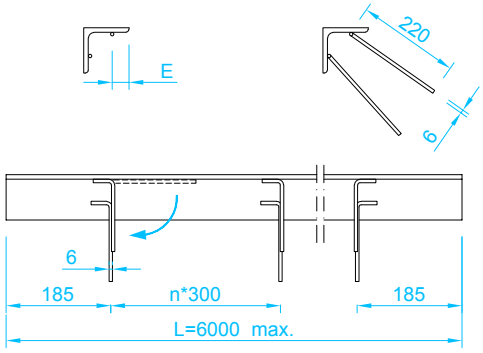


	Angle bar	Anchors
ASKT	S235JR+AR	B500B
ASKTR	1.4301	B500B
ASKTH	1.4401	B500B

In addition, available in hot-dip galvanized (HDG) as well.

AUKT corner anchor

Type	Dimensions L-steel mm	E mm	weight kg
AUKT 50	50 x 50 x 5	25	26,6
AUKT 80	80 x 80 x 8	30	62,0
AUKT 100x50	100 x 50 x 8	30/20	58,0
AUKT 100	100 x 100 x 10	30	94,6



	Angle bar	Anchors
AUKT	S235JR+AR	B500B
AUKTR	1.4301	B500B
AUKTH	1.4401	B500B

In addition, available in hot-dip galvanized (HDG) as well.

SOLO SOKOS HOTEL TORNI, TAMPERE

Builder: SRV Construction Ltd

CENTRAL FINLAND HOSPITAL, JYVÄSKYLÄ

Builder: SRV Construction Ltd

TURUMANKATU 10 AND 22, HELSINKI

Builder: Lujatalo Oy

BOLTS AND SHOES

Anchor bolts and column shoes can be used in concrete element frame connections to foundations and column extensions. Column shoes are used in light and heavy-duty column extension and foundation connections; wall shoes are used in tension connections of stiffening wall and shaft elements, retaining walls and earth pressure walls; and bolts are used in the foundation connections of column and wall shoes.

AHK® column shoe

AHK® column shoes are used in light and heavy-duty column extension and foundation connections of concrete frames, in corner connections of rectangular columns. AHK® -K middle shoes are suitable for use in the middle of the sides of rectangular columns and in round columns. Shoe connections are designed using the A-COLUMN® dimensioning software. The bolts used for the shoes are ATP® and AHP® rebar bolts.

APK®-C column shoe

APK®-C column shoes are used in heavy-duty foundation connections of industrial concrete element frames, in the corners of rectangular columns. The shoes are suitable for connections where the proportion of bending moment is dominant in the loads. APKK-C middle shoes are used in the middle of the sides of rectangular columns. The bolts used for the shoes are ALP®-C anchor bolts.

APK®-CM

APK®-CM beam shoes are used in moment stiff beam-to-column connections of industrial concrete element frames. The beam shoes are also suitable for heavy-duty concrete element frame connections in office, commercial and public buildings. The beam shoe anchoring bolts are ALP®-P2S and ALP®-P2SM.

ASL® wall shoe

Wall shoes are used in tension connections of stiffening wall and shaft elements, retaining walls and earth pressure walls.

ATP® and AHP® rebar bolts

Rebar bolts are used in the foundation connections of AHK® shoes and ASL®-H wall shoes. The bolts are also suitable for foundation connections of steel and composite columns as well as light equipment and machinery connections to concrete structures. The ATP® bolt is suitable for shallow foundations with space for the bolt's dowel anchor. The AHP® bolt can be used in narrow foundations near the edge of the structure. The bolts are designed using the A-COLUMN® dimensioning software. The size range for rebar bolts is M16–M45.

ALP® anchor bolts

ALP®-C series anchor bolts are used in heavy-duty foundation connections of industrial concrete element and steel frames. Connection solutions have been made for the bolts for connecting APK®-C series column shoes and ASL®-P series wall shoes to cast-in-place foundations. The size range for anchor bolts is M22–M60.

Anchor bolts

ATP® and AHP® anchor bolts

Type and colour code	Dimensions					Resistances N_{Rd} V_{Rd}		Width across flats	Tightening torgue
	L	K	M	Ø	weight	C25/30			
	mm	mm	mm	mm	kg	kN	kN	mm	Nm
ATP16	280	100	M16	16	0,6	61,6	20,5	24	85
ATP20	350	120	M20	20	1,2	96,3	32,0	30	170
ATP24	430	140	M24	25	2,2	138,7	46,2	36	290
ATP30	500	170	M30	32	4,1	220,3	73,4	46	580
ATP36	600	170	M36	32	5,6	321,0	107,0	55	1000
ATP39	700	190	M39	40	9,4	383,4	127,7	60	1300
ATP45	760	190	M45	40	11,4	513,1	171,8	70	2000
AHP16	800	100	M16	16	1,4	61,6	20,5	24	85
AHP20	1000	120	M20	20	2,7	96,3	32,0	30	170
AHP24	1150	140	M24	25	4,8	138,7	46,2	36	290
AHP30	1400	170	M30	32	9,6	220,3	73,4	46	580
AHP36	2000	170	M36	32	13,4	321,0	107,0	55	1000
AHP39	2000	190	M39	40	21,5	383,4	127,7	60	1300
AHP45	2700	190	M45	40	28,4	513,1	171,8	70	2000

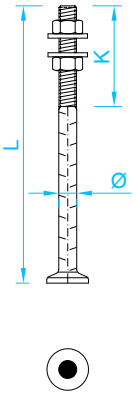
Anchors	B500B
Nuts	Strength st-8
Washers	S355J2+N

In addition, available in hot-dip galvanized (HDG) as well.

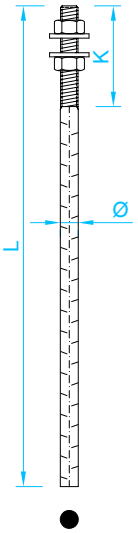
Extra-long bolts

Type	Length
AHP 16	L = 1500
AHP 20	L = 1500, 2000, 2500
AHP 24	L = 1500, 2000, 2500, 3000
AHP 30	L = 2000, 2500, 3000

ATP®



AHP®

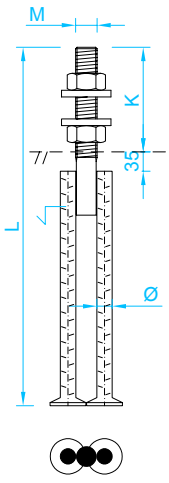


ALP® anchor bolts

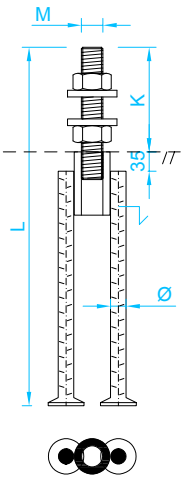
ALP®-LC anchor bolts

Type and colour code	Dimensions					Resistances N_{Rd} V_{Rd}		Width across flats	Tightening torgue
	L	K	M	Ø	weight	C25/30			
	mm	mm	mm	mm	kg	kN	kN	mm	Nm
ALP22LC, ALP22LS	480	130	M22	2x16	2,0	161,0	57,7	32	200
ALP27LC, ALP27LS	550	150	M27	2x20	3,5	244,5	87,4	41	370
ALP30LC, ALP30LS	600	150	M30	2x25	5,5	299,2	106,8	46	500
ALP36LC, ALP36LS	690	170	M36	2x28	8,4	435,7	155,6	55	880
ALP39LC, ALP39LS	790	190	M39	2x28	10,3	520,5	185,9	60	1140
ALP45LC, ALP45LS	900	200	M45	2x32	15,3	696,5	248,7	70	1760
ALP52LC, ALP52LS	1035	235	M52	2x40	25,4	937,6	334,8	80	2740
ALP60LC, ALP60LS	1160	260	M60	4x32	37,1	1259,7	450,0	90	4250

ALP®-LC

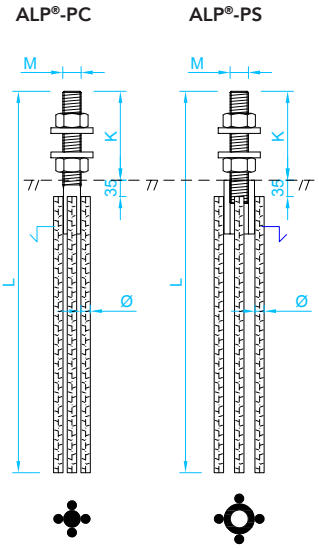


ALP®-LS



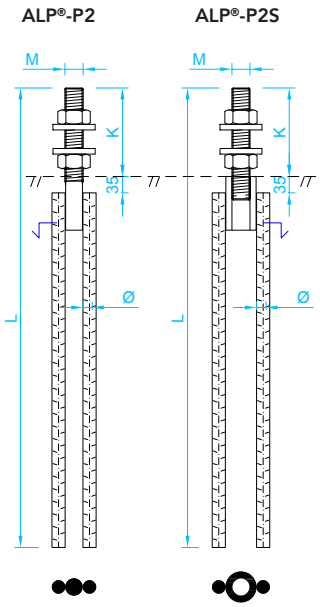
ALP®-PC anchor bolts

Type and colour code	Dimensions L	K	M	Ø	weight	Resistances N_{Rd} C25/30	V_{Rd} C25/30	Width across flats	Tightening torgue
	mm	mm	mm	mm	kg	kN	kN	mm	Nm
ALP22PC, ALP22PS	845	130	M22	3x14	3,4	161,0	57,7	32	200
ALP27PC, ALP27PS	1085	150	M27	3x16	6,4	244,5	87,4	41	370
ALP30PC, ALP30PS	1085	150	M30	3x20	8,7	299,2	106,8	46	500
ALP36PC, ALP36PS	1205	170	M36	4x20	14,4	435,7	155,6	55	880
ALP39PC, ALP39PS	1375	190	M39	4x20	17,2	520,5	185,9	60	1140
ALP45PC, ALP45PS	1475	200	M45	4x25	27,5	696,5	248,7	70	1760
ALP52PC, ALP52PS	1750	235	M52	4x28	41,3	937,6	334,8	80	2740
ALP60PC, ALP60PS	2045	260	M60	4x32	60,5	1259,7	450,0	90	4250



ALP®-P2 anchor bolts

Type and colour code	Dimensions L	K	M	Ø	weight	Resistances N_{Rd} C25/30	V_{Rd} C25/30	Width across flats	Tightening torgue
	mm	mm	mm	mm	kg	kN	kN	mm	Nm
ALP22P2, ALP22P2S	1065	130	M22	2x16	3,8	161,0	57,7	32	200
ALP27P2, ALP27P2S	1335	150	M27	2x20	7,2	244,5	87,4	41	370
ALP30P2, ALP30P2S	1245	150	M30	2x25	10,2	299,2	106,8	46	500
ALP36P2, ALP36P2S	1585	170	M36	2x28	16,6	435,7	155,6	55	880
ALP39P2, ALP39P2S	1875	190	M39	2x28	20,3	520,5	185,9	60	1140
ALP45P2, ALP45P2S	2165	200	M45	2x32	30,6	696,5	248,7	70	1760
ALP52P2, ALP52P2S	2530	235	M52	2x40	53,2	937,6	334,8	80	2740



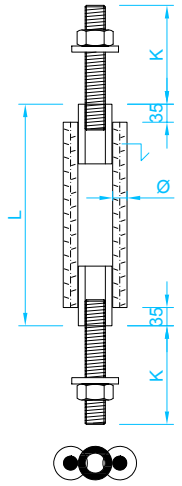
Anchors	B500B
Threaded bolt	ImacroM / 8.8
Nuts	Strength st-8
Washers	S355J2+N

In addition, threaded parts available in hot-dip galvanized (HDG) as well.

ALP®-P2SM anchor bolts

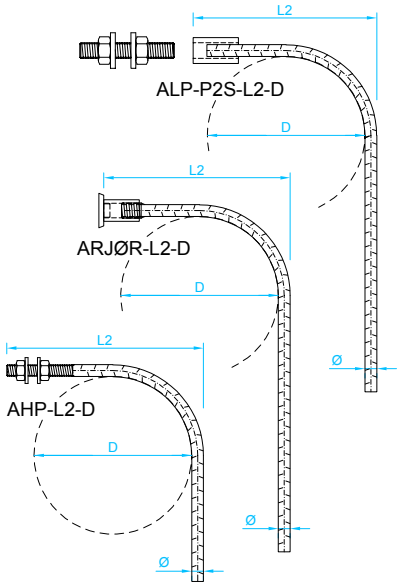
Type and colour code	Dimensions K	M	Ø	Resistances N_{Rd} C25/30	V_{Rd} C25/30	Width across flats	Tightening torgue
	mm	mm	mm	kN	kN	mm	Nm
ALP22P2SM	130	M22	2x16	161,0	57,7	32	200
ALP30P2SM	150	M30	2x25	299,2	106,8	46	500
ALP36P2SM	170	M36	2x28	435,7	155,6	55	880
ALP39P2SM	190	M39	2x28	520,5	185,9	60	1140
ALP45P2SM	200	M45	2x32	696,5	248,7	70	1760
ALP52P2SM	235	M52	2x40	937,6	334,8	80	2740

ALP®-P2SM-L



Bending rebar

Anchor	Dimension D mm
Ø16	200
Ø20	300
Ø25	300
Ø28	300
Ø32	400
Ø40	500



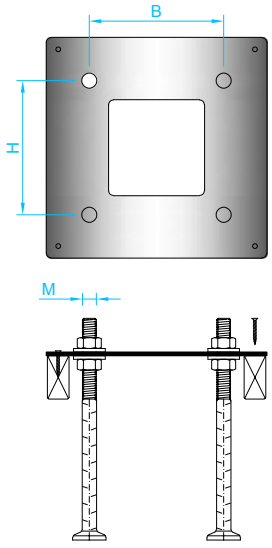
For more specific instructions, refer to the user manual for the product.

Bending mandrel diameter D according to the table
or as indicated case-specifically in the order code.

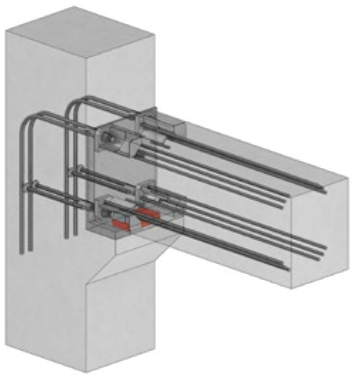
AAK installation frame

The order code for the installation frame is AAK-M-H-B-n, where M is the bolt size and H-B are the distances between bolts in the frame, n is the number of the bolts.

For example:
AAK52-360-560-4
AAK30-280-240x240-6



A moment-resisting frame can also be assembled from precast elements using Anstar beam shoes.



DSV ROSERSBERG, SWEDEN

Builder: TA Byggproduktion AB

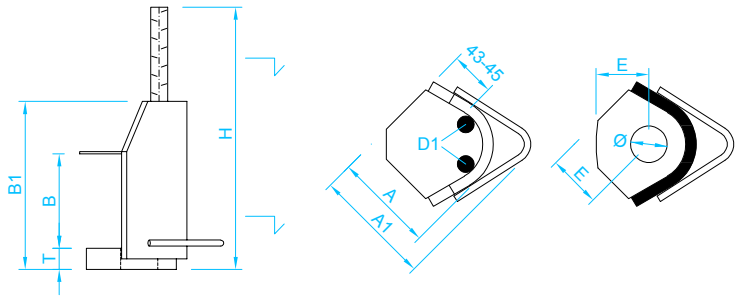
HOUSING ASSOCIATION JÄTKÄSAAREN POLLARI, HELSINKI

Builder: Hartela Etelä-Suomi Oy

Column shoes

AHK® column shoes for rebar bolts

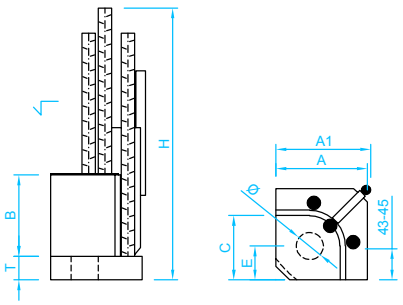
Type and colour code	Dimensions A mm	A1 mm	B mm	B1 mm	E mm	H mm	D1 mm	Ø mm	T mm	weight kg	Resistances N_{Rd} C30/37 kN	Anchor bolt
AHK16	80	95	80	136	50	795	10	25	12	2,2	61,6	AHP16
AHK20	86	105	95	162	50	890	14	30	15	3,7	96,3	AHP20
AHK24	95	115	110	192	50	1130	16	35	20	6,5	138,7	AHP24
AHK30	107	135	120	227	50	1565	20	40	25	12,1	220,3	AHP30
AHK36	130	160	130	262	60	1800	25	50	30	21,5	321,0	AHP36
AHK39	138	170	140	277	60	2165	25	54	35	26,5	383,4	AHP39
AHK45	160	200	140	307	60	2465	32	60	45	41,0	513,1	AHP45



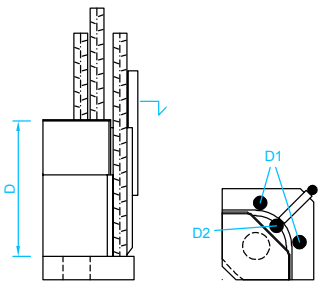
APK®-C column shoes and APK®-CM beam shoes

Type and colour code	Dimensions A mm	A1 mm	B mm	E mm	H mm	D mm	D1 mm	D2 mm	Ø mm	T mm	weight kg	Resistances N_{Rd} C30/37 kN	Anchor bolt
APK24C, -M	115	125	110	50	935	170	2 x 16	16	32	25	7,9	161,0	ALP22
APK30C, -M	135	140	120	50	1355	200	2 x 20	20	40	35	16,7	299,2	ALP30
APK36C, -M	160	185	130	60	1540	230	2 x 25	20	46	40	27,3	435,7	ALP36
APK39C, -M	165	190	140	60	1680	250	2 x 25	25	50	40	31,4	520,5	ALP39
APK45C, -M	180	225	140	60	1850	270	2 x 32	28	56	50	49,4	696,5	ALP45
APK52C, -M	190	275	160	60	2420	310	2 x 32	32	64	60	69,0	937,6	ALP52
APK60C	225	275	175	70	2970	-	2 x 40	32	73	70	109,0	1260	ALP60

APK®-C column shoe



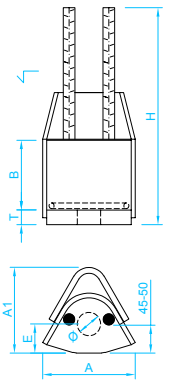
APK®-CM beam shoe



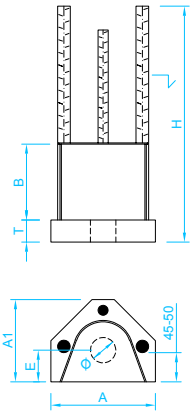
AHK®-K and APKK-C middle shoes

Type and colour code	Dimensions A mm	A1 mm	E mm	H mm	B mm	Ø mm	T mm	weight kg	Resistances N_{Rd} C30/37 kN	Anchor bolt
AHK16K	113	105	50	795	80	25	12	2,3	61,6	AHP16
AHK20K	122	115	50	890	95	30	15	3,7	96,3	AHP20
AHK24K	133	125	50	1130	110	35	20	5,8	138,7	AHP24
AHK30K	159	150	50	1565	120	40	25	12,0	220,3	AHP30
AHK36K	190	170	60	1800	130	50	30	21,0	321,0	AHP36
AHK39K	202	180	60	2165	140	54	35	25,1	383,4	AHP39
AHK45K	234	210	60	2465	140	60	45	37,3	513,1	AHP45
APKK24C	135	120	50	825	110	32	25	6,7	161,0	ALP22
APKK30C	165	130	50	1235	120	40	35	12,6	299,2	ALP30
APKK36C	200	145	60	1680	130	46	40	21,9	435,7	ALP36
APKK39C	205	155	60	1840	140	50	40	25,4	520,5	ALP39
APKK45C	235	175	60	2050	140	56	50	38,7	696,5	ALP45
APKK52C	250	190	60	2460	160	64	60	56,5	937,6	ALP52
APKK60C	310	215	70	2970	175	73	70	97,0	1260	ALP60

AHK®-K



APKK-C

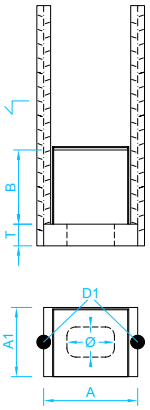


Wall shoes

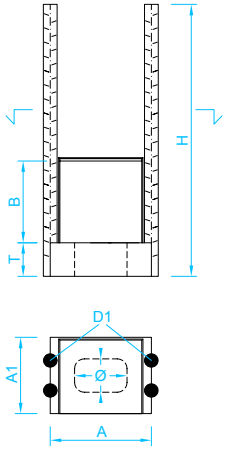
ASL®-H and ASL®-P wall shoes

Type and colour code	Dimensions A mm	A1 mm	B mm	D1 mm	Ø mm	H mm	T mm	weight kg	Resistances N_{Rd} C25/30 kN	Anchor bolt	Washer ASL-AL t x C mm
ASL16H	125	80	95	2 x 14	36 x 76	600	25	3,5	61,6	AHP16	12 x 65
ASL20H	135	90	100	2 x 16	40 x 80	850	30	5,5	96,3	AHP20	15 x 70
ASL24H	150	110	115	2 x 20	49 x 84	1000	35	9,3	138,7	AHP24	20 x 85
ASL30H	170	120	130	2 x 25	55 x 90	1150	45	15,5	220,3	AHP30	25 x 95
ASL36H	190	140	150	2 x 28	61 x 96	1350	50	22,8	321,0	AHP36	30 x 110
ASL39H	195	150	165	2 x 28	64 x 99	1600	55	27,2	383,4	AHP39	30 x 120
ASL45H	215	160	175	2 x 32	70 x 103	1800	60	37,6	513,1	AHP45	35 x 130
ASL30P	170	120	130	4 x 20	55 x90	1420	50	21,3	299,2	ALP30	25 x 95
ASL36P	185	140	150	4 x 25	61 x 96	1640	55	35,5	435,7	ALP36	30 x 110
ASL39P	190	150	160	4 x 25	64 x 99	1800	60	40,0	520,5	ALP39	30 x 120
ASL45P	210	160	170	4 x 28	70 x 103	2100	70	57,2	696,5	ALP45	35 x 130
ASL52P	235	190	190	4 x 32	80 x 110	2500	80	88,3	937,6	ALP52	40 x 155

ASL®-H

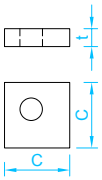


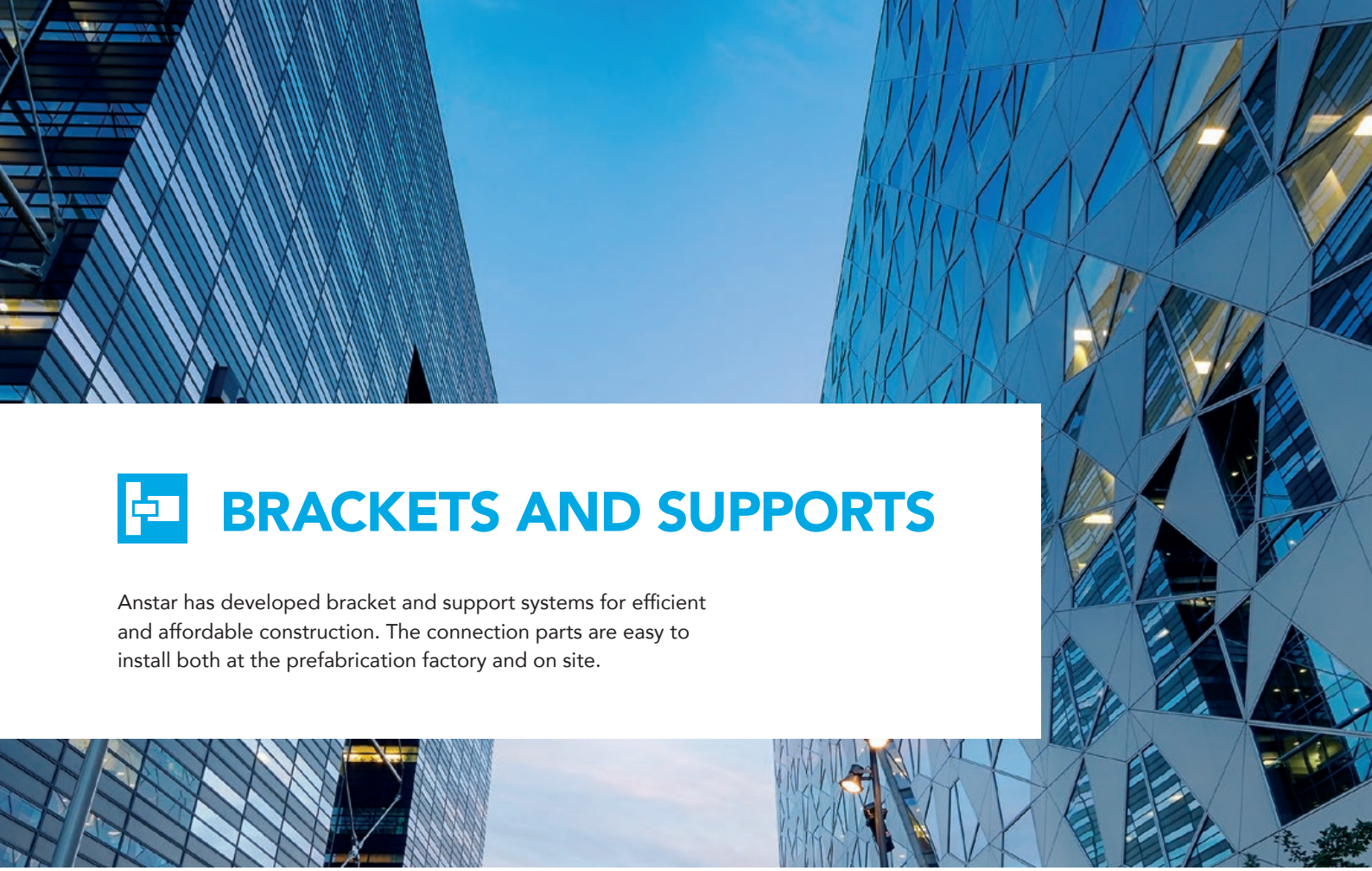
ASL®-P



Base plate, housing	Anchors
S355J2+N	B500B

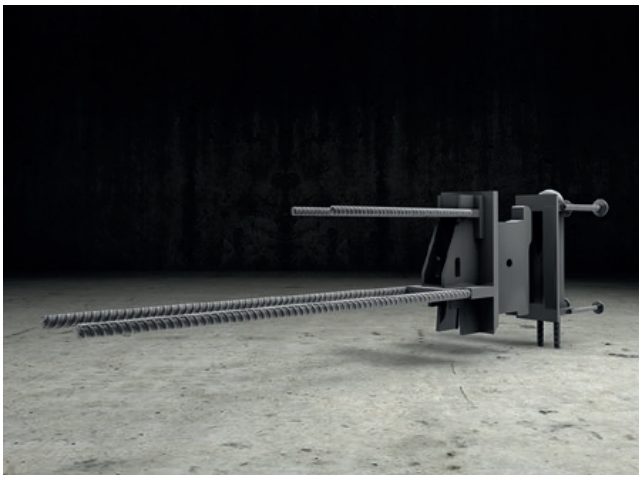
ASL®-AL





BRACKETS AND SUPPORTS

Anstar has developed bracket and support systems for efficient and affordable construction. The connection parts are easy to install both at the prefabrication factory and on site.



AEP® hidden bracket

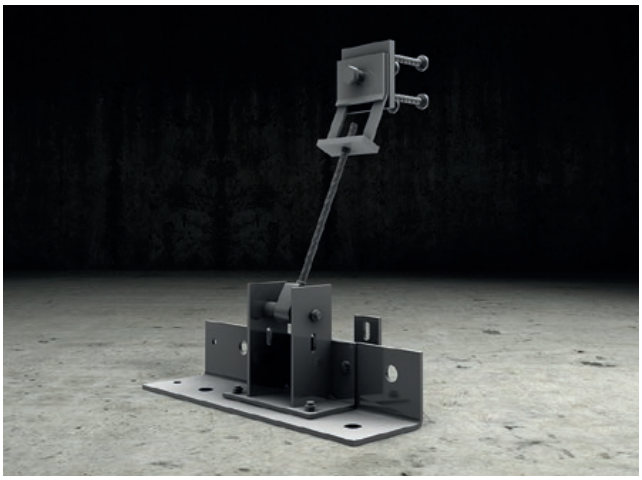
AEP® hidden brackets are used to fasten a concrete beam or steel beam to the side of a concrete element column, wall or another beam. The bracket acts as a swivel joint for the bending of the head of the beam, transferring the beam's torsional moment to the column without support during installation.

AOK® support

AOK® support is used in a hollow-core slab floor opening as the load-bearing structure for the end of the slab. AOK® support can be made up to 4,8 metres long.

AR® suspended connection

Fastened using threaded connections, the system can be used for concrete façade elements or supports of brick walls built on the site to suspend them from the building frame. AR® suspension parts are used to fasten skin elements to the building frame.



AR® masonry support

A member of the AR® product family, the square-edged ARMK angle profile supports brickwork and transfers its weight to the load-bearing structure behind it. Masonry supports are designed on a project-specific basis, and suspension parts are ready-welded to the angle profile.

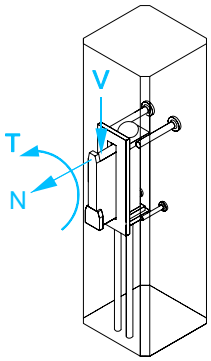
HUS BRIDGE HOSPITAL, HELSINKI

Builder: SRV

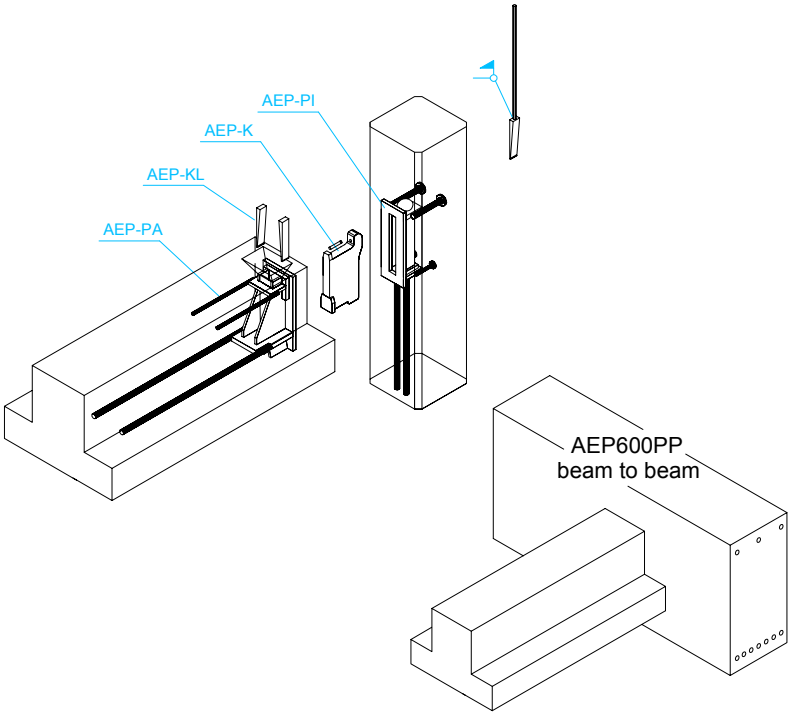
Hidden brackets

AEP® hidden brackets

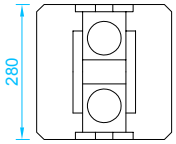
Type and colour code	Resistances Shear, torsional, tensile			Resistances, erection stage Shear, torsional, tensile		
	V_{Rd}	T_{Rd}	N_{Rd}	V_{Rda}	T_{Rda}	N_{Rda}
	kN	kNm	kN	kN	kNm	kN
AEP400	400	10	50	200	15	100
AEP600	600	20	60	300	30	120
AEP800	800	30	80	400	50	160
AEP1100	1100	50	100	550	80	200
AEP1600	1600	60	160	800	100	320
AEP2200	2200	100	200	1100	160	400



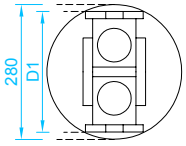
AEP®-KL wedges (2 pcs) are delivered with the beam component. With high beams, extension arms can be welded to the wedges using rebar, for example, to facilitate installation.



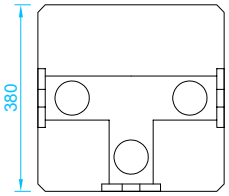
AEP®600PI-280-2



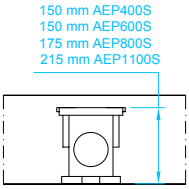
AEP®600PI-Ø280-2 or AEP®600PI-250-2



AEP®600PI-380-190-3



AEP®600S



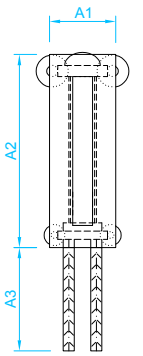
AEP® column component

Type	Dimensions							
	A1	A2	A3	A4	A5	A6	Ø	weight
	mm	mm	mm	mm	mm	mm	mm	kg
AEP400PI	120	240	585	210	170	85	1T20	7,9
AEP600PI	120	310	585	215	175	95	2T20	11,3
AEP800PI	120	350	740	240	175	100	2T25	16,4
AEP1100PI	150	390	910	250	180	125	2T32	29,2

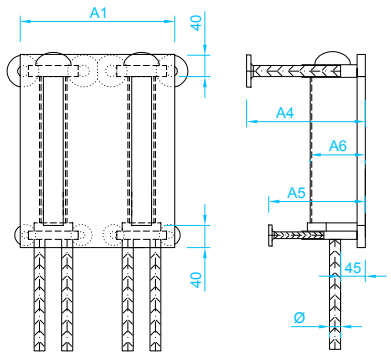
For a beam-to-beam connection and the wall part, refer to the user manual!

Plates	Anchors
Domex 500ML, S355J2+N	B500B

AEP®-PI



AEP®1600PI (2 x AEP®800PI)
AEP®2200PI (2 x AEP®1100PI)

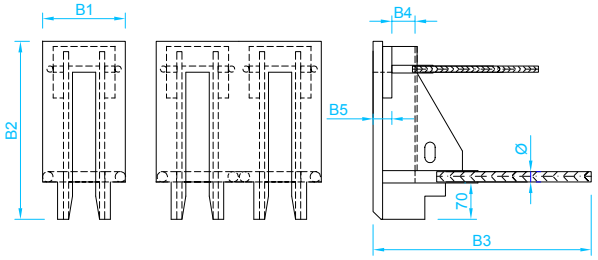


AEP® beam component

Type	Dimensions						
	B1	B2	B3	B4	B5	Ø	weight
	mm	mm	mm	mm	mm	mm	kg
AEP400PA	150	215	1025	45	20	20	12,7
AEP600PA	150	275	1035	45	30	20	18,8
AEP800PA	150	335	1240	50	45	25	29,2
AEP1100PA	190	380	1240	50	45	25	39,5

Plates	Anchors
Domex 500ML, S355J2+N	B500B

AEP®-PA AEP®1600PA (2 x AEP®800PA)
AEP®2200PA (2 x AEP®1100PA)

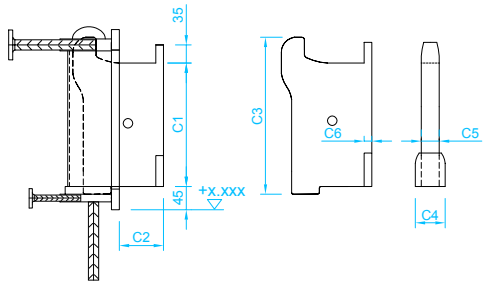


AEP® bridge part

Type	Dimensions						
	C1	C2	C3	C4	C5	C6	weight
	mm	mm	mm	mm	mm	mm	kg
AEP400K	125	70	192	56	35	15	5,6
AEP600K	180	80	260	56	35	15	8,6
AEP800K	230	100	305	56	35	20	12,7
AEP1100K	260	100	350	71	50	20	22,3

Bracket
Domex 500ML

AEP®-K



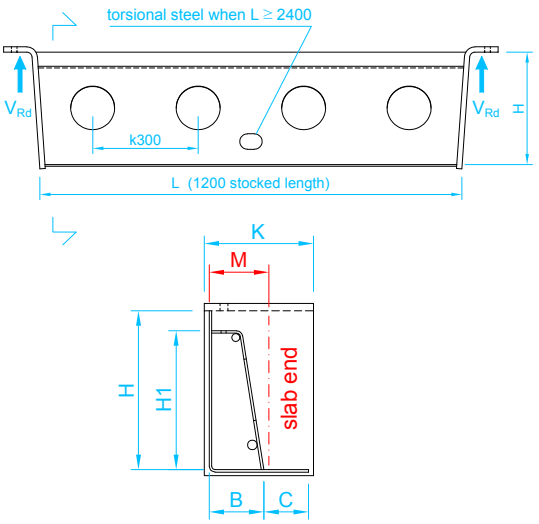
Supports for hollow-core slabs

AOK® supports for hollow-core slabs

Type	Dimensions						Resistance
	H	H1	B	C	K	M	V_{Rd}
	mm	mm	mm	mm	mm	mm	kN
AOK200	200	180	80	90	190	90	36
AOK220	220	200	80	90	190	90	46
AOK265	265	230	100	90	210	110	58
AOK320	320	280	110	90	220	120	70
AOK370	370	330	120	120	260	130	80
AOK400	400	360	135	120	275	145	110
AOK500	500	460	150	120	290	160	130

Plates	Anchors
S355J2+N	B500B

AOK®

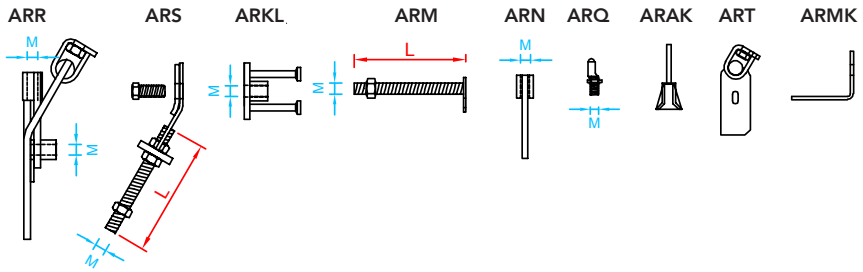


Suspension components

AR® suspension system and masonry support

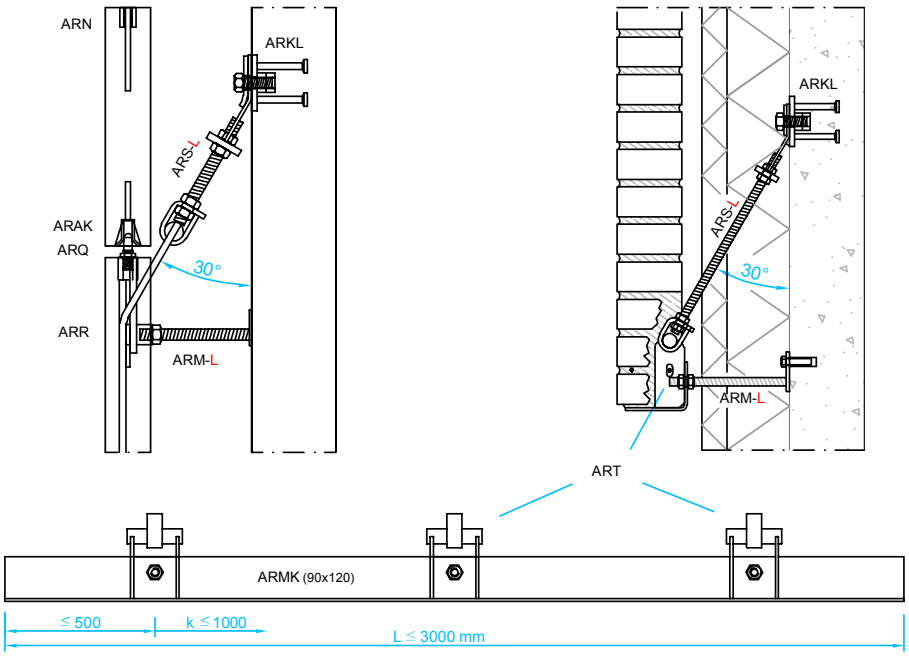
Allowable loads	ARR	ARS			ARKL	ARM		ARN	ARQ +ARAK
	thread	bar	length	screw	thread	bar	length	bar	bar
7 kN	M16	M12	L=2*(S+U)-225	M16-40	M16	M16	L=S+U-15	M16	M16
14 kN	M16	M16	L=2*(S+U)-240	M20-50	M20	M16	L=S+U-15	M16	M16
24 kN	M20	M20	L=2*(S+U)-255	M24-60	M24	M20	L=S+U-15	M20	M20

All connection pieces are made of stainless steel.
Strength class of threaded sections A2-70.



AR SUSPENSION SYSTEM

ARMK MASONRY SUPPORT



TIKKURILA CHURCH, VANTAA

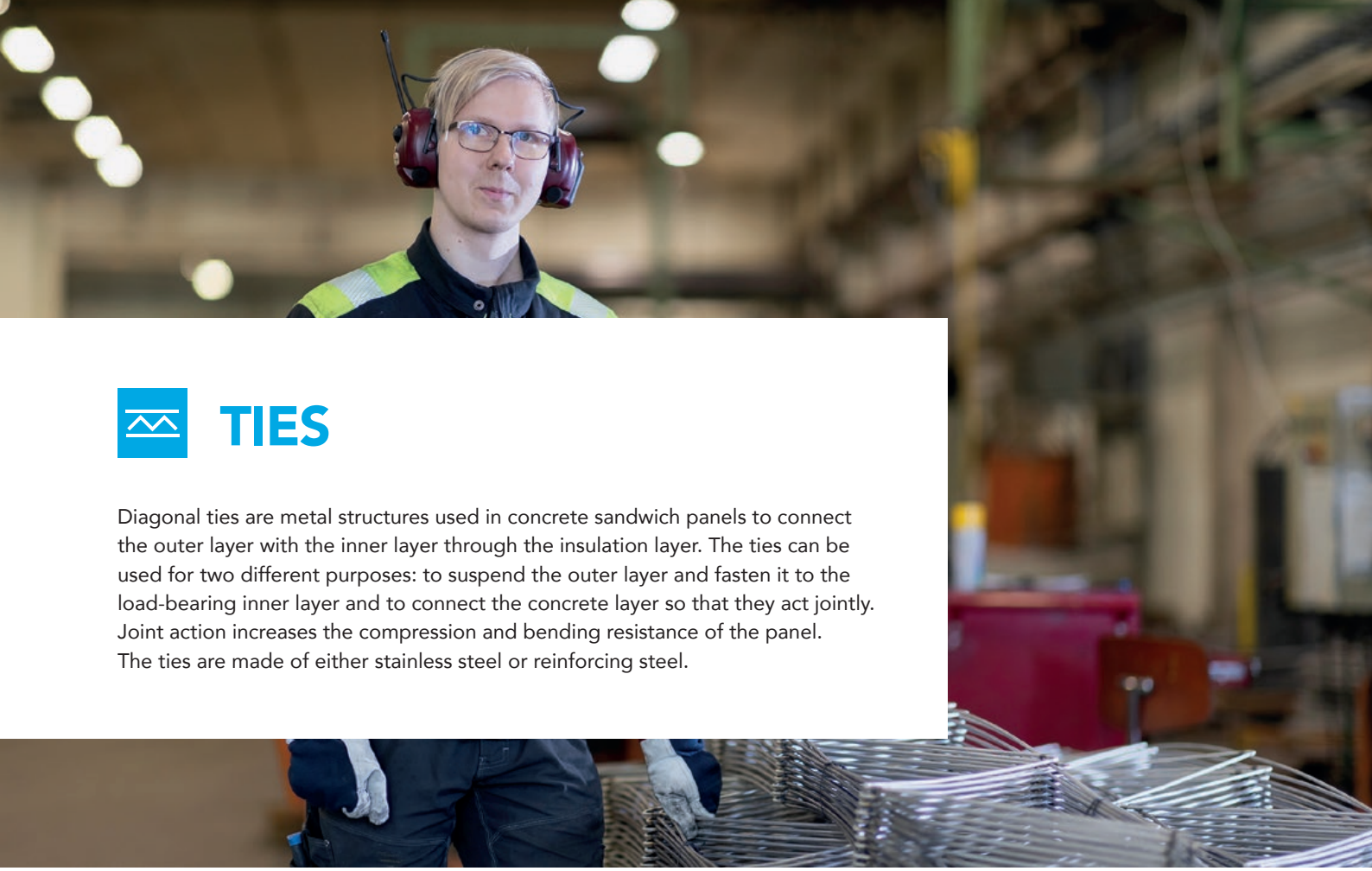
Builder: Lujatalo Oy

AS OY RANTA-TAMPELLAN MASUUNI, TAMPERE

Builder: Skanska Talonrakennus Oy

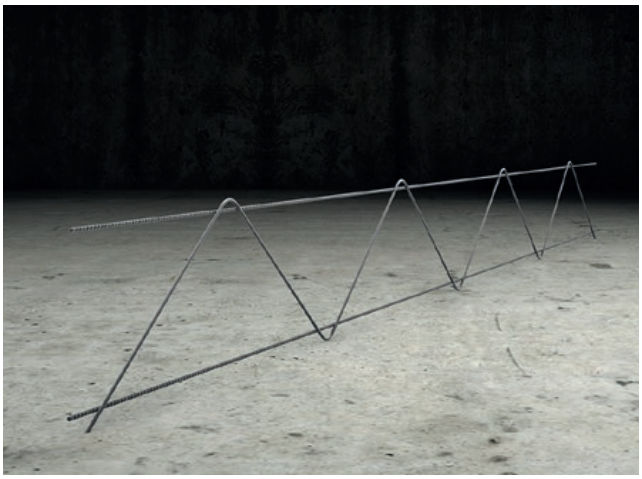
AALTO UNIVERSITY, HELSINKI

Builder: SRV Construction Ltd



TIES

Diagonal ties are metal structures used in concrete sandwich panels to connect the outer layer with the inner layer through the insulation layer. The ties can be used for two different purposes: to suspend the outer layer and fasten it to the load-bearing inner layer and to connect the concrete layer so that they act jointly. Joint action increases the compression and bending resistance of the panel. The ties are made of either stainless steel or reinforcing steel.



AD® diagonal tie

Diagonal ties are used in concrete sandwich panels to connect the outer layer with the inner layer through the insulation layer. The ties transfer the self-weight and wind loads of the outer layer to the inner layer. In addition, the ties bind the concrete layers, increasing the compression and bending resistance of the panel.

APA® beam tie

APA® beam ties are used in the inner and outer layers of concrete sandwich panels to tie the structures together. The product is suitable for low structures for which AD® diagonal ties cannot be used. The product is made entirely of stainless steel.

Ties

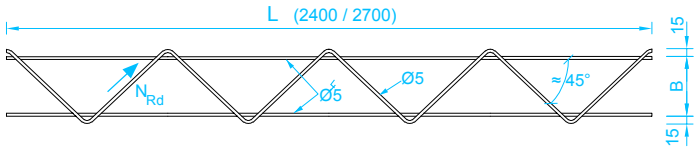
AD® diagonal tie and APA® beam tie

AD® diagonal tie			APA® beam tie			
Standard products [Code B-L]	Resistance N_{Rd} kN	Recommended insulation thickness mm	Order code APA-B	L1 mm	L2 mm	Resistance V_{Rd} kN
AD 150-2400 (2700)	5,8	90	APA 150	230	125	1,7
AD 180-2400 (2700)	5,8	120	APA 180	230	130	1,7
AD 200-2400 (2700)	5,8	140	APA 200	230	125	1,7
AD 210-2400 (2700)	5,8	150	APA 210	250	140	1,7
AD 220-2400 (2700)	5,8	160	APA 220	250	135	1,7
AD 240-2400 (2700)	5,8	180	APA 240	250	130	1,7
AD 260-2400 (2700)	5,8	200	APA 260	250	120	1,7
AD 280-2400 (2700)	5,8	220	APA 280	300	155	1,7
AD 300-2400 (2700)	5,8	240	APA 300	300	150	1,7
AD 320-2400 (2700)	5,8	260	APA 320	300	140	1,7
AD 340-2400 (2700)	5,8	280	APA 340	300	130	1,7
AD 360-2400 (2700)	5,8	300	APA 360	300	120	1,7
AD 380-2400 (2700)	5,8	320	APA 380	340	155	1,7
AD 400-2400 (2700)	5,8	340	APA 400	340	145	1,7
AD 420-2400 (2700)	5,8	360	APA 420	340	140	1,7
AD 440-2400 (2700)	5,8	380	APA 440	340	130	1,7

Package size 400 pcs/pallet.

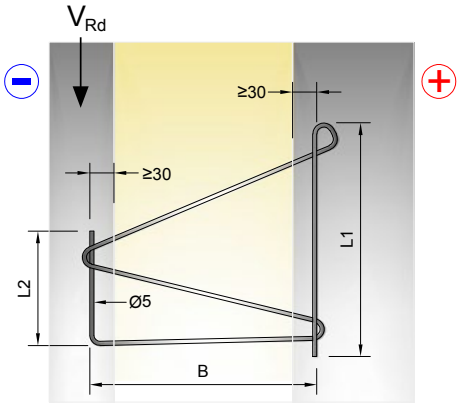
Package size 900 pcs/pallet and 25 pcs/box.

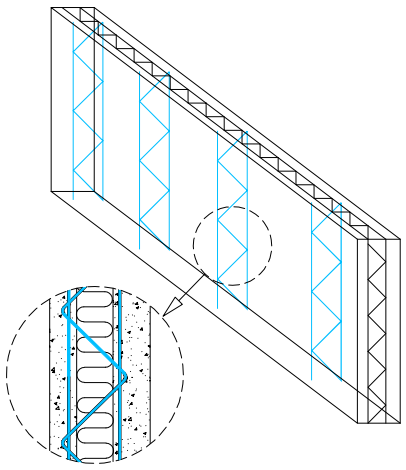
AD® DIAGONAL TIE



	Diagonal brace	Outer chord	Inner chord
AD	1.4301	1.4301	B500K
ADR	1.4301	1.4301	1.4301
ADM	1.4301	B500K	B500K

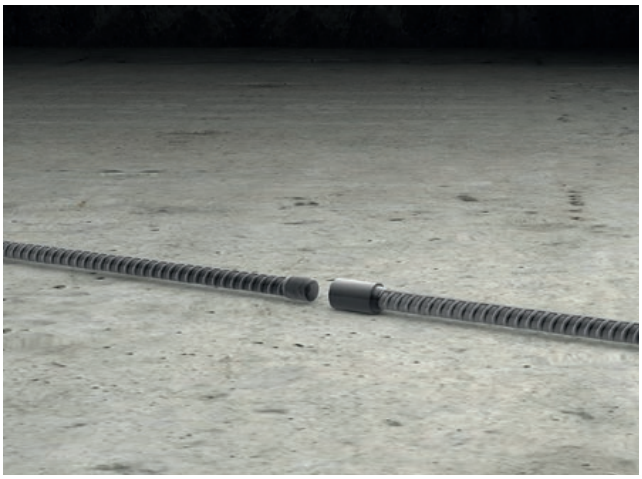
APA® BEAM TIE





REBAR COUPLERS

Rebar couplers are used in reinforced concrete structures to replace normal rebar lap joints. The couplers are also suitable for use in reinforced concrete columns and walls. Each rebar coupler consists of a piece of rebar equipped with a thread and coupler sleeve at the right end as viewed in the direction of installation. In construction joints, rebar couplers can be used to replace all pieces of rebar going through the formwork.



ARJ® rebar coupler

Rebar couplers are used for joining rebars with full tension capacity. The ends of bars to be joined are provided with threads, and the bars are joined using a coupler sleeve that transfers the force on the rebar across the connection.

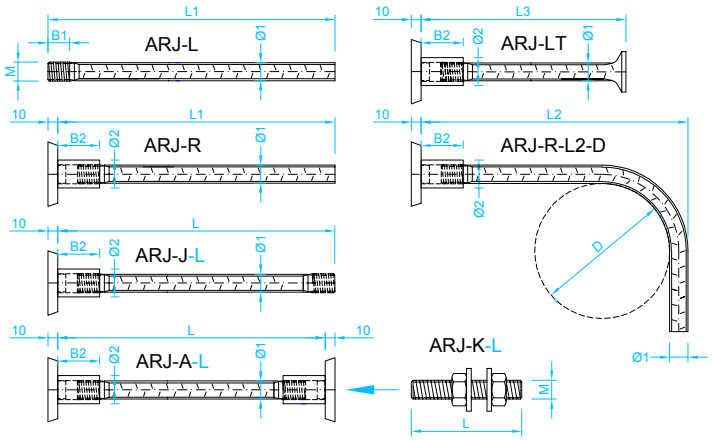
The rebar coupler and its application products have been granted ETA (European Technical Assessment) approval ETA 23/0172.

Rebar couplers

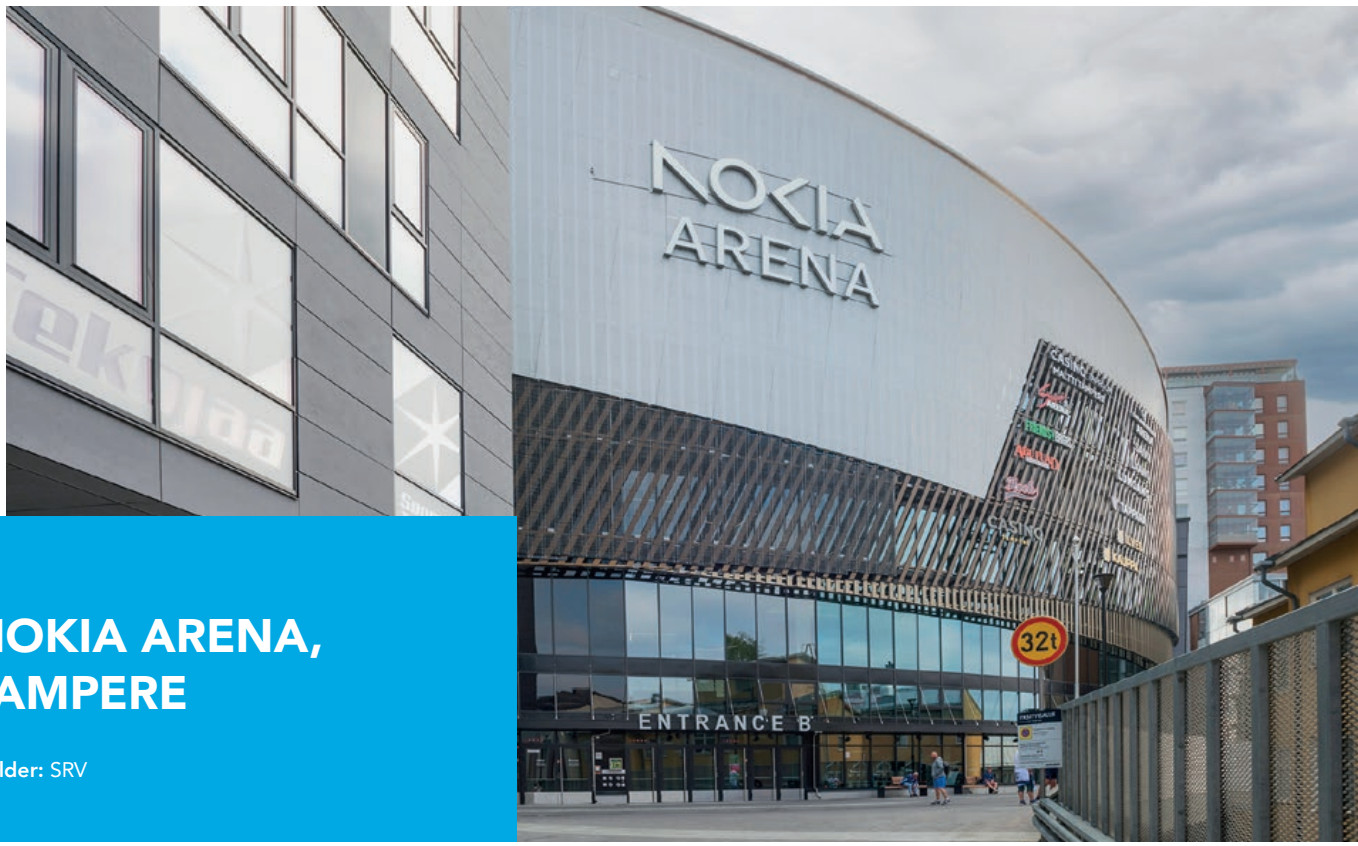
ARJ® rebar couplers

Type	Dimensions								Resistances
	ø1	M	L1	L3	B1	B2	ø2	D	N_{Rd}
	mm	mm	mm	mm	mm	mm	mm	mm	kN
ARJ16	16	M20	1200	220	25	50	30	200	87,4
ARJ20	20	M24	1500	290	30	60	35	200	136,5
ARJ25	25	M30	1700	360	35	70	40	300	213,5
ARJ32	32	M39	2400	500	45	90	55	400	349,6
ARJ40	40	M48	3500	600	55	110	70	500	546,1

Anchors	Coupler sleeve
B500B	25CrMo4



REQUEST A QUOTE
for tension bars made of rebar.

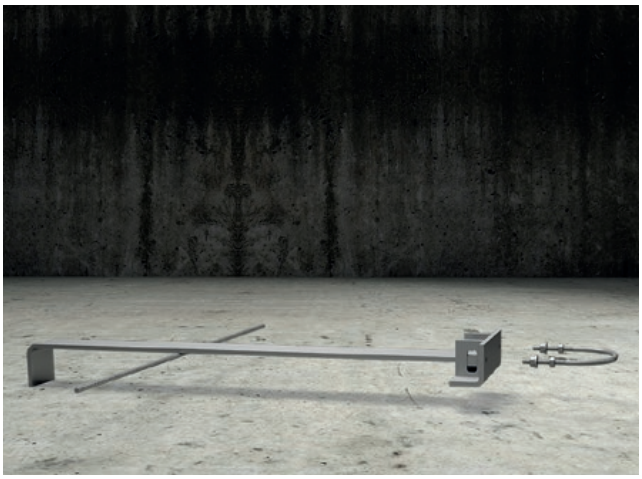


NOKIA ARENA, TAMPERE

Builder: SRV

BALCONY CONNECTIONS

The balcony hinge allows for vertical movement between the balcony slab element and the building frame.



AVTR balcony hinge

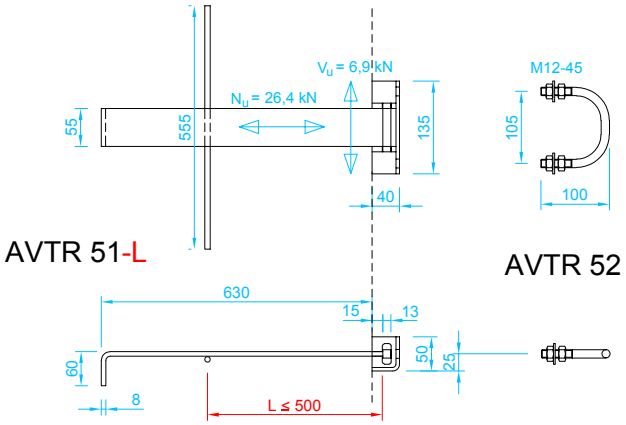
Balcony hinges are used to transfer horizontal forces from the balcony to the building frame. The hinged connection enables vertical movement. The AVTR 52 slab part is fastened to the balcony slab at the prefabrication factory and the AVTR 51 frame part to the building's floor slab casting on the site.

Balcony connection

AVTR 51, AVTR 52 balcony slab connection

Type	Dimensions Weight kg
AVTR 51	3,3
AVTR 52	0,3

Plates, square bar and rebar	M12 nuts and stainless washers
1.4301	1.4301



SMART FRAME®

SMART FRAME® provides an efficient composite frame solution for construction companies.

SMART FRAME®

SMART FRAME® offers a ready-made composite frame solution for construction companies, addressing the challenges of modern construction. With our solution, you can enhance project management, shorten construction schedules, and improve site safety. The delivery can also include lower-emission beams as an option.

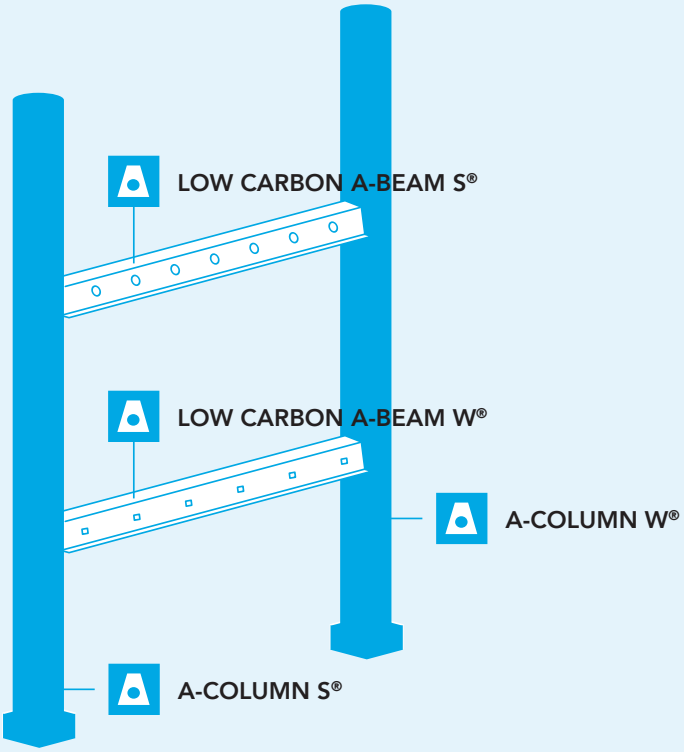
SMART FRAME® composite frames include everything needed, from concrete structure connections to composite structures, and are designed to meet the needs of various construction projects. Thanks to high-quality materials and precise design, our composite frames are a safe and reliable choice for all types of construction sites.

Why choose SMART FRAME®?

- Enables spacious and flexible spaces
- Easier scheduling, as everything comes from a single supplier
- Option to choose low-carbon alternatives
- Easy, fast, and safe installation
- Proven moisture control
- A cost-effective solution

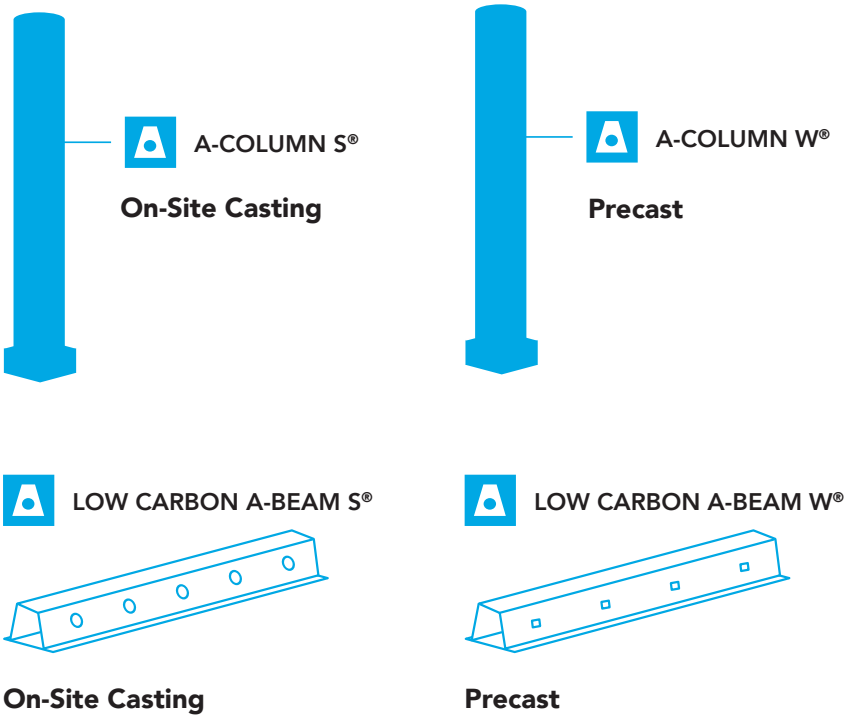
The name SMART FRAME® reflects an intelligent and comprehensive frame structure, including A-BEAM® composite beams and A-COLUMN® composite columns from a single supplier.

LOW CARBON S® and W® beams are made from lower-emission steel.



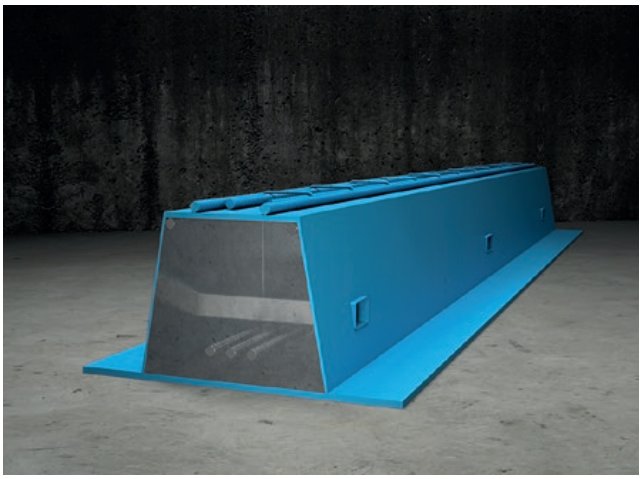
Low-carbon concrete

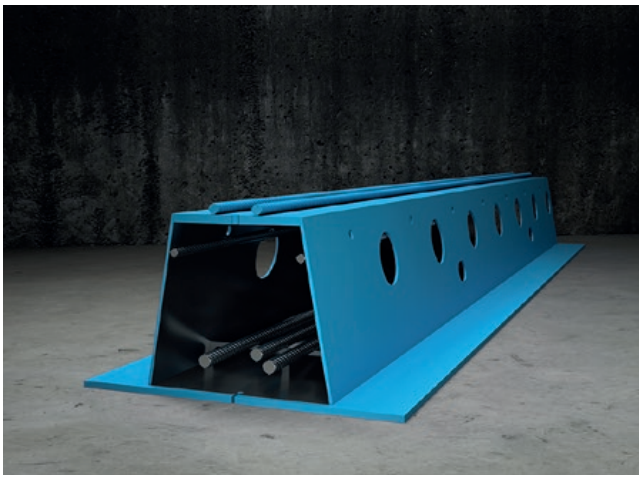
The pre-cast A-BEAM W® and LOW CARBON A-BEAM W® beams can be cast with low-carbon concrete.



A-BEAM®

A-BEAM® and Anstar's connection technology form part of the frame system, offering cost-efficiency and flexibility for construction. The beams are used as both a single-span and continuous-span structure and designed without separate fire protection up to fire resistance class R120. The standard connection is the AEP® hidden bracket to a reinforced concrete column. A connection library has also been prepared for the beam for typical connections to various frame structures. The beam type selection and preliminary dimensioning of the composite structure are performed using the ABEAM software.



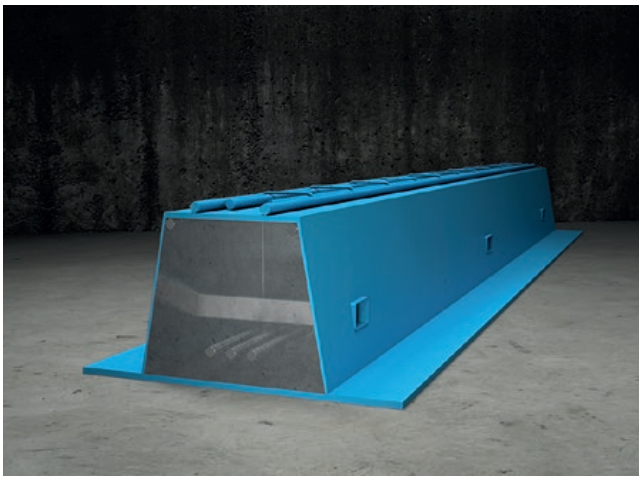


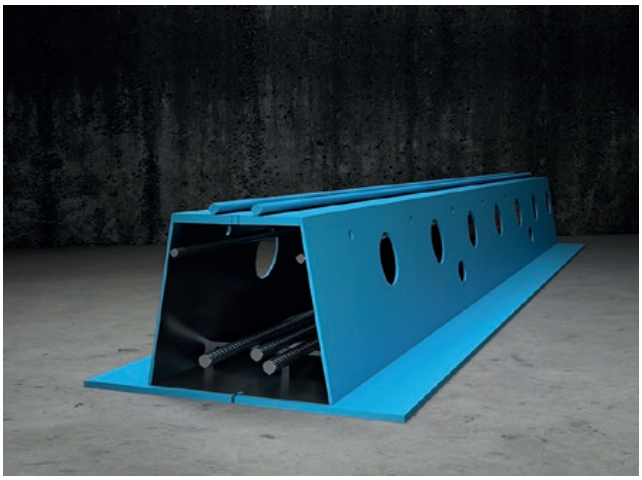
A-BEAM W®

The W-type composite beam has been particularly designed for winter construction conditions. The beam acts as the load-bearing composite structure of a low intermediate floor. The housing is made of steel plate, and its bending resistance is adjusted by means of reinforcement and lower flange thickness. The W beam housing is filled with concrete at the workshop. In the final stage, the beam acts as a composite structure with the hollow-core slabs and the surface casting. The bending resistance of the beam is sufficient for the loads on the hollow-core slabs during installation.

A-BEAM S®

The S-type beam acts as the load-bearing composite structure of a low intermediate floor. The housing is made of steel plate, and its bending resistance is adjusted by means of plate thickness. The beam is delivered without casting inside, and the casting is performed on the site. In the final stage, the beam acts as a composite structure with the hollow-core slabs and the surface casting. The bending resistance of the beam is sufficient for the loads on the hollow-core slabs during installation.





LOW CARBON A-BEAM W®

The W-type composite beam has been particularly designed for winter construction conditions. The beam acts as the load-bearing composite structure of a low intermediate floor. The housing is made of steel plate, and its bending resistance is adjusted by means of reinforcement and lower flange thickness. The W beam housing is filled with concrete at the workshop. In the final stage, the beam acts as a composite structure with the hollow-core slabs and the surface casting. The bending resistance of the beam is sufficient for the loads on the hollow-core slabs during installation.

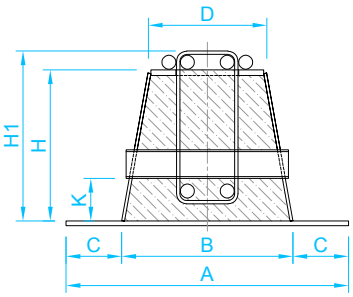
LOW CARBON A-BEAM S®

The S-type beam acts as the load-bearing composite structure of a low intermediate floor. The housing is made of steel plate, and its bending resistance is adjusted by means of plate thickness. The beam is delivered without casting inside, and the casting is performed on the site. In the final stage, the beam acts as a composite structure with the hollow-core slabs and the surface casting. The bending resistance of the beam is sufficient for the loads on the hollow-core slabs during installation.

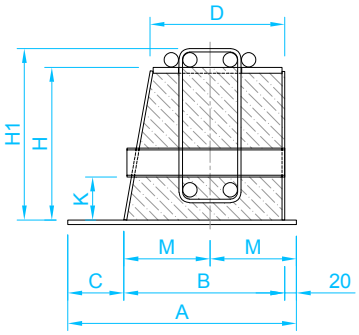
LOW CARBON A-BEAM® beams are made from lower-emission raw materials, which reduces the emissions generated during their production.

A-BEAM®

A-BEAM W® and LOW CARBON A-BEAM W® intermediate beam



Normal	Dimensions						
	H	H1	A	B	C	D	K
	mm	mm	mm	mm	mm	mm	mm
A200W-250	170	196	446	250	98	190	65
A200W-300	170	196	496	300	98	240	65
A200W-350	170	196	546	350	98	290	65
A265W-250	230	261	446	250	98	170	75
A265W-300	230	261	496	300	98	220	75
A265W-350	230	261	546	350	98	270	75
A265W-400	230	261	650	400	125	320	75
A320W-300	285	316	496	300	98	200	75
A320W-350	285	316	546	350	98	250	75
A320W-400	285	316	650	400	125	300	75
A320W-500	285	316	750	500	125	400	75
A370W-350	330	361	600	350	125	235	80
A370W-400	330	361	650	400	125	285	80
A370W-500	330	361	750	500	125	385	80
A400W-350	350	390	600	350	125	228	80
A400W-400	350	390	650	400	125	278	80
A400W-500	350	390	750	500	125	378	80
A400W-600	350	390	850	600	125	478	80
A500W-400	440	480	650	400	125	245	80
A500W-500	440	480	750	500	125	345	80
A500W-600	440	480	850	600	125	445	80

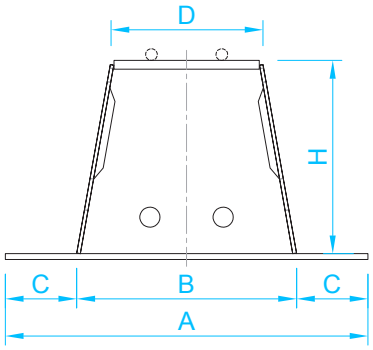


A-BEAM W® and LOW CARBON A-BEAM W® edge beam

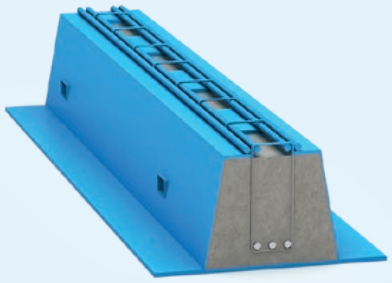
Normal	Dimensions							
	H	H1	A	B	C	D	K	M
	mm	mm	mm	mm	mm	mm	mm	mm
AR200W-230	170	196	348	230	98	200	65	125
AR200W-280	170	196	398	280	98	250	65	150
AR265W-230	230	261	348	230	98	190	75	125
AR265W-280	230	261	398	280	98	240	75	150
AR265W-330	230	261	448	330	98	290	75	175
AR320W-280	285	316	398	280	98	230	75	150
AR320W-330	285	316	448	330	98	280	75	175
AR320W-380	285	316	498	380	98	320	75	200
AR370W-280	330	361	425	280	125	222	80	150
AR370W-330	330	361	475	330	125	272	80	175
AR370W-380	330	361	525	380	125	322	80	200
AR400W-330	350	390	475	330	125	269	80	175
AR400W-380	350	390	525	380	125	319	80	200
AR400W-480	350	390	625	480	125	419	80	250
AR500W-330	440	480	475	330	125	253	80	175
AR500W-380	440	480	525	380	125	303	80	200
AR500W-480	440	480	625	480	125	403	80	250

A-BEAM S® and LOW CARBON A-BEAM S® intermediate beam

	Dimensions				
	H	A	B	C	D
	mm	mm	mm	mm	mm
A200S-200	200	396	200	98	130
A200S-300	200	446	250	98	180
A200S-300	200	496	300	98	230
A220S-200	220	396	200	98	123
A220S-250	220	446	250	98	173
A220S-300	220	496	300	98	223
A220S-350	220	546	350	98	273
A265S-250	255	446	250	98	160
A265S-300	255	496	300	98	210
A265S-350	255	546	350	98	260
A265S-400	255	650	400	125	310
A320S-250	305	446	250	98	144
A320S-300	305	496	300	98	194
A320S-350	305	546	350	98	244
A320S-400	305	650	400	125	294
A320S-500	305	750	500	125	394
A370S-300	355	550	300	125	177
A370S-350	355	600	350	125	227
A370S-400	355	650	400	125	277
A370S-500	355	750	500	125	377
A400S-350	380	600	350	125	218
A400S-400	380	650	400	125	268
A400S-500	380	750	500	125	368
A400S-600	380	850	600	125	468
A500S-350	475	600	350	125	185
A500S-400	475	650	400	125	235
A500S-500	475	750	500	125	335
A500S-600	475	850	600	125	435
A500S-700	475	950	700	125	535
A600S-500	575	750	500	125	300
A600S-600	575	850	600	125	400
A600S-700	575	950	700	125	500



A-BEAM W® and LOW CARBON A-BEAM W®

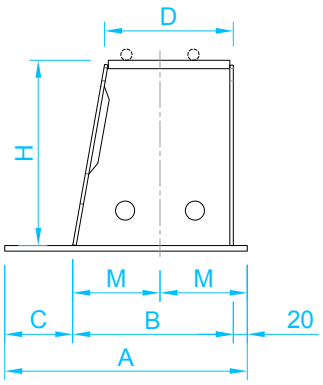


The beam housing is filled with concrete at the workshop.

A-BEAM S® and LOW CARBON A-BEAM S®

The beam housing is grouted after installation on the site.

A-BEAM S® and LOW CARBON A-BEAM S® edge beam



	Dimensions					
	H	A	B	C	D	M
	mm	mm	mm	mm	mm	mm
AR200S-180	200	298	180	98	145	100
AR200S-230	200	348	230	98	195	125
AR200S-280	200	398	280	98	245	150
AR220S-180	220	298	180	98	142	100
AR220S-230	220	348	230	98	192	125
AR220S-280	220	398	280	98	242	150
AR220S-330	220	448	330	98	292	175
AR265S-230	255	348	230	98	185	125
AR265S-280	255	398	280	98	235	150
AR265S-330	255	448	330	98	285	175
AR320S-230	305	348	230	98	177	125
AR320S-280	305	398	280	98	227	150
AR320S-330	305	448	330	98	277	175
AR320S-380	305	498	380	98	327	200
AR370S-280	355	425	280	125	218	150
AR370S-330	355	475	330	125	268	175
AR370S-380	355	525	380	125	318	200
AR400S-280	380	425	280	125	214	150
AR400S-330	380	475	330	125	264	175
AR400S-380	380	525	380	125	314	200
AR400S-430	380	575	430	125	364	225
AR500S-330	475	475	330	125	247	175
AR500S-380	475	525	380	125	297	200
AR500S-430	475	575	430	125	347	225

ORIMATTILAN YHTEISKOULU, ORIMATTILA

Builder: Varte Lahti Oy

AS OY HANGON KUNINGATTAREN-VUOREN LAITURI, HANKO

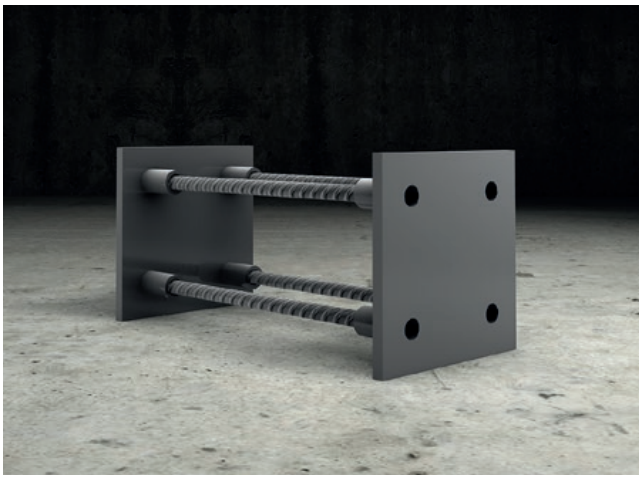
Builder: Chydenius, Hoivarakentajat, Honkarakenne

KEILANIEMI NEXT, ESPOO

Builder: NCC Suomi Oy

BRACING CONNECTIONS

Anstar's bracing connections have been designed for quick installation and for the requirements of winter installation in particular. These connections are used in the joints between concrete columns and stabilising steel bracings. All bracing connections have been tested and dimensioned to withstand high loads.



ADE® connection

ADE® horizontal couplers are used for buckling support of element columns and transferring the horizontal forces to the bracing vertical structures.

ADK® connection

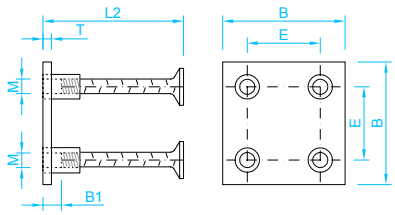
ADK® truss connections are used in stiffening truss structures where concrete columns are used as chords and steel pipes as diagonals. ADK® is designed as a swivel joint.

Bracing connections

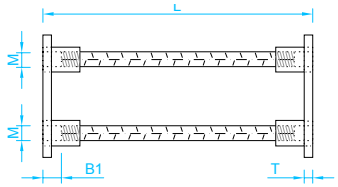
ADE® horizontal rod connection

Type	Dimensions					Resistances
	L2	B	E	M	B1	N_{Rd}
	mm	mm	mm	mm	mm	kN
ADE20T, ADE20P-L	220	190	110	20	25	200
ADE24T, ADE24P-L	220	200	120	20	25	250
ADE30T, ADE30P-L	290	200	120	24	30	400
ADE36T, ADE36P-L	360	250	150	30	35	550
ADE39T, ADE39P-L	500	300	180	39	40	700

ADE®-T



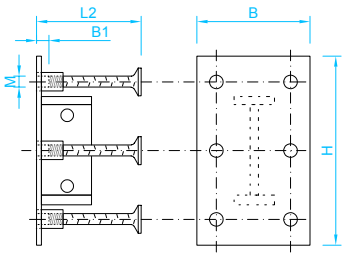
ADE®-P-L



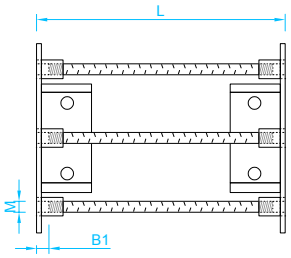
ADK® truss connection

Type	Dimensions					Resistances
	L2	H	B	M	B1	N_{Rd}
	mm	mm	mm	mm	mm	kN
ADK500T, ADK500P-L	290	440	280	24	30	500
ADK700T, ADK700P-L	290	510	280	24	30	700
ADK900T, ADK900P-L	360	550	280	30	35	900
ADK1100T, ADK1100P-L	360	600	320	30	35	1100
ADK1500T, ADK1500P-L	500	600	320	39	40	1500

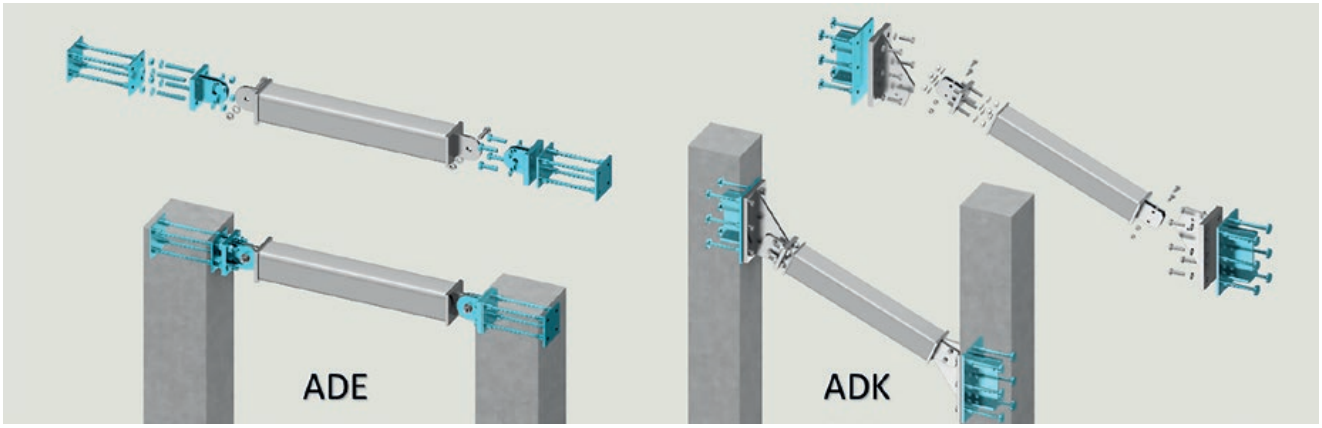
ADK®-T



ADK®-P-L



Plates	Anchors	Coupler sleeves
S355J2+N	B500B	25CrMo4



Anstar Oy is a Finnish family business specialising in the sales and manufacture of concrete structure connections and composite beams. We are an international operator, and one of the pioneers in the field. Anstar will help you with all your questions relating to concrete connections. Anstar's specialists may also develop solutions to customer-specific connection problems.

Anstar®

SMART STEEL.
SINCE 1981.

www.anstar.fi