



European Technical Assessment

ETA 20/0273
of 30/06/2026

I General Part

Technical Assessment Body issuing the ETA

Eurofins Expert Services Oy

Trade name of the construction product

Arras CF Angle Brackets

Product family to which the construction product belongs

Three-dimensional nailing plates

Manufacturer

Arras OÜ
Valli tee 17
75413 Vaela küla, Kiili vald
Estonia
www.arras.eu

Manufacturing plant

Arras OÜ
Valli tee 17
75413 Vaela küla, Kiili vald
Estonia

This European Technical Assessment contains

130 pages including 3 Annexes which form an integral part of this assessment

This European Technical Assessment is issued in accordance with Article 95(4) of Regulation (EU) 2024/3110, on the basis of

EAD 130186-00-0603 for Three-dimensional nailing plates

This ETA replaces

ETA 20/0273 of 29/12/2025

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II Specific Part

1 Technical description of the product

The angle brackets covered by this ETA are stated in Annex 1.

Arras CF Angle Brackets are one-piece non-welded three-dimensional nailing plates to be used in timber-to-timber or timber-to-concrete connections. The angle brackets are connected to the timber members by anchor nails or screws.

The Arras CF Angle Brackets are made from pre-galvanized steel DX51D+Z275 or S250GD+275Z according to EN 10346:2015 or from cold rolled austenitic stainless steel plate of grade 1.4301, 1.4307, 1.4401 or 1.4404 according to the standard EN 10088-2 / EN10088-4 or from grade AISI 304, AISI 304L, AISI 316 or AISI 316L according to the standard ASTM A240/A240M.

In the zinc coated connectors, the yield strength R_{e1} or R_{02} of the steel is at least 250 N/mm², the tensile strength R_m at least 330 N/mm² and elongation at failure A_{80} at least 19 %. Amount of the zinc coating is at least 275 g/m². In stainless steel connectors A4, the yield strength R_{02} of the steel is at least 240 N/mm², the tensile strength R_m at least 530 N/mm² and the elongation at failure A_{80} at least 40 %. In stainless steel connectors A2, the yield strength R_{02} of the steel is at least 220 N/mm², the tensile strength R_m at least 520 N/mm² and the elongation at failure A_{80} at least 45 %.

The product drawings are in Annex 3 and the sizes of Arras CF Angle Brackets are listed in Tables of Annexes 1 and 2. The steel material thickness of the zinc coated connectors is $1,50 \pm 0,13$ mm, $2,00 \pm 0,15$ mm, $2,50 \pm 0,17$ mm or $3,00 \pm 0,20$ mm. The material thickness of stainless steel connectors is $2,00 \pm 0,10$ mm or $2,50 \pm 0,12$ mm. Tolerance for the position of the holes is within $\pm 1,00$ mm.

2 Specification of the intended uses in accordance with the applicable European Assessment Document (hereinafter EAD)

2.1 Intended uses

Intended use of Arras CF Angle Brackets are timber constructions, where both flanges of the bracket are fixed to strength graded timber according to EN 14081-1, glulam according to EN 14080, softwood- or laminated logs, laminated veneer lumber (LVL) according to EN 14374, plywood according to EN 13986, cross laminated timber (CLT) with edge glued lamellas, or corresponding timber material. The characteristic density ρ_k of the timber shall not be greater than 500 kg/m³. This ETA does not cover angle brackets fixed in the end of a timber member or in the edge of a LVL member.

The forces to be transferred by the angle bracket shall act at the centre of the fastener group on the plane defined by flange A. For non-symmetric connectors, flange A means the bigger flange, when B is the smaller flange. Flanges A and B of connectors with asymmetrical dimensions or fixing hole locations are shown in drawings of Appendix 3.. Shear capacity represents the force component that is in effect in direction of a flange surface. Tensile and compression force are the force components that are in effect in direction perpendicular to a flange surface. The obtuse-angled Angle Bracket 135° connectors 73104, 73107 and 73111 may be loaded only by a shear force parallel to the bent edge of the connector. The long adjustable hole brackets no 74402 and 74406 are used typically for fixing non-settling construction members to a log wall and they may be loaded only by tension loads.

Arras CF Angle Brackets shall be fixed to timber by anchor nails or anchor screws (see Figure 1) according to EN 14592. The diameter of the anchor nails shall be $d = 4,0$ mm and the profiled length at least 24 mm. The anchor screw shall have a conical head, the diameter of the smooth part of the

screw shall be $d = 4,5 \dots 5,0$ mm and the inner diameter of the threaded part $d_1 \geq 3,0$ mm. The length of the threaded part of the screw shall be at least $6d$.

Connections with angle brackets shall fulfil the minimum spacing and edge distance requirement specified in EN 1995-1-1. Timber parts shall not be pre-drilled for the nails or screws. Fasteners shall be perpendicular to the grain of the timber.



Figure 1. Fasteners: a) anchor nail and b) anchor screw.

The angle bracket may be connected also to other applicable rigid material such as concrete or steel (support side material). In this case, the angle bracket shall be fixed with CE-marked bolts, threaded bars, anchor bolts or concrete screws with diameter 8/10/12 mm through the 9/11/13 mm holes to the rigid material or with concrete screws with diameter of 6 mm through the 7 mm holes. The concrete screws shall have been ETA assessed in accordance with EAD 330232-00-0601 or EAD 330499-01-0601.

For Arras CF Angle Brackets made of hot-dip zinc coated steel, the intended service classes according to EN 1995-1-1 are classes 1 and 2. Angle Brackets made of stainless steel can also be used in service class 3.

In service class 2, the nails or screws shall have an electroplated zinc coating according to EN ISO 2081 at least of type and thickness Fe/Zn 12c, or they shall be hot dip zinc coated according to EN ISO 1461, thickness at least 39 μm . In service class 3, the nails or screws shall be made of stainless steel.

2.2 Working life

The provisions made in this European Technical Approval are based on an assumed intended working life of the angle brackets of 50 years.¹ These provisions are based upon the current state of the art and available knowledge and experience. The indications given as to the working life of the construction product cannot be interpreted as a guarantee, neither given by the product manufacturer or by the Technical Assessment Body, but are regarded only as a means for expressing the expected economically reasonable working life of the product.

2.3 Identification

Arras CF Angle Brackets are identified by product labels that are marked with "ARRAS" logo.

¹ The real working life of a product incorporated in a specific works depends on the environmental conditions to which that works are subject, as well as on the particular conditions of design, execution, use, and maintenance of that works. Therefore, it cannot be excluded that in certain cases the real working life of the product may also be shorter than the assumed working life.

3 Performance of the product and references to the methods used for its assessment

Table 1 shows how the performance of Arras CF Angle Brackets is assessed in relation to the essential characteristics.

Table 1. Basic requirements for construction works and essential characteristics.

Basic requirement and essential characteristics	Performance
BWR 1. Mechanical resistance and stability	
Joint strength	Clause 3.1
Joint stiffness	No performance assessed
Joint ductility	No performance assessed
Resistance to seismic actions	No performance assessed
Resistance to corrosion and deterioration	Clause 3.1
BWR 2. Safety in case of fire	
Reaction to fire	Clause 3.2
Resistance to fire	No performance assessed

3.1 Mechanical resistance and stability (BWR 1)

3.1.1 Joint strength

Characteristic resistance values of Arras CF Angle Brackets are given in Annex 2.

3.1.2 Resistance to corrosion and deterioration

Arras CF Angle Brackets have been assessed as having satisfactory durability and serviceability when used in timber structures when the timber species (including timbers preserved with organic solvent, boron diffusion and related preservatives) described in Eurocode 5 (EN 1995-1-1: 2004) are used and the structures are subject to the dry, internal conditions defined by service classes 1 and 2. Angle brackets manufactured from stainless steel can also be used in service class 3 provided that also the nails and screws used together with them are made of stainless steel.

3.2 Safety in case of fire, BWR 2

3.2.1 Reaction to fire

Arras CF Angle Brackets are made of materials classified to have reaction to fire class A1 according to EN 13501-1.

4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base

For the products covered by EAD 130186-00-0603 the applicable European legal act is: Decision 1997/638/EC.

The system to be applied is 2+.

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at Eurofins Expert Services Oy.

Issued in Espoo on 30.06.2026
by Eurofins Expert Services Oy



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Manager

Ari Kevarinmäki
Leading Expert

ANNEX 1: List of products with material specifications and range of sizes

Article	Size	Thickness (mm)	Steel specification	Coating specification
71101	30x30x25x2,0	2,0	DX51D / S250GD	Z275
71102	50x50x35x2,0	2,0	DX51D / S250GD	Z275
71103	65x65x55x2,0	2,0	DX51D / S250GD	Z275
71104	70x70x55x2,0	2,0	DX51D / S250GD	Z275
71105	90x90x40x2,5	2,5	DX51D / S250GD	Z275
71107	100x100x55x2,5	2,5	DX51D / S250GD	Z275
71109	50x50x55x2,5	2,5	DX51D / S250GD	Z275
71112	105x105x90x2,0	2,0	DX51D / S250GD	Z275
71115	90x90x65x2,0	2,0	DX51D / S250GD	Z275
71116	50x50x40x2,0	2,0	DX51D / S250GD	Z275
71117	90x90x90x2,5	2,5	DX51D / S250GD	Z275
71127	90x90x40x2,0	2,0	DX51D / S250GD	Z275
71131	100x100x55x2,0	2,0	DX51D / S250GD	Z275
71132	120x120x90x2,5	2,5	DX51D / S250GD	Z275
71162	70x70x55x2,0	2,0	A2, AISI304	
71166	70x70x55x2,0	2,0	A2, AISI304	
71201	50x50x35x2,0	2,0	A2, AISI304	
71206	90x90x65x2,0	2,0	A2, AISI304	
71208	90x90x65x2,0	2,0	A2, AISI304	
71210	90x90x40x2,5	2,5	A2, AISI304	
71304	70x70x55x2,0	2,0	DX51D / S250GD	Z275
71305	105x105x90x2,0	2,0	DX51D / S250GD	Z275
71306	120x120x90x2,5	2,5	DX51D / S250GD	Z275
71307	140x140x90x2,5	2,5	DX51D / S250GD	Z275
71308	90x90x65x2,0	2,0	DX51D / S250GD	Z275
71309	90x90x65x1,5	1,5	DX51D / S250GD	Z275
71311	90x90x90x2,5	2,5	DX51D / S250GD	Z275
71320	40x40x40x2,0	2,0	DX51D / S250GD	Z275
71321	40x40x40x2,5	2,5	DX51D / S250GD	Z275
71322	60x60x40x2,0	2,0	DX51D / S250GD	Z275
71323	60x60x40x2,5	2,5	DX51D / S250GD	Z275
71324	80x80x40x2,0	2,0	DX51D / S250GD	Z275
71325	80x80x40x2,5	2,5	DX51D / S250GD	Z275
71326	100x100x40x2,0	2,0	DX51D / S250GD	Z275
71327	100x100x40x2,5	2,5	DX51D / S250GD	Z275
71328	120x80x40x2,0	2,0	DX51D / S250GD	Z275
71329	120x80x40x2,5	2,5	DX51D / S250GD	Z275
71330	120x100x40x2,0	2,0	DX51D / S250GD	Z275
71331	120x100x40x2,5	2,5	DX51D / S250GD	Z275

ANNEX 1: List of products with material specifications and range of sizes

Article	Size	Thickness (mm)	Steel specification	Coating specification
71332	160x40x40x2,0	2,0	DX51D / S250GD	Z275
71333	160x40x40x2,5	2,5	DX51D / S250GD	Z275
71334	200x40x40x2,0	2,0	DX51D / S250GD	Z275
71335	200x40x40x2,5	2,5	DX51D / S250GD	Z275
71339	90x90x65x3,0	3,0	DX51D / S250GD	Z275
71340	90x90x65x2,0	2,0	DX51D / S250GD	Z275
71341	70x70x55x1,5	1,5	DX51D / S250GD	Z275
71342	105x105x90x1,5	1,5	DX51D / S250GD	Z275
71345	90x90x65x2,0	2,0	DX51D / S250GD	Z275
71346	90x90x65x2,0	2,0	DX51D / S250GD	Z275
71347	90x90x65x2,5	2,5	DX51D / S250GD	Z275
71348	90x90x65x3,0	3,0	DX51D / S250GD	Z275
71351	90x90x90x2,5	2,5	DX51D / S250GD	Z275
71354	105x105x90x2,5	2,5	DX51D / S250GD	Z275
71356	120x120x90x2,5	2,5	DX51D / S250GD	Z275
71358	140x140x90x2,5	2,5	DX51D / S250GD	Z275
71401	20x20x40x2,0	2,0	DX51D / S250GD	Z275
71402	40x40x20x2,0	2,0	DX51D / S250GD	Z275
71403	40x40x30x2,0	2,0	DX51D / S250GD	Z275
71460	90x90x65x2,5	2,5	A4, AISI316	
71461	40x40x40x2,0	2,0	A4, AISI316	
71462	50x50x35x2,0,	2,0	A4, AISI316	
71463	90x90x65x2,5	2,5	A4, AISI316	
71464	60x60x40x2,0	2,0	A4, AISI316	
71465	70x70x55x2,5	2,5	A4, AISI316	
71466	50x50x35x2,5	2,5	A4, AISI316	
71467	60x60x60x2,0	2,0	A4, AISI316	
71468	90x90x65x2,0	2,0	A4, AISI316	
71469	105x105x90x2,5	2,5	A4, AISI316	
71470	105x105x90x2,5	2,5	A4, AISI316	
71502	80x60x60x2,5	2,5	DX51D / S250GD	Z275
71506	160x80x60x2,5	2,5	DX51D / S250GD	Z275
71507	160x80x80x2,5	2,5	DX51D / S250GD	Z275
71510	200x100x100x2,5	2,5	DX51D / S250GD	Z275
71512	60x40x60x2,5	2,5	DX51D / S250GD	Z275
71514	120x80x40x3,0	3,0	DX51D / S250GD	Z275
71516	140x60x80x3,0	3,0	DX51D / S250GD	Z275
71551	150x90x65x2,5	2,5	DX51D / S250GD	Z275
71552	170x90x65x2,5	2,5	DX51D / S250GD	Z275
71553	190x90x65x2,5	2,5	DX51D / S250GD	Z275

ANNEX 1: List of products with material specifications and range of sizes

Article	Size	Thickness (mm)	Steel specification	Coating specification
71554	150x150x65x2,5	2,5	DX51D / S250GD	Z275
71555	170x170x65x2,5	2,5	DX51D / S250GD	Z275
71556	190x190x65x2,5	2,5	DX51D / S250GD	Z275
71562	150x90x65x2,5	2,5	A2, AISI304	
73001	90x40x40x2,5	2,5	DX51D / S250GD	Z275
73002	140x40x40x2,5	2,5	DX51D / S250GD	Z275
73003	90x50x55x2,0	2,0	DX51D / S250GD	Z275
73004	80x60x55x2,5	2,5	DX51D / S250GD	Z275
73006	90x50x55x2,5	2,5	DX51D / S250GD	Z275
73007	90x40x40x3,0	3,0	DX51D / S250GD	Z275
73104	90x90x40x2,5 135°	2,5	DX51D / S250GD	Z275
73107	90x90x65x2,5 135°	2,5	DX51D / S250GD	Z275
73111	50x50x35x2,5 135°	2,5	DX51D / S250GD	Z275
73201	180x20x40x2,0	2,0	DX51D / S250GD	Z275
73202	280x20x40x2,0	2,0	DX51D / S250GD	Z275
73203	380x20x40x2,0	2,0	DX51D / S250GD	Z275
73605	90x90x40x2,5	2,5	DX51D / S250GD	Z275
73606	140x40x40x2,5	2,5	DX51D / S250GD	Z275
73609	50x50x55x2,5	2,5	DX51D / S250GD	Z275
73610	65x65x55x2,0	2,0	DX51D / S250GD	Z275
73612	50x50x40x2,0	2,0	DX51D / S250GD	Z275
73622	50x50x40x2,5	2,5	DX51D / S250GD	Z275
73623	65x65x55x3,0	3,0	DX51D / S250GD	Z275
73624	65x65x55x2,5	2,5	DX51D / S250GD	Z275
73652	65x65x55x2,0	2,0	DX51D / S250GD	Z275
74402	35x35x130x2,0	2,0	DX51D / S250GD	Z275
74406	35x35x130x2,0	2,0	DX51D / S250GD	Z275

ANNEX 1: List of products with material specifications and range of sizes

Article	Size	Height (mm)		Height (mm)		Width (mm)	
		vertical		horizontal			
71101	30x30x25x2,0	29	31	29	31	24	26
71102	50x50x35x2,0	49	51	49	51	34	36
71103	65x65x55x2,0	64	66	64	66	54	56
71104	70x70x55x2,0	69	71	69	71	54	56
71105	90x90x40x2,5	89	91	89	91	39	41
71107	100x100x55x2,5	99	101	99	101	54	56
71109	50x50x55x2,5	49	51	49	51	54	56
71112	105x105x90x2,0	104	106	104	106	89	91
71115	90x90x65x2,0	89	91	89	91	64	66
71116	50x50x40x2,0	49	51	49	51	39	41
71117	90x90x90x2,5	89	91	89	91	89	91
71127	90x90x40x2,0	89	91	89	91	39	41
71131	100x100x55x2,0	99	101	99	101	54	56
71132	120x120x90x2,5	119	121	119	121	89	91
71162	70x70x55x2,0	69	71	69	71	54	56
71166	70x70x55x2,0	69	71	69	71	54	56
71201	50x50x35x2,0	49	51	49	51	34	36
71206	90x90x65x2,0	89	91	89	91	64	66
71208	90x90x65x2,0	89	91	89	91	64	66
71210	90x90x40x2,5	89	91	89	91	39	41
71304	70x70x55x2,0	69	71	69	71	54	56
71305	105x105x90x2,0	104	106	104	106	89	91
71306	120x120x90x2,5	119	121	119	121	89	91
71307	140x140x90x2,5	139	141	139	141	89	91
71308	90x90x65x2,0	89	91	89	91	64	66
71309	90x90x65x1,5	89	91	89	91	64	66
71311	90x90x90x2,5	89	91	89	91	89	91
71320	40x40x40x2,0	39	41	39	41	39	41
71321	40x40x40x2,5	39	41	39	41	39	41
71322	60x60x40x2,0	59	61	59	61	39	41
71323	60x60x40x2,5	59	61	59	61	39	41
71324	80x80x40x2,0	79	81	79	81	39	41
71325	80x80x40x2,5	79	81	79	81	39	41
71326	100x100x40x2,0	99	101	99	101	39	41
71327	100x100x40x2,5	99	101	99	101	39	41
71328	120x80x40x2,0	119	121	79	81	39	41
71329	120x80x40x2,5	119	121	79	81	39	41
71330	120x100x40x2,0	119	121	99	101	39	41
71331	120x100x40x2,5	119	121	99	101	39	41

ANNEX 1: List of products with material specifications and range of sizes

Article	Size	Height (mm)		Height (mm)		Width (mm)	
		vertical		horizontal			
71332	160x40x40x2,0	159	161	39	41	39	41
71333	160x40x40x2,5	159	161	39	41	39	41
71334	200x40x40x2,0	199	201	39	41	39	41
71335	200x40x40x2,5	199	201	39	41	39	41
71339	90x90x65x3,0	89	91	89	91	64	66
71340	90x90x65x2,0	89	91	89	91	64	66
71341	70x70x55x1,5	69	71	69	71	54	56
71342	105x105x90x1,5	104	106	104	106	89	91
71345	90x90x65x2,0	89	91	89	91	64	66
71346	90x90x65x2,0	89	91	89	91	64	66
71347	90x90x65x2,5	89	91	89	91	64	66
71348	90x90x65x3,0	89	91	89	91	64	66
71351	90x90x90x2,5	89	91	89	91	89	91
71354	105x105x90x2,5	104	106	104	106	89	91
71356	120x120x90x2,5	119	121	119	121	89	91
71358	140x140x90x2,5	139	141	139	141	89	91
71401	20x20x40x2,0	19	21	19	21	39	41
71402	40x40x20x2,0	39	41	39	41	19	21
71403	40x40x30x2,0	39	41	39	41	29	31
71460	90x90x65x2,5	89	91	89	91	64	66
71461	40x40x40x2,0	39	41	39	41	39	41
71462	50x50x35x2,0,	49	51	49	51	34	36
71463	90x90x65x2,5	89	91	89	91	64	66
71464	60x60x40x2,0	59	61	59	61	39	41
71465	70x70x55x2,5	69	71	69	71	54	56
71466	50x50x35x2,5	49	51	49	51	34	36
71467	60x60x60x2,0	59	61	59	61	59	61
71468	90x90x65x2,0	89	91	89	91	64	66
71469	105x105x90x2,5	104	106	104	106	89	91
71470	105x105x90x2,5	104	106	104	106	89	91
71502	80x60x60x2,5	79	81	59	61	59	61
71506	160x80x60x2,5	159	161	79	81	59	61
71507	160x80x80x2,5	159	161	79	81	79	81
71510	200x100x100x2,5	199	201	99	101	99	101
71512	60x40x60x2,5	59	61	39	41	59	61
71514	120x80x40x3,0	119	121	79	81	39	41
71516	140x60x80x3,0	139	141	59	61	79	81
71551	150x90x65x2,5	149	151	89	91	64	66
71552	170x90x65x2,5	169	171	89	91	64	66

ANNEX 1: List of products with material specifications and range of sizes

Article	Size	Height (mm)		Height (mm)		Width (mm)	
		vertical	vertical	horizontal	horizontal		
71553	190x90x65x2,5	189	191	89	91	64	66
71554	150x150x65x2,5	149	151	149	151	64	66
71555	170x170x65x2,5	169	171	169	171	64	66
71556	190x190x65x2,5	189	191	189	191	64	66
71562	150x90x65x2,5	149	151	89	91	64	66
73001	90x40x40x2,5	89	91	39	41	39	41
73002	140x40x40x2,5	139	141	39	41	39	41
73003	90x50x55x2,0	89	91	49	51	54	56
73004	80x60x55x2,5	79	81	59	61	54	56
73006	90x50x55x2,5	89	91	49	51	54	56
73007	90x40x40x3,0	89	91	39	41	39	41
73104	90x90x40x2,5 135°	89	91	89	91	39	41
73107	90x90x65x2,5 135°	89	91	89	91	64	66
73111	50x50x35x2,5 135°	49	51	49	51	34	36
73201	180x20x40x2,0	179	181	19	21	39	41
73202	280x20x40x2,0	279	281	19	21	39	41
73203	380x20x40x2,0	379	381	19	21	39	41
73605	90x90x40x2,5	89	91	89	91	39	41
73606	140x40x40x2,5	139	141	39	41	39	41
73609	50x50x55x2,5	49	51	49	51	54	56
73610	65x65x55x2,0	64	66	64	66	54	56
73612	50x50x40x2,0	49	51	49	51	39	41
73622	50x50x40x2,5	49	51	49	51	39	41
73623	65x65x55x3,0	64	66	64	66	54	56
73624	65x65x55x2,5	64	66	64	66	54	56
73652	65x65x55x2,0	64	66	64	66	54	56
74402	35x35x130x2,0	34	36	34	36	129	131
74406	35x35x130x2,0	34	36	34	36	129	131

ANNEX 2. CHARACTERISTIC LOAD-CARRYING CAPACITIES

Characteristic resistances for Arras CF Angle Brackets - calculation method

Load carrying capacity of non-sliding angle bracket connections

The design resistance R_d of the angle bracket connection is

$$R_d = k_{\text{mod}} \frac{R_k}{\gamma_M} \quad (1)$$

where k_{mod} is the modification factor according to EN 1995-1-1 taking into account the effect of the duration of the load and moisture content for timber, γ_M is the partial factor for the resistance of connections according to the relevant National annex of EN 1995-1-1 and R_k is the characteristic resistance of the angle bracket connection.

When the connection made by the angle bracket is loaded by a shear force at the plane of flange A in the middle of the flange, it shall be checked that the conditions according to equations (2) to (4) are fulfilled

$$F_d \leq R_{A,d} \quad (2)$$

$$F_{x,d} \leq R_{B,x,d} \quad (3)$$

$$F_{z,d} \leq \begin{cases} R_{B,z,t,d} & \text{when the connection is in tension} \\ R_{B,z,c,d} & \text{when the connection is in compression} \end{cases} \quad (4)$$

where $F_{x,d}$ is the component in the direction of the bent edge of the angle bracket from the connection force F_d and $F_{z,d}$ is the component perpendicular to $F_{x,d}$ from the connection force F_d (see Figure A2.1). The obtuse-angled Angle Bracket 135° connectors 73104, 73107 and 73111 may be loaded only by a shear force parallel to the bent edge: $F_d = F_{x,d}$.

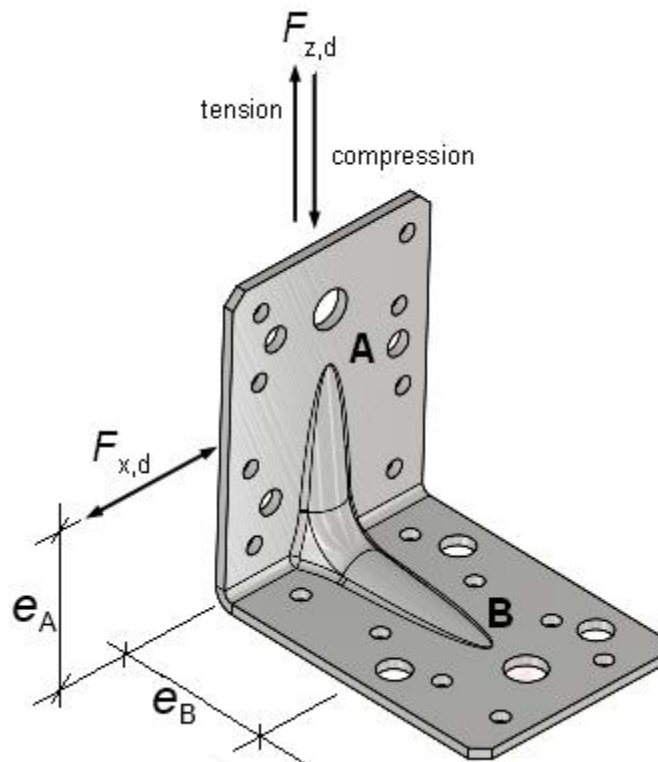


Figure A2.1. Angle bracket connector loaded by a shear force $F_{x,d}$ and tension/compression force $F_{z,d}$.

In addition, when the connection is loaded in tension, the following interaction equation shall be fulfilled:

$$\left(\frac{F_{z,d}}{R_{B,z,t,d}}\right)^2 + \left(\frac{F_{x,d}}{R_{B,x,d}}\right)^2 \leq 1 \quad (5)$$

Characteristic resistance

$$R_{A,k} = n_A F_{A,v,Rk} \quad (6)$$

where n_A is number of fasteners at flange A. $F_{A,v,Rk}$ is the characteristic lateral load-carrying capacity of the fastener in the timber part against flange A according to EN 1995-1-1, equation (7) for steel plate thickness t less than or equal to $d/2$ and (8) for thicker steel plates of thickness greater than or equal to d :

$$F_{v,Rk} = \min \begin{cases} 0,4 f_{h,k} t_1 d & \text{(a)} \\ 1,15 \sqrt{2 M_{y,Rk} f_{h,k} d} + \frac{F_{ax,Rk}}{4} & \text{(b)} \end{cases} \quad (7)$$

$$F_{v,Rk} = \min \begin{cases} f_{h,k} t_1 d & \text{(a)} \\ f_{h,k} t_1 d \left[\sqrt{2 + \frac{4 M_{y,Rk}}{f_{h,k} d t_1^2}} - 1 \right] + \frac{F_{ax,Rk}}{4} & \text{(b)} \\ 2,3 \sqrt{M_{y,Rk} f_{h,k} d} + \frac{F_{ax,Rk}}{4} & \text{(c)} \end{cases} \quad (8)$$

where $t_1 = L - t$ when L is the length of the fastener, t is the thickness of steel plate, $M_{y,k}$ is according to standards EN 14592 and EN 409 experimentally determined characteristic value of the yield moment of the fastener, $F_{ax,Rk}$ is the withdrawal resistance of the fastener according to Eq. (10) limited at maximum to $1/3$ with nails and $1/2$ with screws from the load-carrying capacity $F_{v,Rk}$ and the characteristic value of the embedding strength

$$f_{h,k} = 0,082 \rho_k d^{-0,3} \quad \text{N/mm}^2 \quad (9)$$

The characteristic withdrawal resistance of the nail

$$F_{ax,Rk} = f_{ax,k} d t_{pen} \leq f_{tens,k} \quad (10a)$$

and for the screw

$$F_{ax,Rk} = n^{-0,1} f_{ax,k} d l_{ef} \left(\frac{\rho_k}{\rho_a}\right)^{0,8} \leq n^{-0,1} f_{tens,k} \quad (10b)$$

where $f_{ax,k}$ is the withdrawal parameter determined by testing according to standards EN 14592 and EN 1382 for the actual timber material with density ρ_a , $f_{tens,k}$ is the experimentally determined tensile resistance of the fastener together with a steel plate, t_{pen} is the penetration depth of the profiled part of the nail in timber, n is the number of the screws in the flange of connector, l_{ef} is the length of threaded part of the screw and ρ_k is the characteristic density of timber in the actual connection. If the penetration depth for an anchor nail is less than $t_{pen} \leq 8d = 32$ mm, the resistance according to Eq. (10a) is reduced by $(t_{pen}/8\text{mm} - 3)$.

Eq. (8) may be used for angular ring shank nails, if the nominal thickness of steel plate is at least 2,00 mm, the length of the conical part of nail head is at least 4 mm and the diameter of the cone at the head of the nail is at least 5,2 mm. Otherwise linear interpolation of equations (7) and (8) is used for the steel plate thicknesses between 2 and 4 mm. For products made of 1,5 mm steel thickness, only equation (7) is used.

Characteristic resistance

$$R_{B,x,k} = k_m F_{B,v,Rk} \quad (11)$$

where $F_{B,v,Rk}$ is the characteristic lateral load-carrying capacity of the fastener in the timber part against flange B, according to EN 1995-1-1, and the factor k_m depends on the placement of the fasteners. Values of k_m are given in Table A2.1 for cases, where fasteners are used in all 5 mm holes of the angle bracket.

Characteristic tension resistance for angular brackets without reinforcement ribs

$$R_{B,z,t,k} = \min \left\{ \begin{array}{l} F_{n,1} + F_{n,2} - 3 \cdot \frac{F_{n,1} \cdot d_1 + F_{n,2} \cdot d_2 - \frac{B \cdot t_d^2}{4} \cdot f_y}{2L_B + d_2} \quad (a) \\ \frac{t_d^2 f_y}{4 d_1} \cdot (B + B_{net,1}) \quad (b) \\ \frac{t_d^2 f_y}{4 d_2} \cdot (B + B_{net,2}) + \frac{F_{n,1}(d_2 - d_1)}{d_2} \quad (c) \\ F_{n,1} + F_{n,2} \quad (d) \end{array} \right. \quad (12)^2$$

where

- d_1 distance between the bent edge and the hole row nearest to it in flange B ($i = 1$),
- d_2 distance between the bent edge and the hole row second nearest to it in flange B ($i = 2$),
- B the width of the angular bracket,
- t_d is the thickness of the Angle Bracket to be used in calculations (= the minimum thickness minus the thickness of the zinc coating),
- f_y yield strength of the steel of the Angle Bracket,
- L_B the length of flange B from the middle of the bent edge,
- $B_{net,i}$ the net width of the Angle Bracket at hole row i and

$$F_{n,i} = n_i F_{ax,Rk} \quad (13)$$

when n_i is the number of fasteners at row i and $F_{ax,Rk}$ is the characteristic withdrawal resistance of the fastener in the timber member against flange B according to EN 1995-1-1.

If there are fasteners only in one or two rows at flange B, in expression (12) equation (a) is inserted by $F_{n,2} = 0$ and $d_2 = d_1$ and equation (c) needs not to be checked.

Characteristic tension resistance for angle brackets with reinforcement ribs

$$R_{B,z,t,k} = \min \left\{ \begin{array}{l} \Sigma F_{a,j} + F_{n,1} - 3 \cdot \frac{F_{n,1} \cdot d_1 - \frac{B \cdot t_d^2}{4} \cdot f_y}{2L_B - 2a + d_2} \quad (a) \\ \max \left\{ \begin{array}{l} \frac{t_d^2 f_y}{4(a + d_1)} \cdot (B + B_{net,1}) + \frac{\Sigma(F_{a,j}(a + d_1 - a_j))}{a + d_1} \quad (b) \\ \Sigma F_{a,j} + F_{n,1} \quad (c) \end{array} \right. \end{array} \right. \quad (14)$$

where

- d_1 distance between the tip of the reinforcement fold and the hole row nearest to it in flange B (see Figure A2.2),
- a is the length of the reinforcement rib in flange B,
- a_j is distance between bent edge and the fastener row j (see Figure A2.2),

² **Note:** In design criterion (b) of formula (12), fasteners do not affect the tension resistance. When this design criterion is governing, increasing the fastener length does not improve the tension resistance of the connection. The calculated characteristic capacities for this criterion are given in column $F_{z,t,k}$ (b) of Table A2.5.

- B the width of the angle bracket at the tip of the reinforcement rib,
- t_d is the thickness of the connector to be used in calculations (= the minimum thickness minus the thickness of the zinc coating),
- f_y yield strength of the steel of the connector,
- L_B the length of flange B from the middle of the bent edge and
- $B_{net,1}$ the net width of the angle bracket at hole row of distance d_1 from the tip of reinforcement fold.

$$F_{n,1} = n_1 F_{ax,Rk} \quad (15)$$

$$F_{a,j} = n_j F_{ax,Rk} \quad (16)$$

when n_1 is the number of fasteners in the row nearest to the tip of the reinforcement fold, n_j is the number of fasteners at row j in the part of flange B with the reinforcement and $F_{ax,Rk}$ is the characteristic withdrawal resistance of the fastener in the timber member against flange B according to EN 1995-1-1.

If the flange B of the connector only has one row of fasteners on the part without stiffener rib, in equation (14) is inserted $F_{n,1} = 0$.

For a stiffened connector that have no fasteners on the reinforcement area, the tension capacity may be calculated as maximum of equations (12) and (14). Then in expression (12), the flange length L_B is taken as distance between the end of the reinforcement rib and the end of the flange.

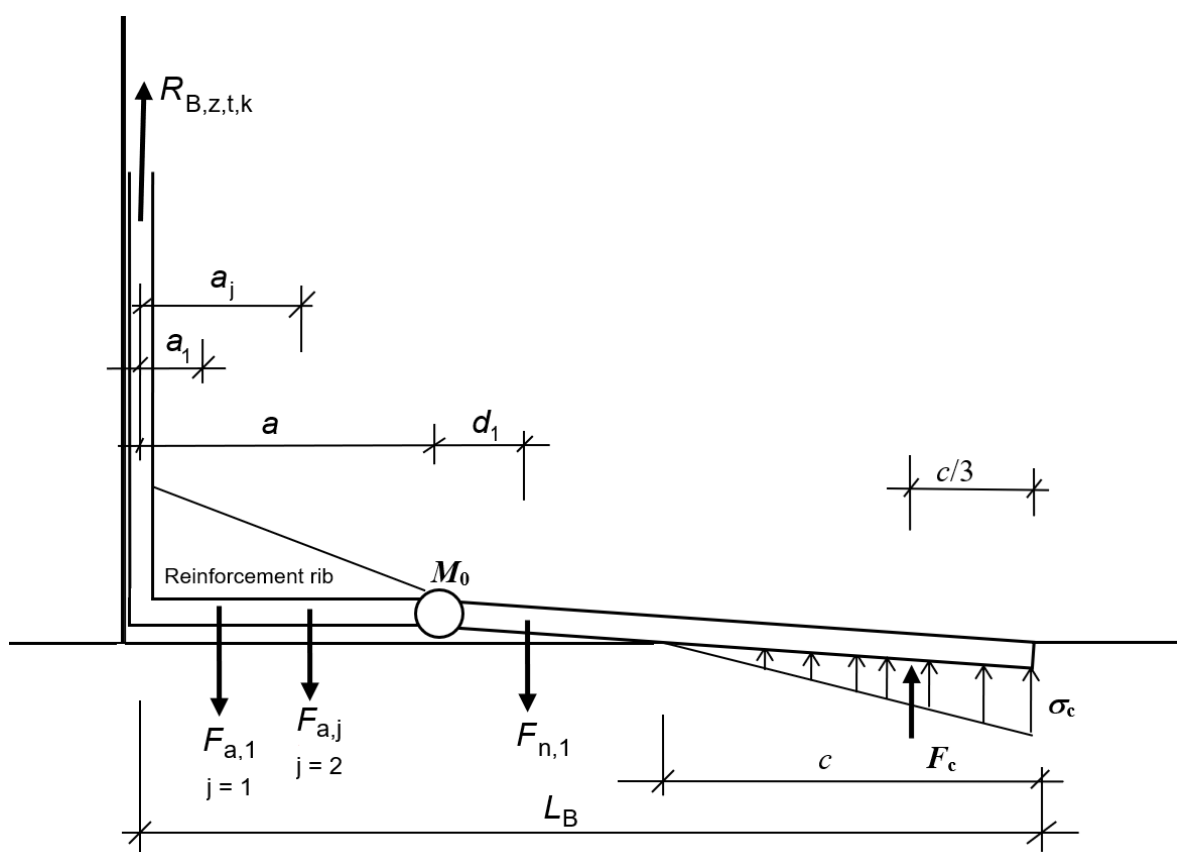


Figure A2.2. Tension loaded angle bracket with reinforcement – force distribution and notations used in equation (14).

Characteristic compression resistance for angle brackets without reinforcement

$$R_{B,z,c,k} = t_d \cdot \sqrt{3 \cdot B \cdot B_{net} \cdot f_y \cdot f_{c,90,k}} \quad (17)$$

where t_d , B and f_y are defined as for equation (12) and B_{net} is the smallest net width of the flange B and $f_{c,90,k}$ is the characteristic compression strength perpendicular to the timber member against flange B.

Characteristic compression resistance for angle brackets with reinforcements

$$R_{z,c,B,k} = 3 \cdot a \cdot B_{ef} \cdot f_{c,90,k} + t_d \cdot \sqrt{3 \cdot B \cdot B_{net} \cdot f_y \cdot f_{c,90,k}} \quad (18)$$

where a is the length of the reinforcement rib from the bent edge of the angular bracket, B_{ef} is the width of the angular bracket minus the width of the reinforcement and the other symbols as for equation (17).

Calculated characteristic compression resistances of Arras Angle Brackets are shown in Tables A2.3 and A2.4 for connections of sawn timber of strength class C24.

For a timber-to-concrete angle bracket connection, the resistance of the corresponding timber-to-timber connection may be used, provided that the lateral load carrying capacity and axial tension capacity of the fastener group in concrete are greater or equal than the capacities of the fastener group of the corresponding flange in timber member.

Load carrying capacity of long adjustable brackets no 74402 and 74406

In design of long adjustable hole brackets following condition shall be fulfilled

$$\left(\frac{F_{z,t,d}}{R_{B,z,t,d}} \right)^2 + \left(\frac{F_{y,t,d}}{R_{A,y,t,d}} \right)^2 \leq 1 \quad (19)$$

where $F_{z,t,d}$ is the design tension load perpendicular to flange B and $F_{y,t,d}$ is the design tension load perpendicular to the sliding flange A.

The design capacities are as follows

$$R_{B,z,t,d} = \min \left\{ \begin{array}{l} \frac{k_{mod}}{\gamma_M} \cdot R_{t,z,k} \\ \frac{k_{mod}}{\gamma_M} \cdot R_{v,z,k} \\ \frac{R_{b,z,k}}{\gamma_{M,1}} \end{array} \right. \quad (20)$$

$$R_{A,y,t,d} = \min \left\{ \begin{array}{l} \frac{k_{mod}}{\gamma_M} \cdot R_{t,y,k} \\ \frac{k_{mod}}{\gamma_M} \cdot R_{v,y,k} \\ \frac{R_{f,y,k}}{\gamma_{M,1}} \end{array} \right. \quad (21)$$

where $\gamma_{M,1}$ is the partial safety factor in accordance with the relevant national annex of standard EN 1993-1-3, k_{mod} is the modification factor for load duration and moisture content according to EN 1995-1-1 and γ_M is the partial safety factor of connection in accordance with the relevant national annex of standard EN 1995-1-1.

The characteristic lateral load capacities of the fastener connections are as follows

$$R_{v,z,k} = F_{v,A,Rk} \quad (22)$$

$$R_{v,y,k} = 2,213 F_{v,B,Rk} \quad (23)$$

$$R_{b,z,k} = 824 \text{ N} \quad (24)$$

where $F_{v,A,Rk}$ is the lateral load-carrying capacity per fastener in the sliding part and $F_{v,B,Rk}$ is similarly the load-carrying capacity per fastener in nailing plate side, see equations (7) and (8).

The characteristic capacities for connector no 74402 are as follows:

$$R_{t,z,k} = \min \begin{cases} 1,2F_{ax,B,Rk} + 939 \text{ N} \\ 6F_{ax,B,Rk} \end{cases} \quad (25)$$

$$R_{t,y,k} = \min \begin{cases} 0,358F_{ax,A,Rk} + 923 \text{ N} \\ F_{ax,A,Rk} \end{cases} \quad (26)$$

$$R_{f,y,k} = 1807 \text{ N} \quad (27)$$

where $F_{ax,A,Rk}$ is the withdrawal capacity of the sliding fastener and $F_{ax,B,Rk}$ is the withdrawal capacity of nailing plate side fastener, see equations (10a) and (10b).

The characteristic capacities for connector no 74406 are respectively:

$$R_{t,z,k} = \min \begin{cases} 1,672F_{ax,B,Rk} + 1309 \text{ N} \\ 6F_{ax,B,Rk} \end{cases} \quad (28)$$

$$R_{t,y,k} = \min \begin{cases} 0,496F_{ax,A,Rk} + 1278 \text{ N} \\ F_{ax,A,Rk} \end{cases} \quad (29)$$

$$R_{f,y,k} = 3413 \text{ N} \quad (30)$$

Structural requirements

Connections with the angle brackets shall fulfil the minimum spacing and edge and end distance requirements specified in EN 1995-1-1. The minimum distances a_1 and a_2 in table 8.2 of EN 1995-1-1 can be multiplied by a factor of 0,7 (nailed steel-to-timber connections).

If angle brackets are placed on both sides of the timber, the point of the fastener shall be at most $4d$ from the surface of the opposing side, where d is the nominal diameter of the fastener.

It is not possible to fill all holes by fasteners in all configurations and loading combinations of the angle brackets. In partial fixing the fasteners shall always be placed in the row nearest to the end of the flange and as near as possible to the bent edge of the angle bracket. Additionally, the fasteners should be positioned symmetrically.

The sliding angle brackets are always fixed from all holes of 5 mm diameter.

All fasteners in same flange shall be identical. The opposing flanges may have different fasteners.

Table A2.1. Article numbers of the non-sliding Arras CF Angle Brackets, nominal dimensions, grade of steel plate, number of fasteners in flange A n_A and in flange B n_B , eccentricity of the fastener group e and values for factor k_m when the fasteners are used in all 5 mm diameter of holes.

Art. No.	Size (mm)	Grade	n_A	n_B	e (mm)	k_m
71101	30x30x25x2,0	DX51D / S250GD	2	2	20,0	0,645
71102	50x50x35x2,0	DX51D / S250GD	3	4	25,5	1,729
71103	65x65x55x2,0	DX51D / S250GD	6	6	36,7	2,673
71104	70x70x55x2,0	DX51D / S250GD	10	10	38,6	3,653
71105	90x90x40x2,5	DX51D / S250GD	8	8	49,8	2,621
71107	100x100x55x2,5	DX51D / S250GD	9	9	56,3	3,552
71109	50x50x55x2,5	DX51D / S250GD	4	4	26,8	2,144

Table A2.1. continued

Art. No.	Size (mm)	Grade	n_A	n_B	e (mm)	k_m
71112	105x105x90x2,0	DX51D / S250GD	13	11	50,1	4,735
71115	90x90x65x2,0	DX51D / S250GD	8	8	54,1	2,958
71116	50x50x40x2,0	DX51D / S250GD	4	4	30,0	1,500
71117	90x90x90x2,5	DX51D / S250GD	9	11	46,0	5,113
71127	90x90x40x2,0	DX51D / S250GD	8	8	50,0	2,554
71131	100x100x55x2,0	DX51D / S250GD	9	9	56,5	3,543
71132	120x120x90x2,5	DX51D / S250GD	14	11	49,9	4,745
71162	70x70x55x2,0	A2, AISI 304	10	10	40,6	3,537
71166	70x70x55x2,0	A2, AISI 304	9	9	38,3	3,455
71201	50x50x35x2,0	A2, AISI 304	4	3	23,2	1,175
71206	90x90x65x2,0	A2, AISI 304	8	8	54,1	2,974
71208	90x90x65x2,0	A2, AISI 304	8	8	54,1	2,974
71210	90x90x40x2,5	A2, AISI 304	8	8	49,8	2,621
71304	70x70x55x2,0	DX51D / S250GD	9	9	40,8	3,412
71305	105x105x90x2,0	DX51D / S250GD	12	10	51,8	4,494
71306	120x120x90x2,5	DX51D / S250GD	13	10	51,6	4,507
71307	140x140x90x2,5	DX51D / S250GD	15	13	69,4	5,351
71308	90x90x65x2,0	DX51D / S250GD	8	8	54,1	2,974
71309	90x90x65x1,5	DX51D / S250GD	8	8	48,3	3,112
71311	90x90x90x2,5	DX51D / S250GD	10	8	41,0	3,951
71320	40x40x40x2,0	DX51D / S250GD	4	4	21,0	2,023
71321	40x40x40x2,5	DX51D / S250GD	4	4	20,8	2,037
71322	60x60x40x2,0	DX51D / S250GD	6	6	31,0	2,532
71323	60x60x40x2,5	DX51D / S250GD	6	6	30,8	2,544
71324	80x80x40x2,0	DX51D / S250GD	8	8	41,5	3,088
71325	80x80x40x2,5	DX51D / S250GD	8	8	41,3	3,100
71326	100x100x40x2,0	DX51D / S250GD	10	10	51,5	3,692
71327	100x100x40x2,5	DX51D / S250GD	10	10	51,3	3,703
71328	120x80x40x2,0	DX51D / S250GD	12	8	41,5	3,088
71329	120x80x40x2,5	DX51D / S250GD	12	8	41,3	3,100
71330	120x100x40x2,0	DX51D / S250GD	12	10	51,5	3,692
71331	120x100x40x2,5	DX51D / S250GD	12	10	51,3	3,703
71332	160x40x40x2,0	DX51D / S250GD	16	4	21,5	1,996
71333	160x40x40x2,5	DX51D / S250GD	16	4	21,3	2,010
71334	200x40x40x2,0	DX51D / S250GD	20	4	21,5	1,996
71335	200x40x40x2,5	DX51D / S250GD	20	4	21,3	2,010
71339	90x90x65x3,0	DX51D / S250GD	8	8	47,5	3,142
71340	90x90x65x2,0	DX51D / S250GD	8	8	48,3	3,100
71341	70x70x55x1,5	DX51D / S250GD	9	9	42,5	3,317
71342	105x105x90x1,5	DX51D / S250GD	12	10	52,1	4,482
71345	90x90x65x2,0	DX51D / S250GD	11	11	44,2	4,046
71346	90x90x65x2,0	DX51D / S250GD	8	8	47,3	3,486
71347	90x90x65x2,5	DX51D / S250GD	8	8	47,0	3,497
71348	90x90x65x3,0	DX51D / S250GD	8	8	46,8	3,508
71351	90x90x90x2,5	DX51D / S250GD	8	10	49,3	4,672
71354	105x105x90x2,5	DX51D / S250GD	10	12	56,7	5,157

Table A2.1. continued

Art. No.	Size (mm)	Grade	n_A	n_B	e (mm)	k_m
71356	120x120x90x2,5	DX51D / S250GD	10	13	60,8	5,373
71358	140x140x90x2,5	DX51D / S250GD	13	15	69,9	5,851
71401	20x20x40x2,0	DX51D / S250GD	2	2	12,0	1,241
71402	40x40x20x2,0	DX51D / S250GD	2	2	20,2	0,744
71403	40x40x30x2,0	DX51D / S250GD	3	3	24,3	1,005
71460	90x90x65x2,5	A4, AISI 316	8	8	53,9	2,983
71461	40x40x40x2,0	A4, AISI 316	4	4	21,0	1,684
71462	50x50x35x2,0	A4, AISI 316	3	4	25,5	1,729
71463	90x90x65x2,5	A4, AISI 316	8	8	53,9	2,983
71464	60x60x40x2,0	A4, AISI 316	6	6	31,0	2,260
71465	70x70x55x2,5	A4, AISI 316	9	9	40,5	3,425
71466	50x50x35x2,5	A4, AISI 316	3	4	25,3	1,739
71467	60x60x60x2,0	A4, AISI 316	9	9	31,0	3,779
71468	90x90x65x2,0	A4, AISI 316	8	8	54,1	2,974
71469	105x105x90x2,5	A4, AISI 316	12	10	51,6	4,507
71470	105x105x90x2,5	A4, AISI 316	13	11	49,9	4,748
71502	80x60x60x2,5	DX51D / S250GD	12	9	28,8	3,945
71506	160x80x60x2,5	DX51D / S250GD	24	12	41,3	4,712
71507	160x80x80x2,5	DX51D / S250GD	32	16	41,3	6,786
71510	200x100x100x2,5	DX51D / S250GD	50	25	46,8	11,20
71512	60x40x60x2,5	DX51D / S250GD	9	6	18,8	2,989
71514	120x80x40x3,0	DX51D / S250GD	12	8	40,0	2,960
71516	140x60x80x3,0	DX51D / S250GD	28	12	31,0	5,570
71551	150x90x65x2,5	DX51D / S250GD	10	6	62,8	1,885
71552	170x90x65x2,5	DX51D / S250GD	12	6	62,8	1,885
71553	190x90x65x2,5	DX51D / S250GD	15	6	62,8	1,885
71554	150x150x65x2,5	DX51D / S250GD	10	10	85,8	3,065
71555	170x170x65x2,5	DX51D / S250GD	12	12	98,4	3,699
71556	190x190x65x2,5	DX51D / S250GD	15	15	114,6	4,628
71562	150x90x65x2,5	A2, AISI 304	10	6	63,3	1,874
73001	90x40x40x2,5	DX51D / S250GD	8	2	17,8	0,982
73002	140x40x40x2,5	DX51D / S250GD	12	4	21,3	1,782
73003	90x50x55x2,0	DX51D / S250GD	10	7	28,1	2,684
73004	80x60x55x2,5	DX51D / S250GD	10	10	30,5	4,202
73006	90x50x55x2,5	DX51D / S250GD	10	7	26,8	3,119
73007	90x40x40x3,0	DX51D / S250GD	8	2	17,5	0,992
73104	90x90x40x2,5	DX51D / S250GD	8	8	87,1	1,736
73107	90x90x65x2,5	DX51D / S250GD	8	8	94,1	2,005
73111	50x50x35x2,5	DX51D / S250GD	3	4	50,3	1,092
73201	180x20x40x2,0	DX51D / S250GD	18	2	9,0	1,487
73202	280x20x40x2,0	DX51D / S250GD	28	2	9,0	1,487
73203	380x20x40x2,0	DX51D / S250GD	38	2	9,0	1,487
73605	90x90x40x2,5	DX51D / S250GD	8	8	49,8	2,621
73606	140x40x40x2,5	DX51D / S250GD	12	4	21,3	1,856

Table A2.1. continued

Art. No.	Size (mm)	Grade	n_A	n_B	e (mm)	k_m
73609	50x50x55x2,5	DX51D / S250GD	4	4	26,8	2,144
73610	65x65x55x2,0	DX51D / S250GD	6	6	36,7	2,673
73612	50x50x40x2,0	DX51D / S250GD	4	4	30,0	1,500
73622	50x50x40x2,5	DX51D / S250GD	4	4	29,8	1,508
73623	65x65x55x3,0	DX51D / S250GD	6	6	36,2	2,695
73624	65x65x55x2,5	DX51D / S250GD	6	6	36,4	2,684
73652	65x65x55x2,0	DX51D / S250GD	6	6	36,7	2,673

Table A2.2. Article numbers of the sliding Arras CF Angle Brackets and their nominal dimensions, types and number of fasteners in flanges A and B.

Art. No.	Size (mm)	Type	n_A	n_B
74402	35x35x130x2,0	non-reinforced	1	6
74406	35x35x130x2,0	stiffened by 3 ribs	1	6

Table A2.3. Characteristic compression resistance $R_{B,z,c,k}$ for unreinforced Arras CF Angle Brackets used with sawn timber in strength class C24. For compression capacities with other strength classes, the characteristic resistance $R_{B,z,c,k}$ should be multiplied by the factor $\sqrt{f_{c,90,k} / 2,5}$, where $f_{c,90,k}$ is the characteristic compression strength perpendicular to the grain of the actual timber grade in N/mm².

Art. No.	Size (mm)	f_y (N/mm ²)	t_d (mm)	B (mm)	B_{net} (mm)	$R_{B,z,c,k}$ (kN)
71101	30x30x25x2,0	250	1,81	25	20	1,75
71102	50x50x35x2,0	250	1,81	35	25	2,32
71103	65x65x55x2,0	250	1,81	55	45	3,90
71104	70x70x55x2,0	250	1,81	55	34	3,39
71105	90x90x40x2,5	250	2,29	40	29	3,38
71107	100x100x55x2,5	250	2,29	55	40	4,65
71109	50x50x55x2,5	250	2,29	55	45	4,93
71112	105x105x90x2,0	250	1,81	90	63	5,90
71115	90x90x65x2,0	250	1,81	65	51	4,51
71116	50x50x40x2,0	250	1,81	40	29	2,67
71117	90x90x90x2,5	250	2,29	90	65	7,58
71127	90x90x40x2,0	250	1,81	40	29	2,67
71131	100x100x55x2,0	250	1,81	55	40	3,68
71132	120x120x90x2,5	250	2,29	90	63	7,47
71162	70x70x55x2,0	220	1,90	55	34	3,34
71201	50x50x35x2,0	220	1,90	35	25	2,28
71208	90x90x65x2,0	220	1,90	65	51	4,44
71210	90x90x40x2,5	220	2,38	40	29	3,29
71320	40x40x40x2,0	250	1,81	40	29	2,67
71321	40x40x40x2,5	250	2,29	40	29	3,38
71322	60x60x40x2,0	250	1,81	40	29	2,67
71323	60x60x40x2,5	250	2,29	40	29	3,38

Table A2.3. continued

Art. No.	Size (mm)	f_y (N/mm ²)	t_d (mm)	B (mm)	B_{net} (mm)	$R_{B,z,c,k}$ (kN)
71324	80x80x40x2,0	250	1,81	40	29	2,67
71325	80x80x40x2,5	250	2,29	40	29	3,38
71326	100x100x40x2,0	250	1,81	40	29	2,67
71327	100x100x40x2,5	250	2,29	40	29	3,38
71328	120x80x40x2,0	250	1,81	40	29	2,67
71329	120x80x40x2,5	250	2,29	40	29	3,38
71330	120x100x40x2,0	250	1,81	40	29	2,67
71331	120x100x40x2,5	250	2,29	40	29	3,38
71332	160x40x40x2,0	250	1,81	40	29	2,67
71333	160x40x40x2,5	250	2,29	40	29	3,38
71334	200x40x40x2,0	250	1,81	40	29	2,67
71335	200x40x40x2,5	250	2,29	40	29	3,38
71345	90x90x65x2,0	250	1,81	65	45	4,24
71401	20x20x40x2,0	250	1,81	40	30	2,72
71402	40x40x20x2,0	250	1,81	20	15	1,36
71403	40x40x30x2,0	250	1,81	40	30	3,21
71461	40x40x40x2,0	240	1,90	40	30	2,79
71462	50x50x35x2,0	240	1,90	35	25	2,38
71463	90x90x65x2,5	240	2,38	65	51	5,81
71464	60x60x40x2,0	240	1,90	40	30	2,79
71466	50x50x35x2,5	240	2,38	35	25	2,99
71467	60x60x60x2,0	240	1,90	60	45	4,19
71470	105x105x90x2,5	240	2,38	90	63	7,60
71502	80x60x60x2,5	250	2,29	60	45	5,15
71506	160x80x60x2,5	250	2,29	60	45	5,15
71507	160x80x80x2,5	250	2,29	80	60	6,87
71510	200x100x100x2,5	250	2,29	100	75	8,59
71512	60x40x60x2,5	250	2,29	60	45	5,15
71514	120x80x40x3,0	250	2,76	40	30	4,14
71516	140x60x80x3,0	250	2,76	80	60	8,28
73001	90x40x40x2,5	250	2,29	40	29	3,38
73002	140x40x40x2,5	250	2,29	40	29	3,38
73003	90x50x55x2,0	250	1,81	55	34	3,39
73004	80x60x55x2,5	250	2,29	55	34	4,29
73006	90x50x55x2,5	250	2,29	55	34	4,29
73007	90x40x40x3,0	250	2,76	40	29	4,07
73201	180x20x40x2,0	250	1,81	40	30	2,72
73202	280x20x40x2,0	250	1,81	40	30	2,72
73203	380x20x40x2,0	250	1,81	40	30	2,72

Table A2.4. Characteristic compression resistance $R_{B,z,c,k}$ for reinforced Arras Angle Brackets used with sawn timber in strength class C24. For compression capacities with other strength classes, the characteristic resistance $R_{B,z,c,k}$ should be multiplied by the factor $\sqrt{f_{c,90,k} / 2,5}$, where $f_{c,90,k}$ is the characteristic compression strength perpendicular to the grain of the actual timber grade.

Art. No.	Size (mm)	f_y (N/mm ²)	t_d (mm)	B (mm)	a (mm)	B_{ef} (mm)	B_{net} (mm)	$R_{B,z,c,k}$ (kN)
71166	70x70x55x2,0	220	1,90	55	36	33	34	12,2
71206	90x90x65x2,0	220	1,90	65	45	40	45	17,6
71304	70x70x55x2,0	250	1,81	55	36,5	33	35	12,5
71305	105x105x90x2,0	250	1,81	90	76	55	68	37,5
71306	120x120x90x2,5	250	2,29	90	76,3	55	68	39,2
71307	140x140x90x2,5	250	2,29	90	76,3	55	68	39,2
71308	90x90x65x2,0	250	1,81	65	55	31	44	17,0
71309	90x90x65x1,5	250	1,33	65	55	31	45	15,9
71311	90x90x90x2,5	250	2,29	90	76,3	55	68	31,5
71339	90x90x65x3,0	250	2,76	65	55	31	45	19,3
71340	90x90x65x2,0	250	1,81	65	55	31	45	17,0
71341	70x70x55x1,5	250	1,33	55	36	33	34	11,4
71342	105x105x90x1,5	250	1,33	90	76	55	70	35,9
71346	90x90x65x2,0	250	1,81	65	34,5	44	33	15,0
71347	90x90x65x2,5	250	2,29	65	34,3	44	33	15,9
71348	90x90x65x3,0	250	2,76	65	34	44	33	16,8
71351	90x90x90x2,5	250	2,29	72	76	45	70	25,7
71354	105x105x90x2,5	250	2,29	72	76	45	69	32,6
71356	120x120x90x2,5	250	2,29	72	82	45	69	34,7
71358	140x140x90x2,5	250	2,29	72	76	45	69	32,6
71460	90x90x65x2,5	240	2,38	65	45	40	45	19,0
71465	70x70x55x2,5	240	2,38	55	36,3	31	35	12,9
71468	90x90x65x2,0	240	2,38	65	55	31	45	18,2
71469	105x105x90x2,5	240	2,38	90	65	60	70	37,3
71551	150x90x65x2,5	250	2,29	65	71,3	48	44	25,7
71552	170x90x65x2,5	250	2,29	65	71,3	48	44	25,7
71553	190x90x65x2,5	250	2,29	65	71,3	48	44	25,7
71554	150x150x65x2,5	250	2,29	65	71,3	48	44	30,9
71555	170x170x65x2,5	250	2,29	65	71,3	48	44	30,9
71556	190x190x65x2,5	250	2,29	65	71,3	48	44	30,9
71562	150x90x65x2,5	220	2,38	65	71	48	44	25,6
73605	90x90x40x2,5	250	2,29	40	9	29	29	5,3
73606	140x40x40x2,5	250	2,29	40	9	29	29	5,3
73609	50x50x55x2,5	250	2,29	55	9	44	45	7,9
73610	65x65x55x2,0	250	1,81	55	9	44	45	6,9
73612	50x50x40x2,0	250	1,81	40	9	29	29	4,6
73622	50x50x40x2,5	250	2,29	40	9	29	29	5,3
73623	65x65x55x3,0	250	2,76	55	9	44	45	8,9
73624	65x65x55x2,5	250	2,29	55	9	44	45	7,9
73652	65x65x55x2,0	250	1,81	55	13	38	45	7,6

Table A2.5. Characteristic tension resistance $R_{B,z,t,k}$ for unreinforced Arras CF Angle Bracket connections when anchor nails 4x50, $f_{ax,k} = 6 \text{ N/mm}^2$ and $t_{pen} = 34 \text{ mm}$ (threaded nail shank in timber), are used in all holes. The values marked in red indicates cases where the maximum capacity of the connector has been reached. In other cases, a higher capacity, up to $F_{z,t,k} (b)$, can be achieved, for example, with screws or longer nails.

Art. No.	Size (mm)	L_B (mm)	d_1 (mm)	n_1	$B_{net,1}$ (mm)	$F_{n,1}$ (N)	d_2 (mm)	n_2	$B_{net,2}$ (mm)	$F_{n,2}$ (N)	$F_{z,t,k} (a)$ (N)	$F_{z,t,k} (b)$ (N)	$F_{z,t,k} (c)$ (N)	$F_{z,t,k} (d)$ (N)	$R_{B,z,t,k}$ (kN)
71101	30x30x25x2,0	29.00	16.00	1	20	816	24.00	0	20	0	526	576	656	816	0.53
71102	50x50x35x2,0	48.50	10.50	2	25	1632	40.50	0	25	0	1414	1170	1512	1632	1.17
71103	65x65x55x2,0	64.00	14.00	2	45	1632	40.00	2	45	1632	1891	1463	1573	3264	1.46
71104	70x70x55x2,0	71.00	21.00	3	40	2448	34.00	2	45	1632	2450	926	1538	4080	0.93
71105	90x90x40x2,5	88.75	17.75	2	30	1632	41.75	2	30	1632	2115	1293	1488	3264	1.29
71107	100x100x55x2,5	98.75	11.75	2	45	1632	31.75	2	45	1632	2571	2789	2060	3264	2.06
71109	50x50x55x2,5	48.75	13.75	2	45	1632	39.75	0	45	0	1536	2384	1892	1632	1.54
71112	105x105x90x2,0	104.00	15.75	4	70	3264	33.25	1	63	816	3332	2080	2660	4080	2.08
71115	90x90x65x2,0	89.00	15.50	2	55	1632	51.00	2	55	1632	2017	1585	1618	3264	1.59
71116	50x50x40x2,0	49.00	18.00	2	30	1632	42.00	0	30	0	1178	796	1274	1632	0.80
71117	90x90x90x2,5	88.75	15.50	5	65	4080	51.00	2	72	1632	4176	3278	3881	5712	3.28
71127	90x90x40x2,0	89.00	18.00	2	30	1632	42.00	2	30	1632	2040	796	1274	3264	0.80
71131	100x100x55x2,0	99.00	11.50	2	45	1632	31.50	2	45	1632	2494	1780	1686	3264	1.69
71132	120x120x90x2,5	118.75	15.50	4	70	3264	33.00	1	63	816	3547	3383	3251	4080	3.25
71162	70x70x55x2,0	71.00	21.00	3	40	2448	34.00	2	45	1632	2444	898	1520	4080	0.90
71201	50x50x35x2,0	48.50	16.50	2	25	1632	36.50	0	30	0	1183	722	1248	1632	0.72
71208	90x90x65x2,0	89.00	15.50	2	55	1632	51.00	2	55	1632	2011	1537	1603	3264	1.54
71210	90x90x40x2,5	88.50	17.75	2	30	1632	41.75	2	20	1632	2103	1229	1386	3264	1.23
71320	40x40x40x2,0	39.00	11.00	2	30	1632	31.00	0	30	0	1363	1303	1515	1632	1.30
71321	40x40x40x2,5	38.75	10.75	2	30	1632	30.75	0	30	0	1509	2134	1808	1632	1.51
71322	60x60x40x2,0	59.00	11.00	2	30	1632	31.00	2	30	1632	2049	1303	1515	3264	1.30
71323	60x60x40x2,5	58.75	10.75	2	30	1632	30.75	2	30	1632	2159	2134	1808	3264	1.81
71324	80x80x40x2,0	79.00	11.50	2	30	1632	31.50	2	30	1632	2283	1246	1491	3264	1.25
71325	80x80x40x2,5	78.75	11.25	2	30	1632	31.25	2	30	1632	2370	2039	1779	3264	1.78
71326	100x100x40x2,0	99.00	11.50	2	30	1632	31.50	2	30	1632	2454	1246	1491	3264	1.25
71327	100x100x40x2,5	88.75	11.25	2	30	1632	31.25	2	30	1632	2456	2039	1779	3264	1.78
71328	120x80x40x2,0	79.00	11.50	2	30	1632	31.50	2	30	1632	2283	1246	1491	3264	1.25
71329	120x80x40x2,5	78.75	11.25	2	30	1632	30.75	2	30	1632	2381	2039	1781	3264	1.78
71330	120x100x40x2,0	99.00	11.50	2	30	1632	31.50	2	29	1632	2454	1246	1485	3264	1.25
71331	120x100x40x2,5	98.75	11.25	2	30	1632	31.25	2	29	1632	2526	2039	1768	3264	1.77
71332	160x40x40x2,0	39.00	11.50	2	30	1632	31.50	0	30	0	1342	1246	1491	1632	1.25
71333	160x40x40x2,5	38.75	11.25	2	30	1632	31.25	0	30	0	1487	2039	1779	1632	1.49
71334	200x40x40x2,0	39.00	11.50	2	30	1632	31.50	0	29	0	1342	1246	1485	1632	1.25
71335	200x40x40x2,5	38.75	11.25	2	30	1632	31.25	0	30	0	1487	2039	1779	1632	1.49
71345	90x90x65x2,0	89.00	14.00	3	55	2448	36.00	3	55	2448	3367	1755	2179	4896	1.76
71401	20x20x40x2,0	19.00	12.00	2	30	1632					732	1194		1632	0.73
71402	40x40x20x2,0	39.00	10.20	1	15	816	31.20	0	15	0	953	703	779	816	0.70
71403	40x40x30x2,0	39.00	11.00	1	25	816	31.00	0	20	0	738	1024	857	816	0.74
71461	40x40x40x2,0	39.00	11.00	2	30	1632	31.00	0	30	0	1376	1378	1542	1632	1.38
71462	50x50x35x2,0	48.50	10.50	2	25	1632	40.50	0	25	0	1549	1238	1530	1632	1.24
71463	90x90x65x2,5	88.75	15.25	2	55	1632	50.75	2	55	1632	2139	2674	1945	3264	1.95
71464	60x60x40x2,0	59.00	11.00	2	30	1632	31.00	2	30	1632	2058	1378	1542	3264	1.38
71466	50x50x35x2,5	48.25	10.25	2	25	1632	40.25	0	25	0	1557	1989	1723	1632	1.56
71467	60x60x60x2,0	59.00	11.00	3	45	2448	31.00	3	45	2448	3088	2068	2313	4896	2.07
71470	105x105x90x2,5	103.75	15.50	4	70	3264	33.00	1	63	816	3495	3508	3307	4080	3.31
71502	80x60x60x2,5	58.75	8.75	3	45	2448	28.75	3	45	2448	3416	3933	2900	4896	2.90
71506	160x80x60x2,5	78.75	11.25	3	45	2448	31.25	3	45	2448	3454	3059	2668	4896	2.67
71507	160x80x80x2,5	78.75	11.25	4	60	3264	31.25	4	60	3264	4535	4079	3557	6528	3.56
71510	200x100x100x2,5	98.75	8.75	5	75	4080	28.75	5	75	4080	6566	6555	4833	8160	4.83
71512	60x40x60x2,5	38.75	8.75	3	45	2448	28.75	0	45	0	2219	3933	2900	2448	2.22
71514	120x80x40x3,0	78.50	9.70	2	30	1632	29.70	2	30	1632	2537	3436	2221	3264	2.22
71516	140x60x80x3,0	58.50	11.00	4	60	3264	26.00	4	60	3264	4793	6059	4447	6528	4.45
73001	90x40x40x2,5	38.75	19.00	2	30	1632					939	1208		1632	0.94
73002	140x40x40x2,5	40.25	9.25	2	30	1632	33.25	0	30	0	1580	2480	1868	1632	1.58
73003	90x50x55x2,0	51.00	14.00	2	45	1632	26.00	2	34	1632	1998	1463	1454	3264	1.45
73004	80x60x55x2,5	61.25	11.25	3	40	2448	24.25	2	45	1632	3076	2768	2664	4080	2.66
73006	90x50x55x2,5	48.75	11.75	2	45	1632	23.75	2	34	1632	2277	2789	2053	3264	2.05
73007	90x40x40x3,0	38.50	17.50	2	30	1632				0	1038	1904		1632	1.04
73201	180x20x40x2,0	19.00	9.00	2	30	1632				0	1523	1593		1632	1.52
73202	280x20x40x2,0	19.00	9.00	2	30	1632				0	1119	1593		1632	1.12
73203	380x20x40x2,0	19.00	9.00	2	30	1632				0	1119	1593		1632	1.12

Table A2.6. Characteristic tension resistance $R_{B,z,t,k}$ for reinforced Arras CF Angle Bracket connections when anchor nails 4x50, $f_{ax,k} = 6 \text{ N/mm}^2$ and $t_{pen} = 34 \text{ mm}$ (threaded nail shank in timber), are used in all holes.

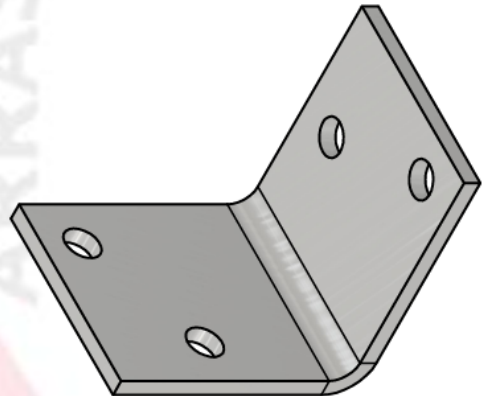
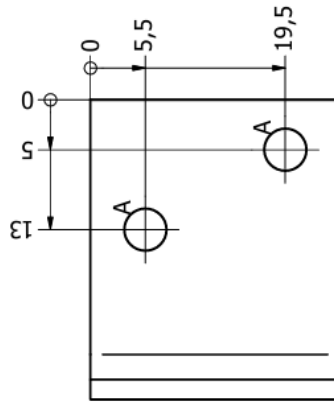
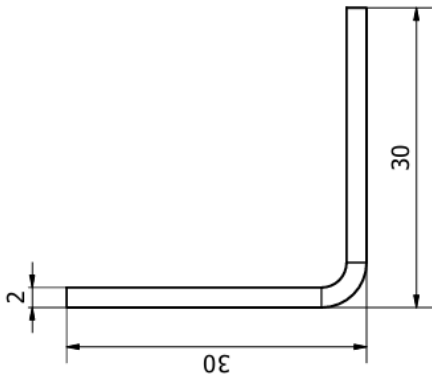
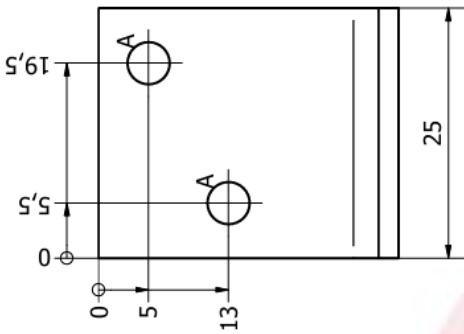
Tension resistances according to equation (14):

Art. No.	Size (mm)	L_B (mm)	a (mm)	a_1 (mm)	n_{a1}	$F_{a,1}$ (N)	a_2 (mm)	n_{a2}	$F_{a,2}$ (N)	d_1 (mm)	n_1	$B_{net,1}$ (mm)	$F_{n,1}$ (N)	$F_{z,t,k}$ (a) (N)	$F_{z,t,k}$ (b) (N)	$F_{z,t,k}$ (c) (N)	$R_{B,z,t,k}$ (kN)
71166	70x70x55x2,0	71.0	36.0	21.0	2	1632	34.0	2	1632	10.0	2	34	1632	4694	1697	4896	4.69
71206	90x90x65x2,0	89.0	45.0	15.5	2	1632				6.0	2	55	1632	3363	1603	3264	3.26
71304	70x70x55x2,0	71.0	36.5	21.0	2	1632	34.0	2	1632	9.5	2	35	1632	4734	1713	4896	4.73
71305	105x105x90x2,0	104.0	76.0	15.8	4	3264	51.3	2	1632	6.3	2	80	1632	6925	3676	6528	6.53
71306	120x120x90x2,5	118.8	76.3	15.5	4	3264	51.0	2	1632	5.8	2	80	1632	7193	3943	6528	6.53
71307	140x140x90x2,5	138.8	76.3	15.5	4	3264	51.0	2	1632	5.8	2	80	1632	6990	3943	6528	6.53
71308	90x90x65x2,0	89.0	55.0	15.5	2	1632	51.0	2	1632	13.0	2	55	1632	4603	2029	4896	4.60
71309	90x90x65x1,5	89.3	55.0	13.3	2	1632	36.3	2	1632	6.3	2	55	1632	4775	2162	4896	4.78
71311	90x90x90x2,5	88.8	76.3	15.5	4	3264	51.0	2	1632	6.0	0	80	0	7751	3946	4896	4.90
71339	90x90x65x3,0	88.5	55.0	13.5	2	1632	36.5	2	1632	6.0	2	55	1632	5765	2863	4896	4.90
71340	90x90x65x2,0	89.0	55.0	14.0	2	1632	37.0	2	1632	6.0	2	55	1632	5039	2302	4896	4.90
71341	70x70x55x1,5	70.8	36.0	20.8	2	1632	33.8	2	1632	9.8	2	34	1632	4524	1535	4896	4.52
71342	105x105x90x1,5	104.3	76.0	16.0	4	3264	51.5	2	1632	6.5	2	80	1632	6497	3472	6528	6.50
71346	90x90x65x2,0	89.0	34.5	13.0	2	1632				1.5	2	55	1632	3559	1725	3264	3.26
71347	90x90x65x2,5	88.8	34.3	12.8	2	1632				1.5	2	55	1632	3776	2150	3264	3.26
71348	90x90x65x3,0	88.5	34.0	12.5	2	1632				1.5	2	55	1632	4038	2667	3264	3.26
71351	90x90x90x2,5	88.8	76.0	15.5	4	3264	51.0	2	1632	6.0	0	70	0	7143	3832	4896	4.90
71354	105x105x90x2,5	103.8	76.0	15.5	4	3264	51.0	2	1632	6.0	4	70	3264	8356	3832	8160	8.16
71356	120x120x90x2,5	118.8	82.0	15.5	4	3264	51.0	2	1632	0.0	4	70	3264	9123	3832	8160	8.16
71358	140x140x90x2,5	138.8	76.0	15.5	4	3264	51.0	2	1632	6.0	4	70	3264	8252	3832	8160	8.16
71460	90x90x65x2,5	88.8	45.0	15.3	2	1632				5.8	2	55	1632	3673	1945	3264	3.26
71465	70x70x55x2,5	71.3	36.3	21.3	2	1632	34.3	2	1632	10.0	2	35	1632	4985	1967	4896	4.90
71468	90x90x65x2,0	89.0	55.0	15.5	2	1632	51.0	2	1632	13.0	2	55	1632	4632	2050	4896	4.63
71469	105x105x90x2,5	103.8	65.0	15.5	4	3264	51.0	2	1632	17.0	2	80	1632	6618	3969	6528	6.53
71551	150x90x65x2,5	88.8	71.3	45.8	2	1632	63.8	2	1632	7.5	0	44	0	4768	1447	3264	3.26
71552	170x90x65x2,5	88.8	71.3	45.8	2	1632	63.8	2	1632	7.5	0	44	0	4768	1448	3264	3.26
71553	190x90x65x2,5	88.8	71.3	45.8	2	1632	63.8	2	1632	7.5	0	44	0	4768	1448	3264	3.26
71554	150x150x65x2,5	148.8	71.3	45.8	2	1632	63.8	2	1632	7.5	2	44	1632	5063	1448	4896	4.90
71555	170x170x65x2,5	168.8	71.3	45.8	2	1632	63.8	2	1632	7.5	2	44	1632	5030	1448	4896	4.90
71556	190x190x65x2,5	188.8	71.3	45.8	2	1632	63.8	2	1632	7.5	2	44	1632	5008	1448	4896	4.90
71562	150x90x65x2,5	88.8	71.0	46.3	2	1632	64.3	2	1632	8.3	0	44	0	4653	1417	3264	3.26
73605	90x90x40x2,5	88.8	9.0							8.8	2	30	1632	1611	1293	1632	1.61
73606	140x40x40x2,5	40.3	9.0							0.3	2	30	1632	2239	2480	1632	2.24
73609	50x50x55x2,5	48.8	9.0							4.8	2	45	1632	1998	2384	1632	2.00
73610	65x65x55x2,0	64.0	9.0							5.0	2	55	1632	1713	1609	1632	1.63
73612	50x50x40x2,0	49.0	9.0							9.0	2	30	1632	1413	796	1632	1.41
73622	50x50x40x2,5	48.8	9.0							8.8	2	30	1632	1592	1293	1632	1.59
73623	65x65x55x3,0	63.5	9.0							4.5	2	45	1632	2130	3527	1632	2.13
73624	65x65x55x2,5	63.8	9.0							4.8	2	45	1632	1902	2384	1632	1.90
73652	65x65x55x2,0	64.0	13.0							1.0	2	45	1632	1912	1463	1632	1.63

For stiffened connectors of 73600 –series, resistances also according to equation (12) with reduced flange length L_B (= from rib to flange end):

Art. No.	Size (mm)	L_B (mm)	d_1 (mm)	n_1	$B_{net,1}$ (mm)	$F_{n,1}$ (N)	d_2 (mm)	n_2	$B_{net,2}$ (mm)	$F_{n,2}$ (N)	$F_{z,t,k}$ (a) (N)	$F_{z,t,k}$ (b) (N)	$F_{z,t,k}$ (c) (N)	$F_{z,t,k}$ (d) (N)	$R_{B,z,t,k}$ (kN)
73605	90x90x40x2,5	79,75	8,75	2	30	1632	32,75	2	30	1632	2412	2622	1897	3264	1,90
73606	140x40x40x2,5	31,25	0,25	2	30	1632	24,25	0	30	0	2071	91772	2561	1632	2,07
73609	50x50x55x2,5	39,75	4,75	2	45	1632	30,75	0	45	0	1912	6900	2446	1632	1,91
73610	65x65x55x2,0	55	5	2	55	1632	31	2	45	1632	2254	4505	2029	3264	2,03
73612	50x50x40x2,0	40	9	2	30	1632	33	0	30	0	1459	1593	1621	1632	1,46
73622	50x50x40x2,5	39,75	8,75	2	30	1632	32,75	0	30	0	1601	2622	1897	1632	1,60
73623	65x65x55x3,0	54,5	4,5	2	45	1632	30,5	2	45	1632	2599	10580	2952	3264	2,60
73624	65x65x55x2,5	54,75	4,75	2	45	1632	30,75	2	45	1632	2410	6900	2446	3264	2,41
73652	65x65x55x2,0	51	1	2	45	1632	27	2	45	1632	2463	20476	2330	3264	2,33

Note: For products 73605 – 73652 the bold values are to be used. Although these are reinforced angle brackets, it is allowed to use the design equations of unreinforced angle brackets, when the flange length L_B is taken as the distance between the tip of rib and the end of the flange.



HOLE	SIZE	QTY
A	Ø4.2 THRU	4

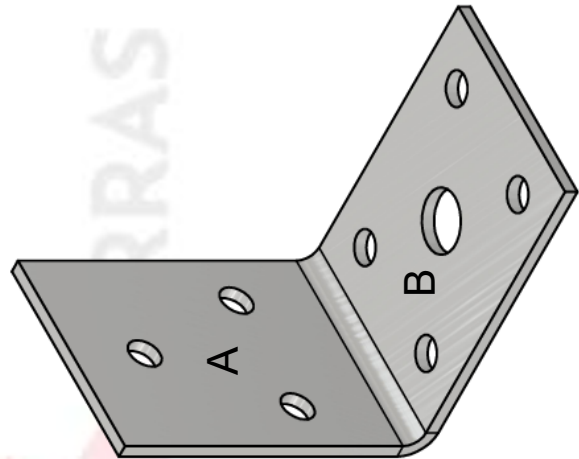
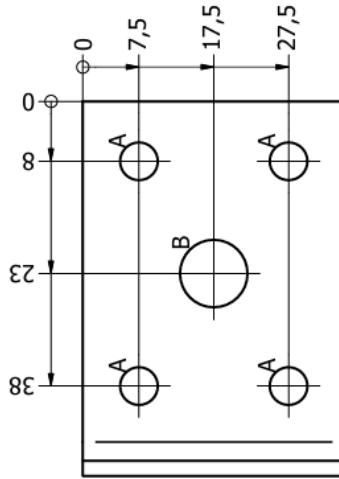
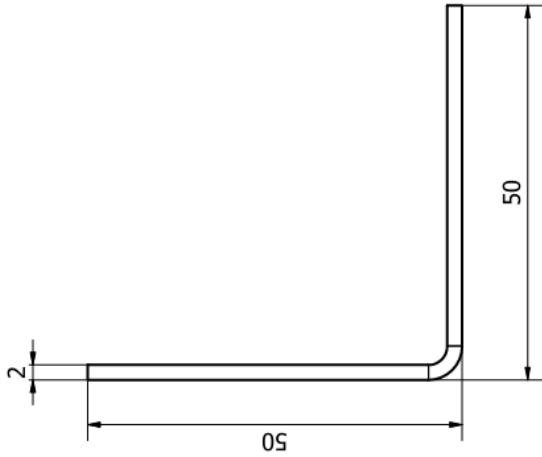
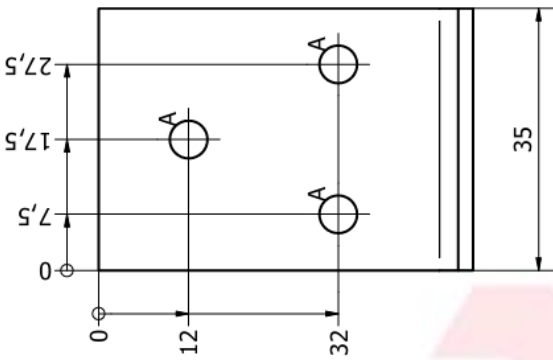
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:		Angle bracket 30x30x25x2,0
ART:		71101
Size:	A3	Material: HDG DX51D + Z275/ HDG S250GD + Z275
Projection:		
M	2:1	Weight: 0,022
		Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	7
B	Ø9 THRU	1

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

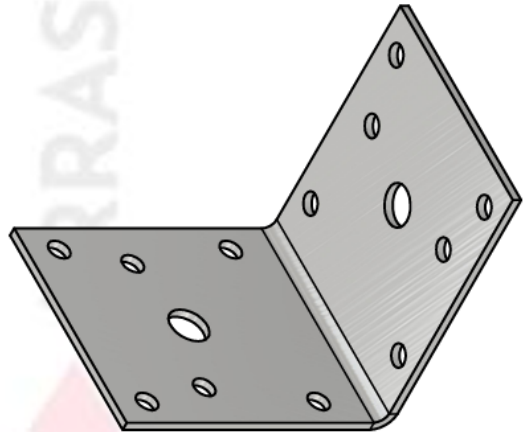
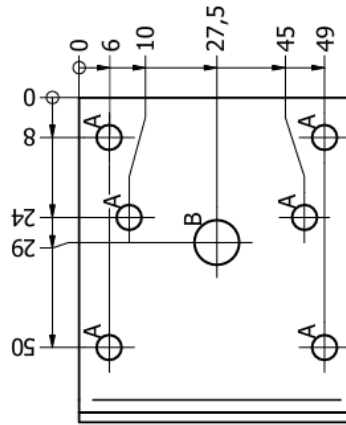
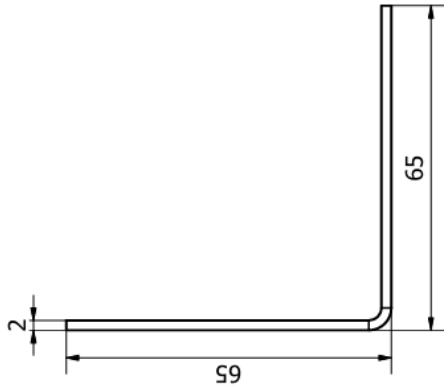
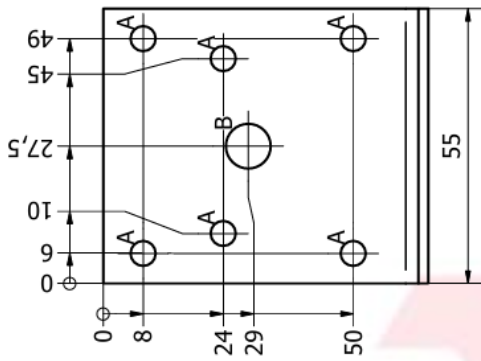
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 50x50x35x2,0

ART: 71102

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Protection:	
M1.5 : 1	Weight: 0,05
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	12
B	Ø9 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.

Date: 12.04.2026

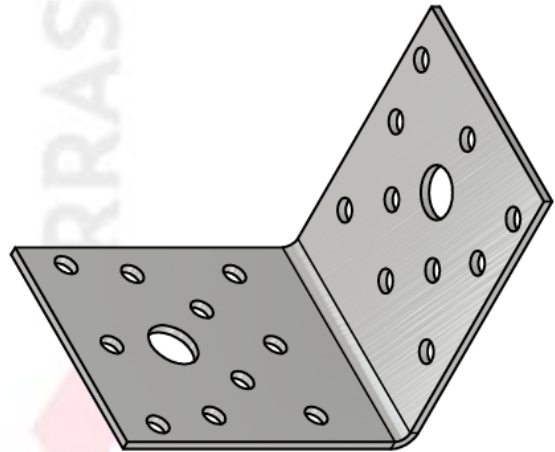
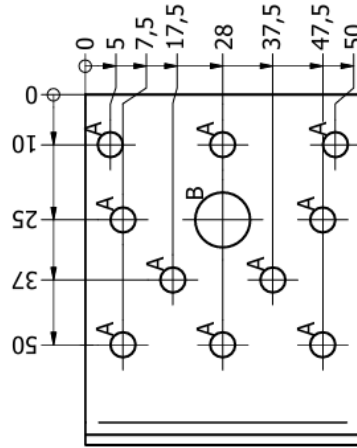
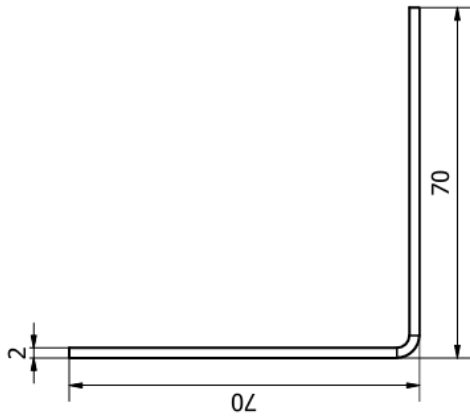
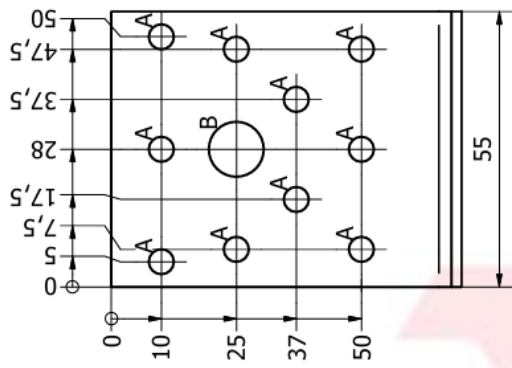


Description:

Angle bracket 65x65x55x2,0

ART: 71103

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M 1 : 1	Weight: 0,104
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	20
B	Ø11 THRU	2

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

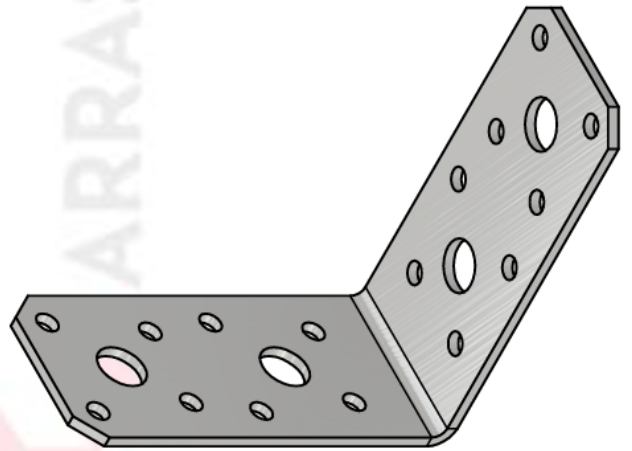
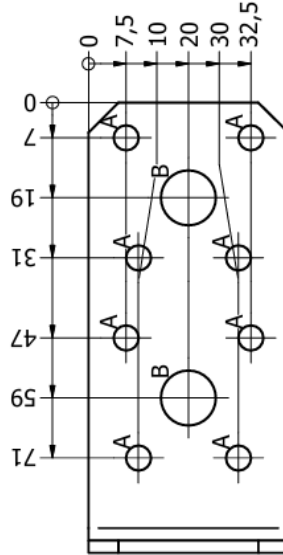
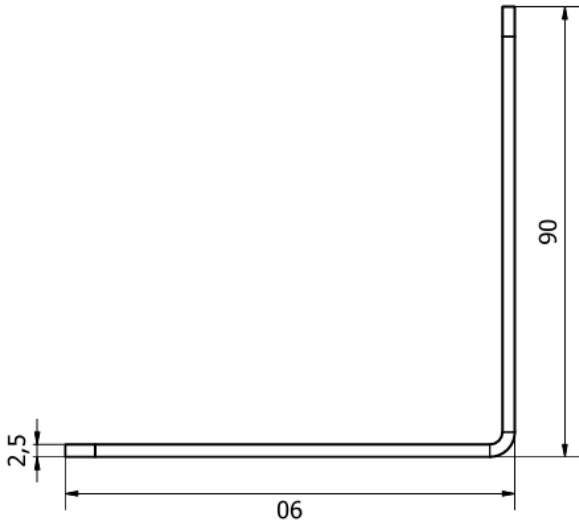
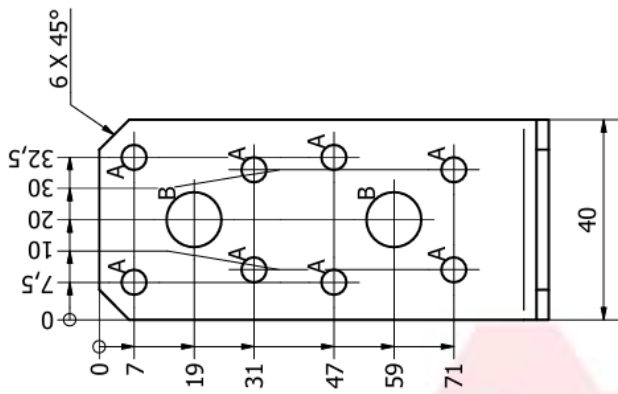
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 70x70x55x2,0

ART: 71104

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M 1:1	Weight: 0,112
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø11 THRU	4

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

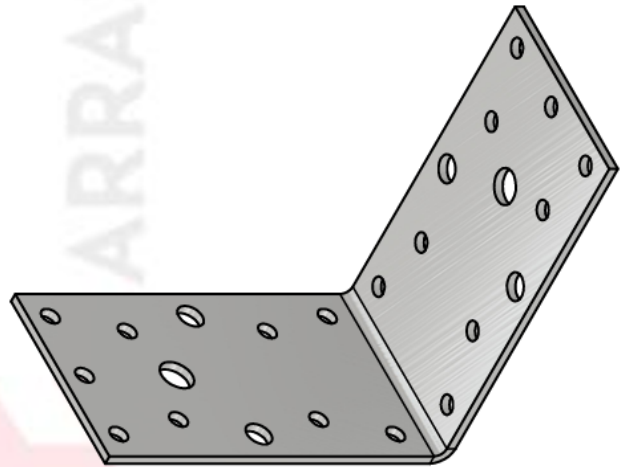
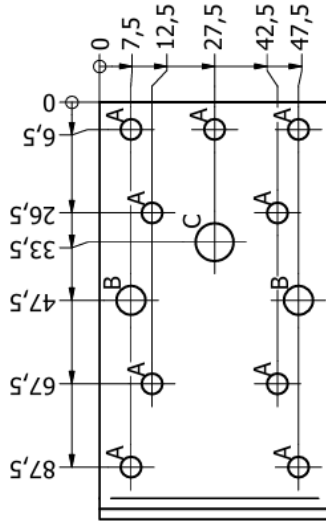
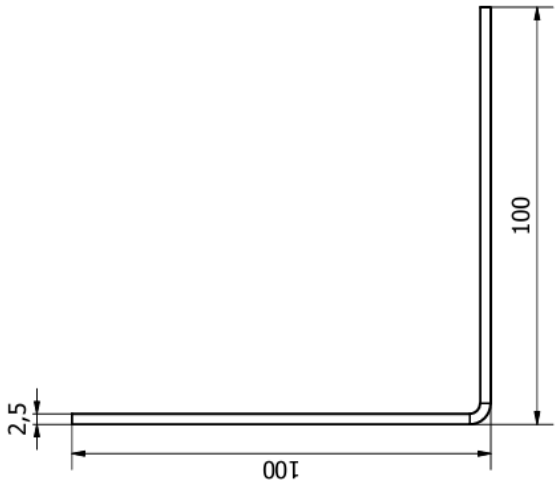
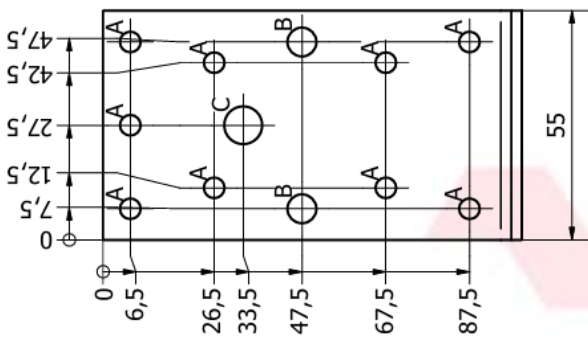
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 90x90x40x2,5

ART: **71105**

Size:	A3
Projection:	1st
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Scale:	M 1 : 1
Weight:	0,123
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	18
B	Ø7 THRU	4
C	Ø9 THRU	2

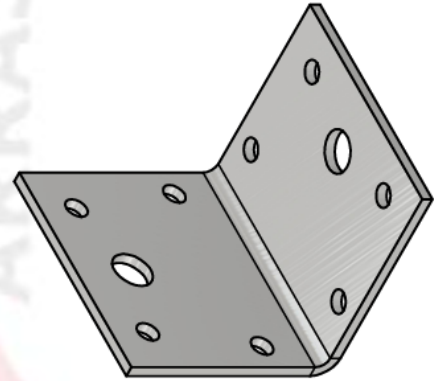
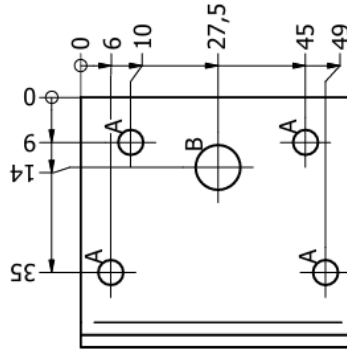
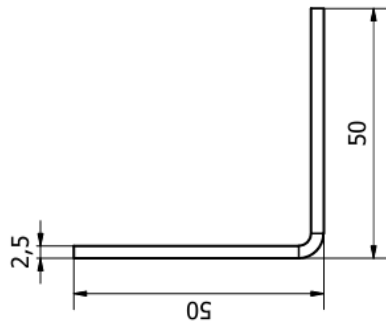
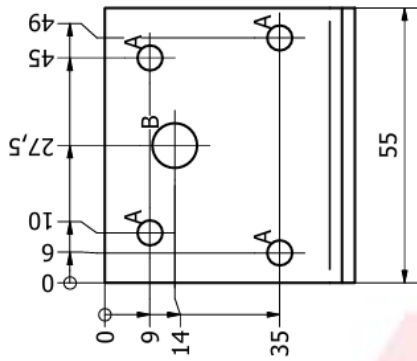
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
Angle bracket 100x100x55x2,5
 ART: **71107**
 Material: HDG DX51D + Z275/
 HDG S250GD + Z275
 Size: A3
 Projection: M1 : 1.2 Weight: 0,199
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	8
B	Ø9 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

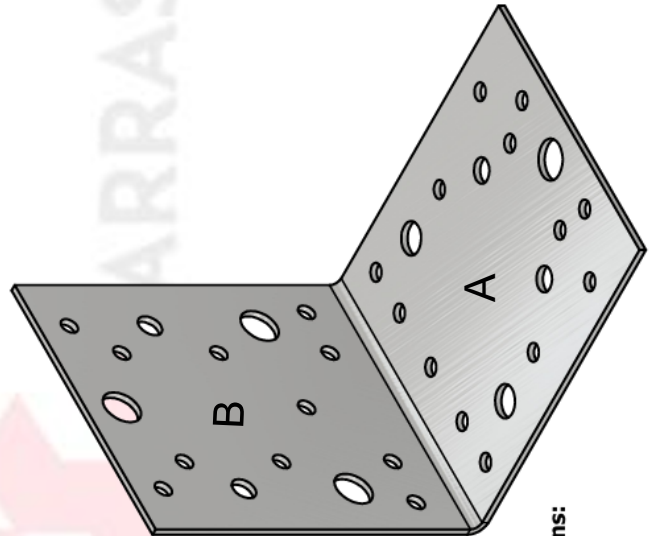
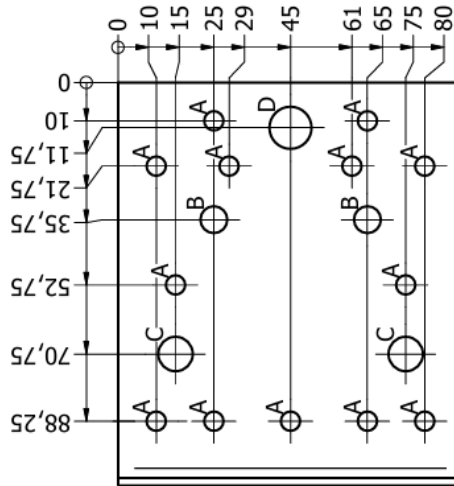
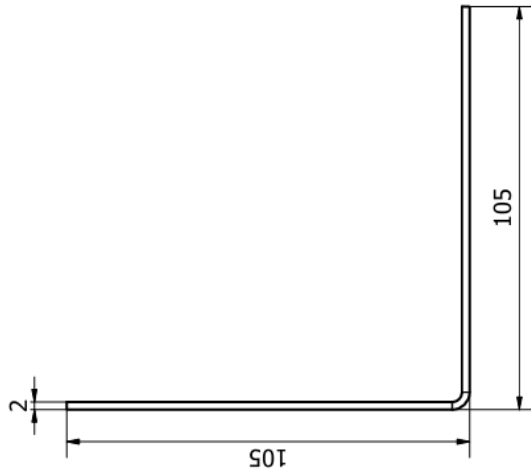
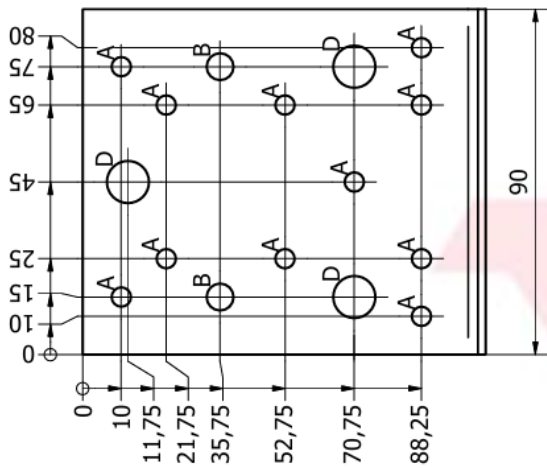
Drawn by: VIlmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 50x50x55x2,5

ART: **71109**

Size:	A3
Projection:	HDG DX51D + Z275/ HDG S250GD + Z275
M 1 : 1	Weight: 0,098
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	24
B	Ø7 THRU	4
C	Ø9 THRU	2
D	Ø11 THRU	4

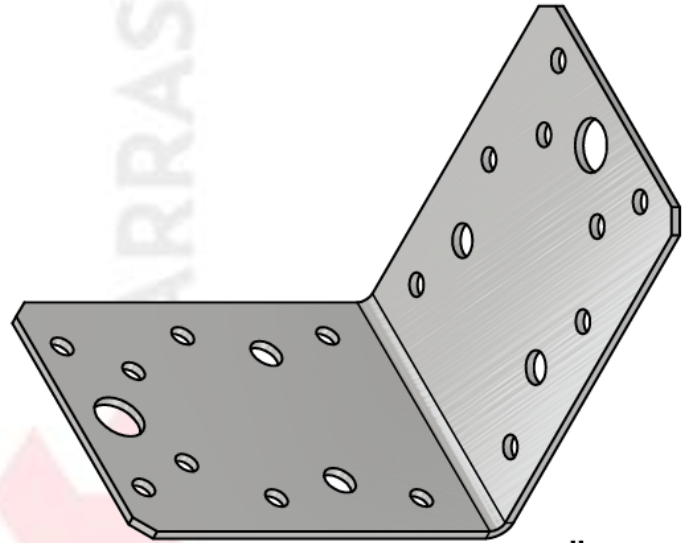
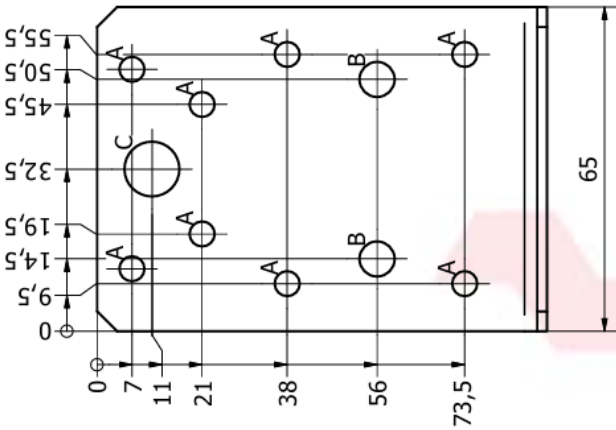
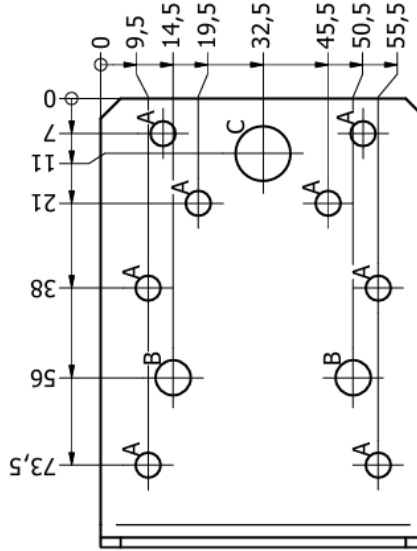
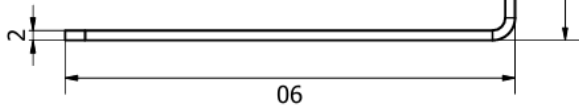
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:	
Angle bfracket 105x105x90x2,0	
ART:	71112
Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M1:	1.3
Weight:	0,273
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	4
C	Ø11 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

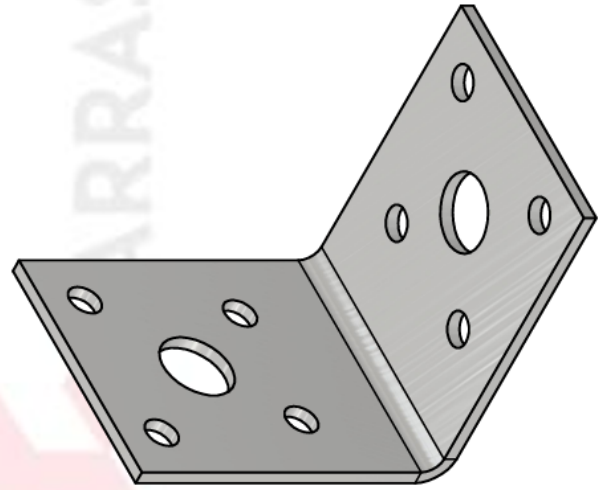
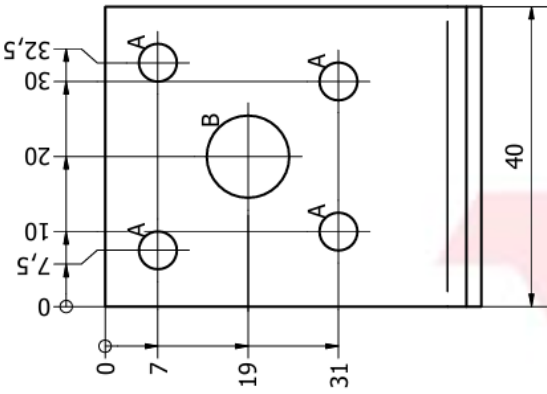
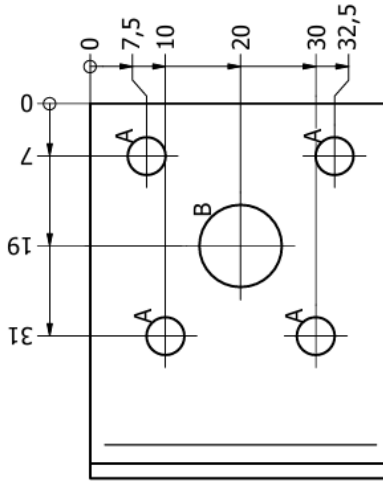
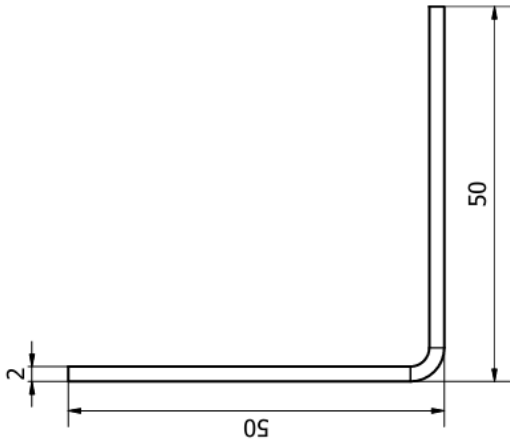
Drawn by: Vlmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 90x90x65x2,0

ART: 71115

Size:	A3
Projection:	
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
M 1:1	Weight: 0,168
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	8
B	Ø11 THRU	2

General tolerances for nominal dimensions:


- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

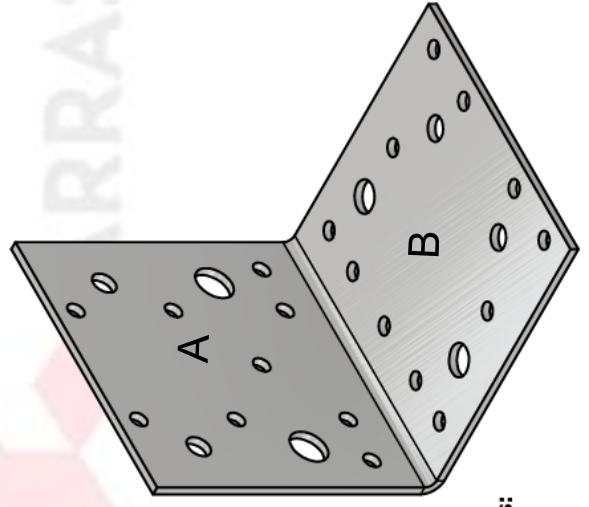
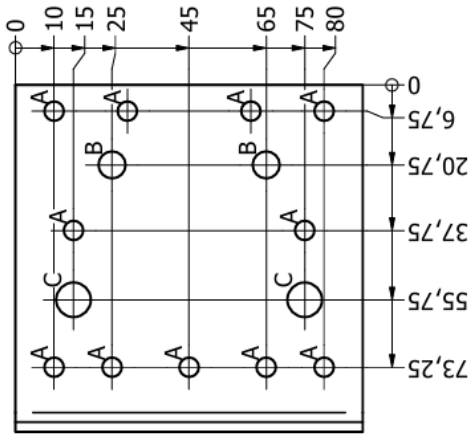
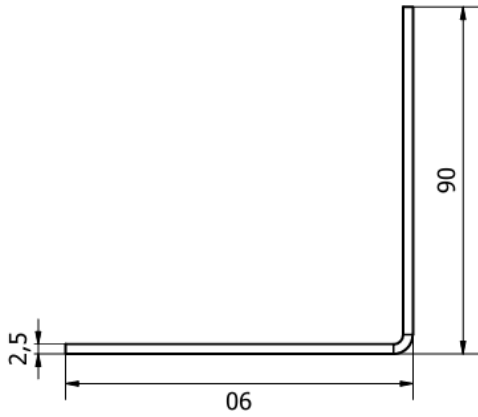
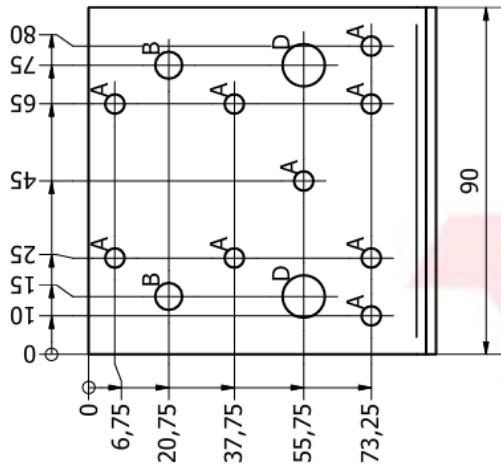
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
Angle bracket 50x50x40x2,0

ART: **71116**

Size: A3	Material: HDG DX51D + Z275/ HDG S250GD + Z275
Projection: 	
M1.5 : 1	Weight: 0,055
Version: A	

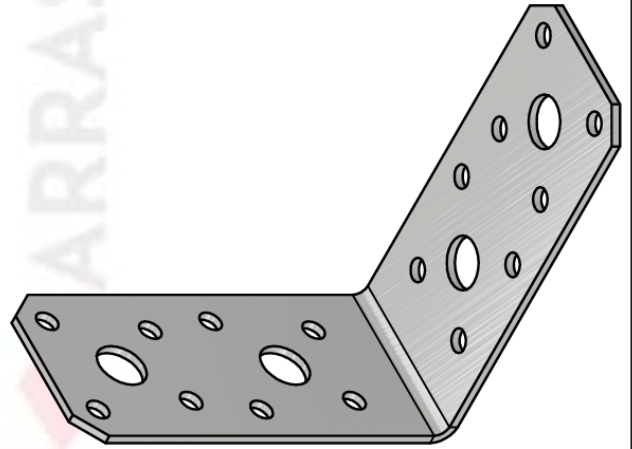
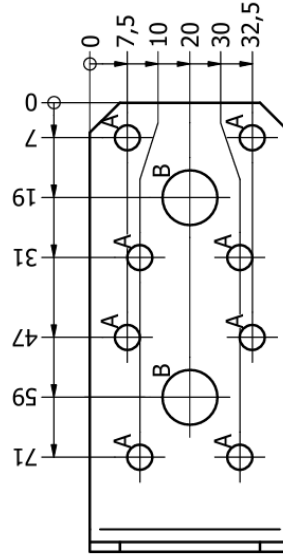
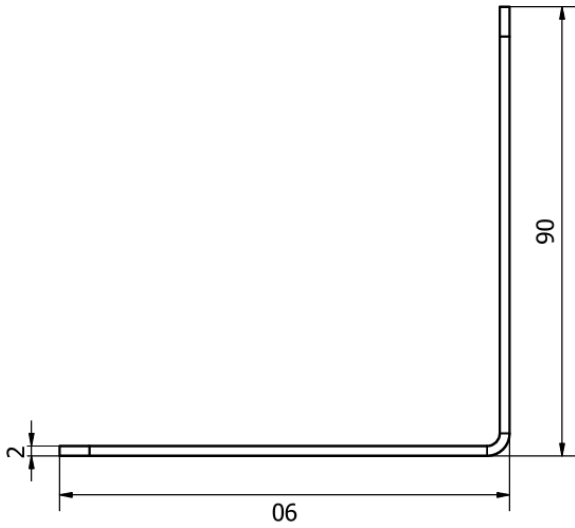
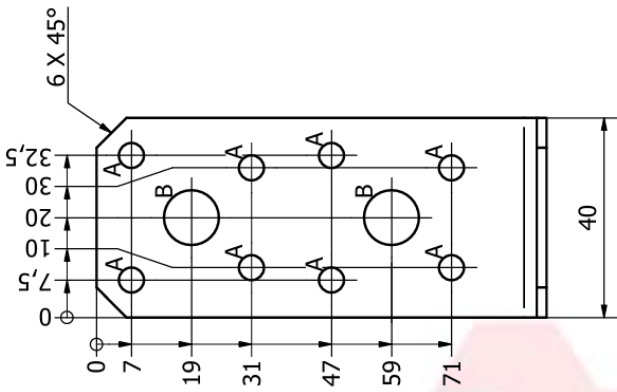


HOLE	SIZE	QTY
A	Ø5 THRU	20
B	Ø7 THRU	4
C	Ø9 THRU	2
D	Ø11 THRU	2

General tolerances for nominal dimensions:
 Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

Drawn by: Vilmech	Description:
Checked by: I.M.	Angle bracket 90x90x90x2,5
Approved by: U.K.	ART: 71117
Date: 02.01.2026	Size: A3
	Material: HDG DX51D + Z275/ HDG S250GD + Z275
	Protection:
	M1 : 1.3 Weight: 0,293
	Version: A





HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø11 THRU	4

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

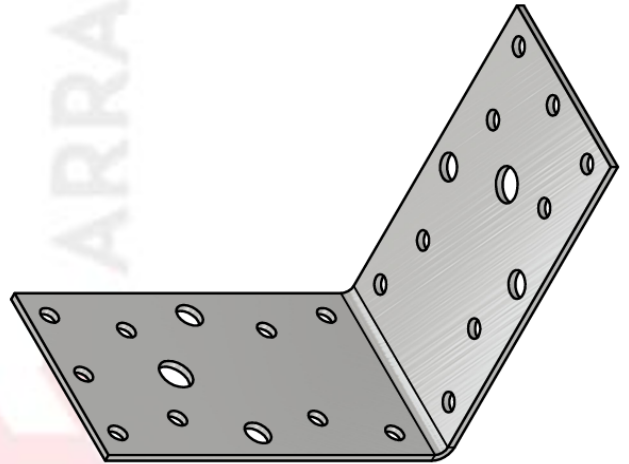
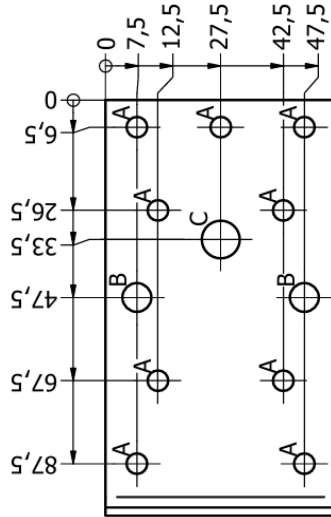
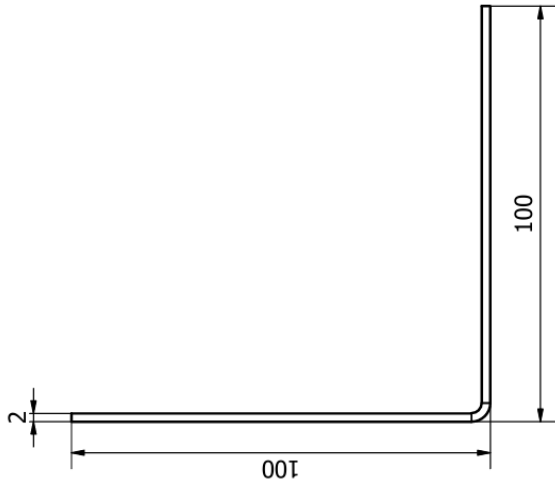
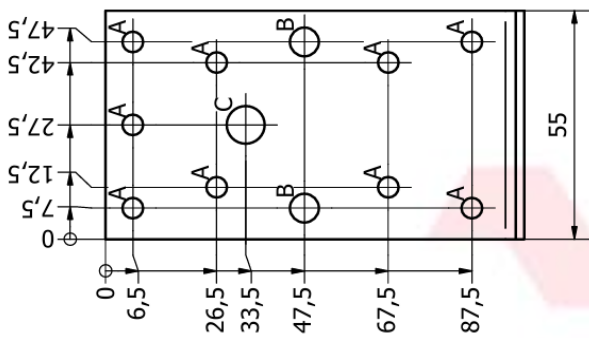
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 90x90x40x2,0

ART: 71127

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M 1 : 1	Weight: 0,099
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	18
B	Ø7 THRU	4
C	Ø9 THRU	2

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

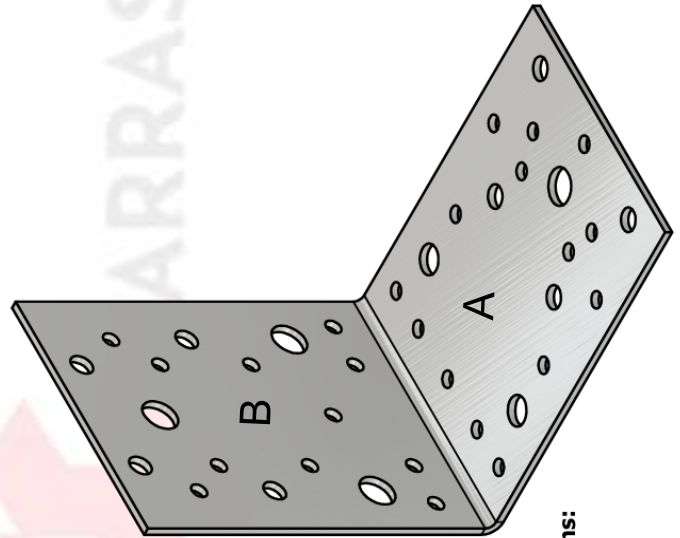
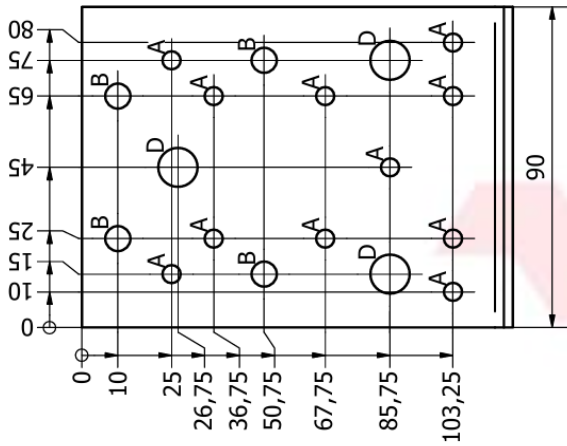
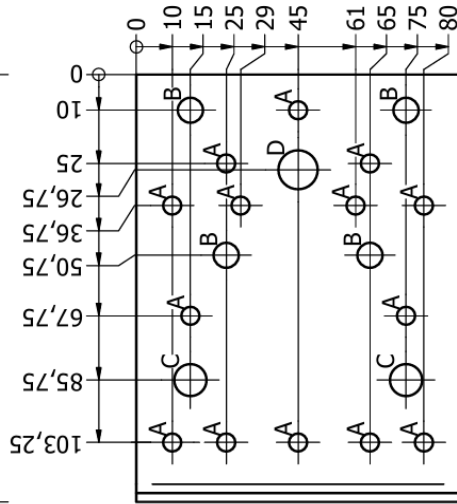
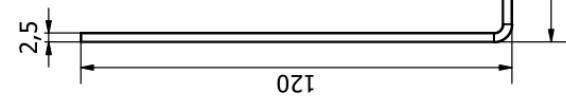
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
Angle bracket 100x100x55x2,0

ART: **71131**

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M1 : 1.2	Weight: 0,16
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	25
B	Ø7 THRU	8
C	Ø9 THRU	2
D	Ø11 THRU	4

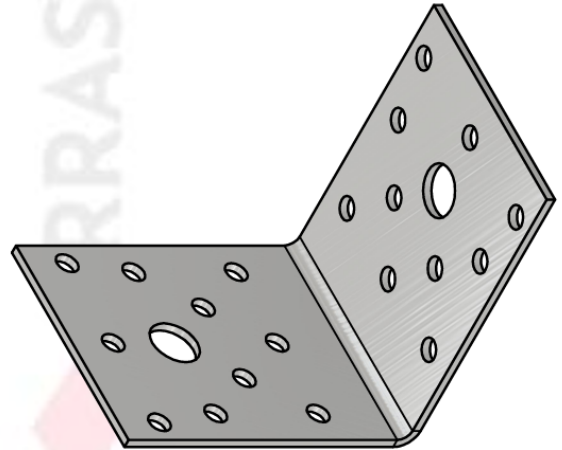
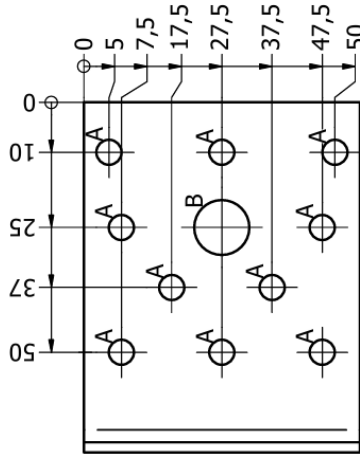
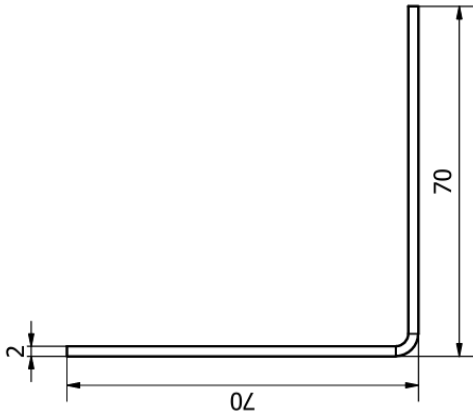
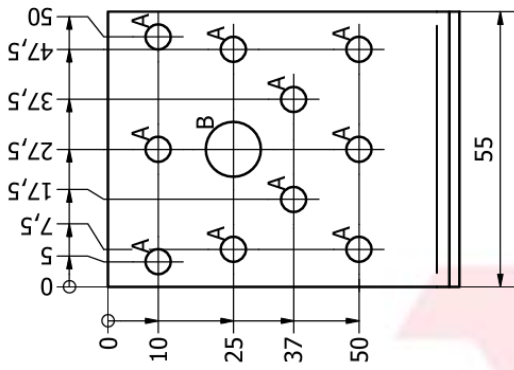
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description: Angle bracket 120x120x90x2,5		ART: 71132
Size: A3	Material: HDG DX51D + Z275/ HDG S250GD + Z275	Version: A
Projection:	M1 : 1.4 Weight: 0,39	



HOLE	SIZE	QTY
A	Ø5 THRU	20
B	Ø11 THRU	2

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

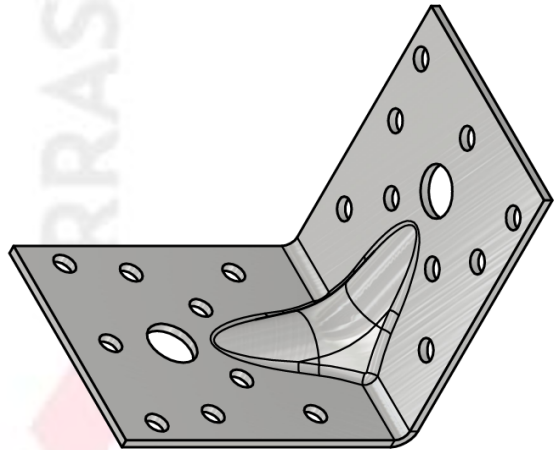
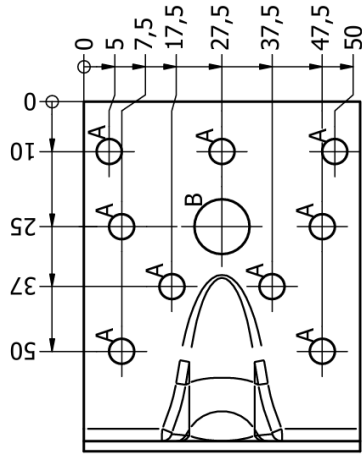
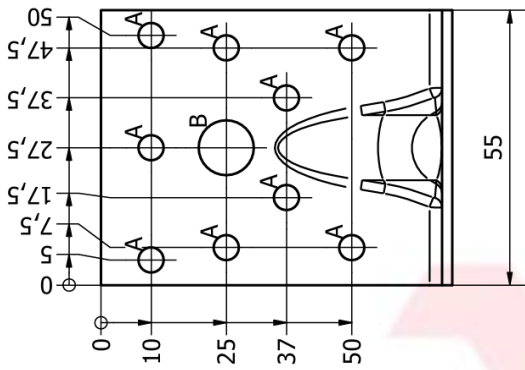
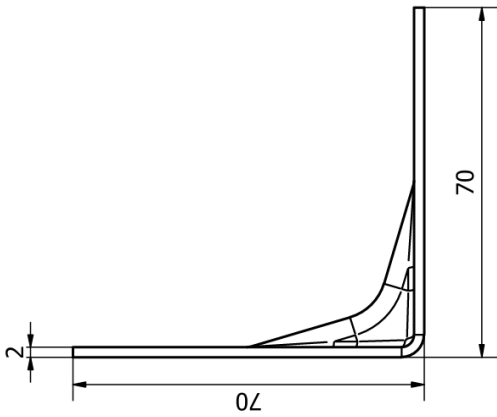
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 70x70x55x2,0
 stainless steel A2

ART: **71162**

Size:	A3
Material:	A2 AISI304 STAINLESS STEEL
Projection:	
Version:	A
M 1 : 1	Weight: 0,112



HOLE	SIZE	QTY
A	Ø5 THRU	18
D	Ø11 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm

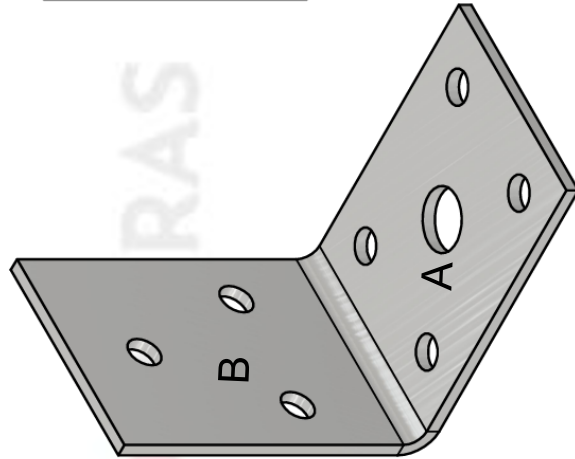
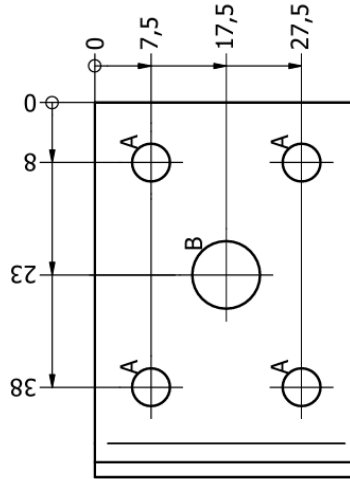
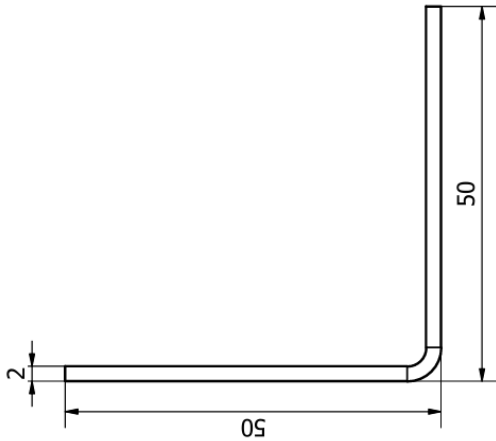
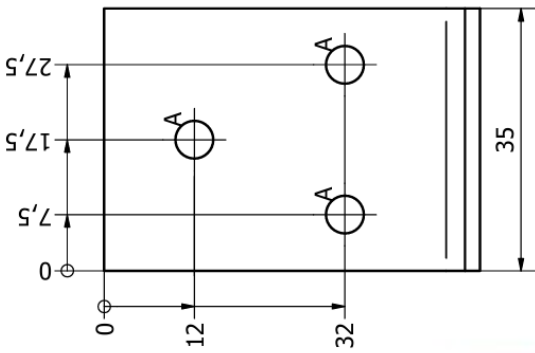
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 70x70x55x2,0
 reinforced A2 AISI304

ART: **71166**

Size:	A3
Material:	A2 AISI304
Projection:	STAINLESS STEEL
Version:	A
M 1 : 1	Weight: 0.112



HOLE	SIZE	QTY
A	Ø5 THRU	7
B	Ø9 THRU	2

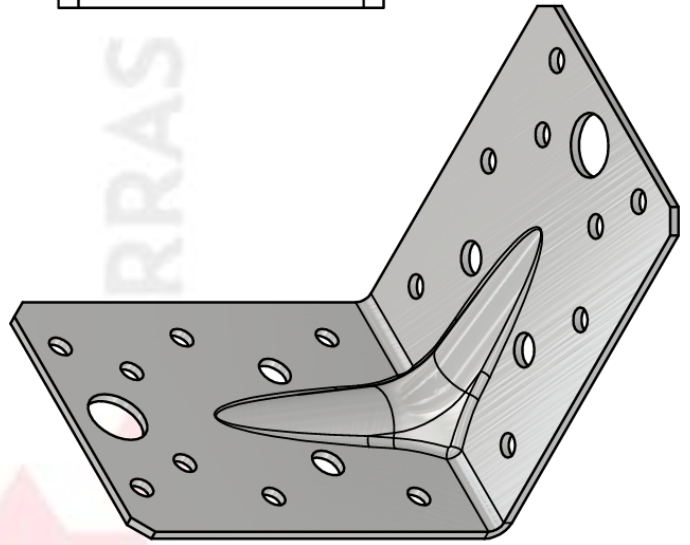
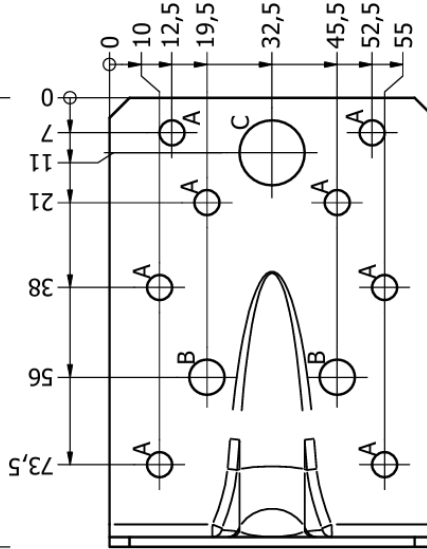
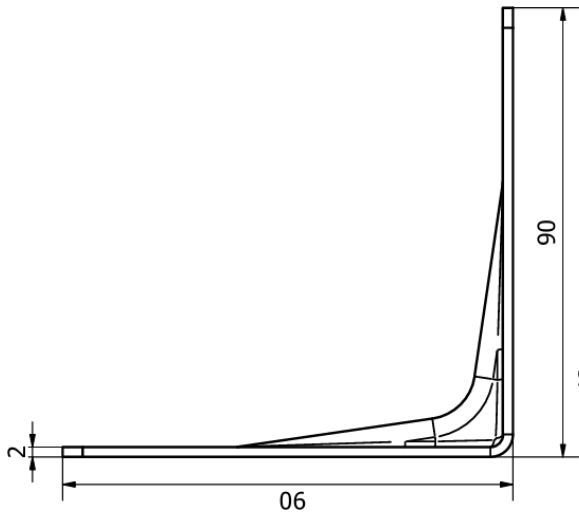
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by:	Vilmech
Checked by:	I.M.
Approved by:	U.K.
Date:	12.04.2026



Description:	
Angle bracket 50x50x35x2,0 stainless steel A2	
ART:	71201
Size:	A3
Material:	A2 AISI304
Protection:	STAINLESS STEEL
Version:	A
M1.5 : 1	Weight: 0,05



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	4
C	Ø13 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

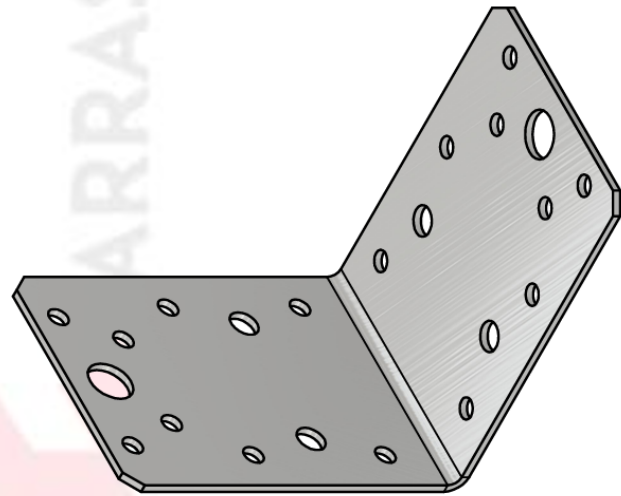
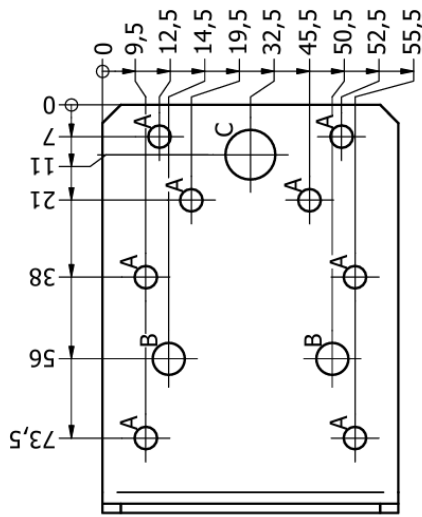
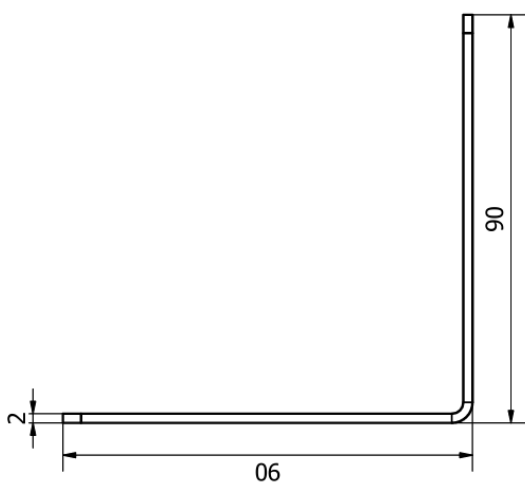
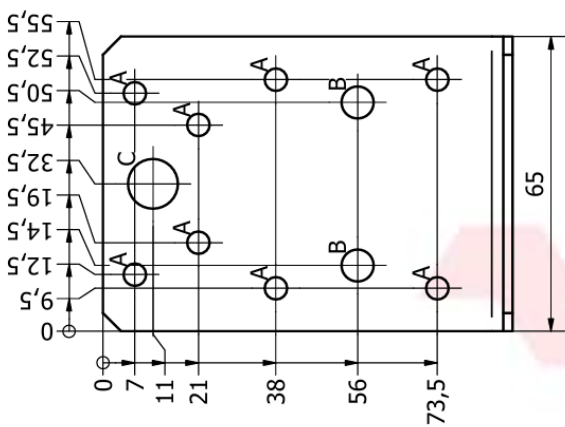
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 90x90x65x2,0
 reinforced A2 AISI304

ART: **71206**

Size:	A3
Material:	A2 AISI304 STAINLESS STEEL
Projection:	
Scale:	M 1 : 1
Weight:	0.168
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	4
C	Ø11 THRU	2

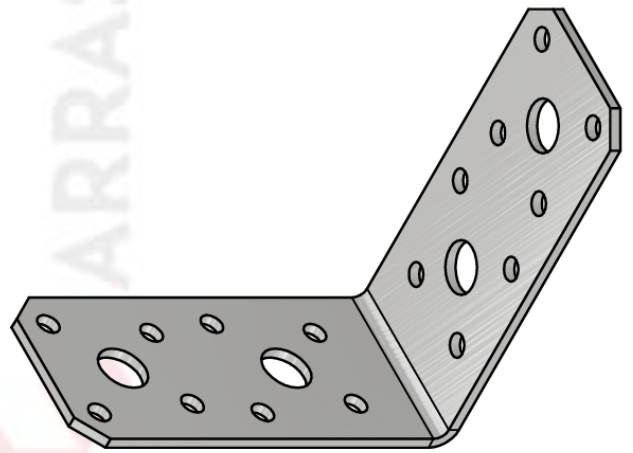
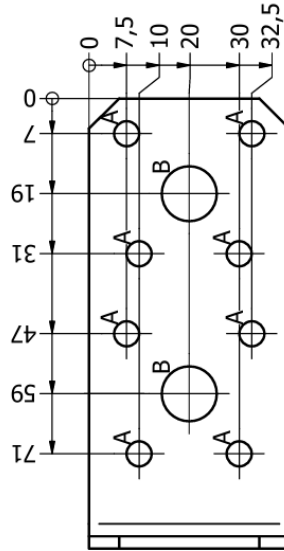
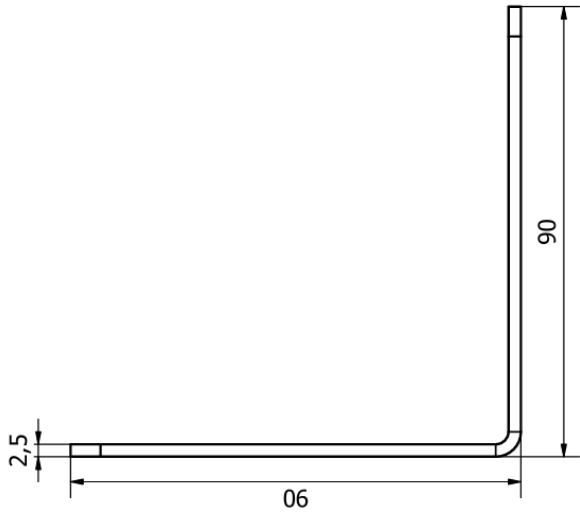
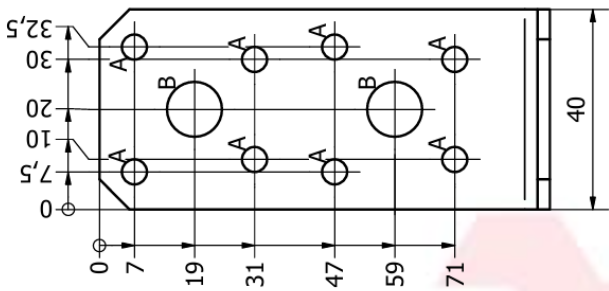
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
Checked by: I.M.
Approved by: U.K.
Date: 12.04.2026



Description: Angle bracket 90x90x65x2,0 stainless steel A2	
ART: 71208	
Size: A3	Material: A2 AISI304
Projection:	STAINLESS STEEL
M1 : 1.1	Weight: 0,168
Version: A	



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø11 THRU	4

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

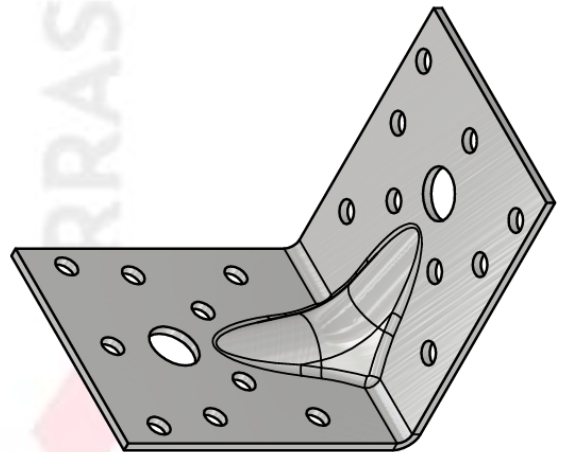
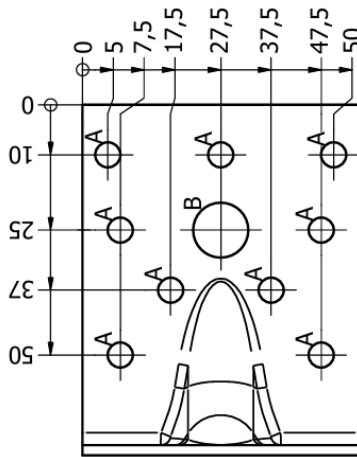
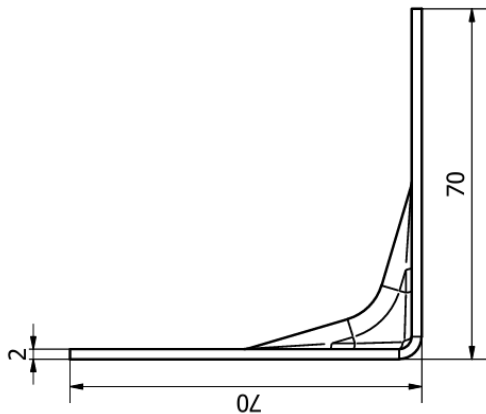
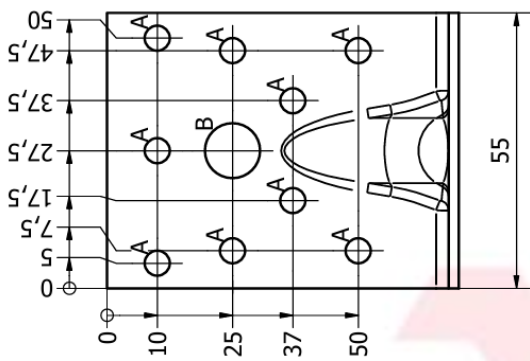
Drawn by: Vlmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 90x90x40x2,5
 stainless steel A2

ART: **71210**

Size: A3	Material: A2 AISI304	Version: A
Projection:	STAINLESS STEEL	
M 1 : 1	Weight: 0,123	



HOLE	SIZE	QTY
A	Ø5 THRU	18
B	Ø11 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

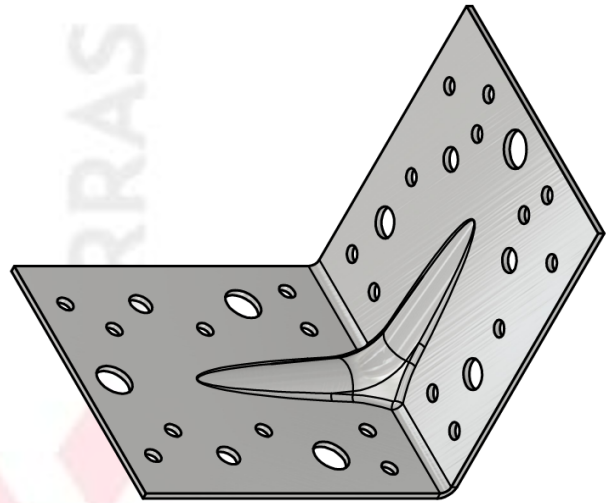
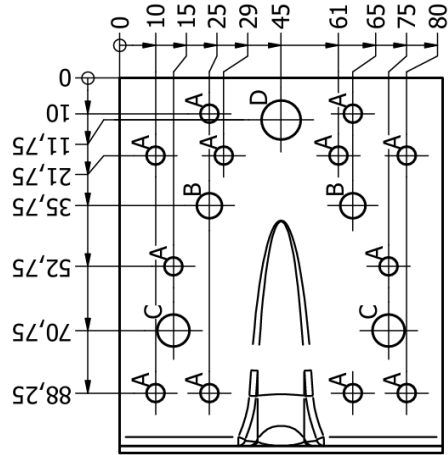
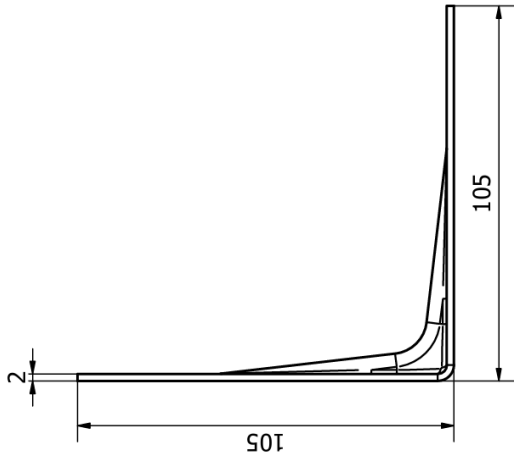
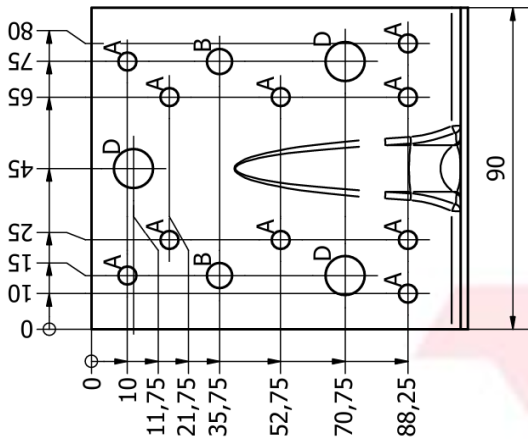
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 70x70x55x2,0
 reinforced

ART: **71304**

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M 1 : 1	Weight: 0.113
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	22
B	Ø7 THRU	4
C	Ø9 THRU	2
D	Ø11 THRU	4

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

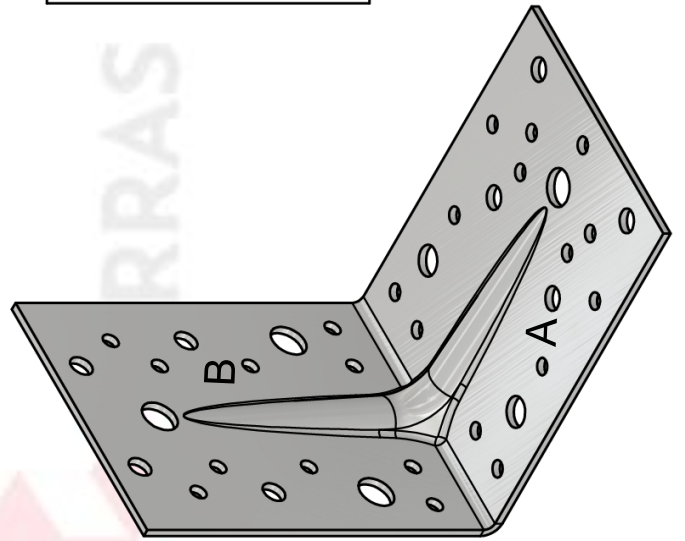
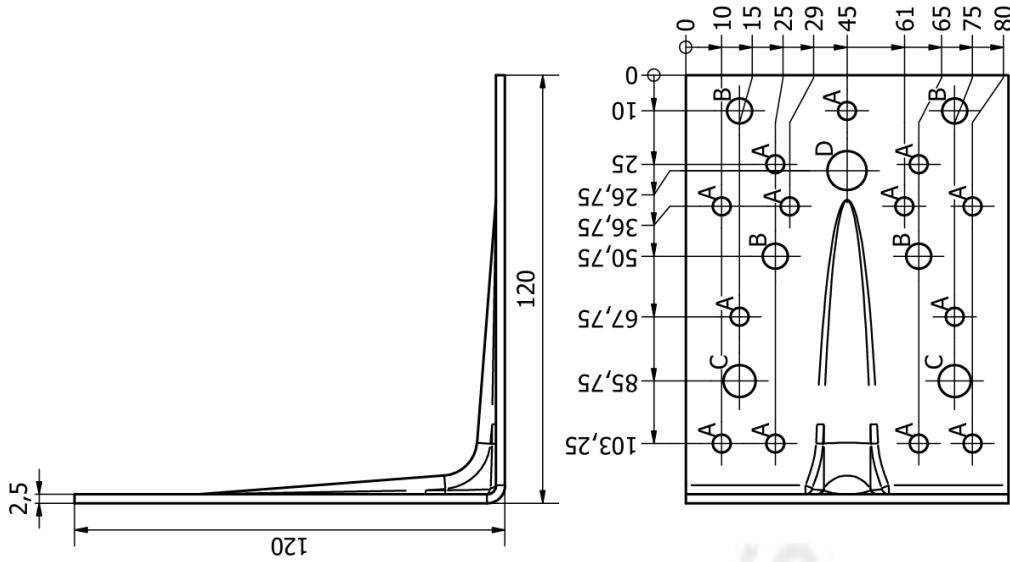
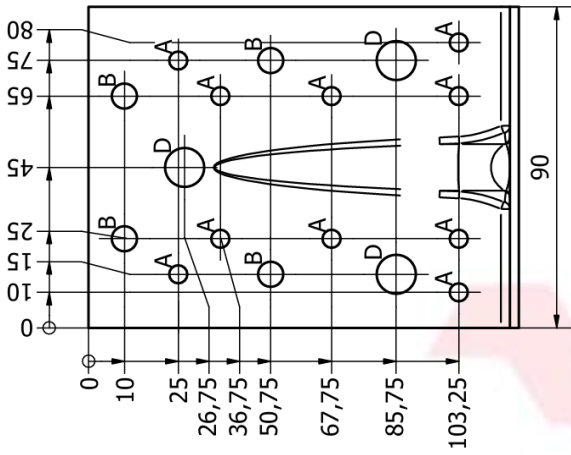
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 105x105x90x2,0
 reinforced

ART: **71305**

Size: A3
 Material: HDG DX51D + Z275/
 Projection: HDG S250GD + Z275
 M1 : 1.4 Weight: 0.273
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	23
B	Ø7 THRU	8
C	Ø9 THRU	2
D	Ø11 THRU	4

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

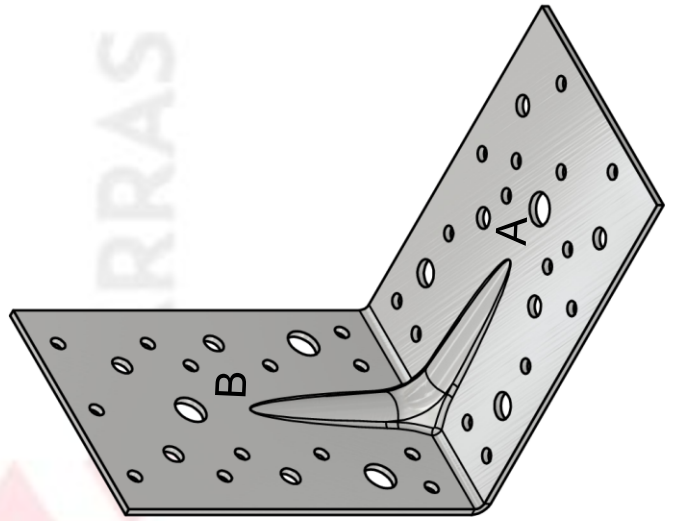
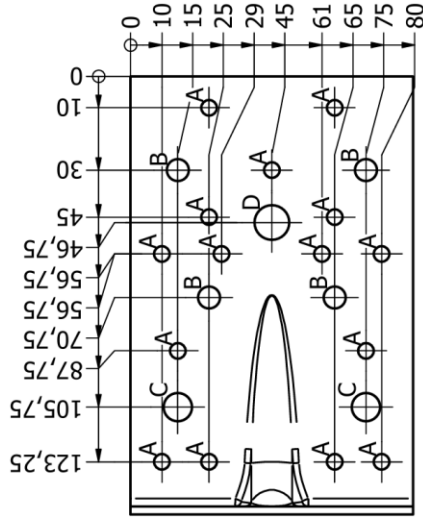
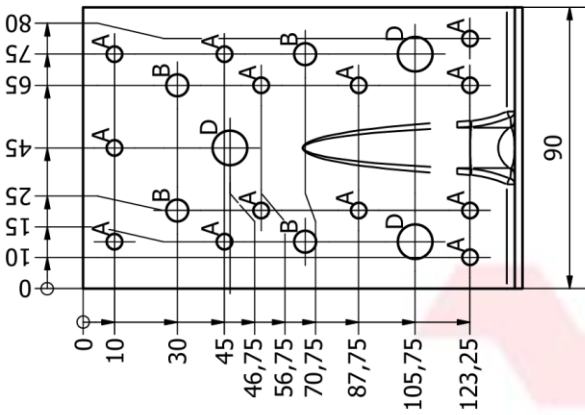
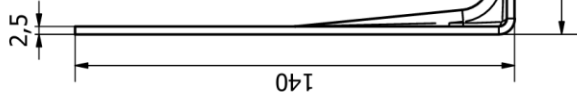
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
Angle bracket 120x120x90x2,5
 reinforced

ART: **71306**

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
Weight:	M1 : 1.4 Weight: 0.39
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	28
B	Ø7 THRU	8
C	Ø9 THRU	2
D	Ø11 THRU	4

General tolerances for nominal dimensions:

- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm

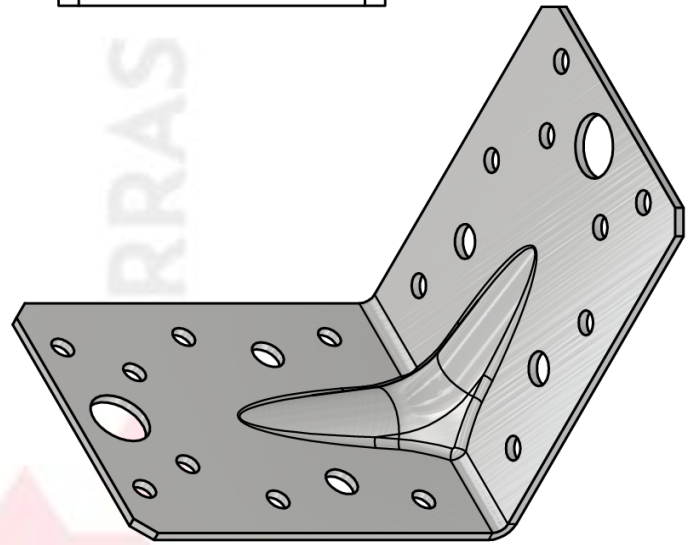
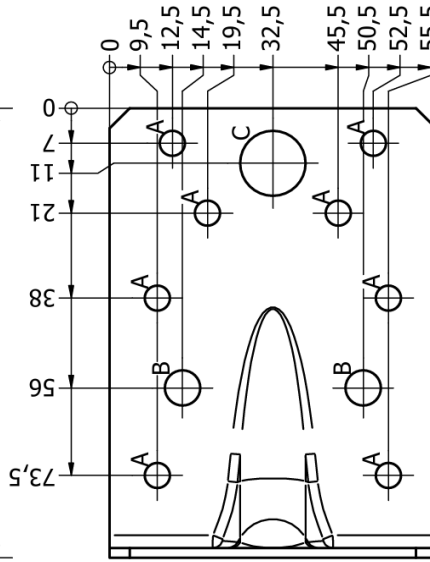
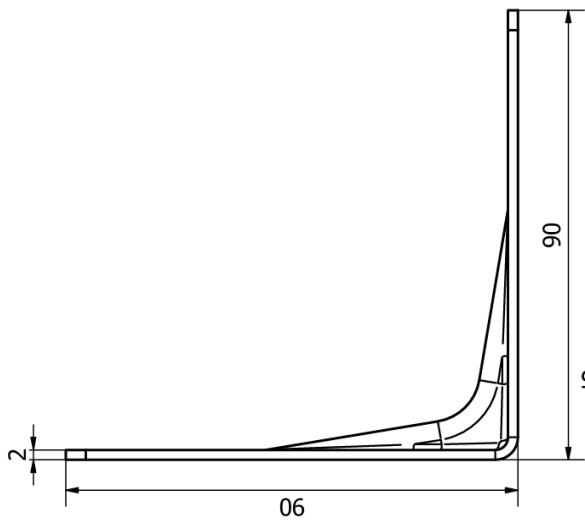
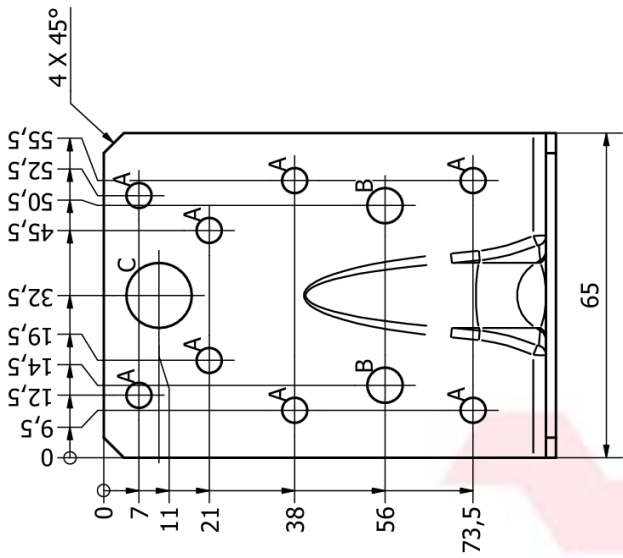
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026

Description:
Angle bracket 140x140x90x2,5
 reinforced

ART: **71307**



Size: A3
 Projection: M1 : 1.6
 Material: HDG DX51D + Z275/
 HDG S250GD + Z275
 Weight: 0.465
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	4
C	Ø13 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm

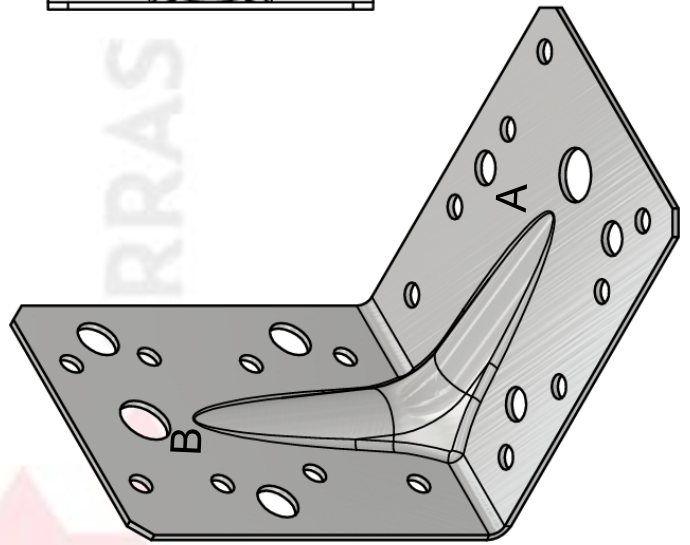
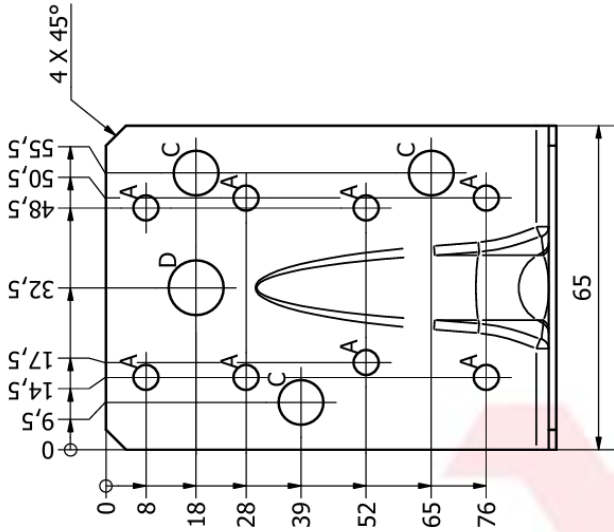
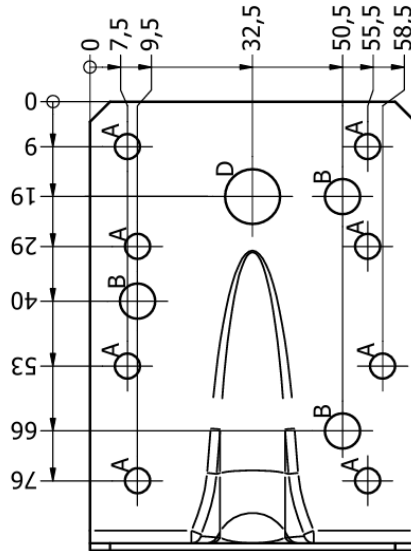
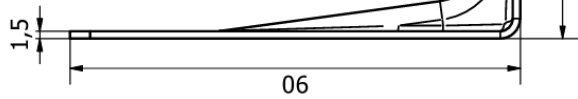
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026

Description:
 Angle bracket 90x90x65x2,0
 reinforced

ART: **71308**



Size: A3
 Projection: M 1 : 1
 Material: HDG DX51D + Z275/
 HDG S250GD + Z275
 Weight: 0.17
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	3
C	Ø9 THRU	3
D	Ø11 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm

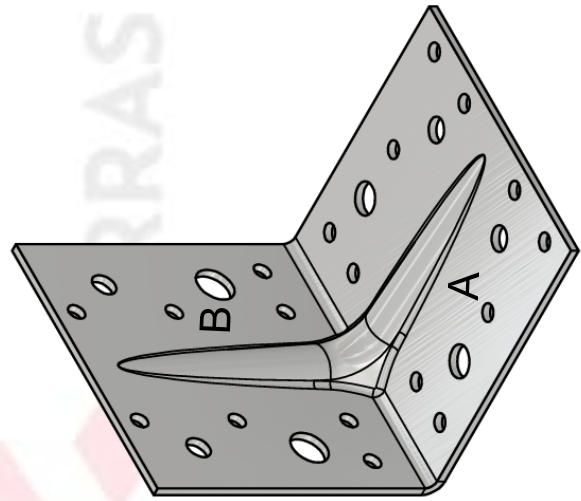
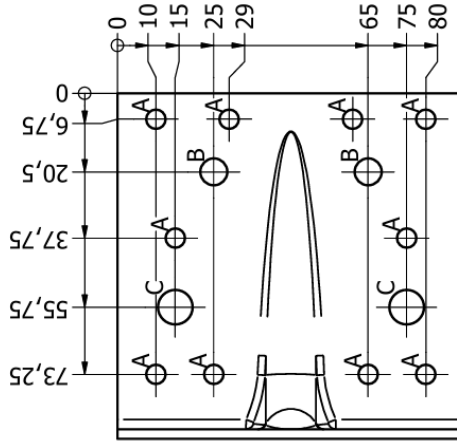
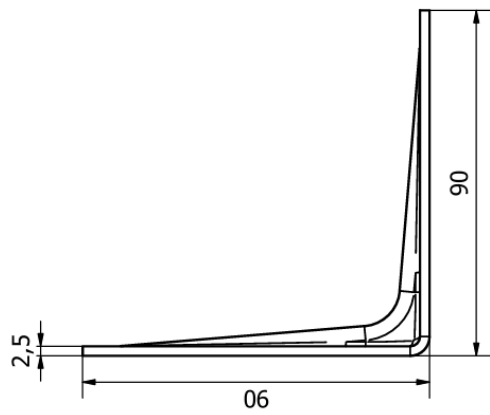
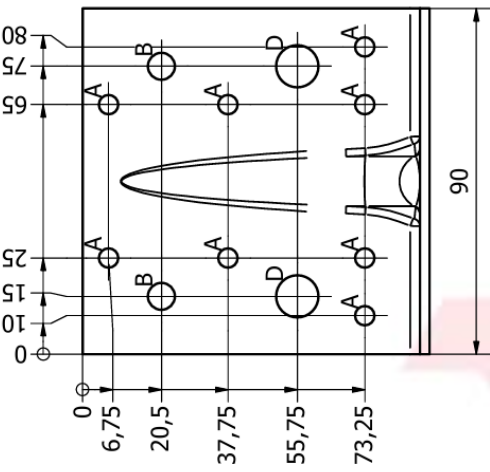
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 90x90x65x1,5
 reinforced vs II

ART: **71309**

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
Version:	A
M 1 : 1	Weight: 0.1242



HOLE	SIZE	QTY
A	Ø5 THRU	18
B	Ø7 THRU	4
C	Ø9 THRU	2
D	Ø11 THRU	2

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

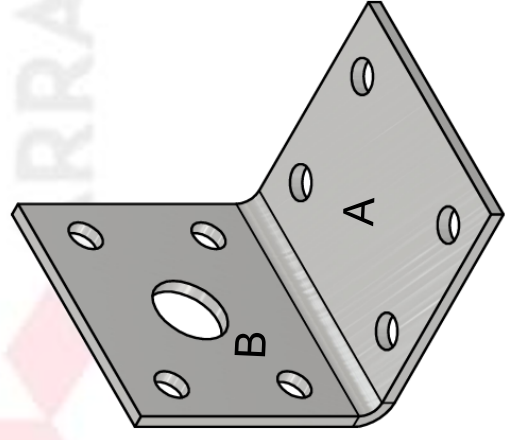
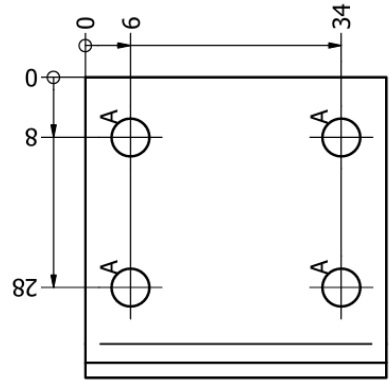
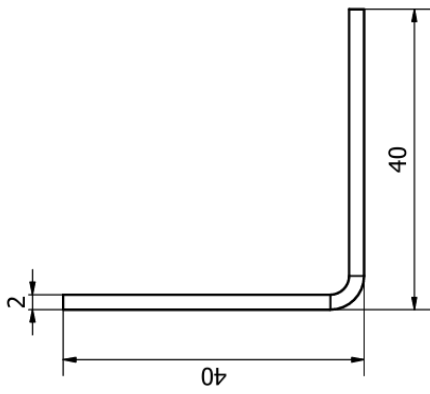
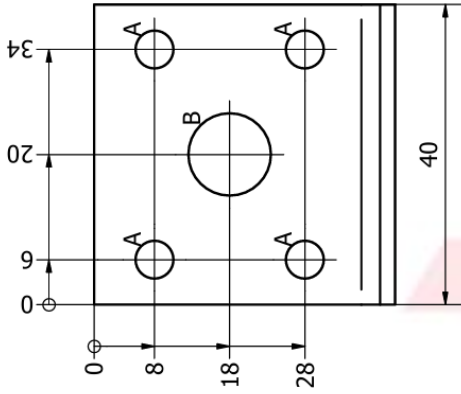
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 90x90x90x2,5
 reinforced

ART: **71311**

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	M1 : 1.3
Weight:	0.293
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	8
B	Ø11 THRU	1

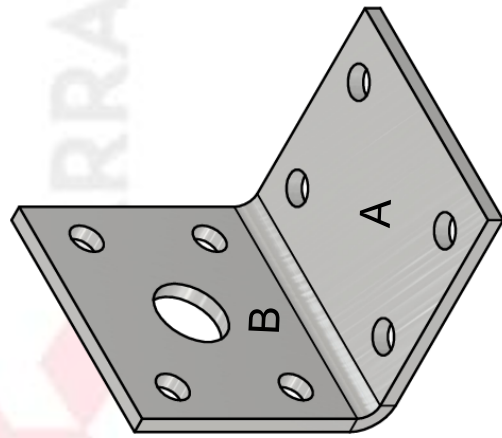
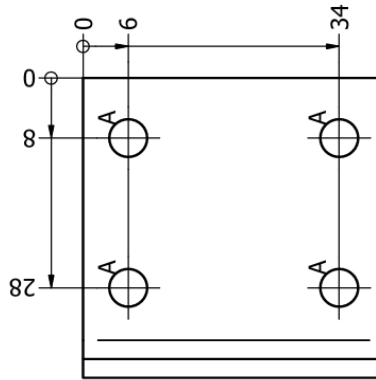
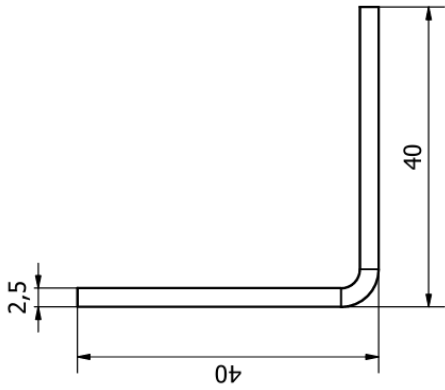
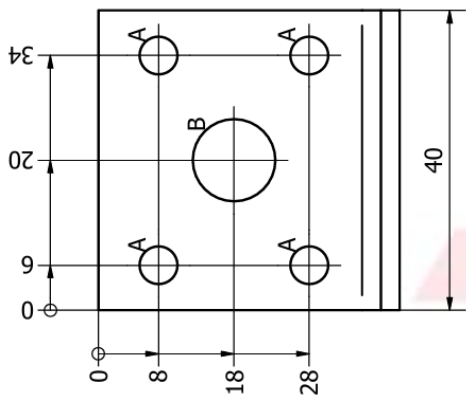
General tolerances for nominal dimensions:

- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description: Angle bracket 40x40x40x2,0 11mm hole	
ART: 71320	
Size: A3	Material: HDG DX51D + Z275/
Projection:	HDG S250GD + Z275
M1.5 : 1	Weight: 0,044
Version: A	



HOLE	SIZE	QTY
A	Ø5 THRU	8
B	Ø11 THRU	1

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

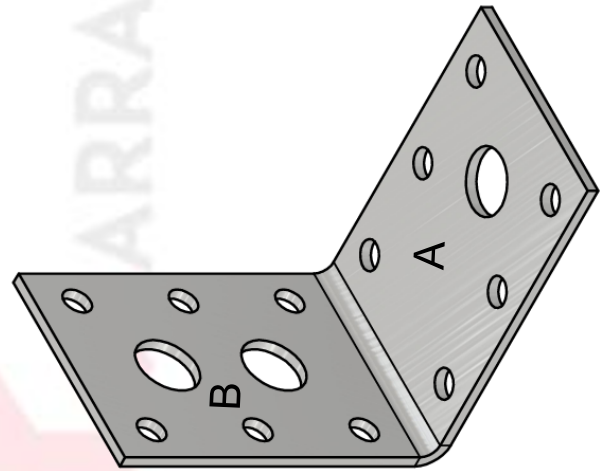
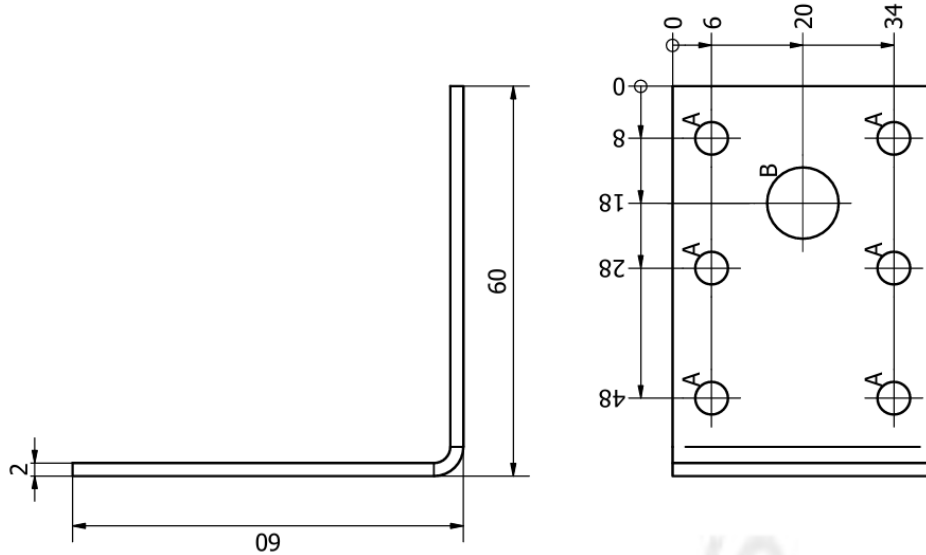
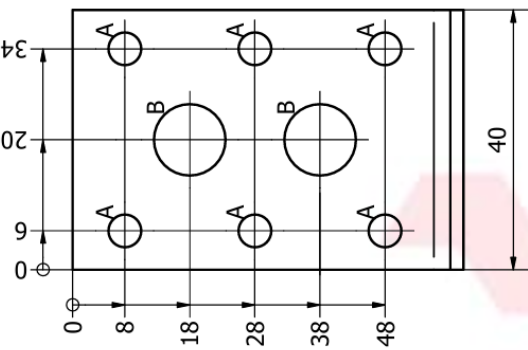
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026

Description:
 Angle bracket 40x40x40x2,5
 11mm hole

ART: 71321

Size: A3
 Projection: M1.5 : 1
 Material: HDG DX51D + Z275/
 HDG S250GD + Z275
 Weight: 0,0555
 Version: A





HOLE	SIZE	QTY
A	Ø5 THRU	12
B	Ø11 THRU	3

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

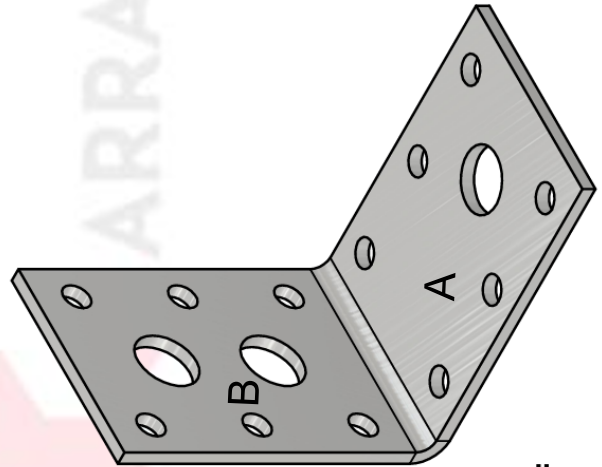
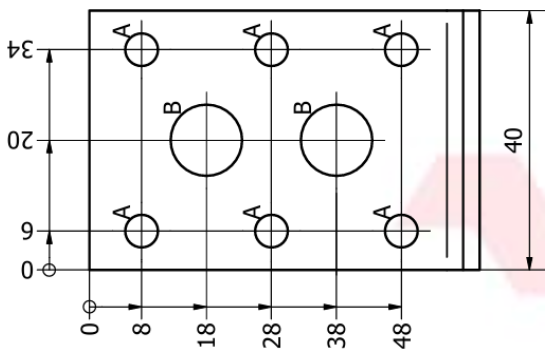
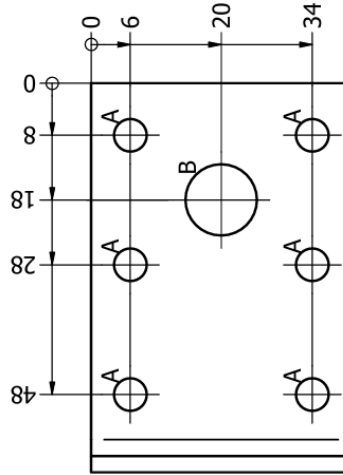
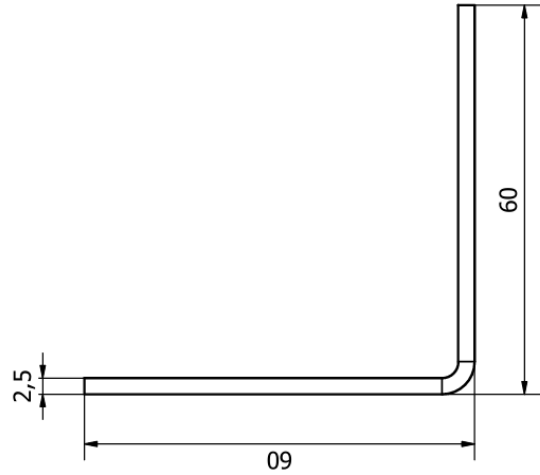
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 60x60x40x2,0
 11mm hole

ART: **71322**

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M1.3 : 1	Weight: 0,065
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	12
B	Ø11 THRU	3

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

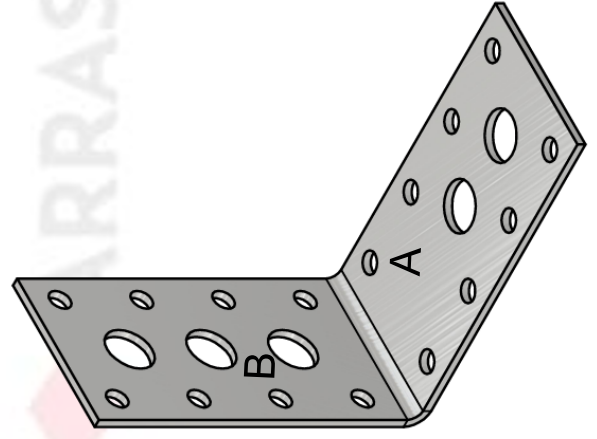
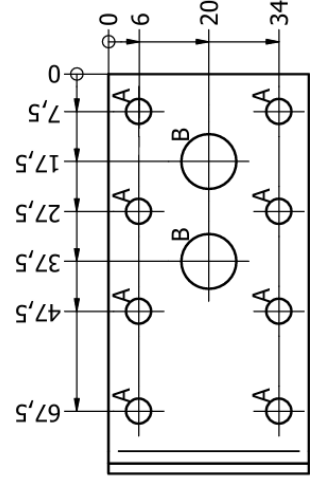
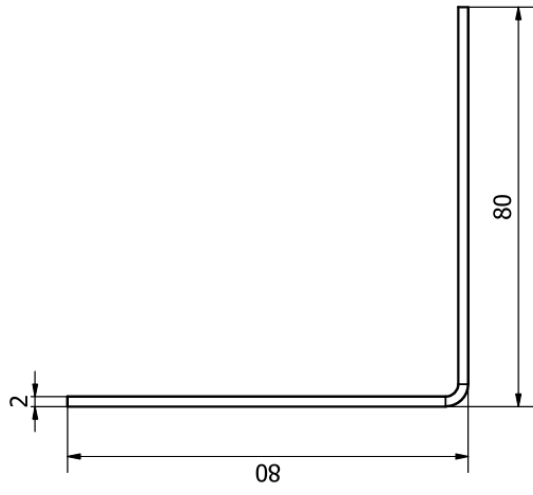
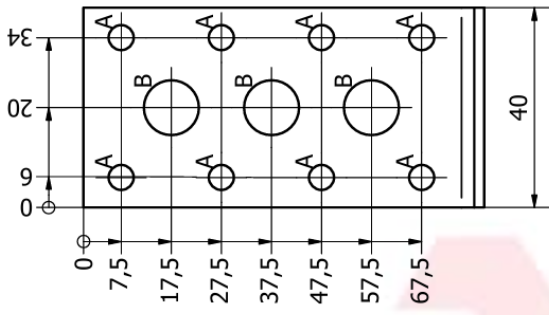
Drawn by: Vilimech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 60x60x40x2,5
 11mm hole

ART: **71323**



Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M1.3 : 1	Weight: 0,081
Version:	A

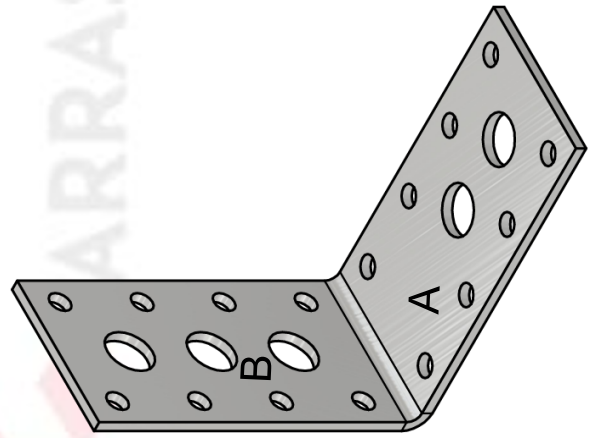
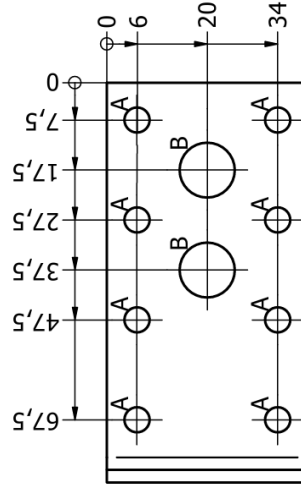
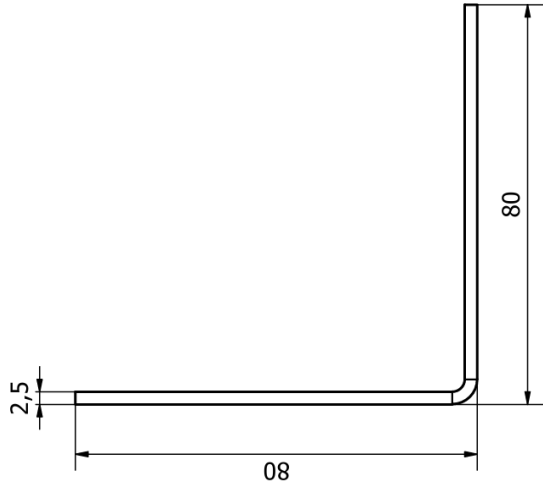
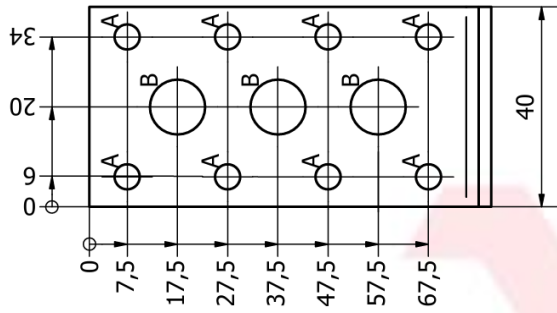


HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø11 THRU	5

General tolerances for nominal dimensions:

- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm

Drawn by: Vilmech	Description: Angle bracket 80x80x40x2,0 11mm hole
Checked by: I.M.	ART: 71324
Approved by: U.K.	Size: A3
Date: 12.04.2026	Material: HDG DX51D + Z275/ HDG S250GD + Z275
	
Projection: 	Weight: 0,086
M 1 : 1	Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø11 THRU	5

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

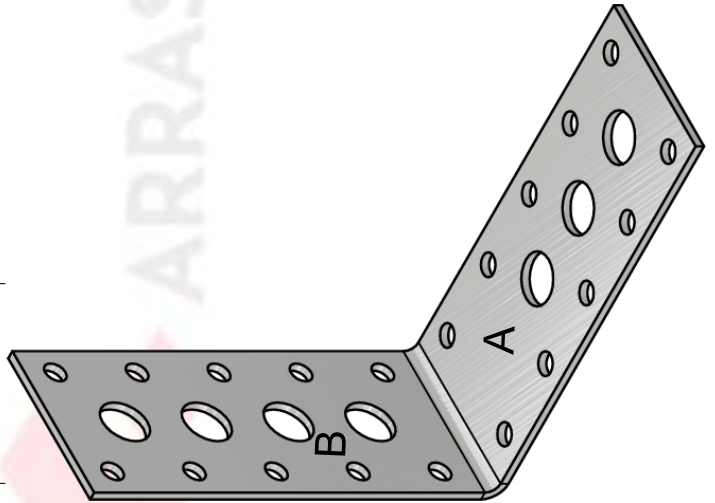
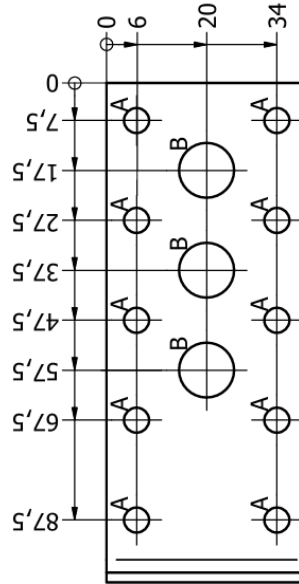
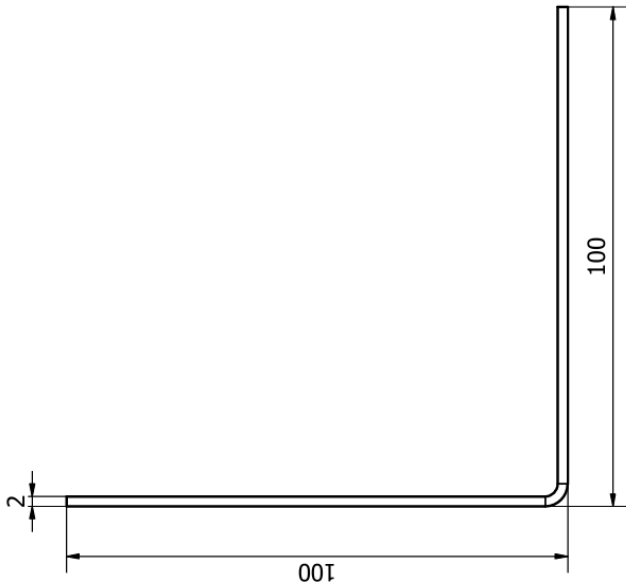
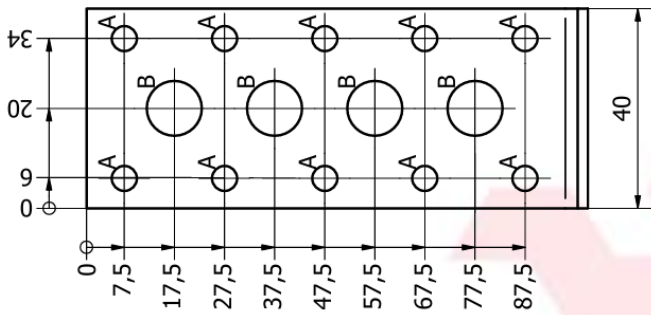
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 80x80x40x2,5
 11mm hole

ART: **71325**

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M 1 : 1	Weight: 0,107
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	20
B	Ø11 THRU	7

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

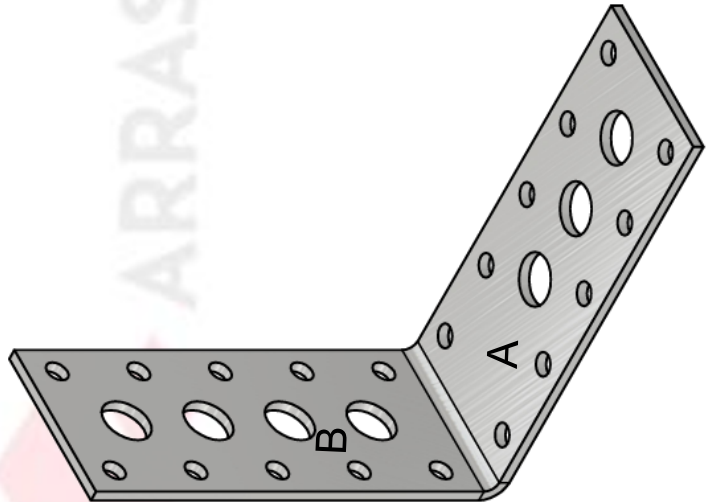
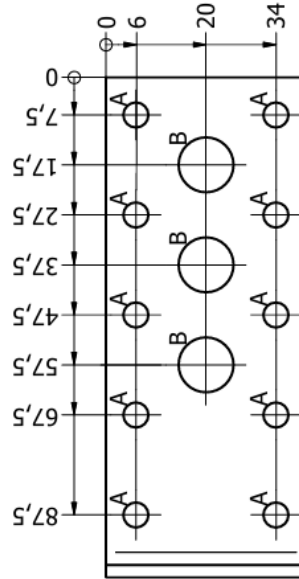
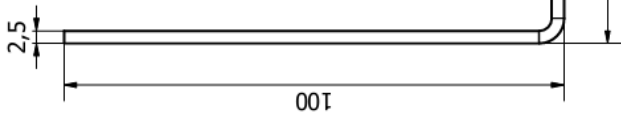
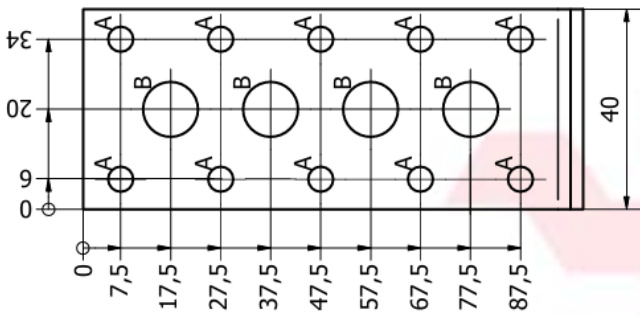
Drawn by: Vilmec
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 100x100x40x2,0
 11mm hole

ART: **71326**

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M 1 : 1	Version: A
Weight:	0,107



HOLE	SIZE	QTY
A	Ø5 THRU	20
B	Ø11 THRU	7

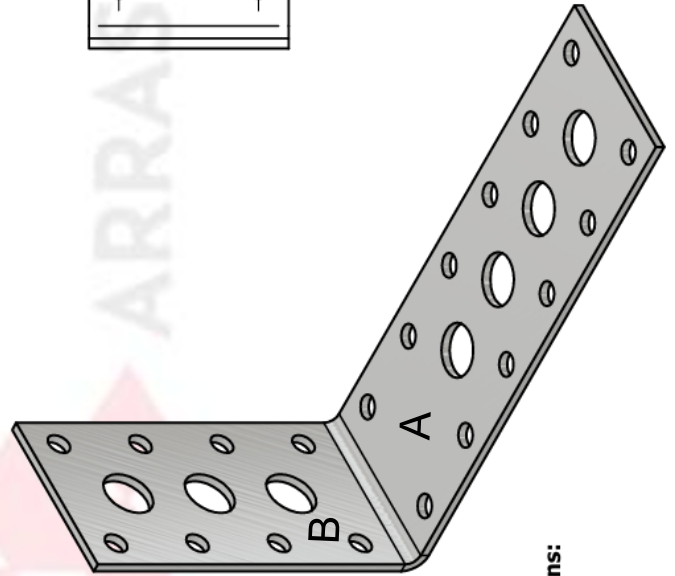
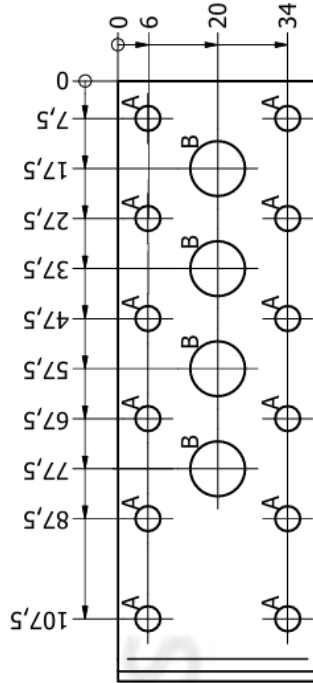
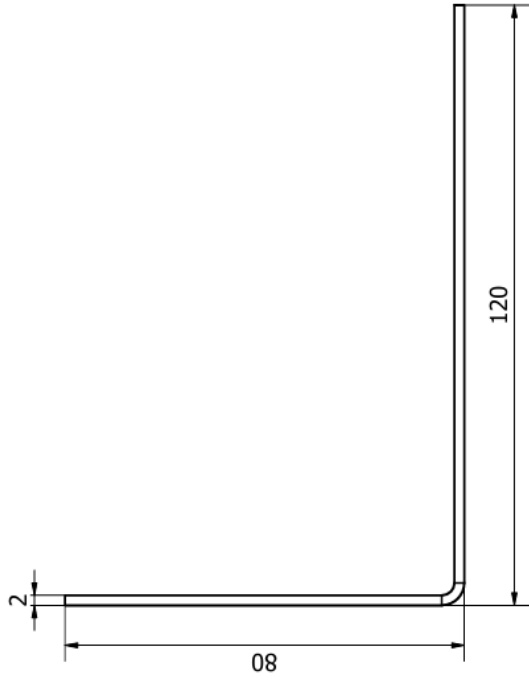
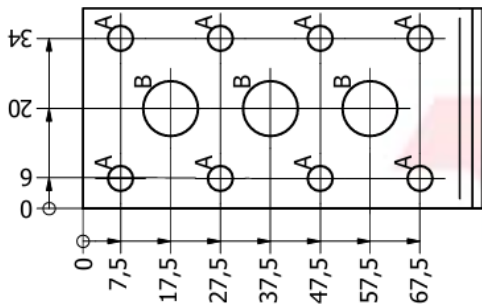
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vlimech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description: Angle bracket 100x100x40x2,5 11mm hole	
ART: 71327	
Size: A3	Material: HDG DX51D + Z275/
Projection:	HDG S250GD + Z275
M 1 : 1	Weight: 0,133
Version: A	



HOLE	SIZE	QTY
A	Ø5 THRU	20
B	Ø11 THRU	7

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

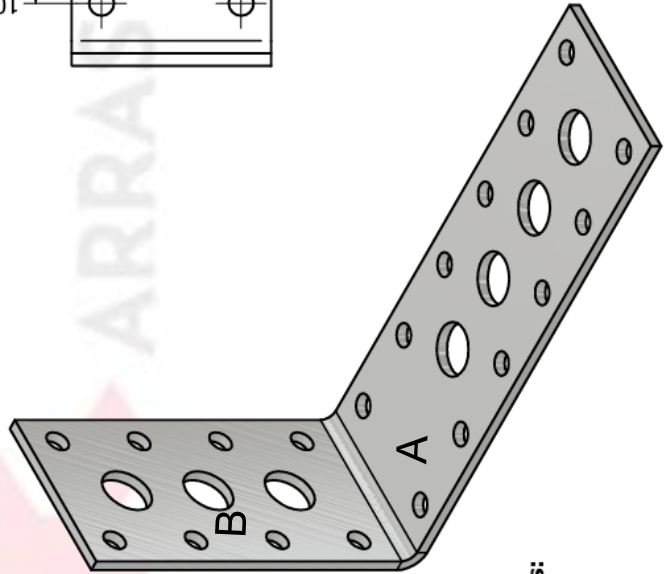
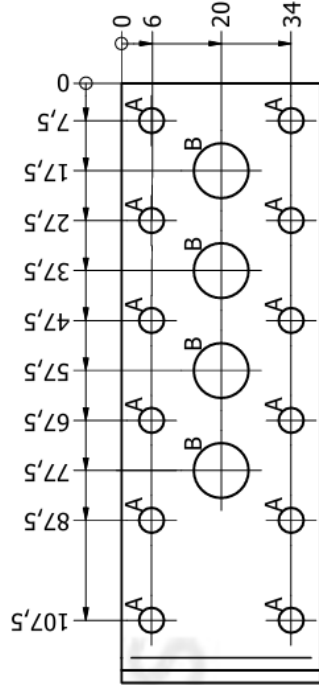
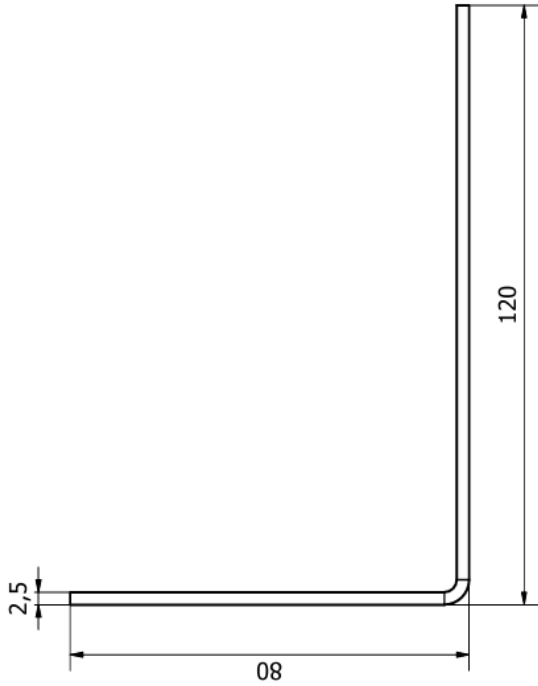
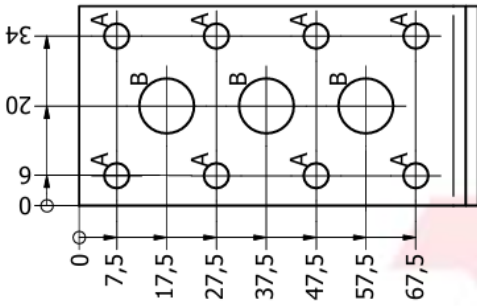
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 120x80x40x2,0
 11mm hole

ART: **71328**

Size: A3
 Projection:
 Material: HDG DX51D + Z275/
 HDG S250GD + Z275
 M 1 : 1
 Weight: 0,107
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	20
B	Ø11 THRU	7

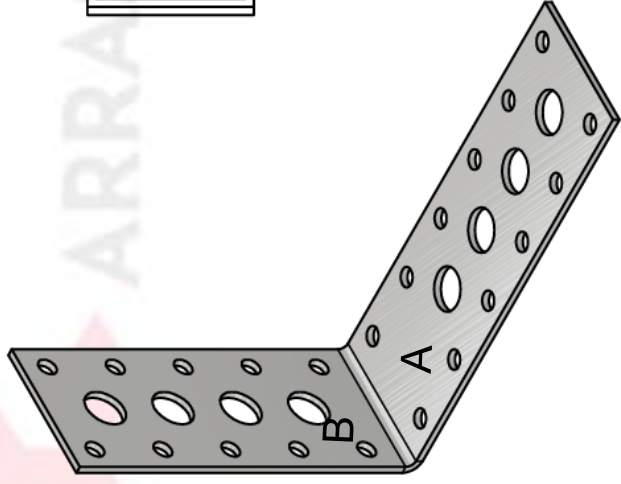
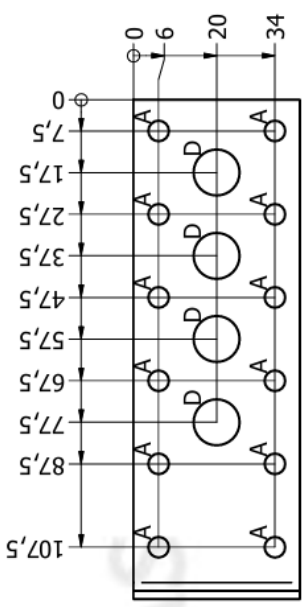
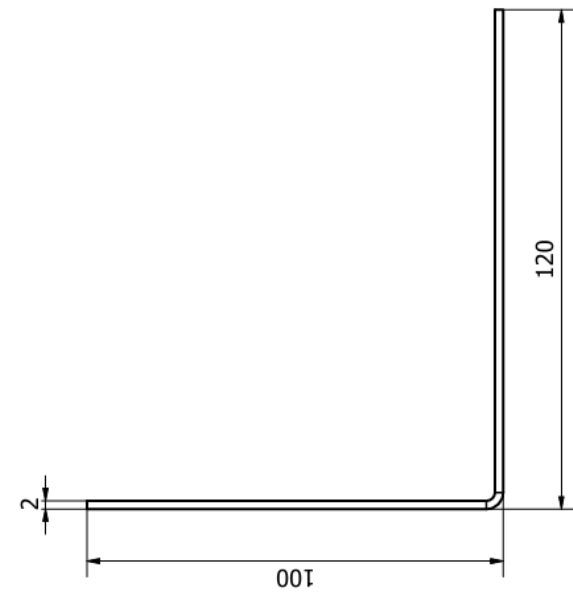
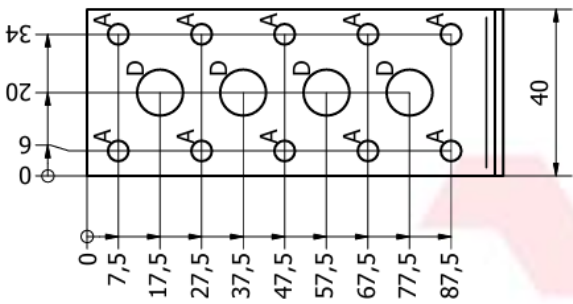
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
Checked by: I.M.
Approved by: U.K.
Date: 12.04.2026





Description: Angle bracket 120x80x40x2,5 11mm hole	
ART: 71329	
Size: A3	Material: HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	Weight: 0,133
M 1 : 1	Version: A

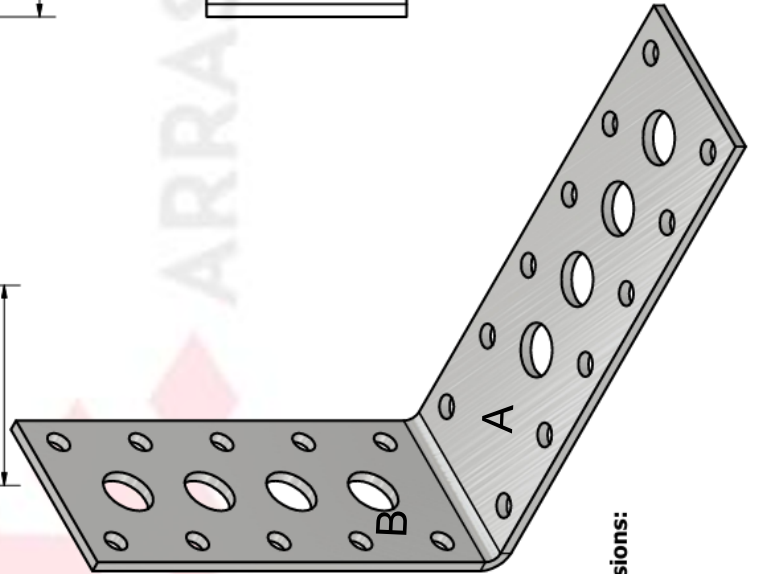
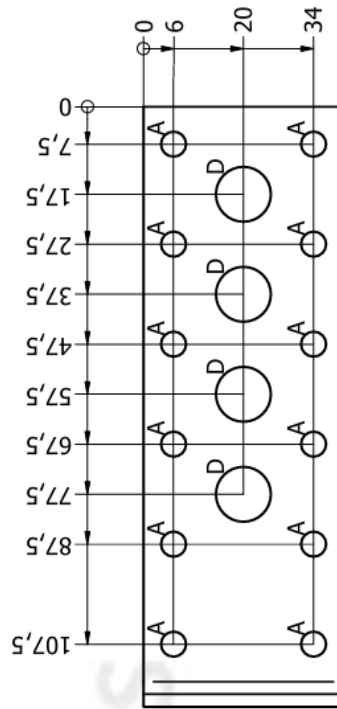
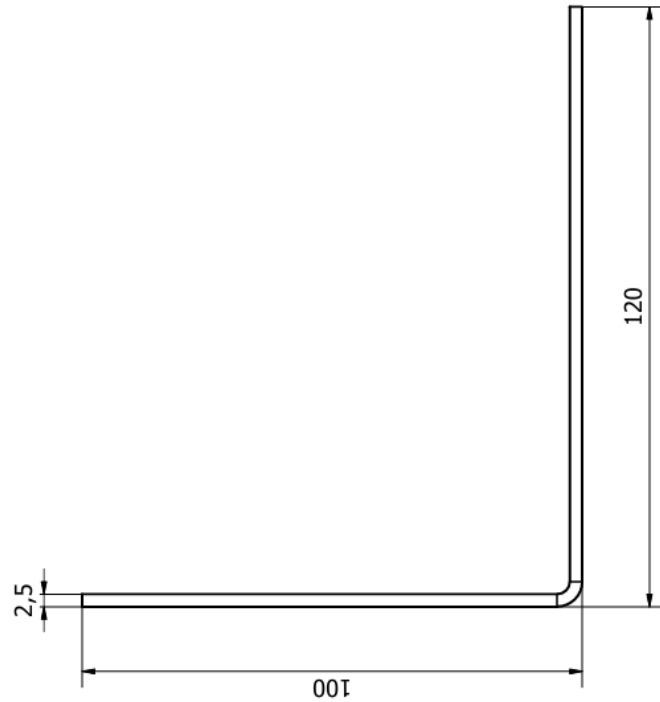
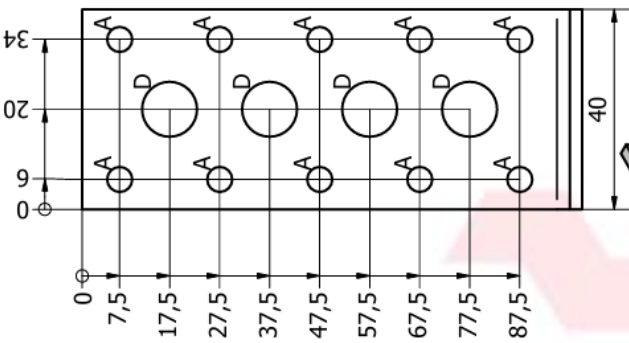


HOLE	SIZE	QTY
A	Ø5 THRU	22
D	Ø11 THRU	8

General tolerances for nominal dimensions:

- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm

Drawn by: Vlmech	Description: Angle bracket 120x100x40x2,0 11mm hole
Checked by: I.M.	ART: 71330
Approved by: U.K.	Size: A3
Date: 03.07.2025	Material: HDG DX51D + Z275/ HDG S250GD + Z275
	Projection: 
	M1 : 1,2 Weight: 0.117
	Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	22
D	Ø11 THRU	8


General tolerances for nominal dimensions:

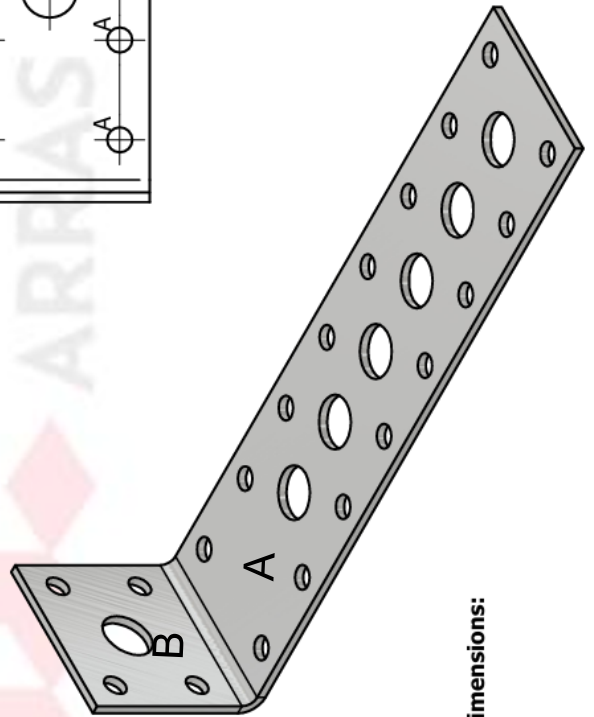
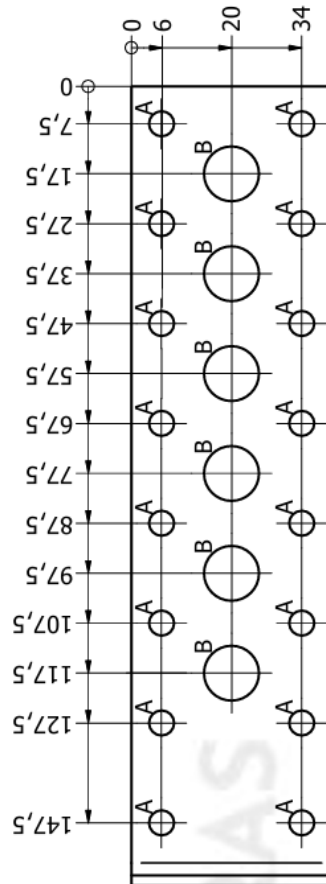
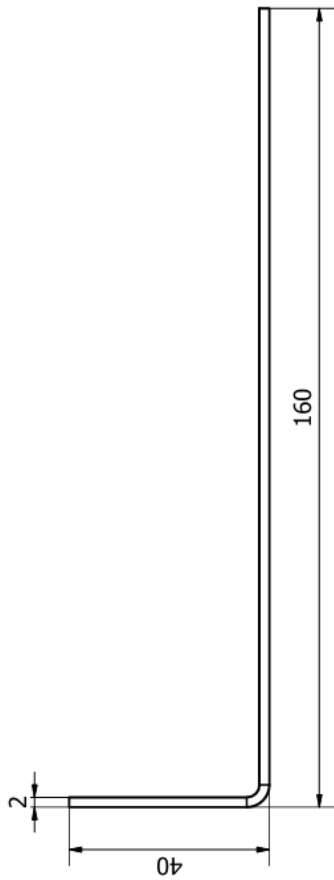
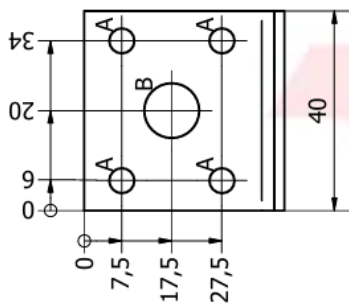
Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

Drawn by: Vlmech	 ARRAS
Checked by: I.M.	
Approved by: U.K.	
Date: 03.07.2025	

Description:
 Angle Bracket 120x100x40x2,5
 11mm hole

ART: **71331**

Size: A3	Material: HDG DX51D + ZZ75/ HDG S250GD + ZZ75
Projection: 	Weight: 0.146
M 1 : 1	Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	20
B	Ø11 THRU	7

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

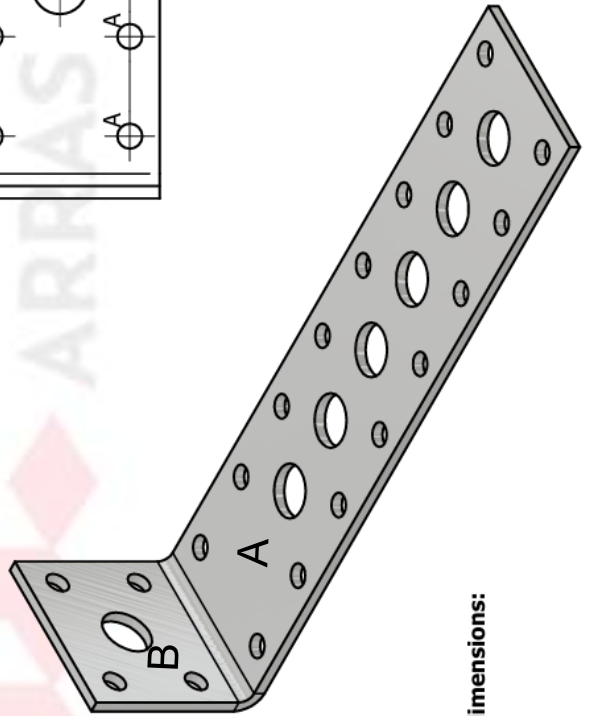
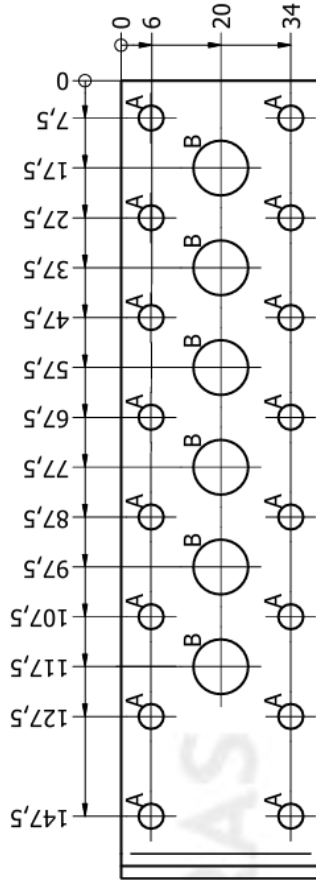
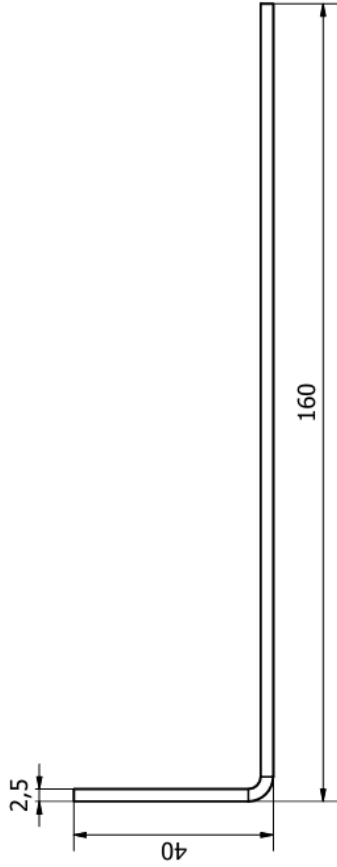
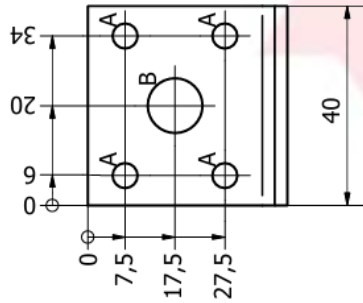
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 160x40x40x2,0
 11mm hole

ART: **71332**

Size: A3
 Projection: M 1:1
 Material: HDG DX51D + Z275/
 HDG S250GD + Z275
 Weight: 0,107
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	20
B	Ø11 THRU	7

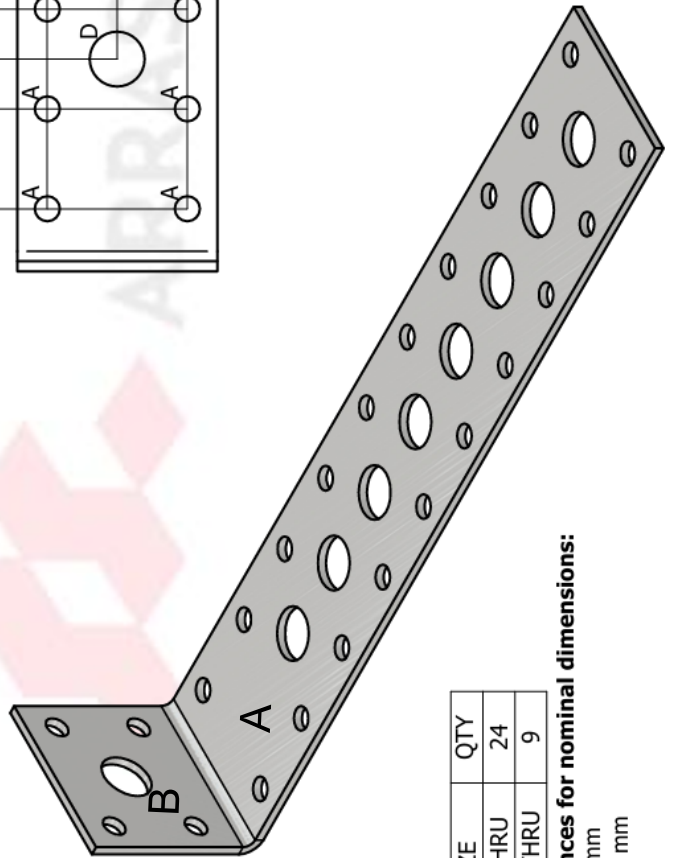
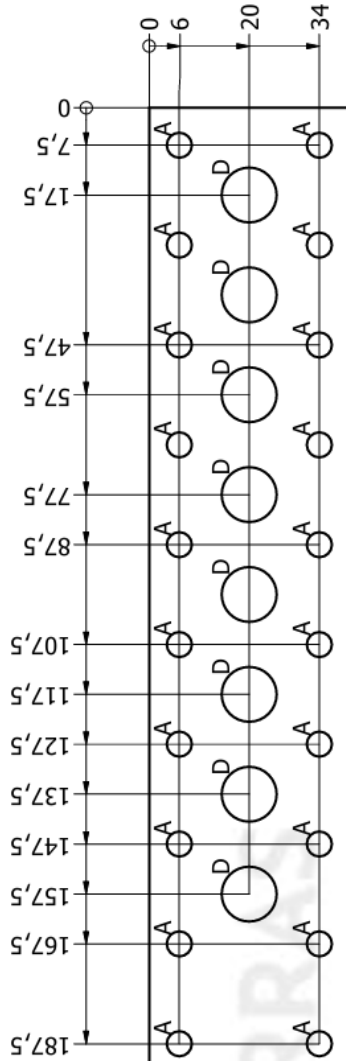
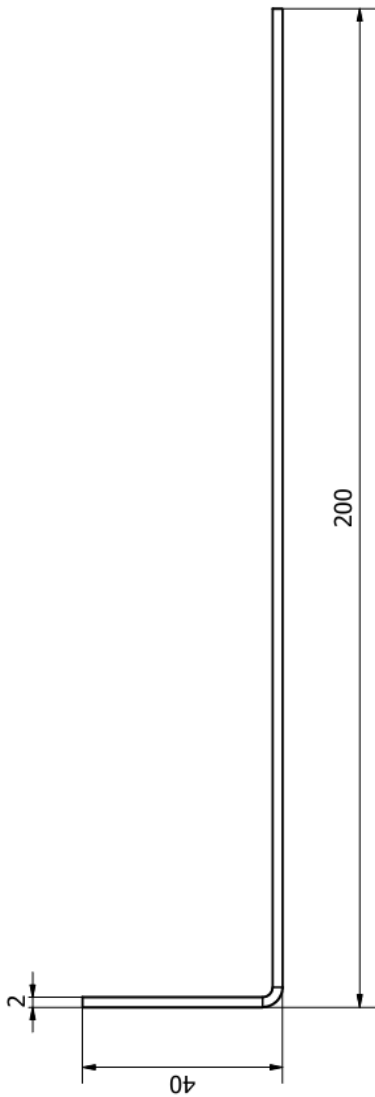
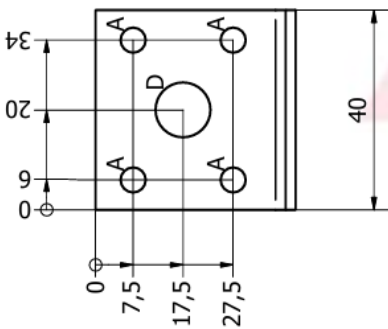
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description: Angle bracket 160x40x40x2,5 11mm hole	
ART: 71333	
Size: A3	Material: HDG DX51D + Z275/
Projection:	HDG S250GD + Z275
M 1 : 1	Weight: 0,133
Version: A	



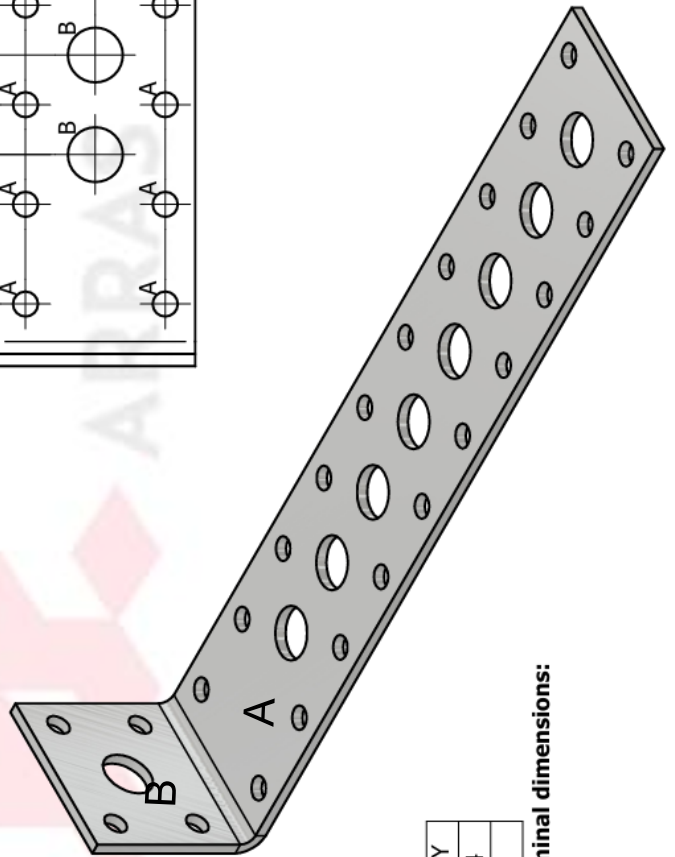
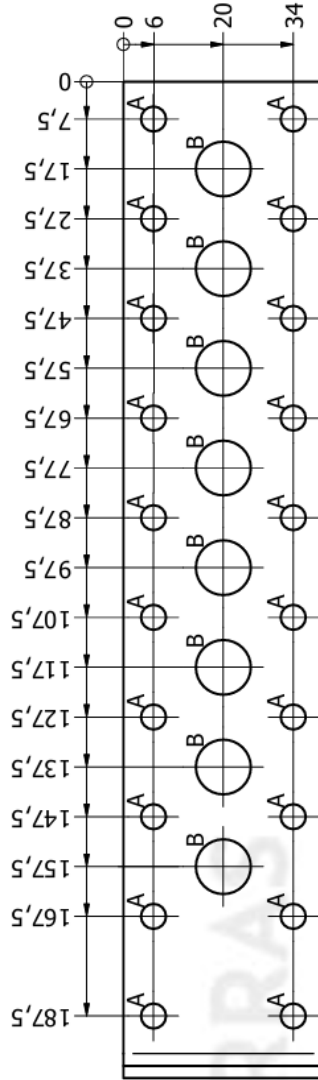
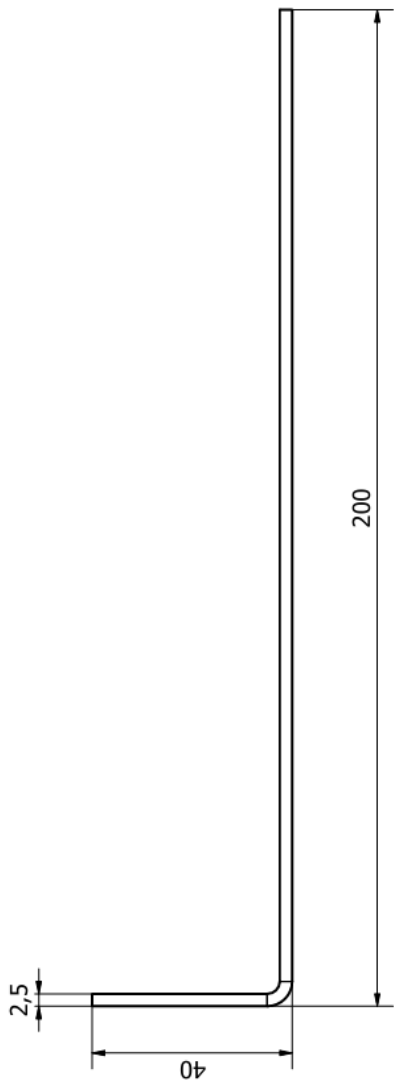
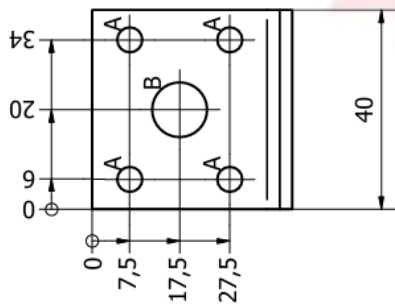
HOLE	SIZE	QTY
A	Ø5 THRU	24
D	Ø11 THRU	9

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vlimech	Description:	
Checked by: I.M.	Concrete anchor 200x40x40x2,0	
Approved by: U.K.	ART: 71334	
Date: 03.07.2025	Size: A3	Material: HDG DX51D + Z275/ HDG S250GD + Z275
	Projection:	Version: A
	M 1 : 1	Weight: 0.127





HOLE	SIZE	QTY
A	Ø5 THRU	24
B	Ø11 THRU	9

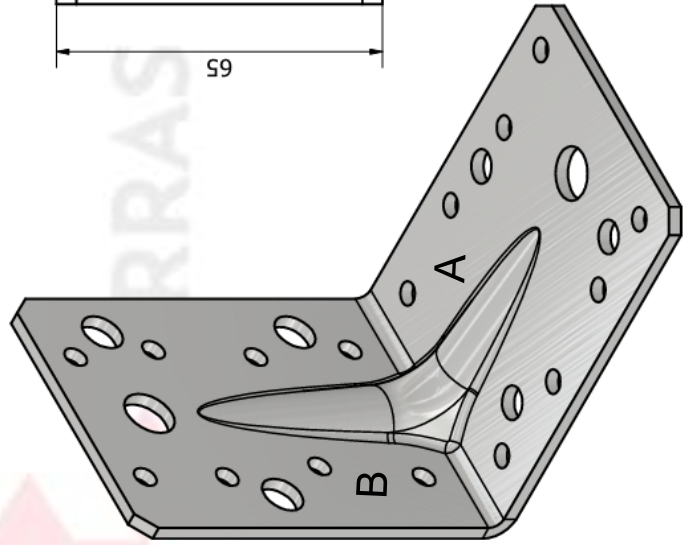
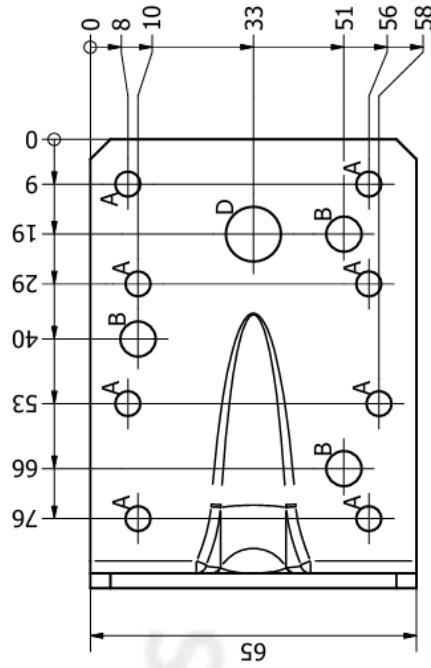
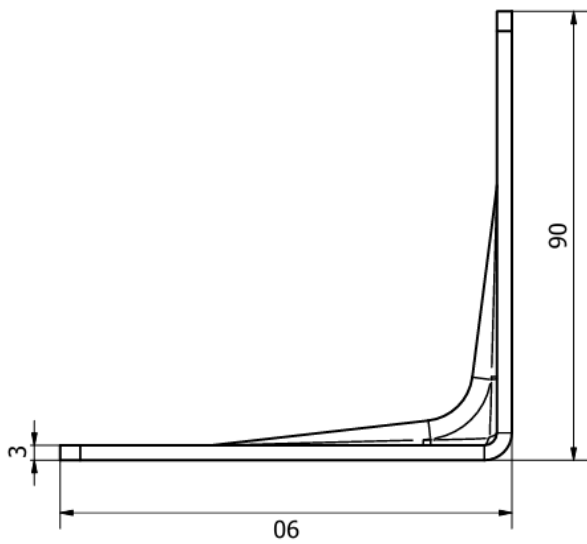
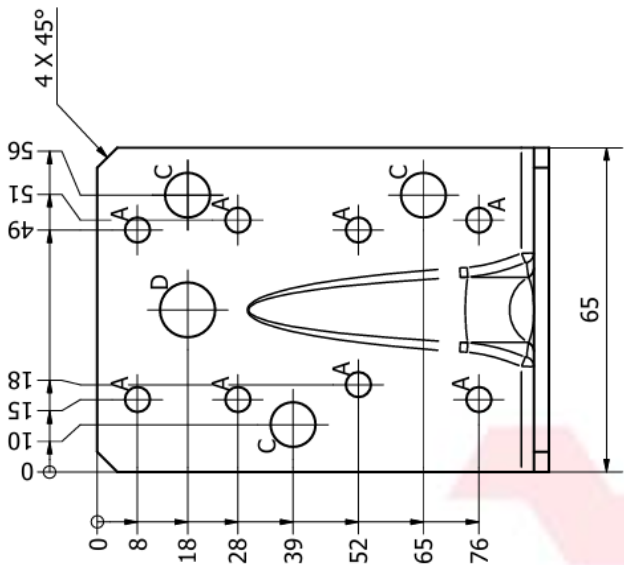
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Concrete anchor 200x40x40x2,5
 11mm hole
 ART: 71335
 Size: A3
 Material: HDG DX51D + Z275/
 HDG S250GD + Z275
 Protection: M 1 : 1
 Weight: 0,159
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	3
C	Ø9 THRU	3
D	Ø11 THRU	2

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

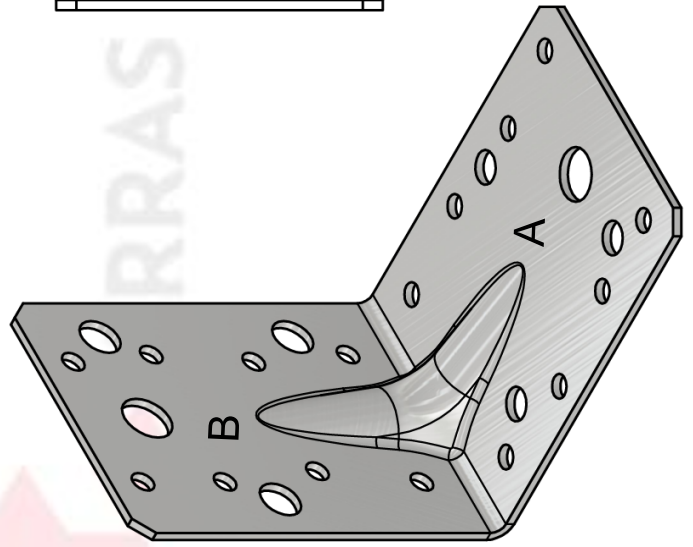
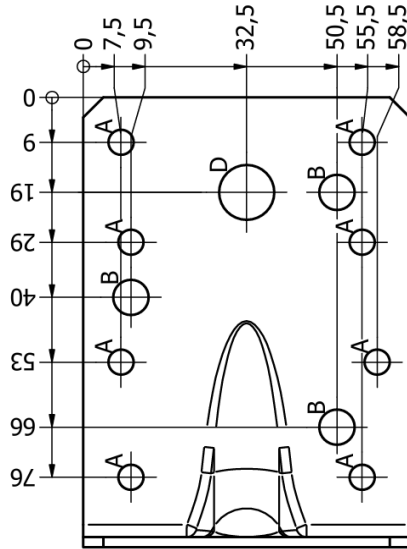
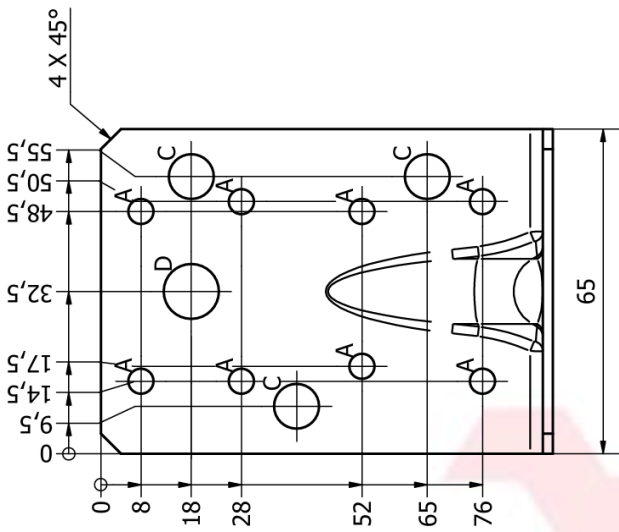
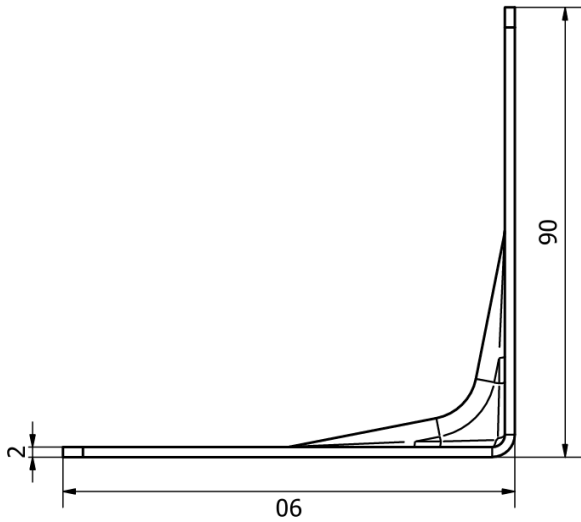
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 14.04.2026



Description:
 Angle bracket 90x90x65x3,0
 reinforced vs II

ART: **71339**

Size: A3
 Projection: M 1 : 1
 Material: HDG DX51D+Z275/
 HDG S250GD+Z275
 Weight: 0,246 kg
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	3
C	Ø9 THRU	3
D	Ø11 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm

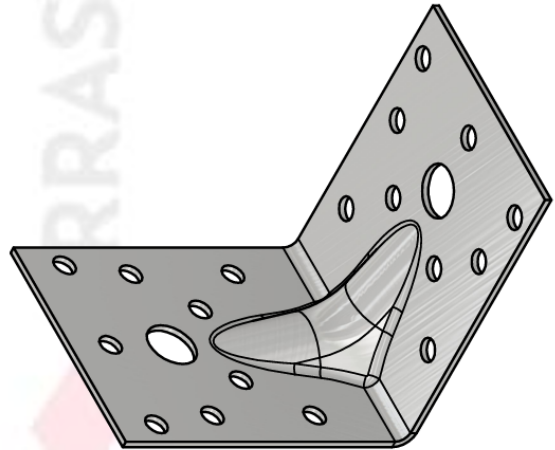
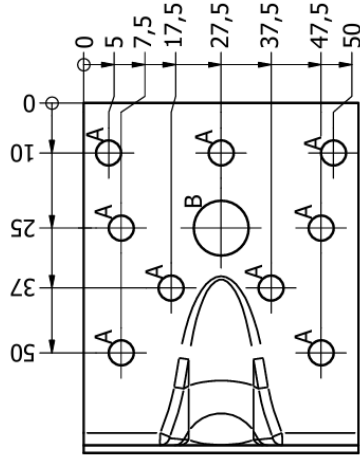
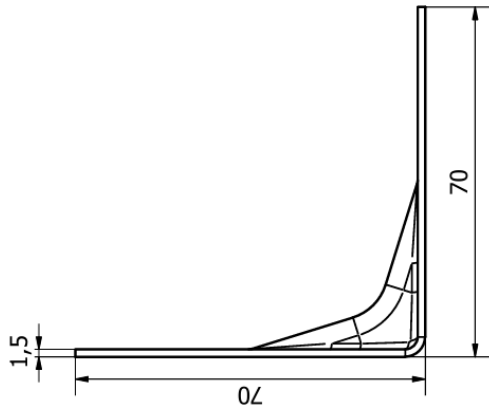
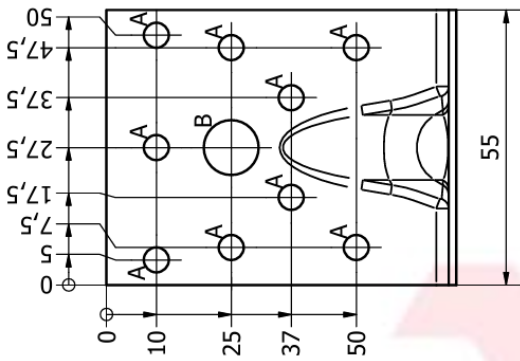
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
Angle bracket 90x90x65x2,0
 reinforced vs II

ART: **71340**

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M 1 : 1	Weight: 0.167
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	18
B	Ø11 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

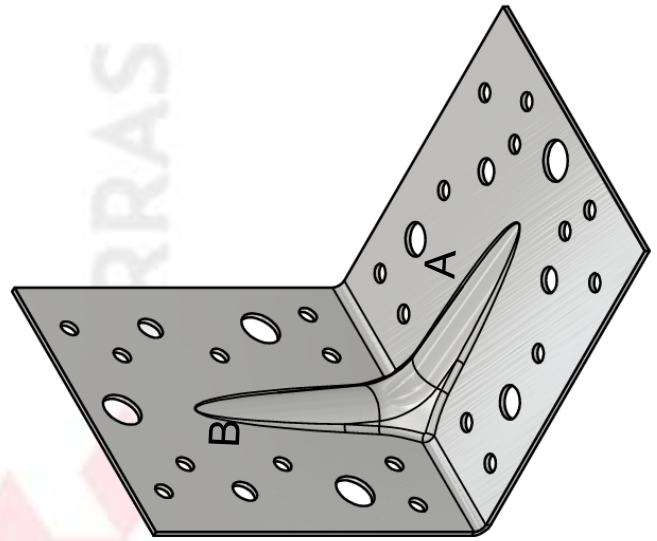
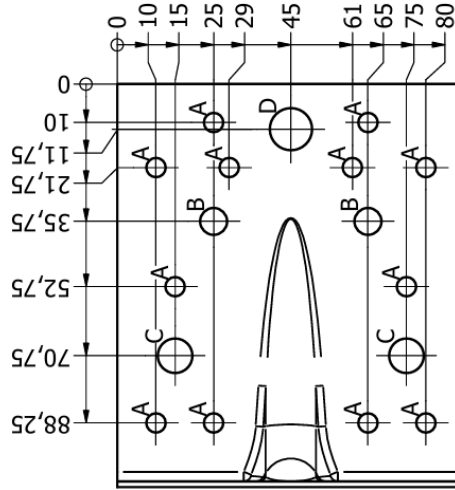
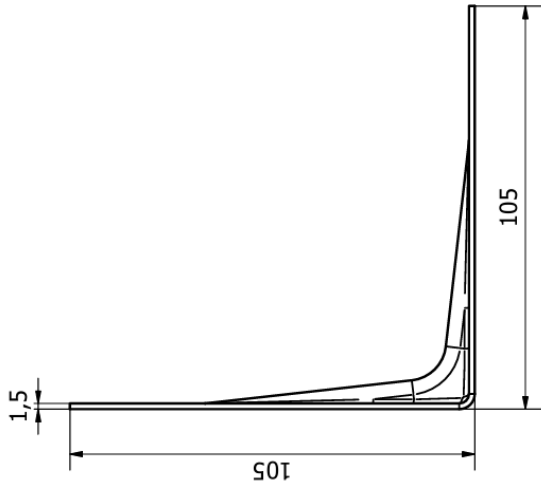
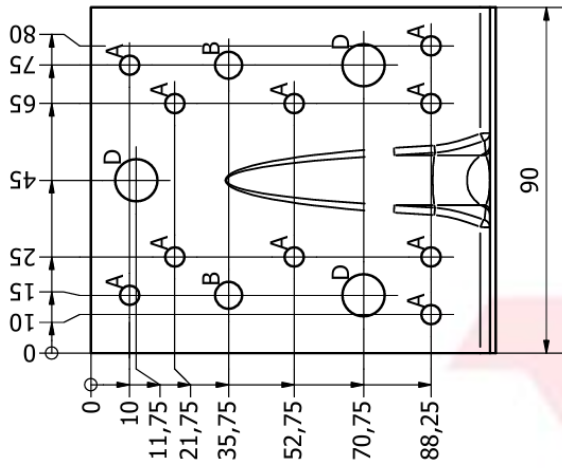
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 70x70x55x1,5
 reinforced

ART: **71341**

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	M 1 : 1
Weight:	0.0847
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	22
B	Ø7 THRU	4
C	Ø9 THRU	2
D	Ø11 THRU	4

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

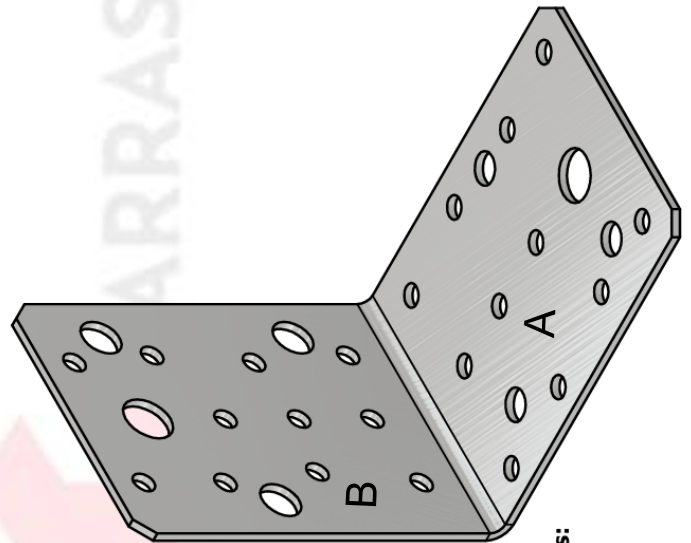
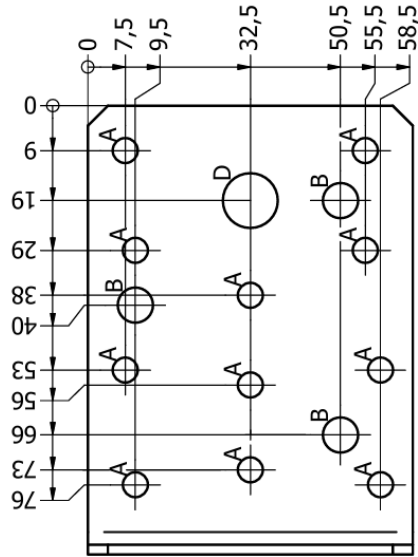
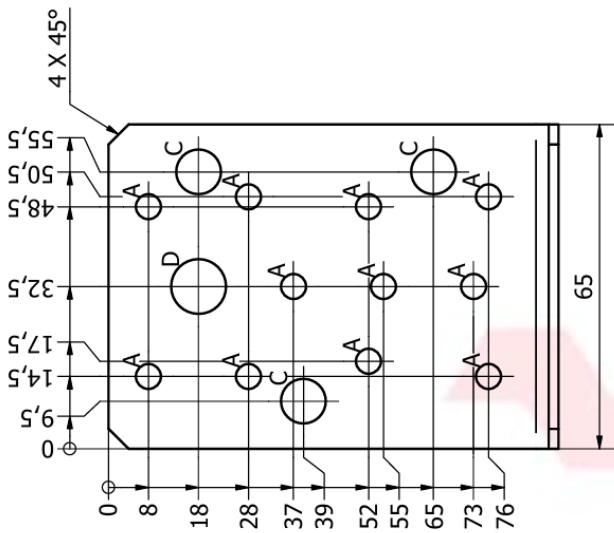
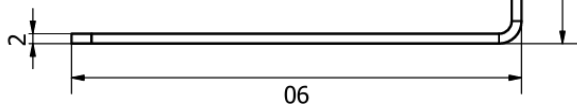
Drawn by:	Vilmech
Checked by:	I.M.
Approved by:	U.K.
Date:	12.04.2026



Description:
Angle bracket 105x105x90x1,5
reinforced

ART: **71342**

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	M1 : 1.3
Weight:	0.2046
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	22
B	Ø7 THRU	3
C	Ø9 THRU	3
D	Ø11 THRU	2

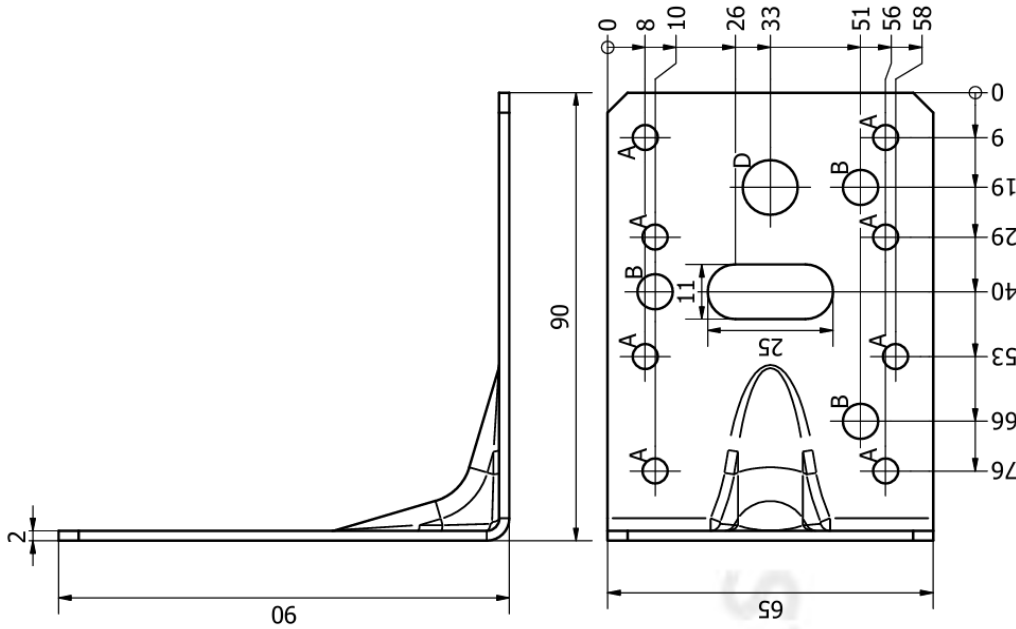
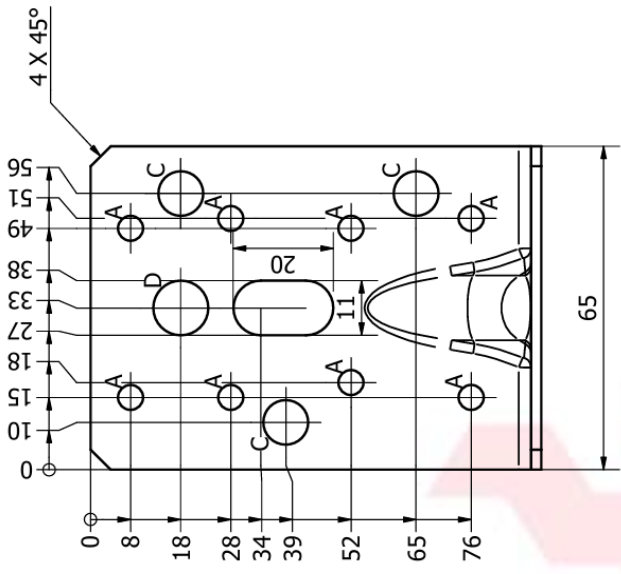
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



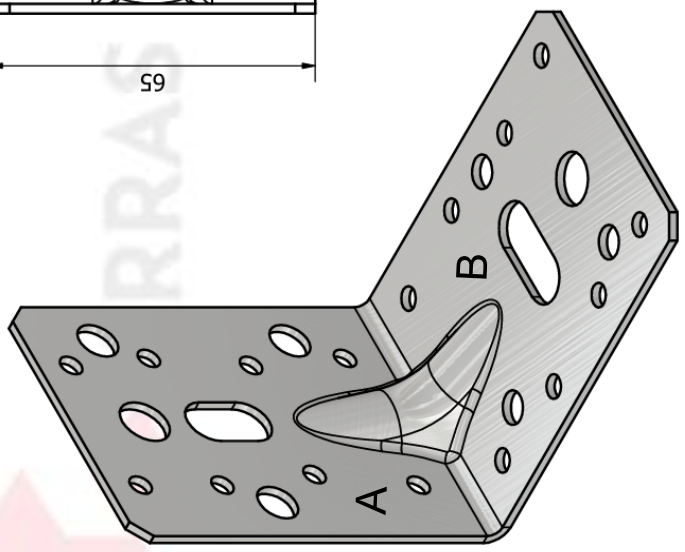
Description: Angle bracket 90x90x65x2,0 vs II		ART: 71345
Size: A3	Material: HDG DX51D + Z275/ HDG S250GD + Z275	Version: A
Projection:	Weight: 0,168	
M 1 : 1		



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	3
C	Ø9 THRU	3
D	Ø11 THRU	2
G	SLOT 11x20	1
H	SLOT 11x25	1

General tolerances for nominal dimensions:

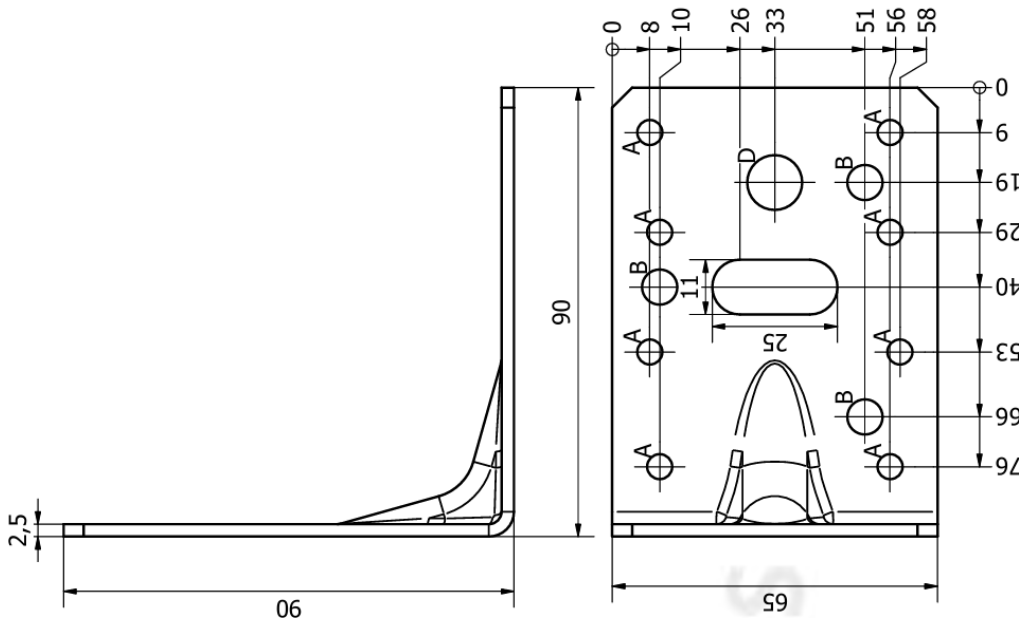
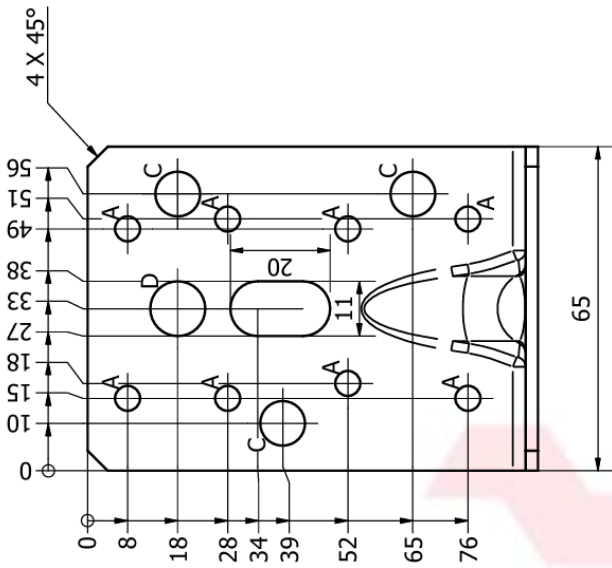
- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm



Drawn by: Vllimech
 Checked by: I.M.
 Approved by: U.K.
 Date: 03.07.2025



Description: Angle bracket 90x90x65x2,0 reinforced vs II with holes 11x20; 11x25	
ART: 71346	
Size: A3	Material: HDG DX51D+Z275/ HDG S250GD+Z275
Protection: M 1:1	Weight: 0.161 kg
Version: A	



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	3
C	Ø9 THRU	3
D	Ø11 THRU	2
G	SLOT 11x20	1
H	SLOT 11x25	1

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 03.07.2025

Description:
 Angle bracket 90x90x65x2,5 reinforced vs II
 with holes 11x20: 11x25

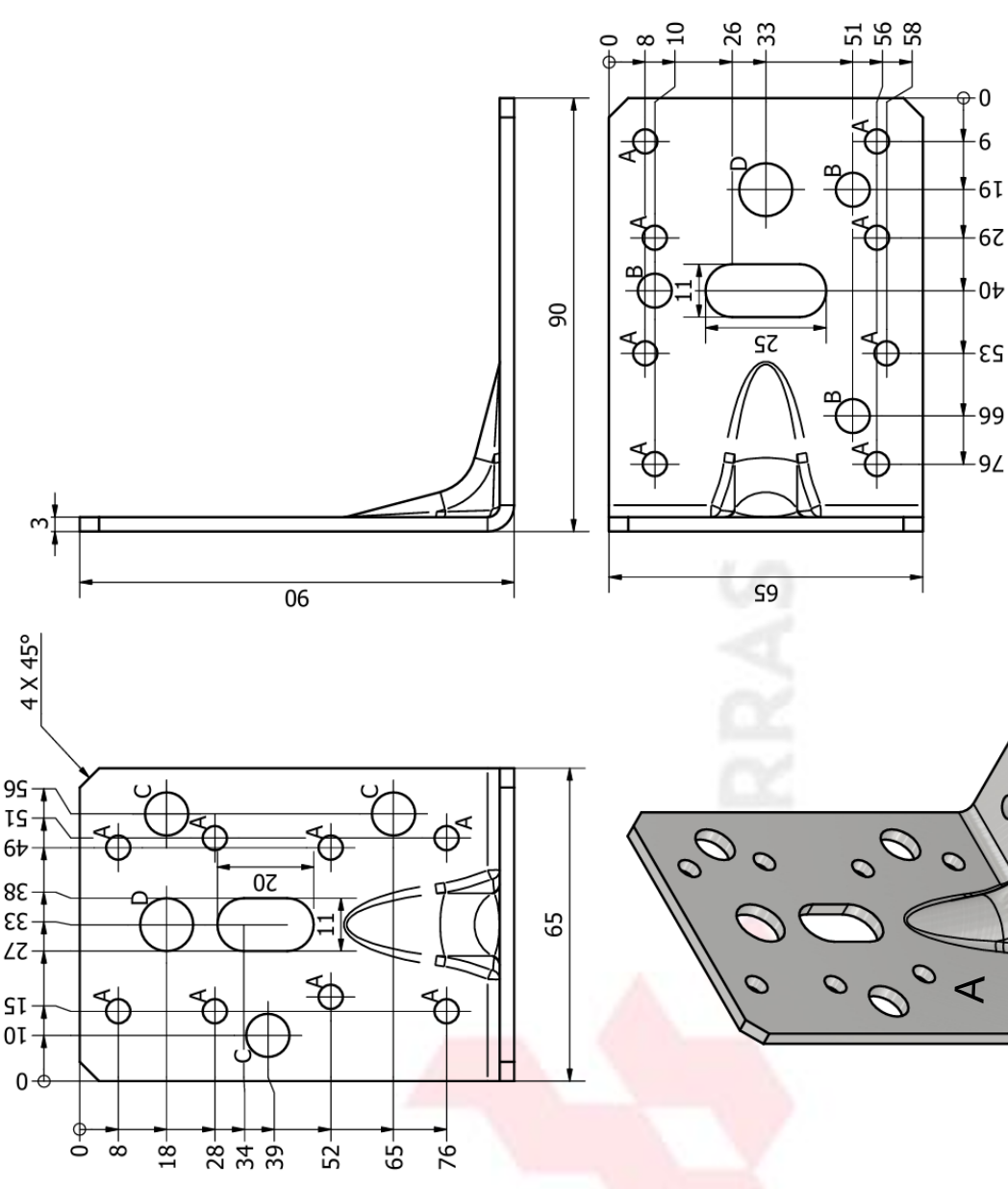
ART:

71347



Size: A3
 Projection: M 1 : 1
 Material: HDG DX51D+Z275/
 HDG S250GD+Z275

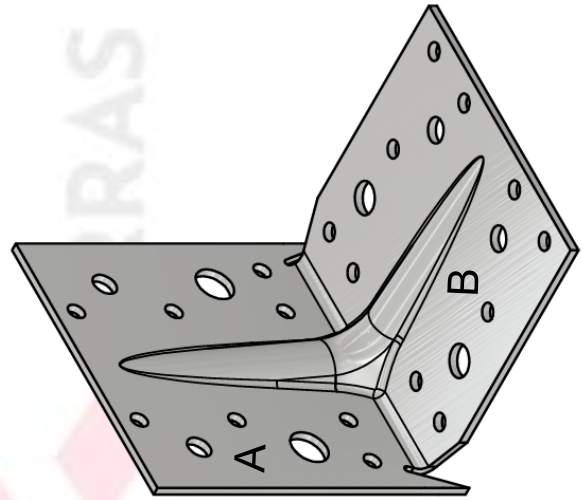
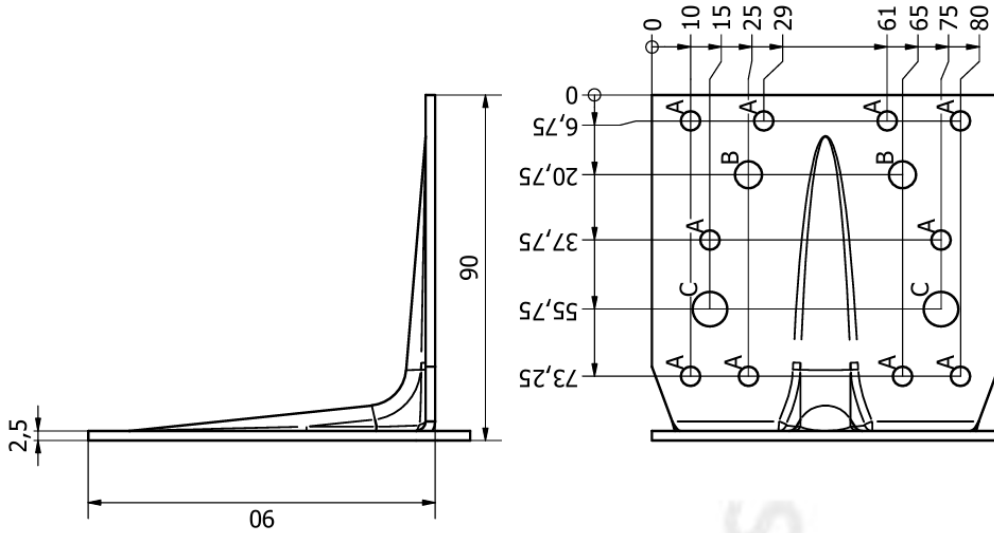
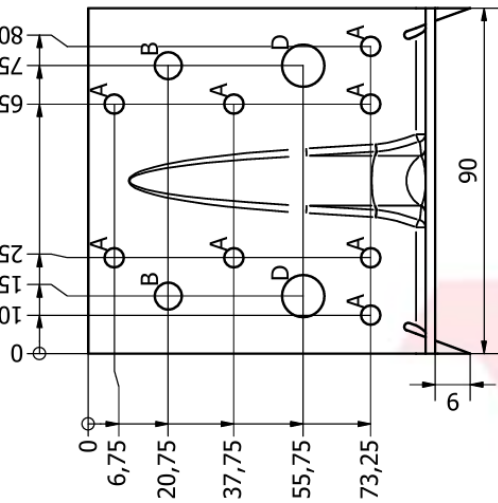
Weight: 0.201 kg
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	3
C	Ø9 THRU	3
D	Ø11 THRU	2
G	SLOT 11x20	1
H	SLOT 11x25	1

General tolerances for nominal dimensions:
 Arm lengths ±2 mm
 Product pitch ±1 mm
 Width ±1 mm
 Holes ±0.4 mm

Drawn by: Vilmech	ARRAS
Checked by: I.M.	
Approved by: U.K.	
Date: 03.07.2025	
Description: Angle bracket 90x90x65x3,0 reinforced vs II with holes 11x20; 11x25	
ART: 71348	
Size: A3	Material: HDG DX51D+Z275/
Projection:	HDG S250GD+Z275
M 1 : 1	Weight: 0.243 kg
	Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	18
B	Ø7 THRU	4
C	Ø9 THRU	2
D	Ø11 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

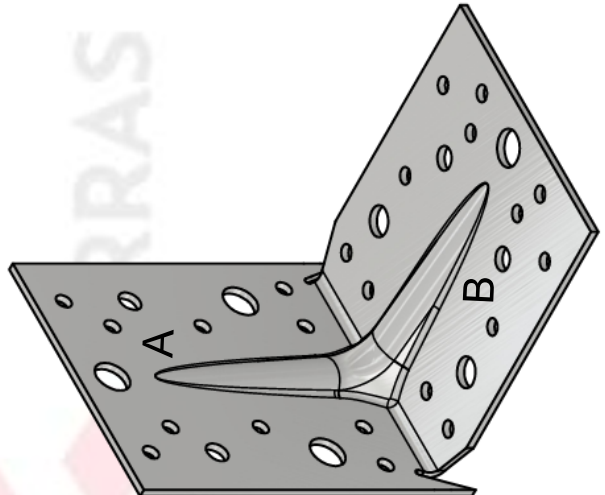
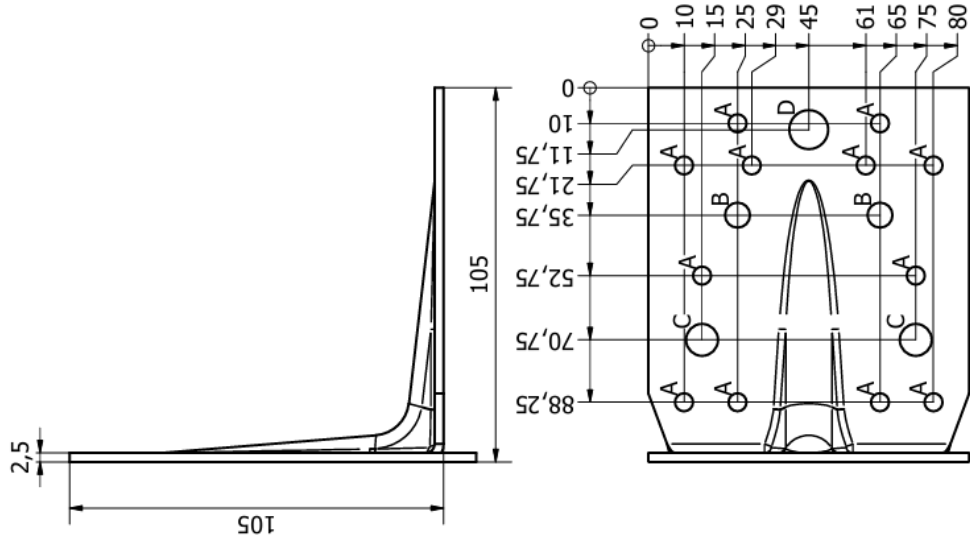
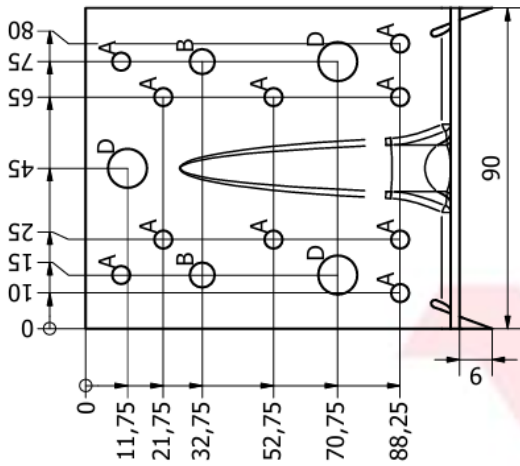
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 03.07.2025



Description:
 Angle bracket 90x90x90x2,5
 reinforced (with hooks)

ART: **71351**

Size:	A3
Projection:	
Material:	HDG DX51D+Z275/ HDG S250GD+Z275
M1 : 1,3	Weight: 0.293
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	22
B	Ø7 THRU	4
C	Ø9 THRU	2
D	Ø11 THRU	4

General tolerances for nominal dimensions:

- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm

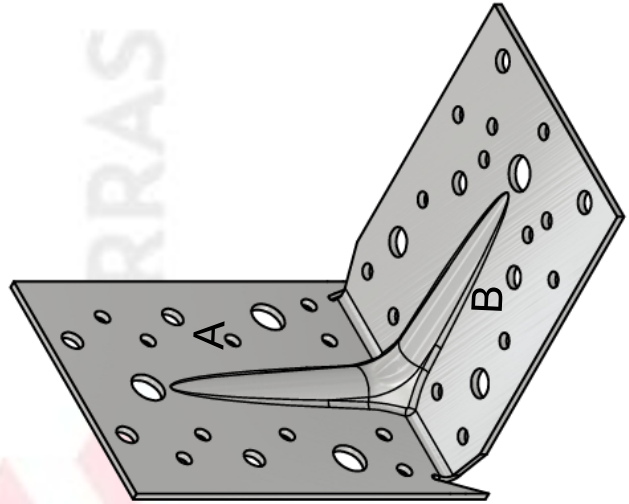
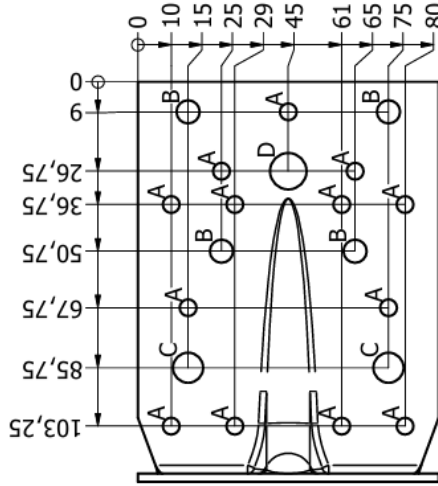
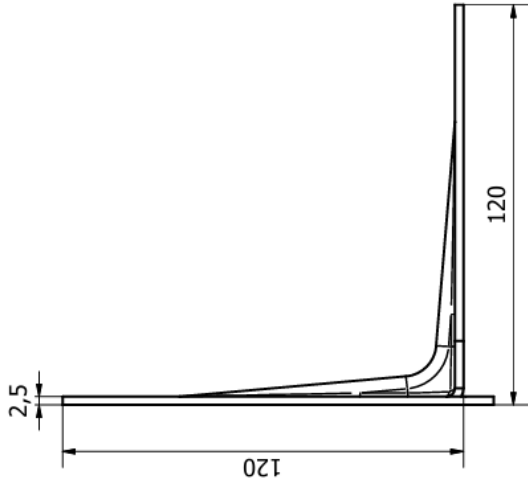
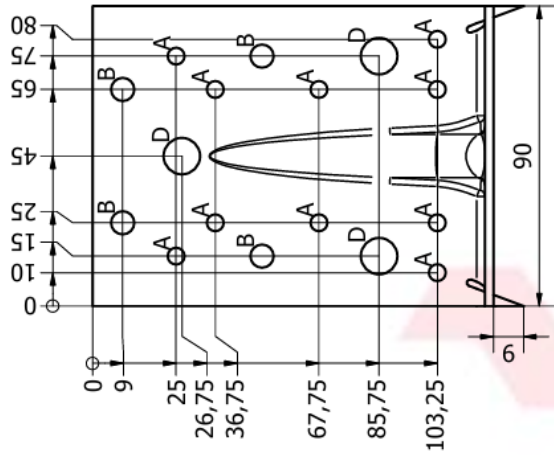
Drawn by: Vlimech
 Checked by: I.M.
 Approved by: U.K.
 Date: 03.07.2025



Description:
 Angle bracket 105x105x90x2,5
 reinforced (with hooks)

ART: **71354**

Size:	A3
Material:	HDG DX51D+Z275/ HDG S250GD+Z275
Projection:	M1 : 1,4
Weight:	0.341
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	23
B	Ø7 THRU	8
C	Ø9 THRU	2
D	Ø11 THRU	4

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

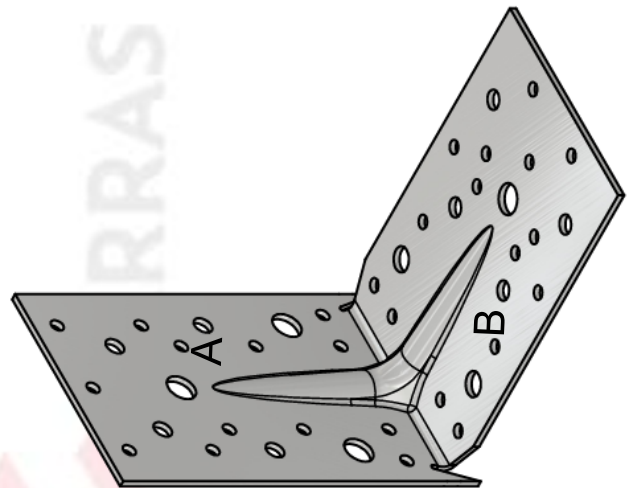
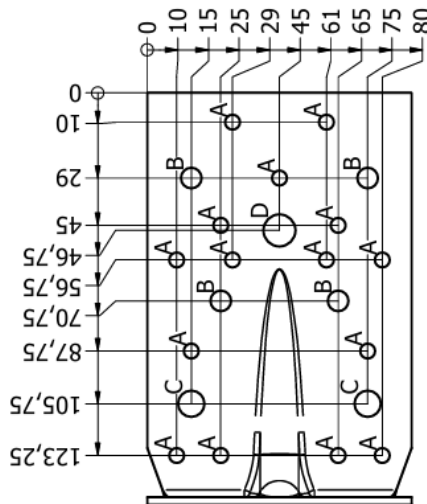
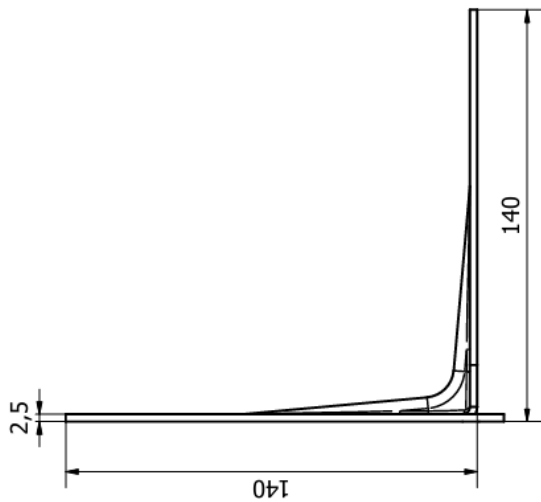
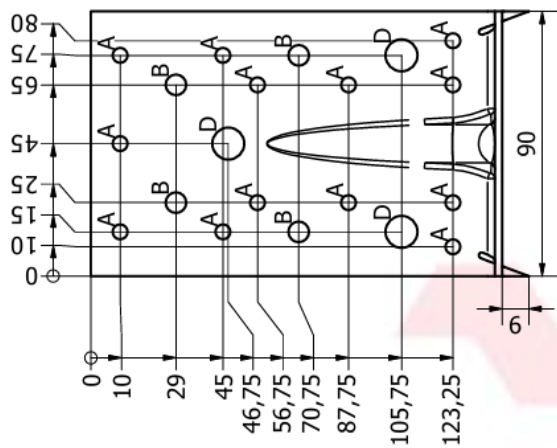
Drawn by: Vflimech
 Checked by: I.M.
 Approved by: U.K.
 Date: 03.07.2025



Description:
 Angle bracket 120x120x90x2,5
 reinforced (with hooks)

ART: **71356**

Size:	A3
Material:	HDG DX51D+Z275/ HDG S250GD+Z275
Projection:	
M1:	1,5
Weight:	0.39
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	28
B	Ø7 THRU	8
C	Ø9 THRU	2
D	Ø11 THRU	4

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

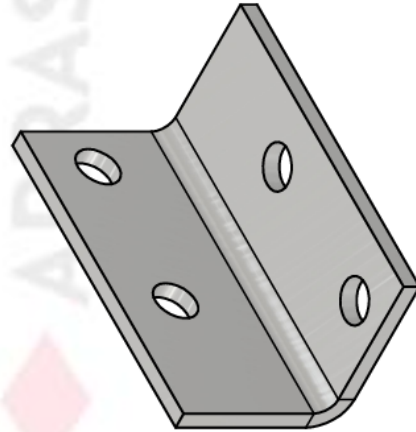
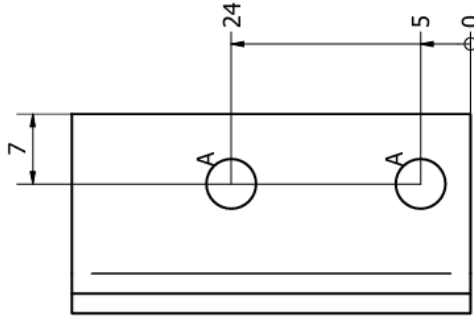
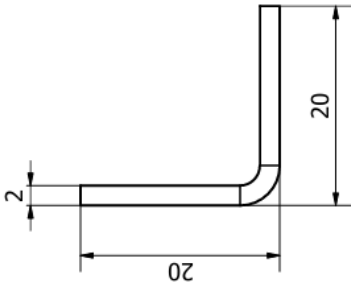
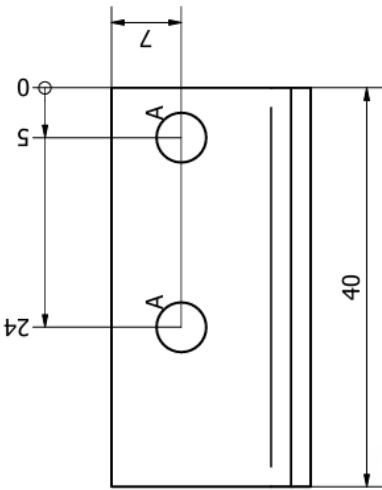
Drawn by: Vlmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 03.07.2025



Description:
 Angle bracket 140x140x90x2,5
 reinforced (with hooks)

ART: **71358**

Size: A3
 Projection: α
 Material: HDG DX51D+Z275/
 HDG S250GD+Z275
 M1 : 1,7 Weight: 0.465
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	4

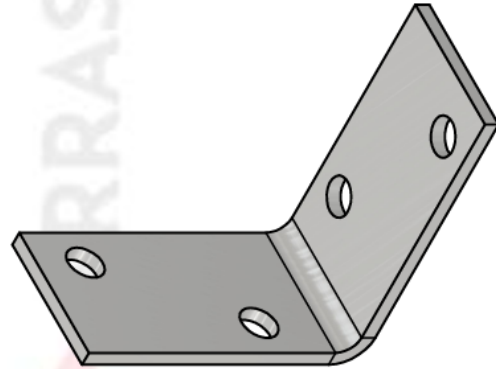
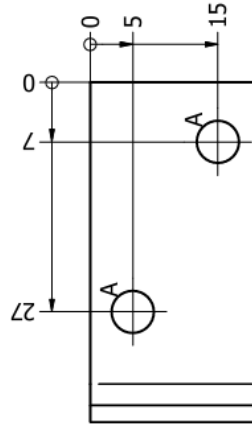
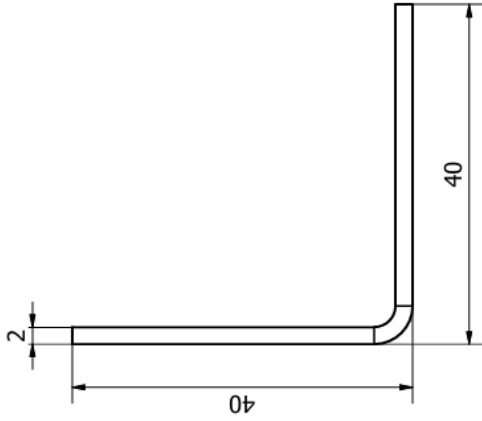
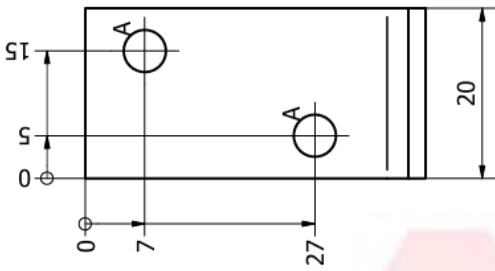
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 03.07.2025



Description: Angle bracket 20x20x40x2,0	
ART: 71401	
Size: A3	Material: HDG DX51D + Z275/
Protection:	HDG S250GD + Z275
M 2 : 1	Weight: 0.022
	Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	4

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

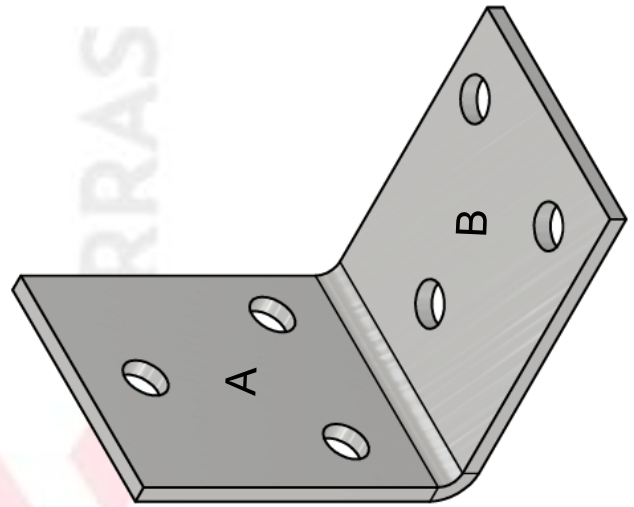
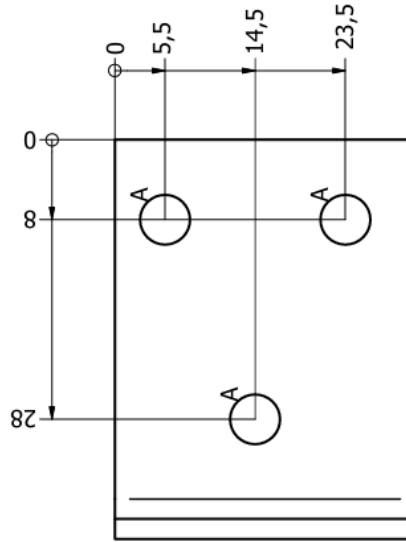
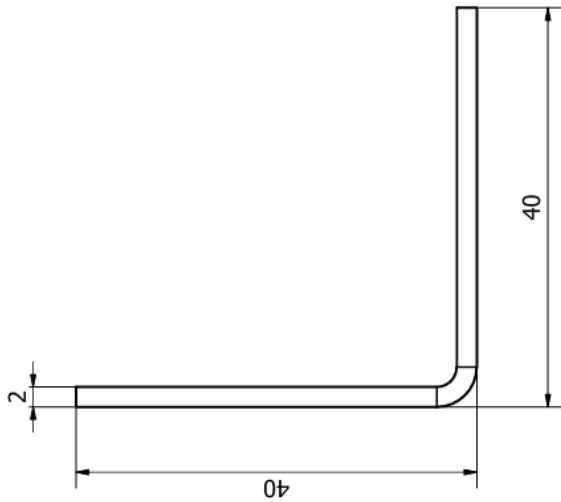
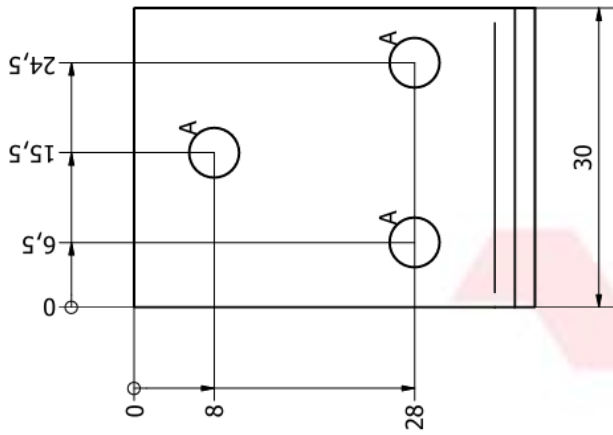
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026

Description:
 Angle bracket 40x40x20x2,0

ART: **71402**

Size:	A3	Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:		Weight:	0,023
			Version:
			A





HOLE	SIZE	QTY
A	Ø5 THRU	6

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 03.07.2025

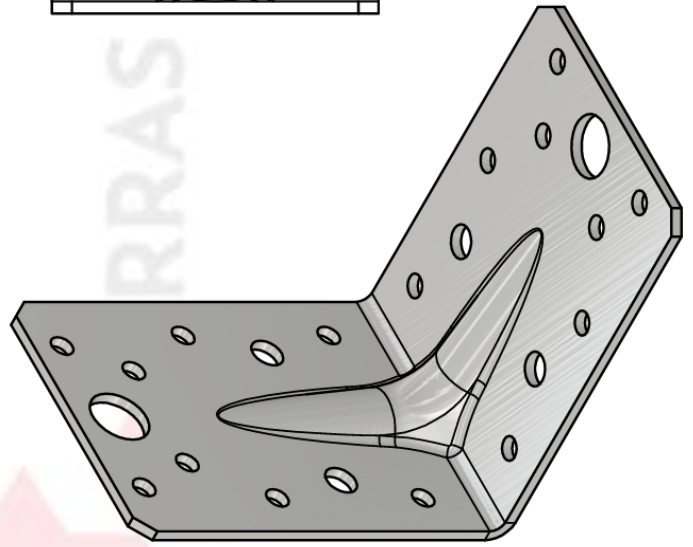
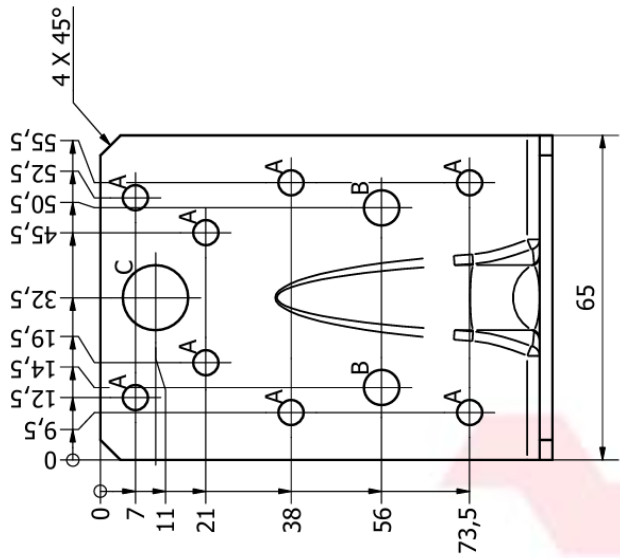
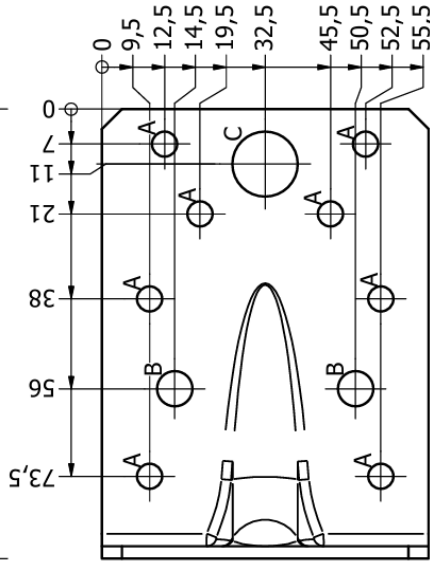
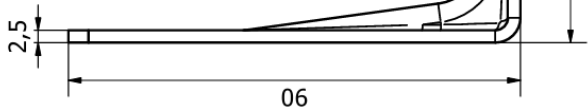


Description:

Angle bracket 40x40x30x2,0

ART: 71403

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M 2 : 1	Weight: 0.034
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	4
C	Ø13 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm

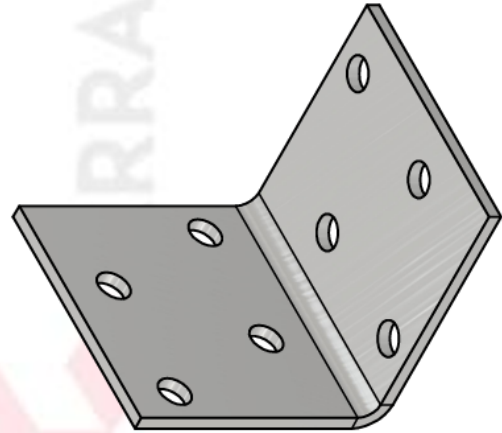
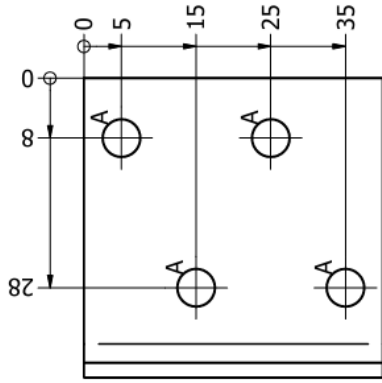
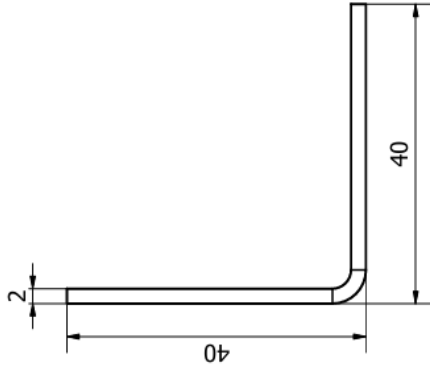
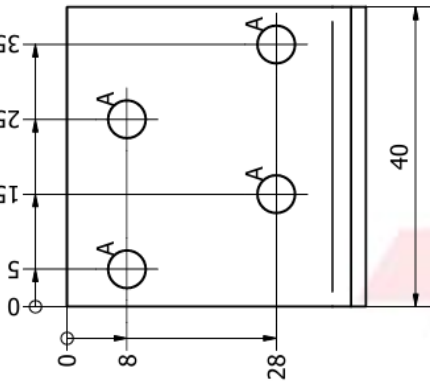
Drawn by: Villmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
Angle bracket 90x90x65x2,5
 reinforced A4

ART: **71460**

Size: A3	Material: A4 AISI316	Version: A
Projection:	STAINLESS STEEL	
M 1 : 1	Weight: 0.209	



HOLE	SIZE	QTY
A	Ø5 THRU	8

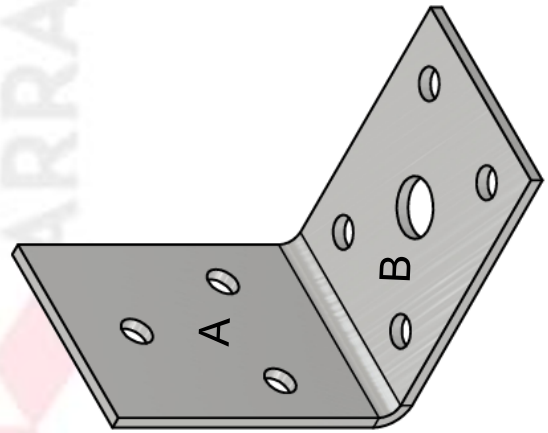
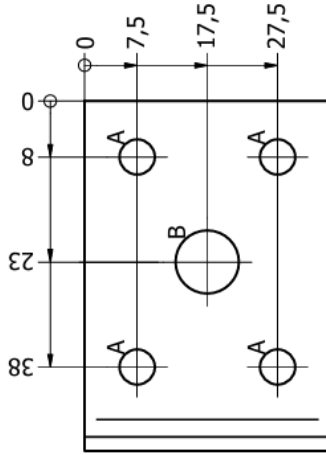
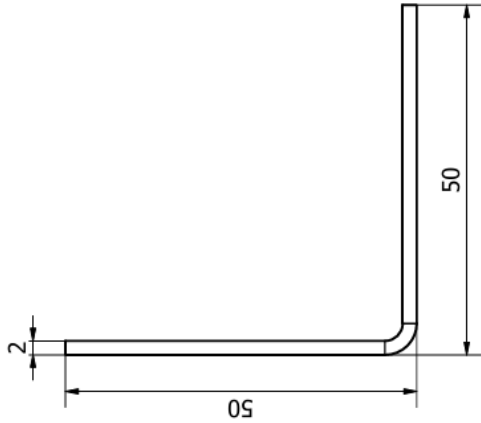
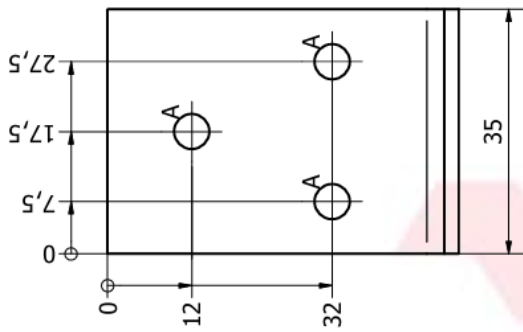
General tolerances for nominal dimensions:

- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm

Drawn by: Vilmech
Checked by: I.M.
Approved by: U.K.
Date: 12.04.2026



Description: Angle bracket 40x40x40x2,0 stainless steel A4	
ART: 71461	
Size: A3	Material: A4 AISI316
PROFESSOR:	STAINLESS STEEL
M1.5 : 1	Weight: 0,045
	Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	7
B	Ø9 THRU	1

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

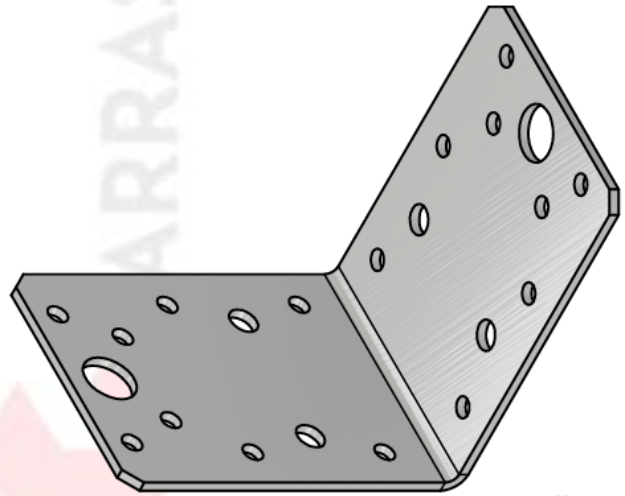
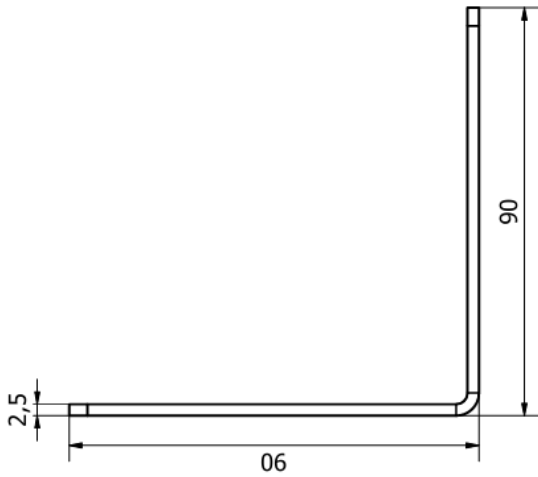
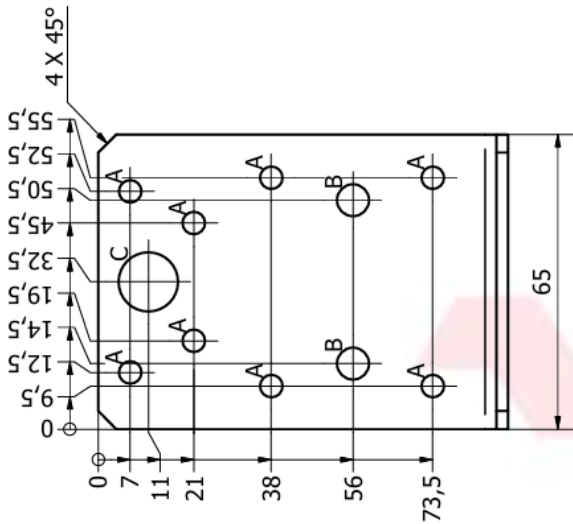
Drawn by: Vlmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 50x50x35x2,0
 stainless steel A4

ART: **71462**

Size:	A3
Material:	A4 AISI316 STAINLESS STEEL
Projection:	
M1.4 : 1	Weight: 0,05
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	4
C	Ø13 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

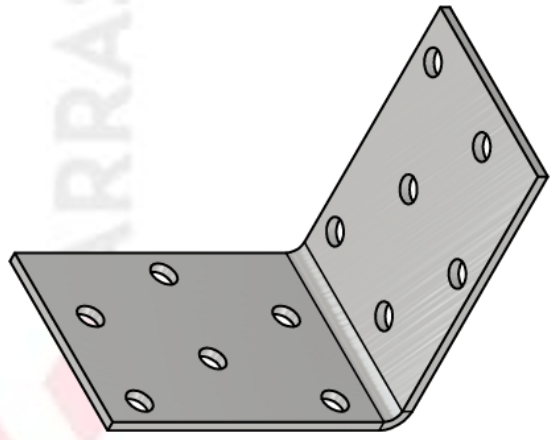
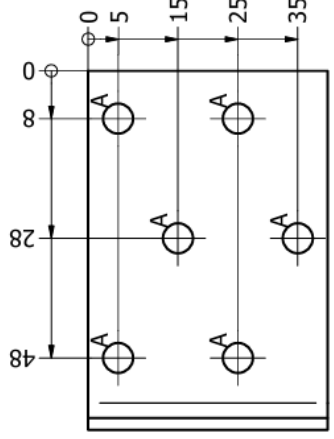
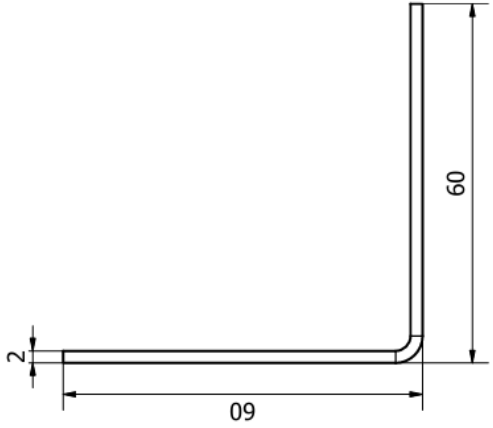
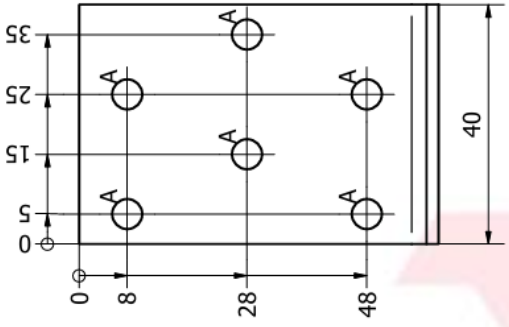
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 90x90x65x2,5
 stainless steel A4

ART: **71463**

Size:	A3
Material:	A4 AISI316 STAINLESS STEEL
Projection:	
M1 : 1.1	Weight: 0,209
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	12

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

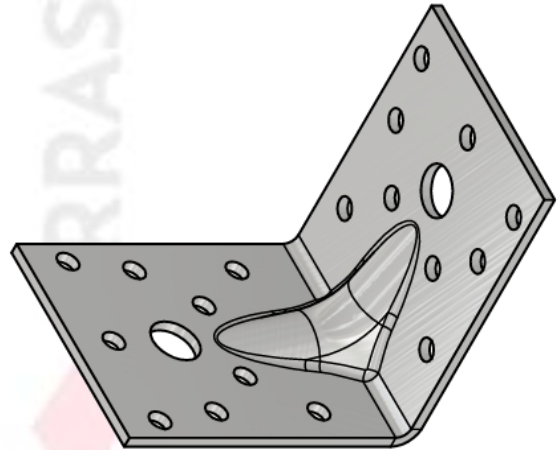
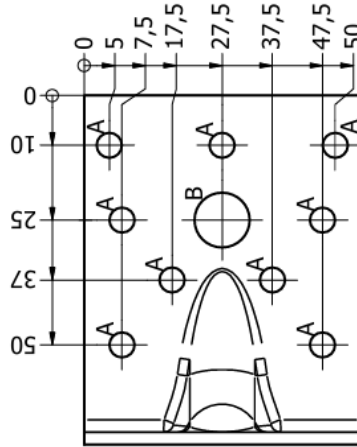
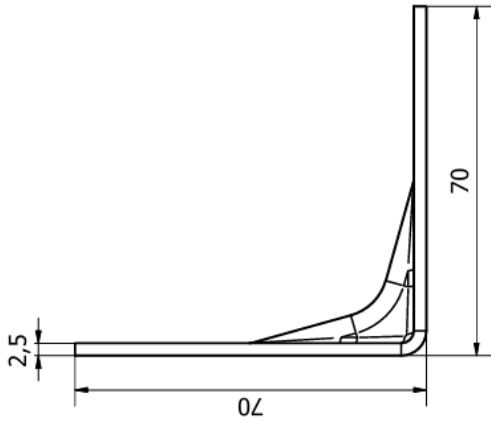
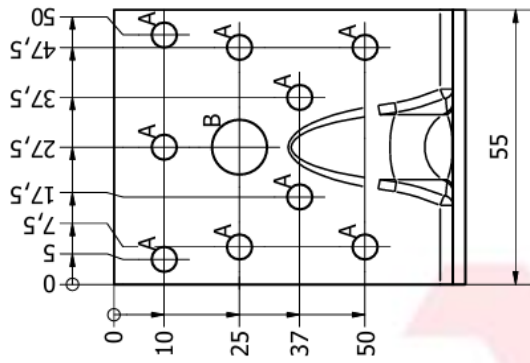
Drawn by: Vilimech
Checked by: I.M.
Approved by: U.K.
Date: 12.04.2026



Description:
 Angle bracket 60x60x40x2,0
 stainless steel A4

ART: **71464**

Size: A3	Material: A4 AISI316
Protection:	STAINLESS STEEL
MI.2 : 1	Weight: 0,069
Version: A	



HOLE	SIZE	QTY
A	Ø5 THRU	18
B	Ø11 THRU	2

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

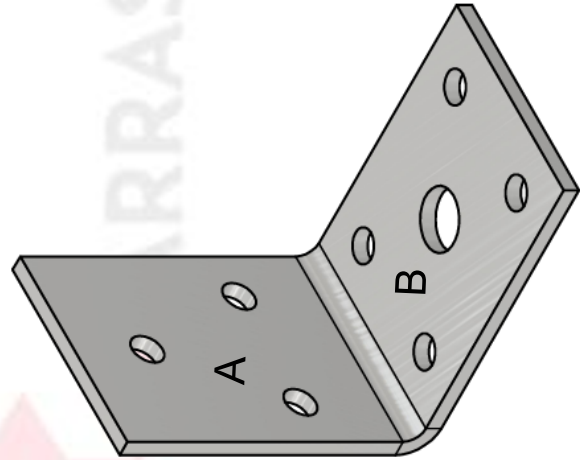
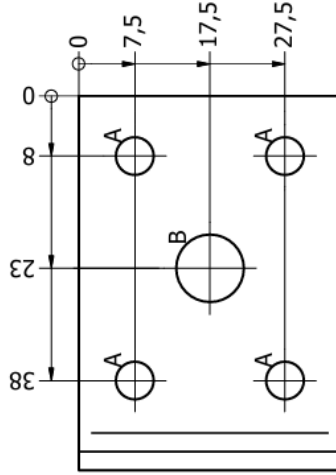
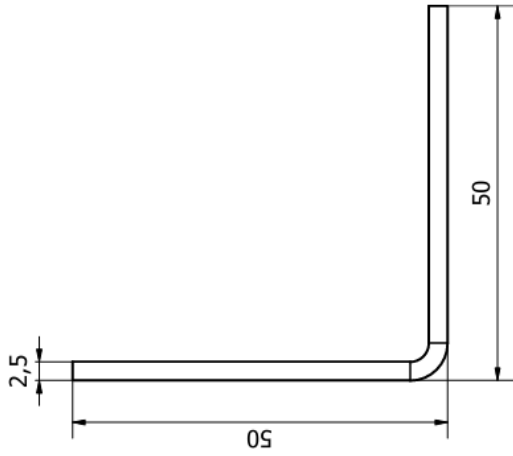
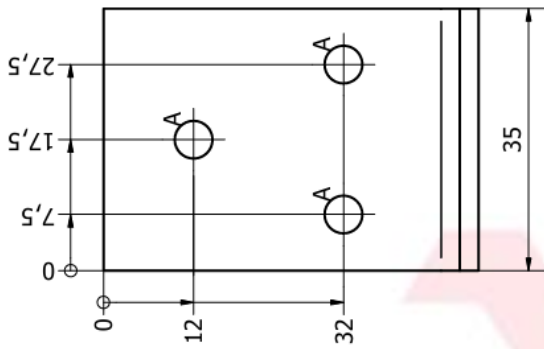
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 70x70x55x2,5
 reinforced A4

ART: **71465**

Size: A3
 Projection: M 1 : 1
 Material: A4 AISI316
 STAINLESS STEEL
 Weight: 0.141
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	7
B	Ø9 THRU	1

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

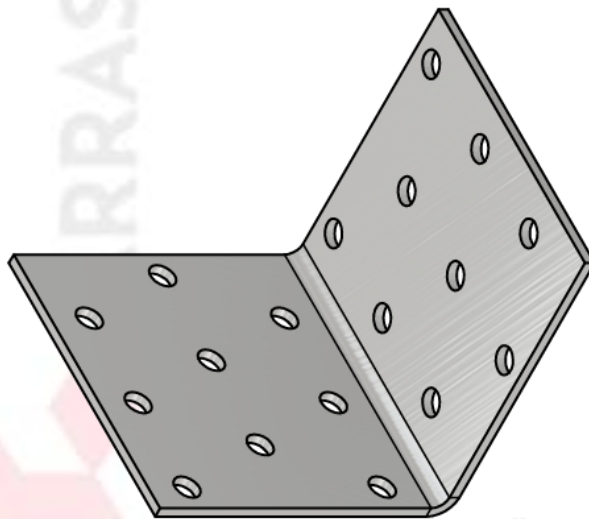
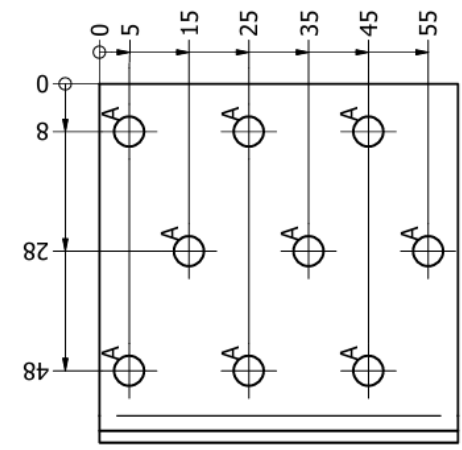
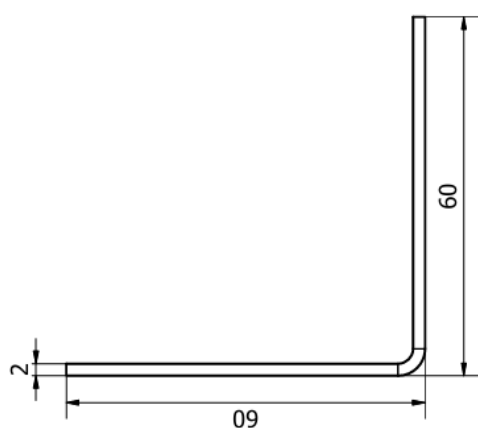
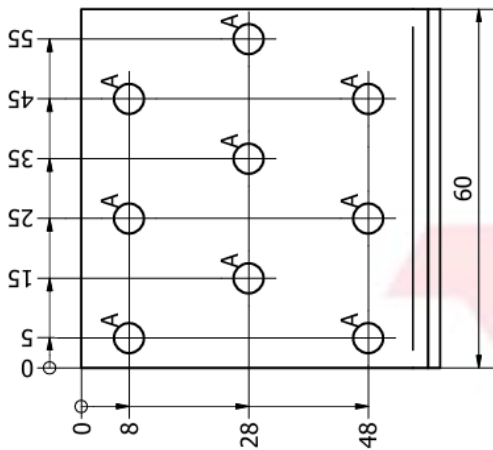
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 50x50x35x2,5
 stainless steel A4

ART: **71466**


Size: A3	Material: A4 AISI316	Version: A
Projection:	STAINLESS STEEL	
M1.5 : 1	Weight: 0,062	

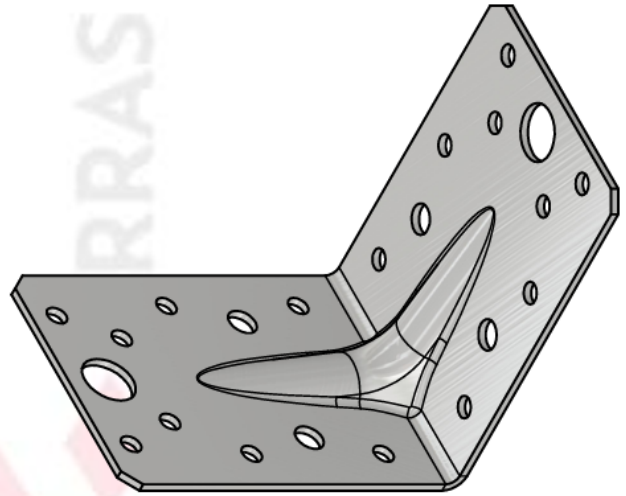
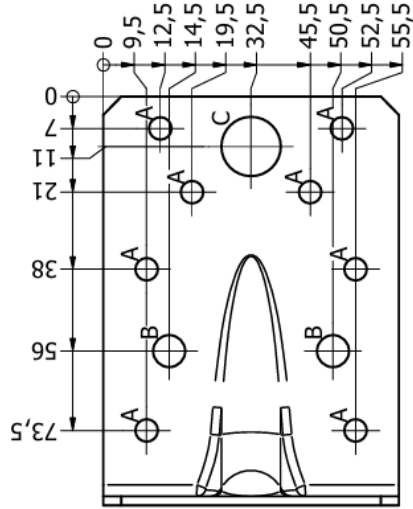
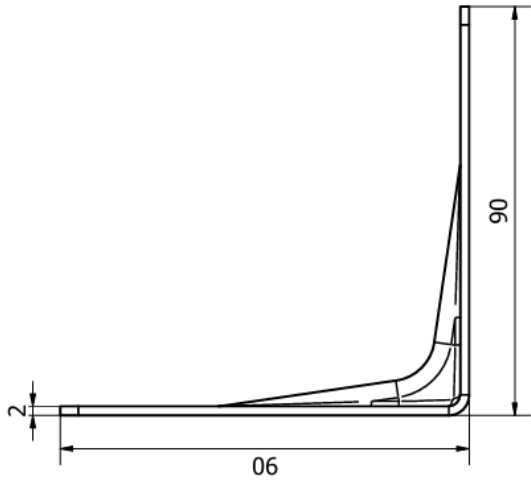
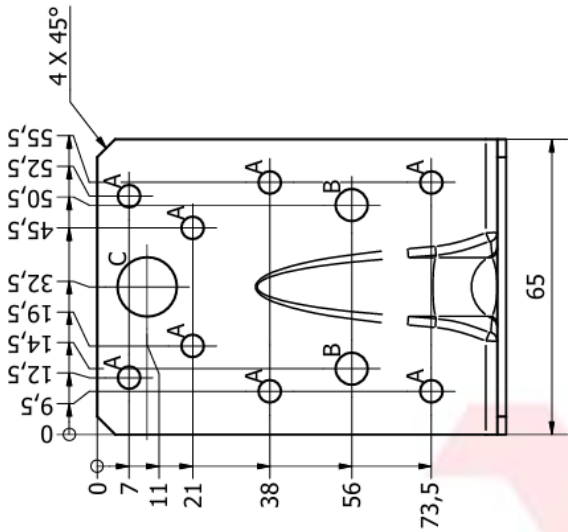


HOLE	SIZE	QTY
A	Ø5 THRU	18

General tolerances for nominal dimensions:

- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm

Drawn by: Vilmech	Description: Angle bracket 60x60x60x2,0 stainless steel A4	
Checked by: I.M.	ART: 71467	
Approved by: U.K.	Size: A3	
Date: 12.04.2026	Material: A4 AISI316	
		
M1.2 : 1 Weight: 0,103		Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	4
C	Ø13 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

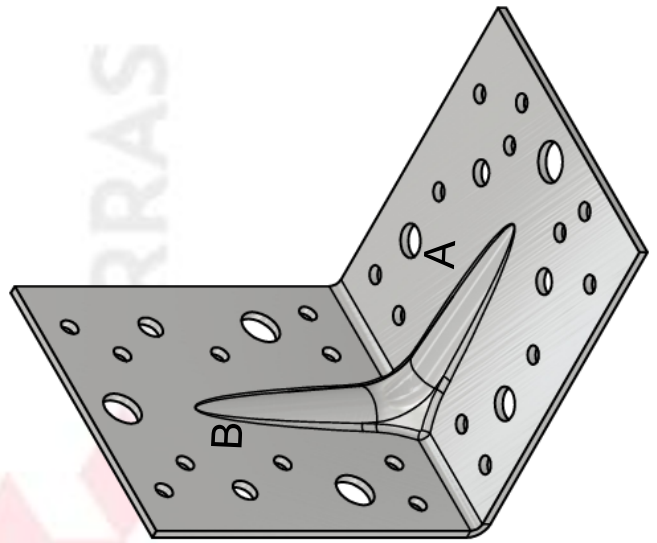
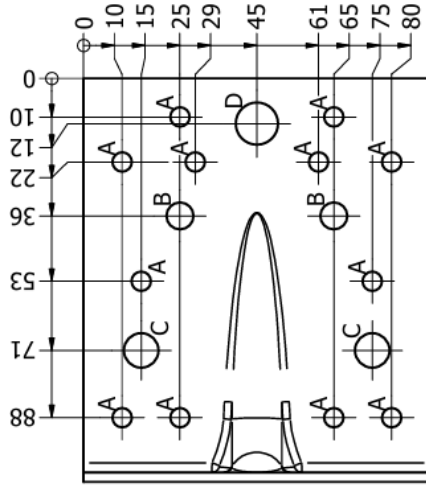
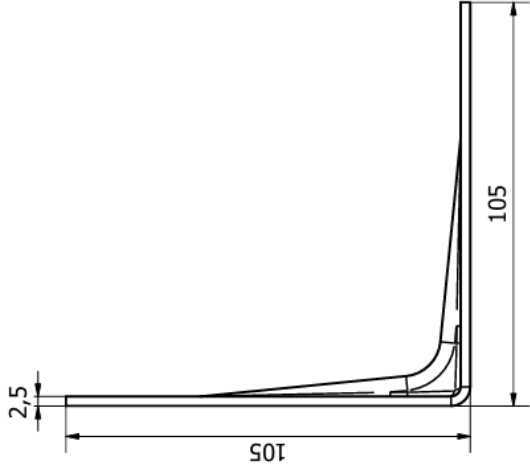
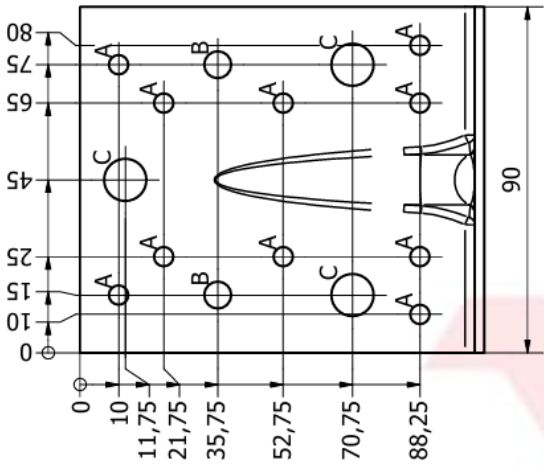
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 90x90x65x2,0
 reinforced A4

ART: **71468**

Size: A3
 Projection:
 Material: A4 AISI316
 STAINLESS STEEL
 M1 : 1.1 | Weight: 0.168
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	22
B	Ø7 THRU	4
C	Ø9 THRU	2
D	Ø11 THRU	4

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

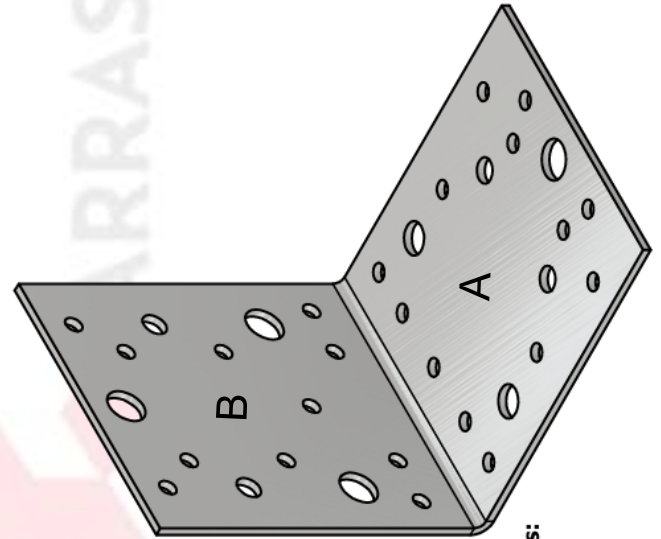
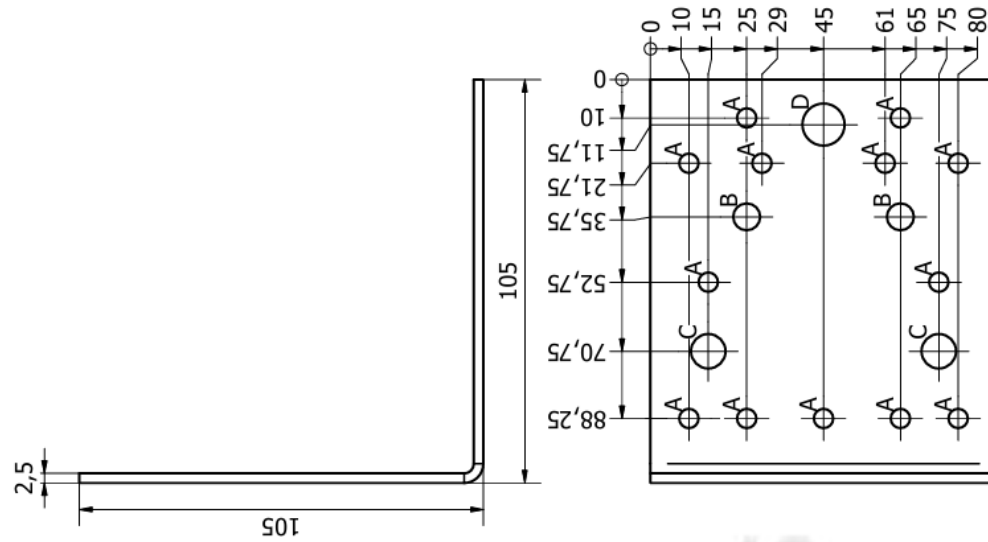
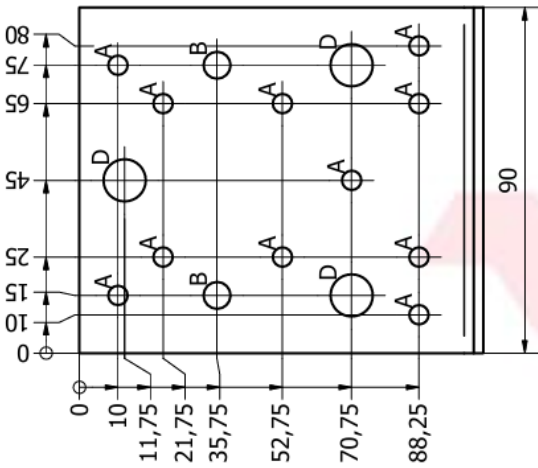
Drawn by: Vilimech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
Angle bracket 105x105x90x2,5
 reinforced A4

ART: **71469**

Size: A3
 Material: A4 AISI316
 Protection: STAINLESS STEEL
 M1 : 1.3 Weight: 0.341
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	24
B	Ø7 THRU	4
C	Ø9 THRU	2
D	Ø11 THRU	4

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

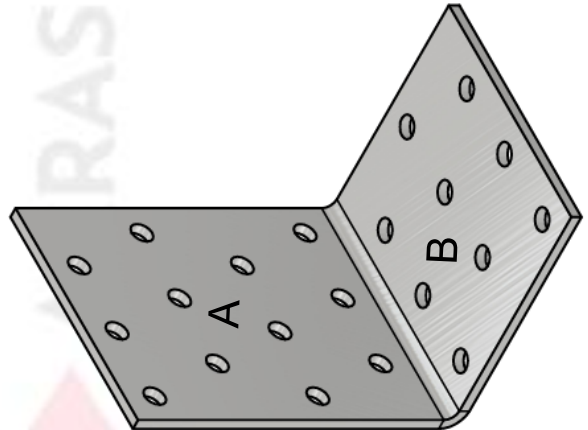
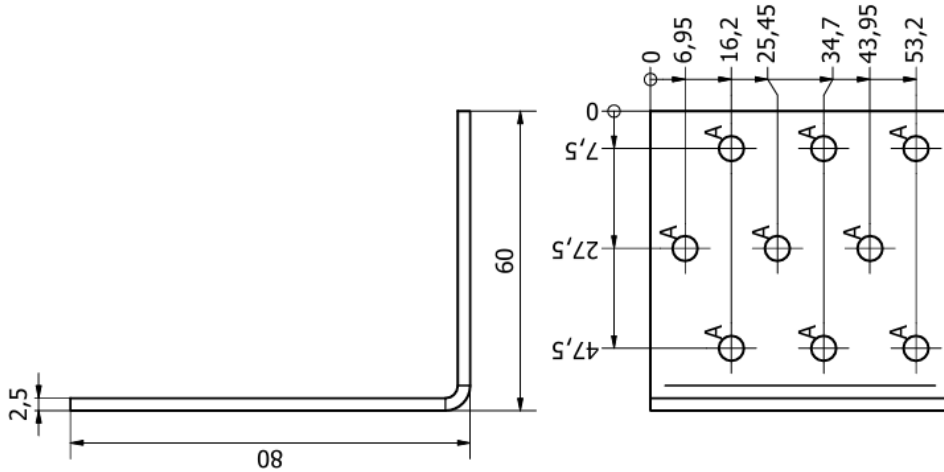
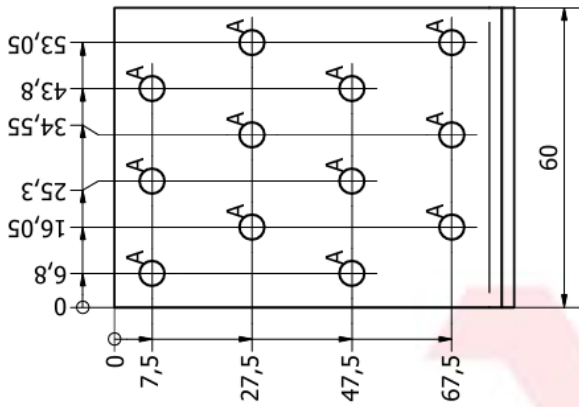
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 105x105x90x2,5
 stainless steel A4

ART: **71470**

Size:	A3
Material:	A4 AISI316
Projection:	STAINLESS STEEL
M1 : 1.3	Weight: 0,441
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	21

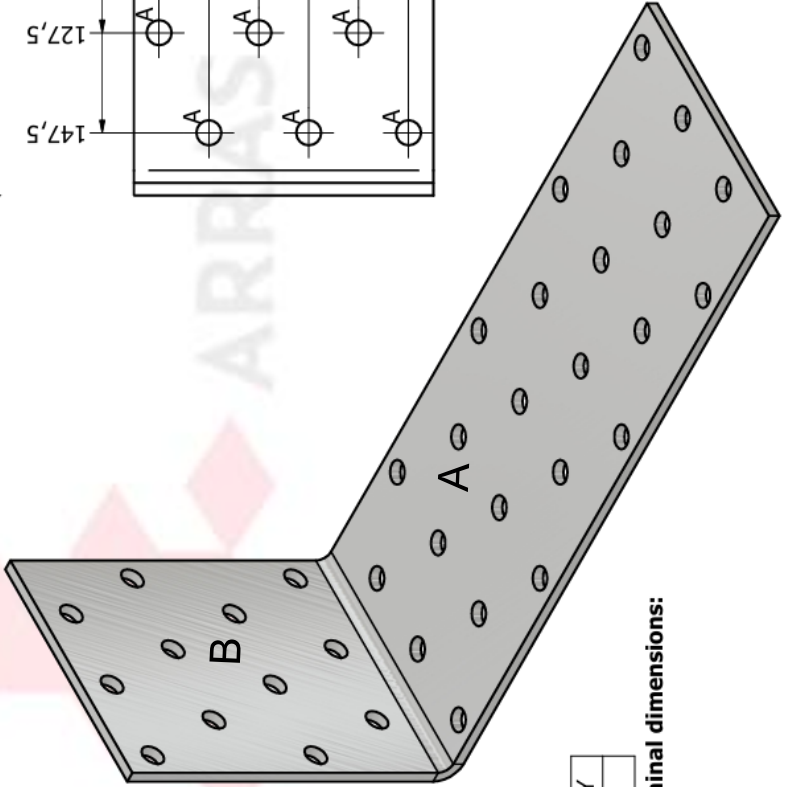
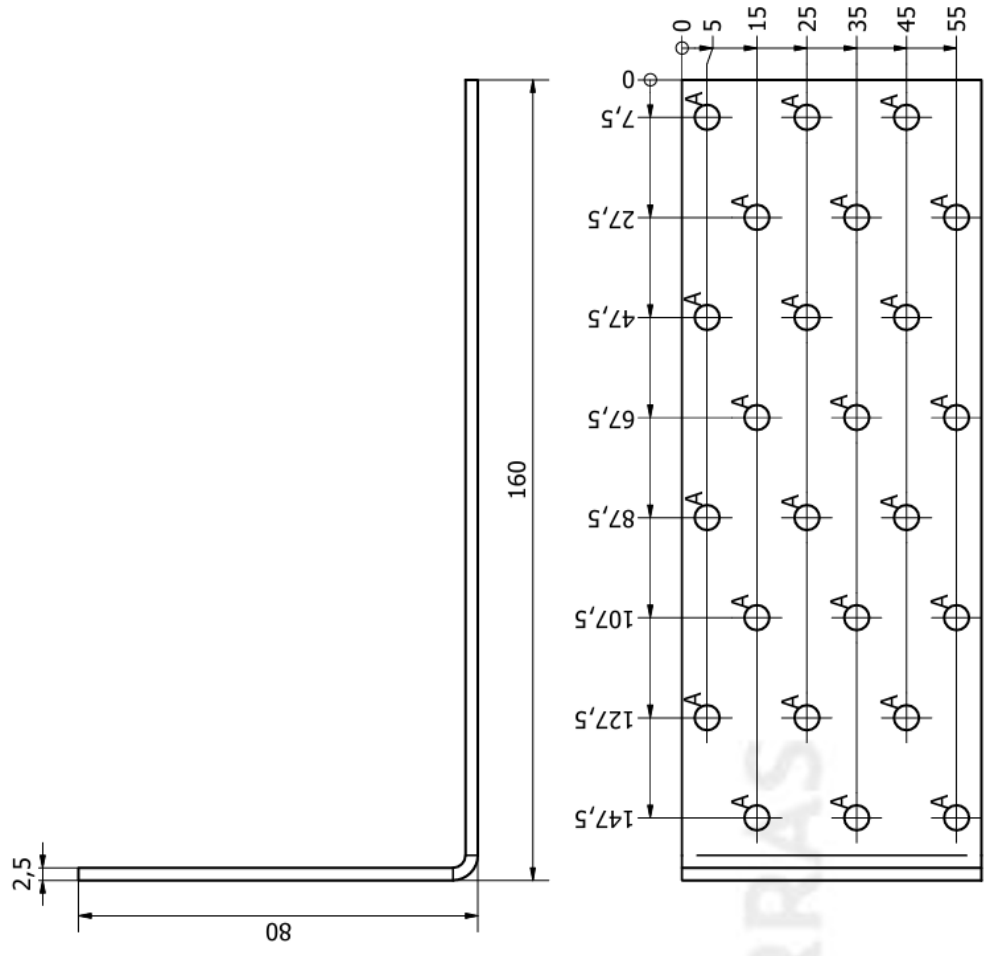
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vlimech
Checked by: I.M.
Approved by: U.K.
Date: 12.04.2026





Description: Angle bracket 80x60x60x2,5	
ART: 71502	
Size: A3	Material: HDG DX51D + Z275/
Protection:	HDG S250GD + Z275
M 1 : 1	Weight: 0,152
Version:	A

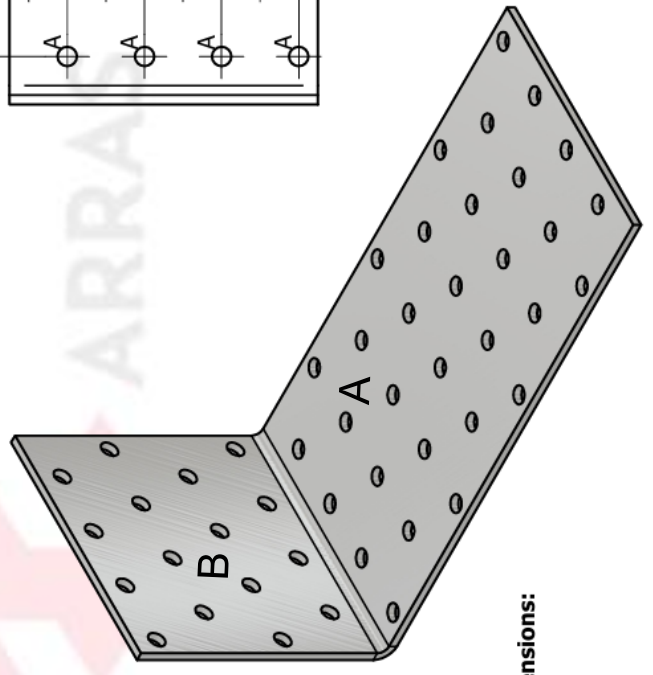
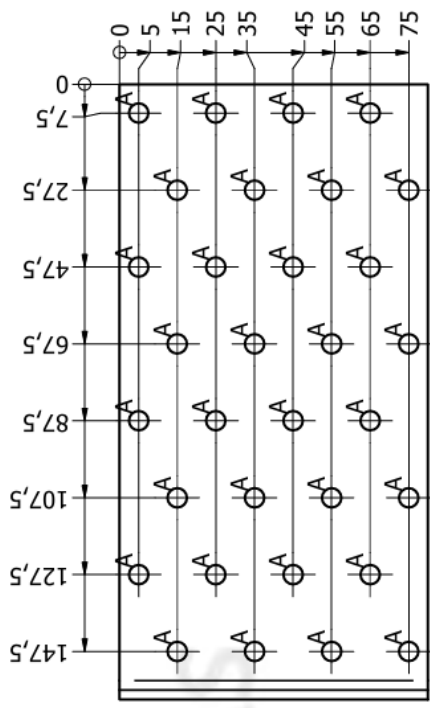
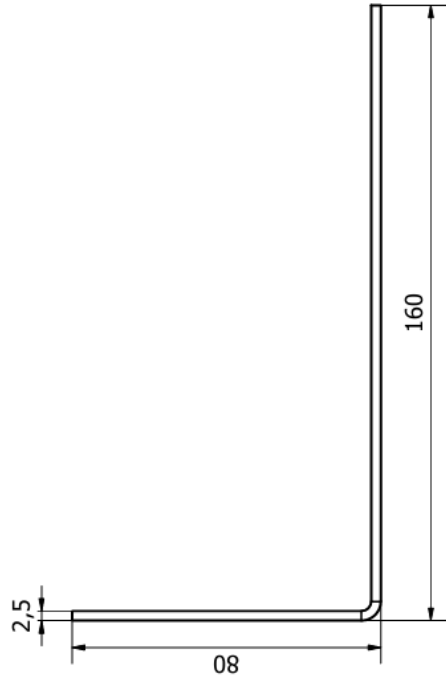
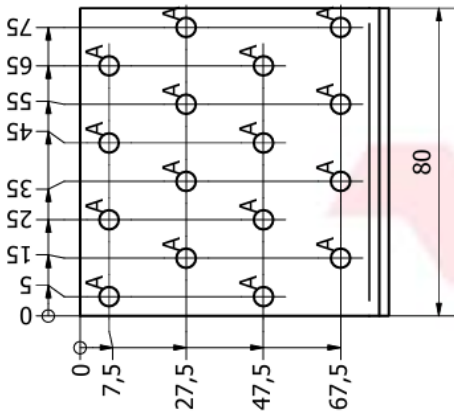


HOLE	SIZE	QTY
A	Ø5 THRU	36

General tolerances for nominal dimensions:



- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

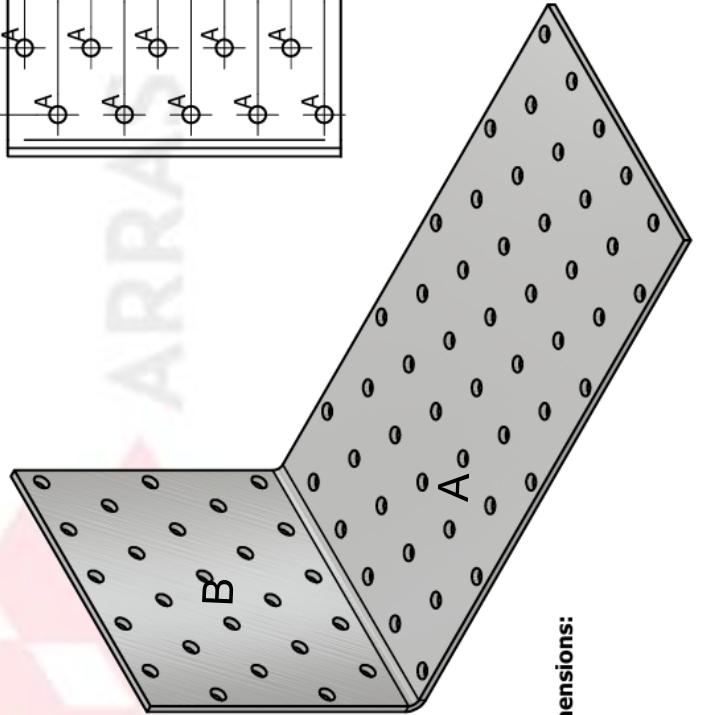
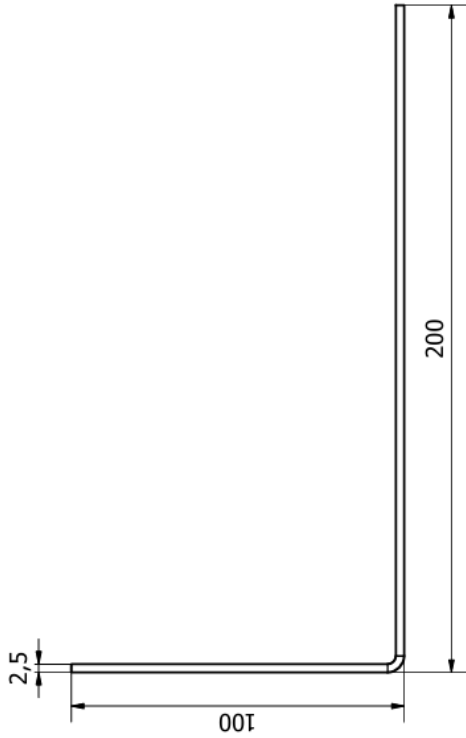
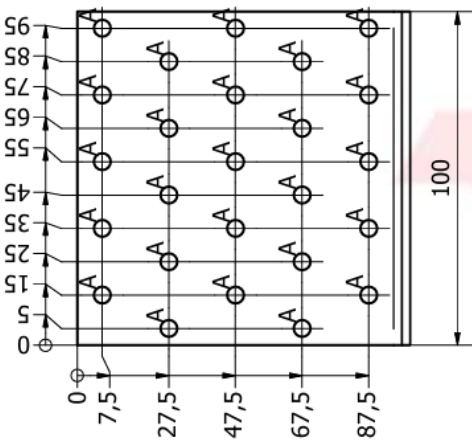
Drawn by: Vjimech		ART: 71506	
Checked by: I.M.			Description: Angle bracket 160x80x60x2,5
Approved by: U.K.			Size: A3 Projection:  Material: HDG DX51D + Z275/ HDG S250GD + Z275 M 1 : 1 Weight: 0,27 Version: A
Date: 12.04.2026			



HOLE	SIZE	QTY
A	Ø5 THRU	48

General tolerances for nominal dimensions:
 Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

Drawn by: Vilmech	
Checked by: I.M.	
Approved by: U.K.	
Date: 12.04.2026	
Description:	
Angle bracket 160x80x80x2,5	
ART: 71507	
Size: A3	Material: HDG DX51D + Z275/
Projection: 	HDG S250GD + Z275
M1 : 1.3	Weight: 0,36
Version:	A



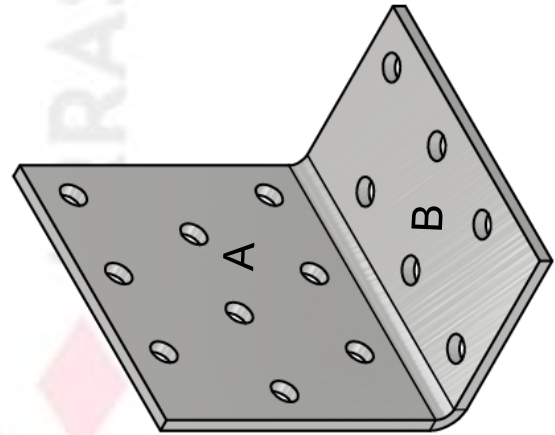
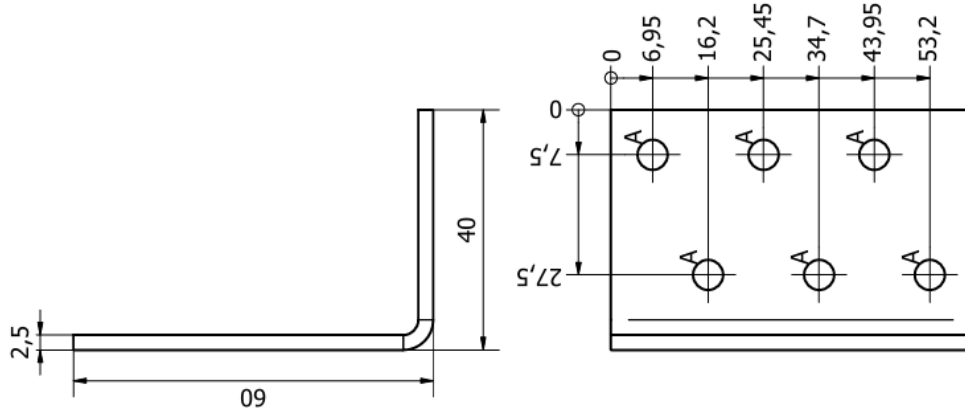
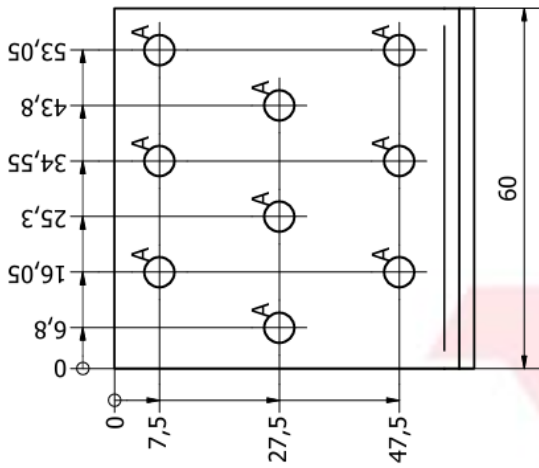
HOLE	SIZE	QTY
A	Ø5 THRU	75

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech	Description:	
Checked by: I.M.	Angle bracket 200x100x100x2,5	
Approved by: U.K.	ART: 71510	
Date: 12.04.2026	Size: A3	Material: HDG DX51D + Z275/
	Protection:	HDG S250GD + Z275
	M1 : 1.5	Weight: 0,599
		Version: A





HOLE	SIZE	QTY
A	Ø5 THRU	15

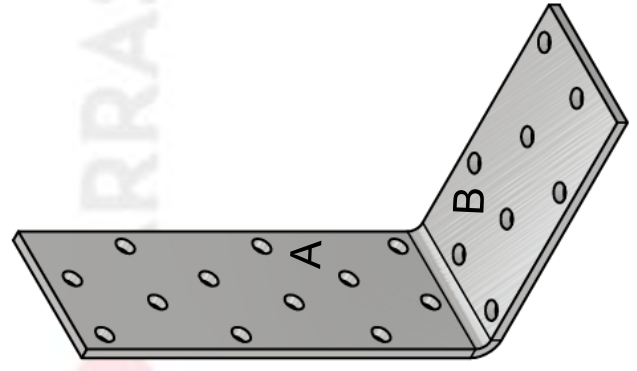
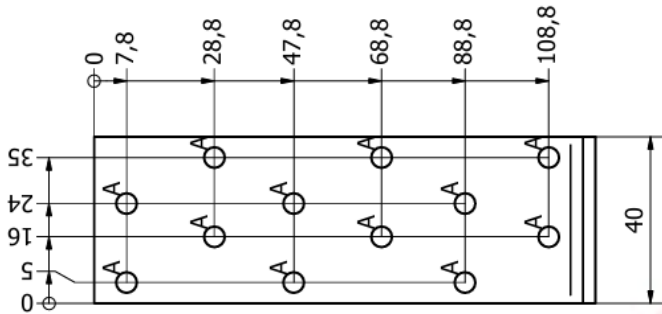
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmec
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
Angle bracket 60x40x60x2,5
 ART: **71512**
 Size: A3
 Material: HDG DX51D + Z275/
 HDG S250GD + Z275
 Protection: M1.2 : 1
 Weight: 0,108
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	20

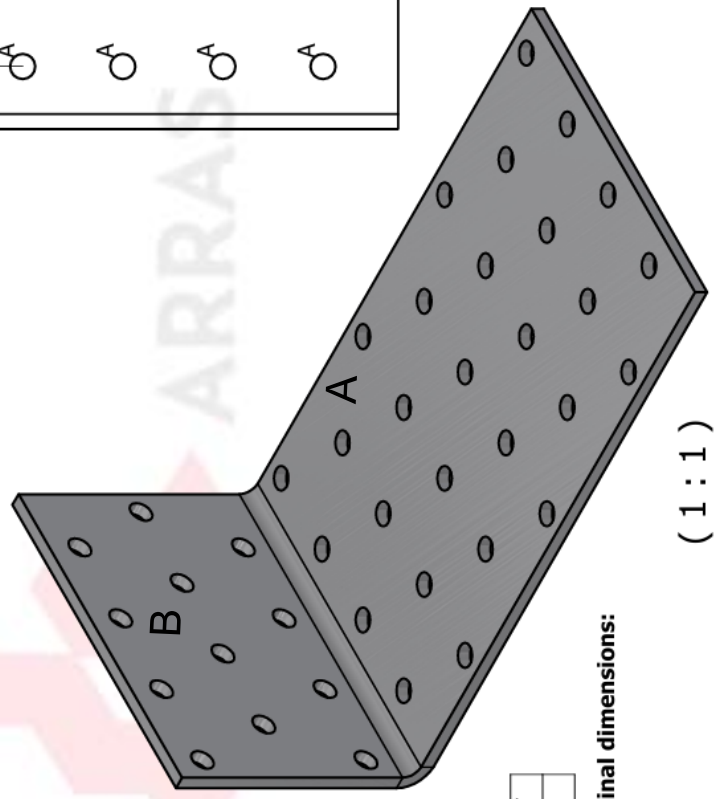
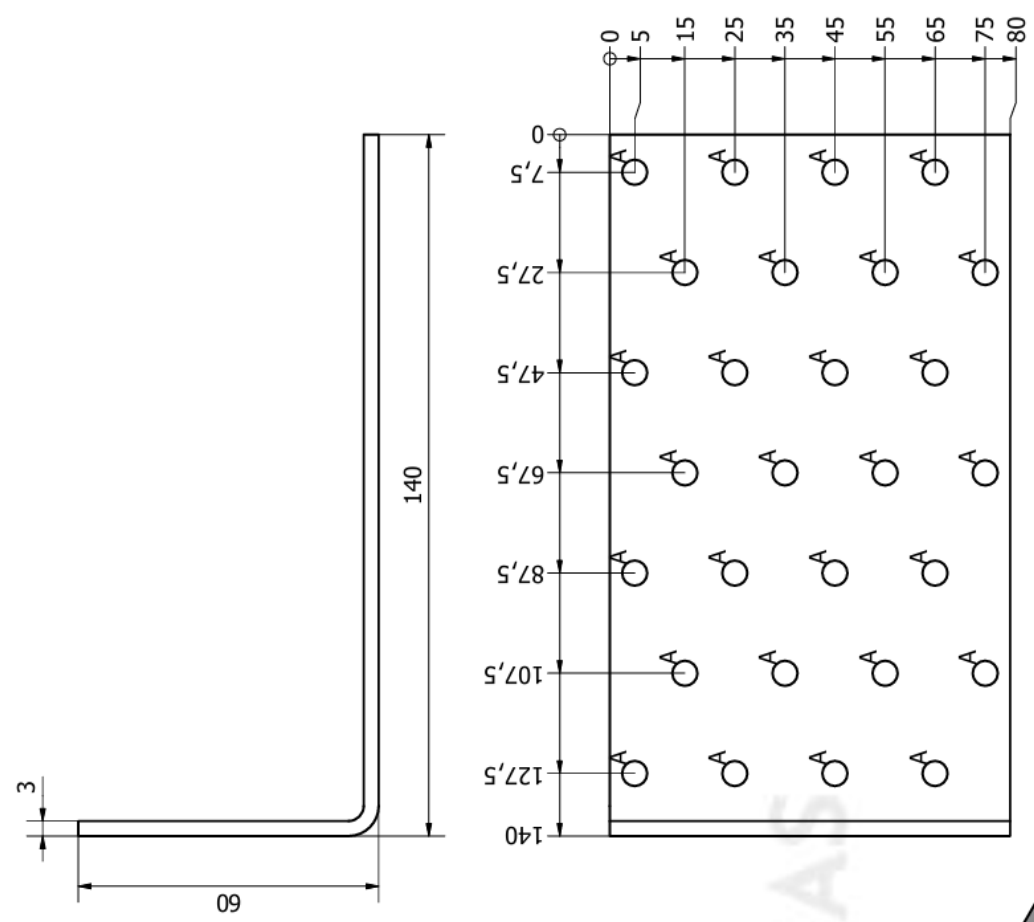
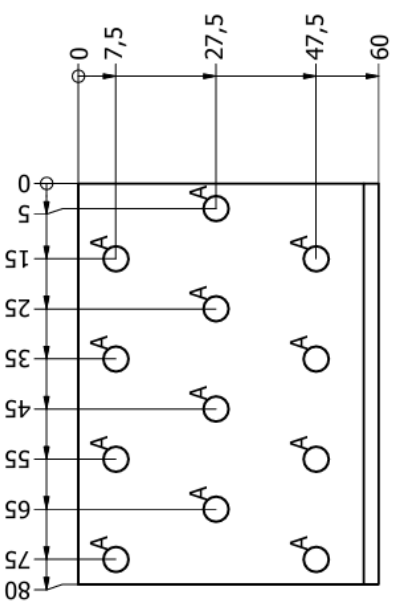
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by:	Vilmech
Checked by:	I.M.
Approved by:	U.K.
Date:	03.07.2025





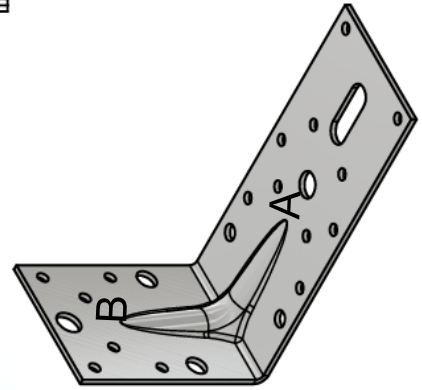
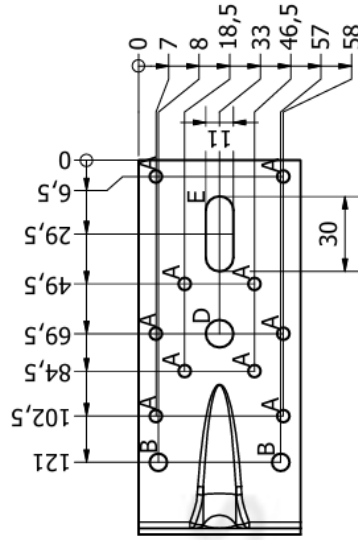
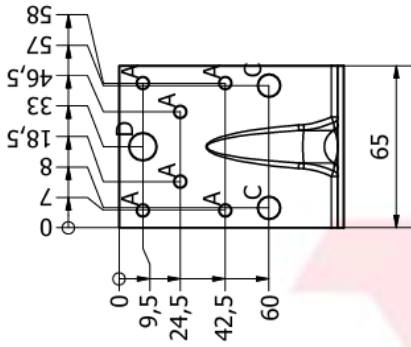
Description:	
Angle bracket 120x80x40x3,0	
ART: 71514	
Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M1 : 1,2	Weight: 0.174
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	40

General tolerances for nominal dimensions:
 Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

Drawn by: Vlmech	
Checked by: I.M.	
Approved by: U.K.	
Date: 04.12.2025	
Description: Angle bracket 140x60x80x3,0	
ART: 71516	
Size: A3	Material: HDG DX51D + Z275/
Projection: 	HDG S250GD + Z275
M 1 : 1	Weight: 0.349 kg
	Version: A



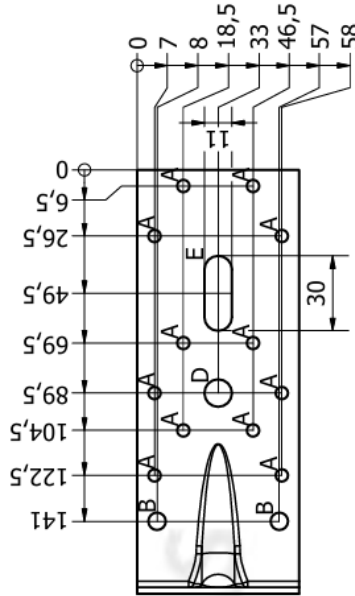
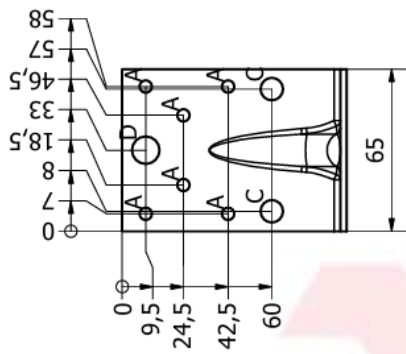
HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	2
C	Ø9 THRU	2
D	Ø11 THRU	2
E	SLOT 11x30	1

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech	Description:	
Checked by: I.M.	Facade bracket 150x90x65x2,5	
Approved by: U.K.	ART: 71551	
Date: 11.05.2026	Size: A3	Material: HDG DX51D + Z275/ HDG S250GD + Z275
	Projection:	Weight: 0.273 kg
	M 1 : 2	Version: A

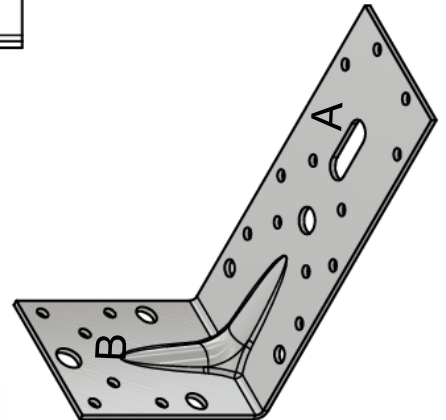




HOLE	SIZE	QTY
A	Ø5 THRU	18
B	Ø7 THRU	2
C	Ø9 THRU	2
D	Ø11 THRU	2
E	SLOT 11x30	1

General tolerances for nominal dimensions:

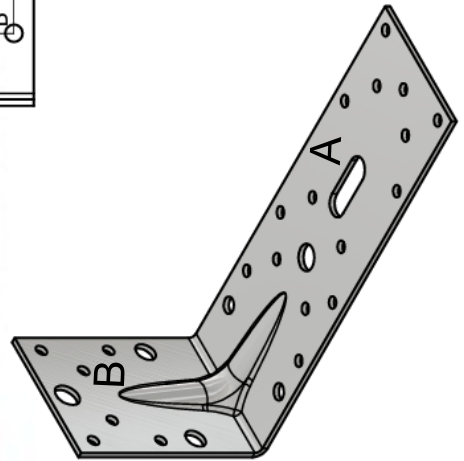
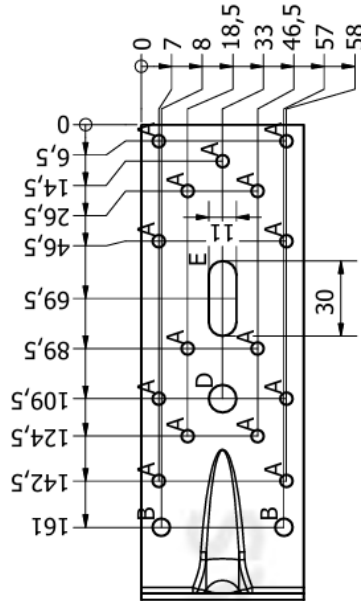
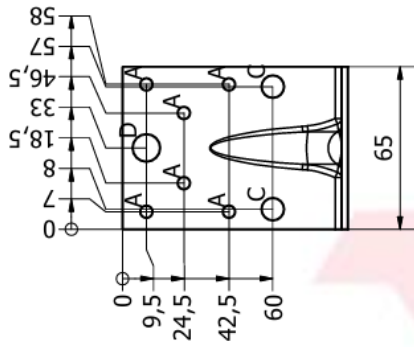
- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm



Drawn by: Vilimech
 Checked by: I.M.
 Approved by: U.K.
 Date: 11.05.2026





Description:	
Facade bracket 170x90x65x2,5	
ART: 71552	
Size:	Material:
A3	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	Version:
M 1 : 2	A
Weight: 0.296 kg	

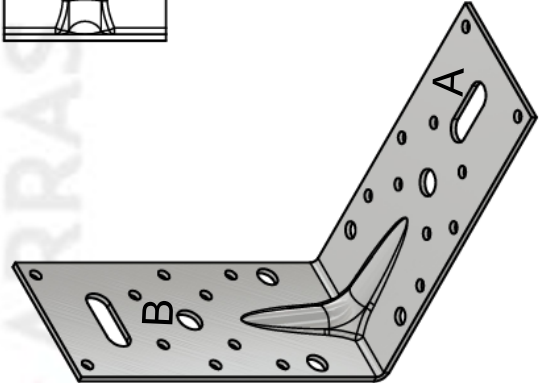
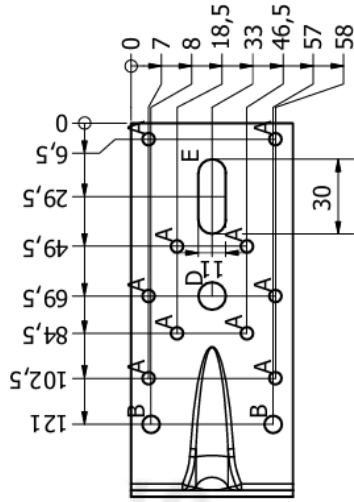
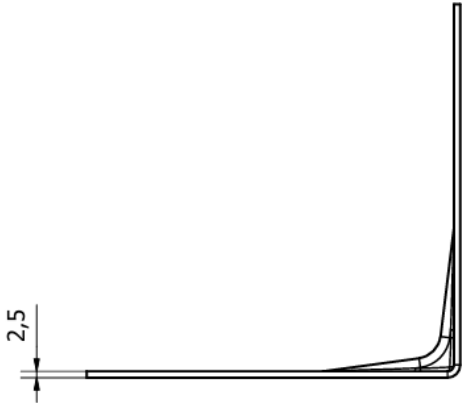
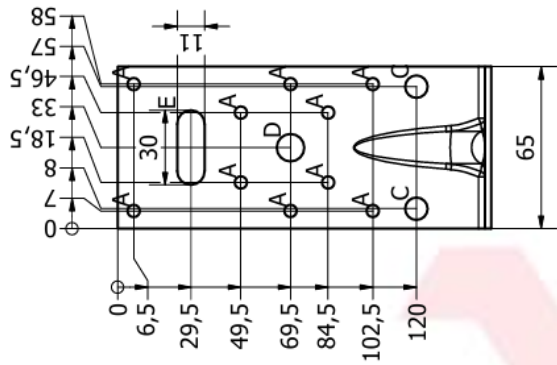


HOLE	SIZE	QTY
A	Ø5 THRU	21
B	Ø7 THRU	2
C	Ø9 THRU	2
D	Ø11 THRU	2
E	SLOT 11x30	1

General tolerances for nominal dimensions:



- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

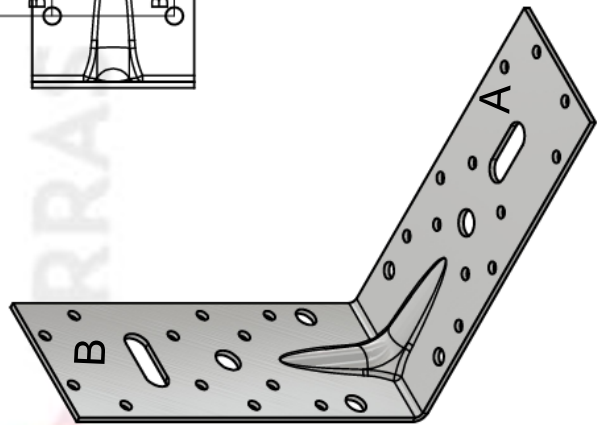
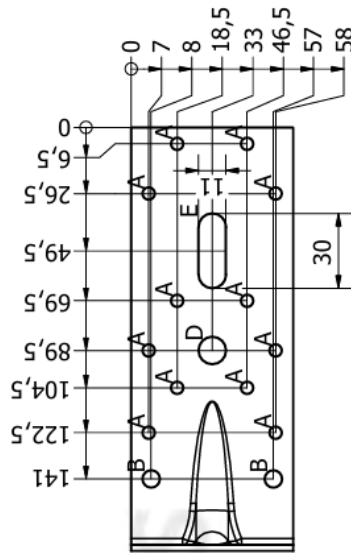
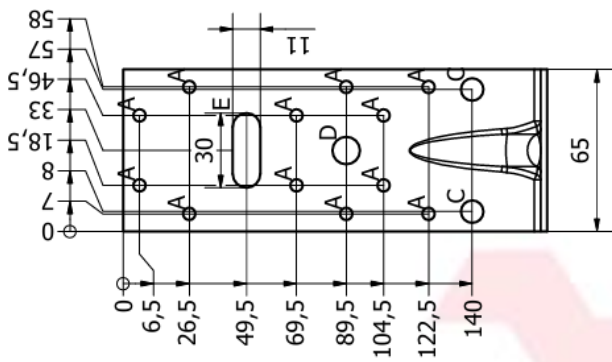
Drawn by: Vilmech	Description:
Checked by: I.M.	Facade bracket 190x90x65x2,5
Approved by: U.K.	ART: 71553
Date: 11.05.2026	
	
Size: A3	Material: HDG DX51D + Z275/
Projection: 	HDG S250GD + Z275
M 1 : 2	Weight: 0.327 kg
	Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	20
B	Ø7 THRU	2
C	Ø9 THRU	2
D	Ø11 THRU	2
E	SLOT 11x30	2

General tolerances for nominal dimensions:
 Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm



Drawn by: Vlmech	Description: Facade bracket 150x150x65x2,5
Checked by: I.M.	
Approved by: U.K.	
Date: 11.05.2026	ART: 71554
	
Size: A3	Material: HDG DX51D + Z275/ HDG S250GD + Z275
Projection: 	Version: A
M 1 : 2	Weight: 0.356 kg

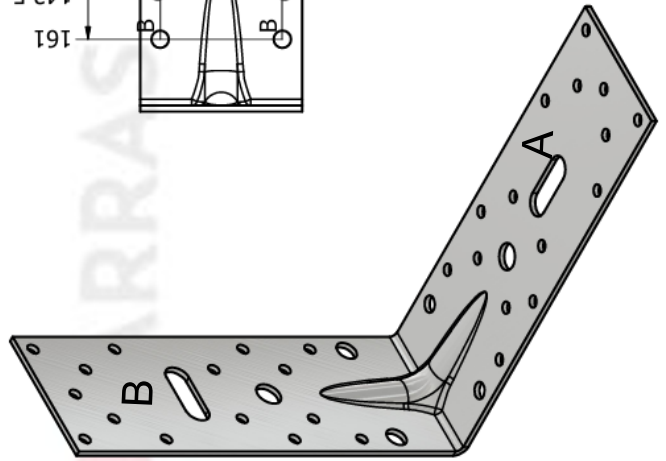
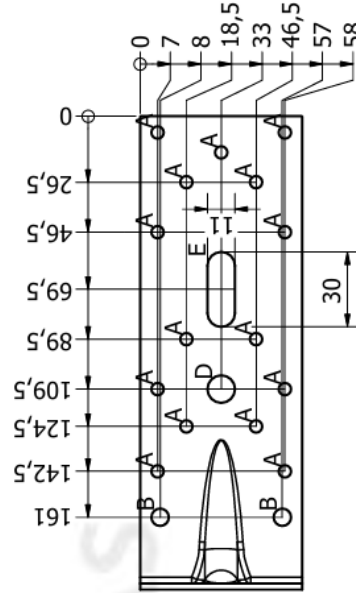
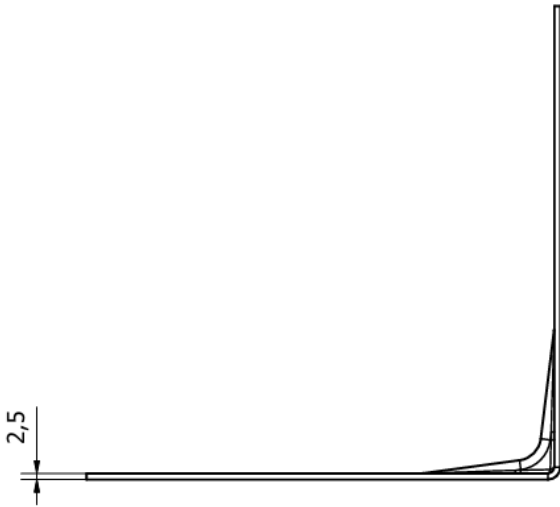
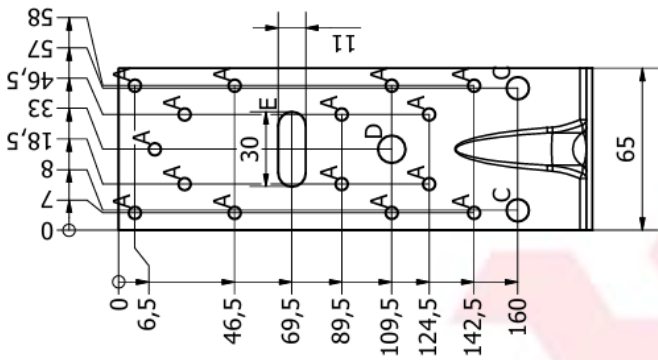


HOLE	SIZE	QTY
A	Ø5 THRU	24
B	Ø7 THRU	2
C	Ø9 THRU	2
D	Ø11 THRU	2
E	SLOT 11x30	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vlimech	Description:
Checked by: I.M.	Facade bracket 170x170x65x2,5
Approved by: U.K.	ART: 71555
Date: 11.05.2026	Size: A3
	Material: HDG DX51D + Z275/ HDG S250GD + Z275
	Projection: 
M 1 : 2	Weight: 0.397 kg
	Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	30
B	Ø7 THRU	2
C	Ø9 THRU	2
D	Ø11 THRU	2
E	SLOT 11x30	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech

Checked by: I.M.

Approved by: U.K.

Date: 11.05.2026



Description:

Facade bracket 190x190x65x2,5

ART: 71556

Material:

HDG DX51D + Z275/

HDG S250GD + Z275

Weight: 0.442 kg

Size:

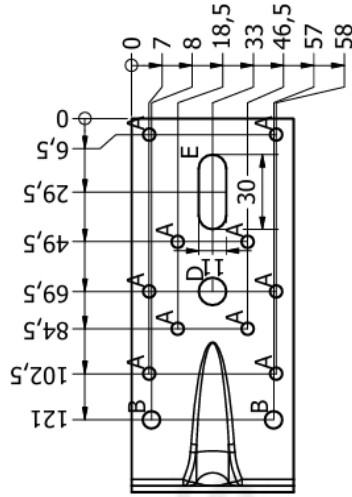
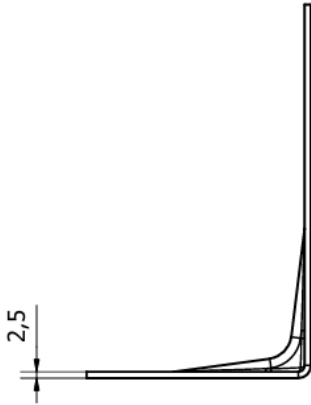
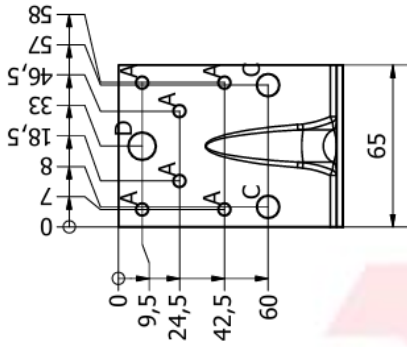
A3

Protection:

M 1 : 2

Version:

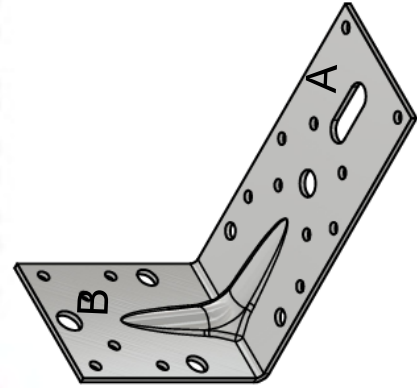
A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	2
C	Ø9 THRU	2
D	Ø11 THRU	2
E	SLOT 11x30	1

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm



Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 11.05.2026



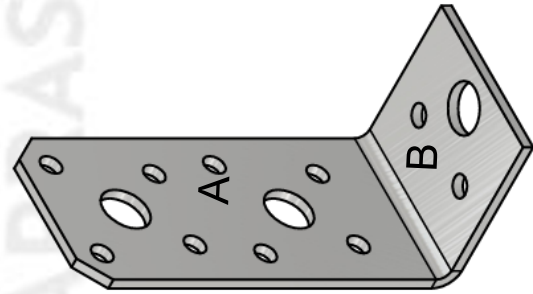
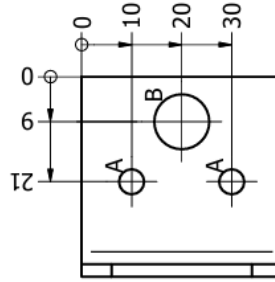
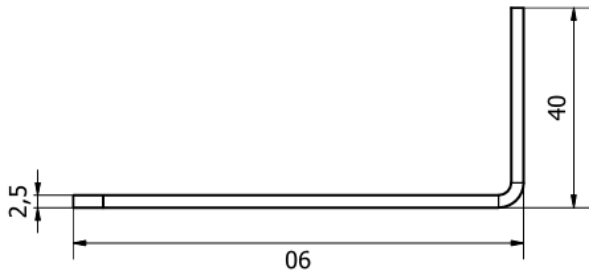
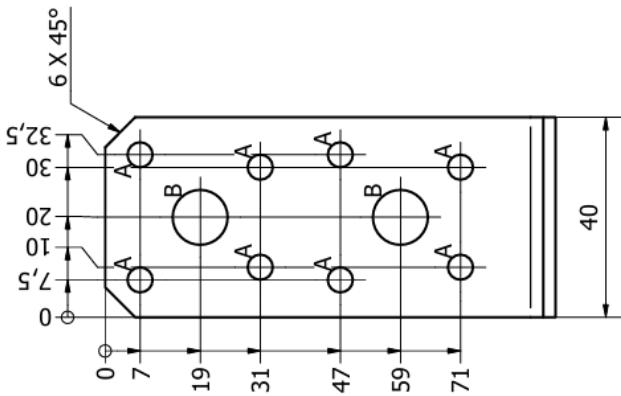
Description:
 Facade bracket 150x90x65x2,5
 A2

ART: 71562

Size: A3
 Material: A2 AISI304 STAINLESS
 PROTECTORS: STEEL

M 1 : 2

Weight: 0.273 kg
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	10
B	Ø11 THRU	3

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

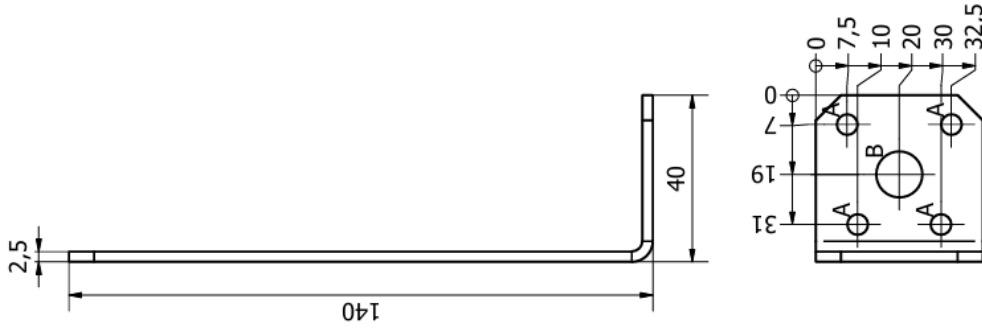
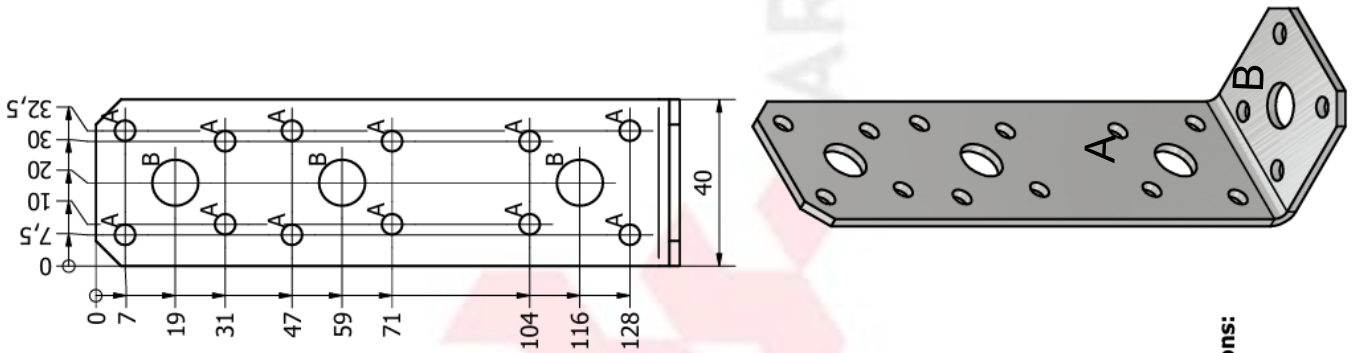
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 90x40x40x2,5

ART: 73001

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Protection:	
M 1 : 1	Weight: 0,088
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø11 THRU	4

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026

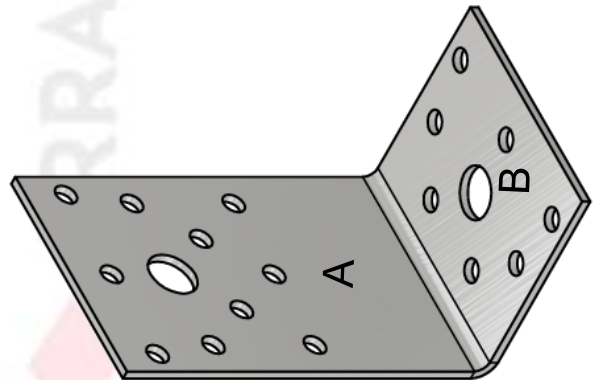
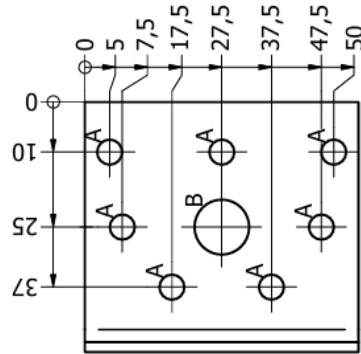
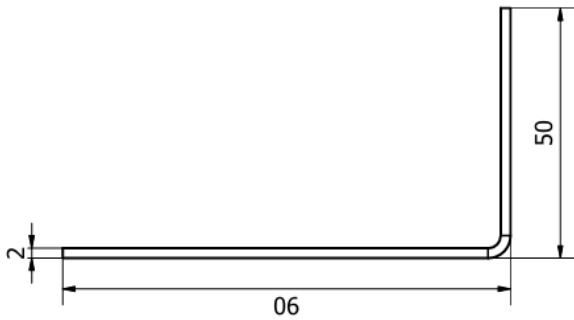
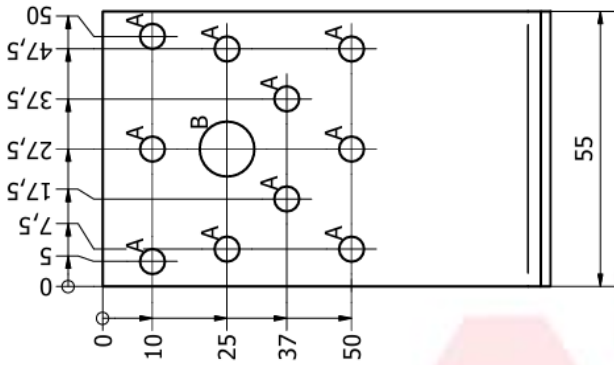


Description:

Angle bracket 140x40x40x2,5

ART: 73002

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	M1 : 1.2
Weight:	0,123
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	17
B	Ø11 THRU	2

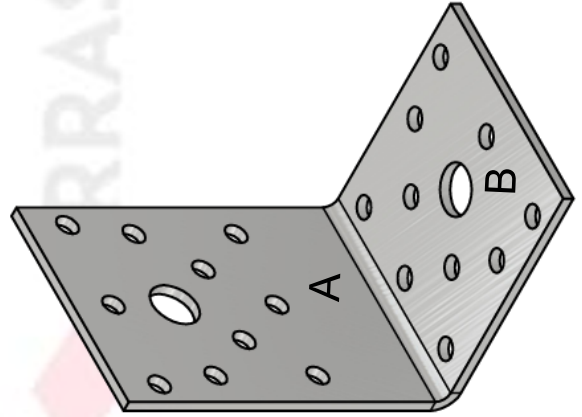
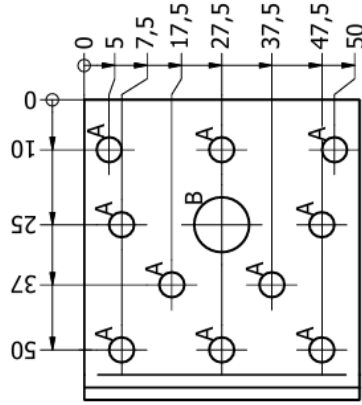
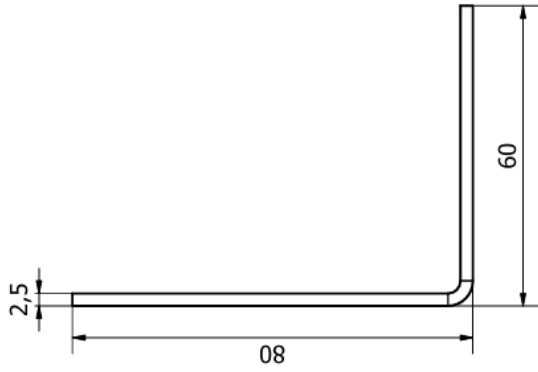
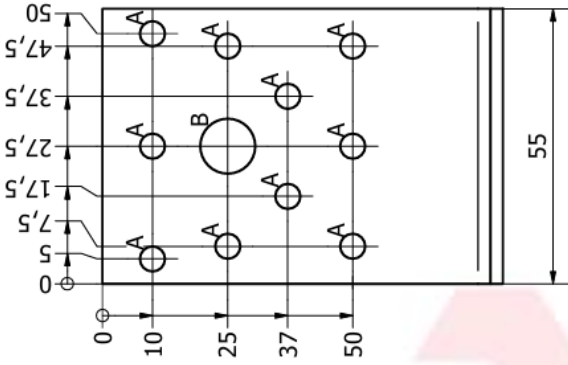
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:		Angle bracket 90x50x55x2,0
ART:		73003
Size:	A3	Material: HDG DX51D + Z275/ HDG S250GD + Z275
Projection:		
M 1 : 1	Weight: 0,112	Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	20
B	Ø11 THRU	2

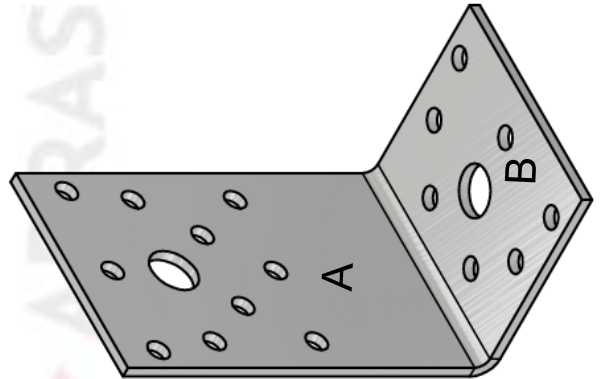
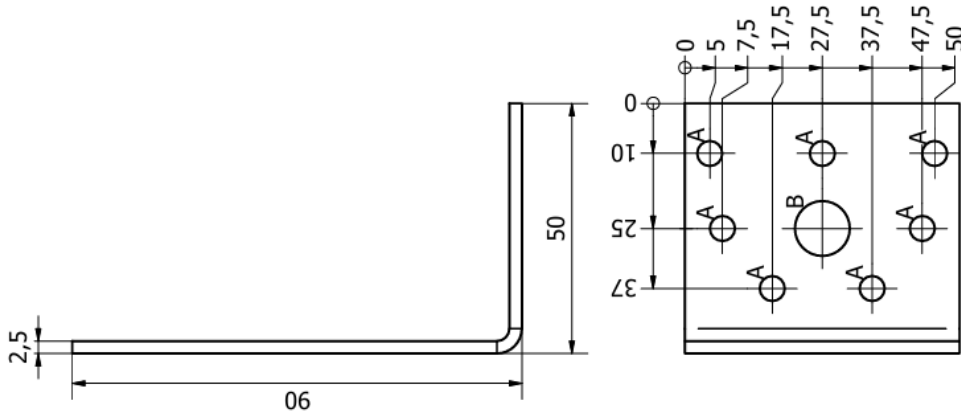
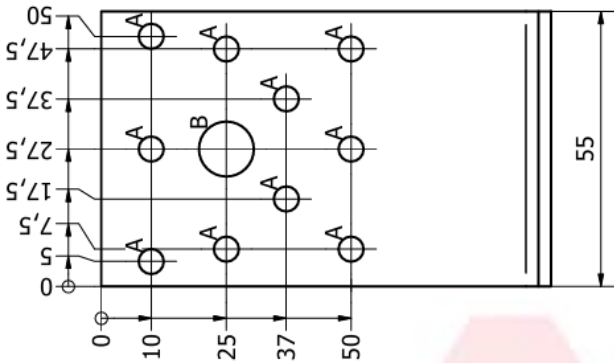
General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

Drawn by: Vlmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
Angle bracket 80x60x55x2,5
 ART: **73004**
 Size: A3
 Protection: HDG DX51D + Z275/
 M 1:1 HDG S250GD + Z275
 Weight: 0,141
 Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	17
B	Ø11 THRU	2

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.

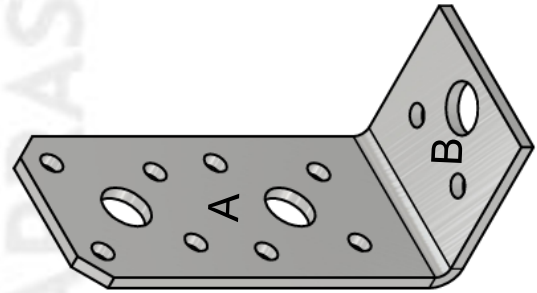
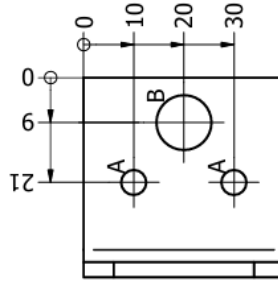
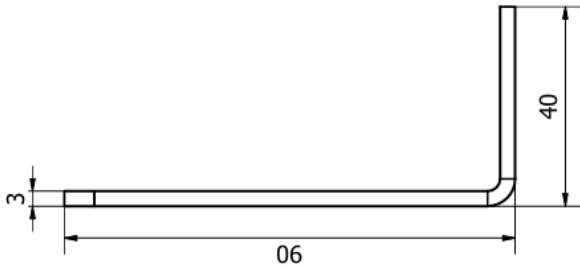
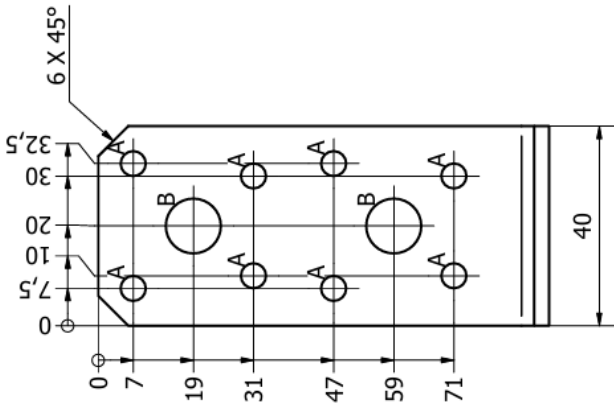
Date: 12.04.2026



Description:
 Angle bracket 90x50x55x2,5

ART: 73006

Size: A3	Material: HDG DX51D + Z275/ HDG S250GD + Z275
Projection: M 1 : 1	Weight: 0,141
Version: A	



HOLE	SIZE	QTY
A	Ø5 THRU	10
B	Ø11 THRU	3

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026

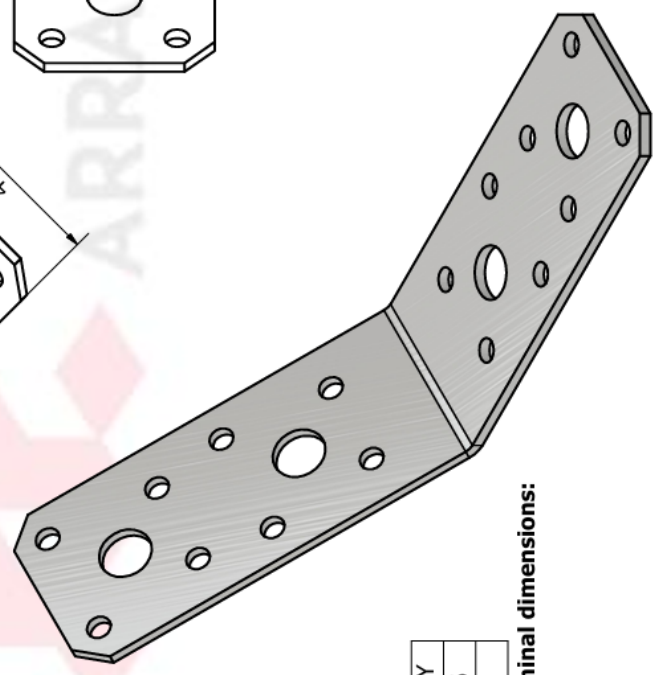
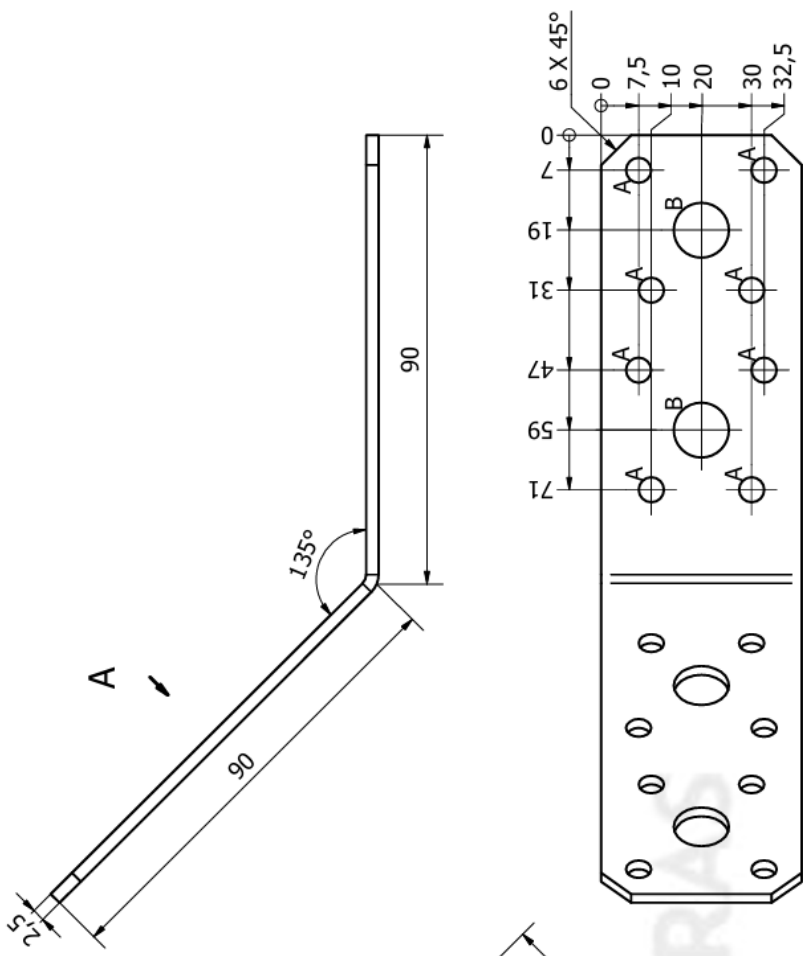
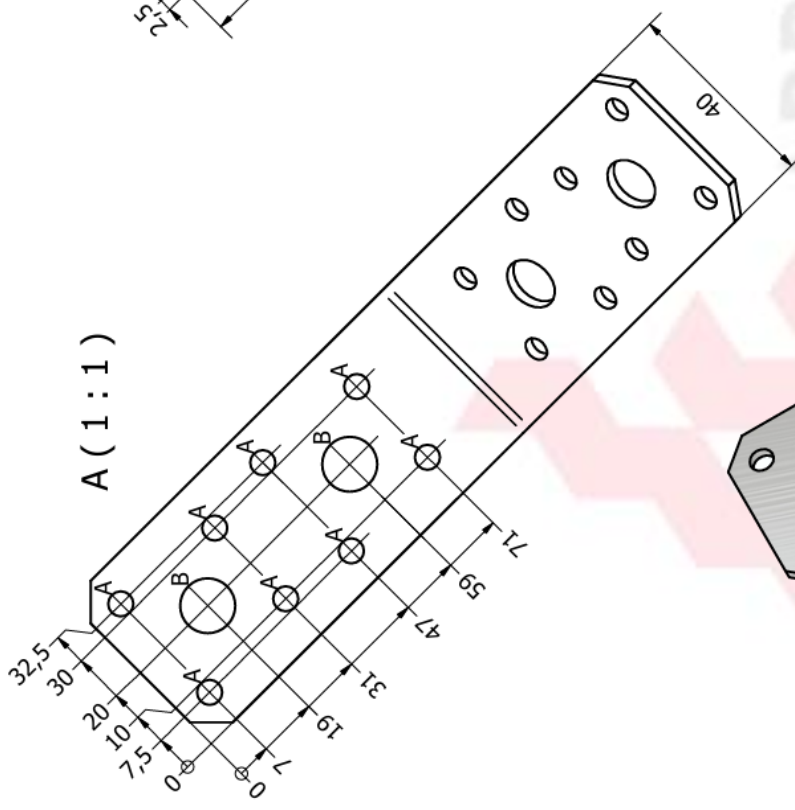


Description:
 Angle bracket 90x40x40x3,0

ART: 73007

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M 1 : 1	Weight: 0,105
Version:	A

A (1:1)



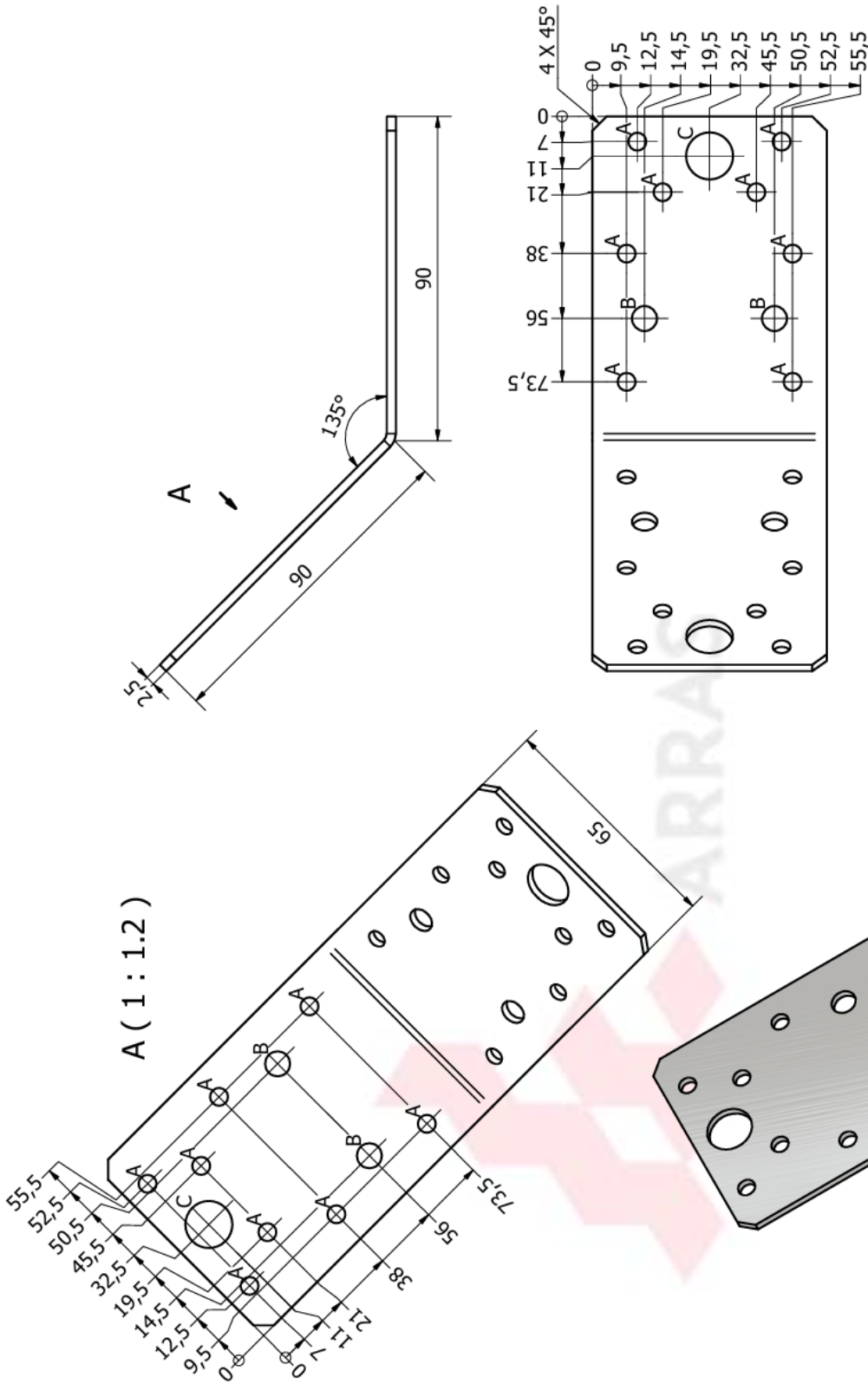
HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø11 THRU	4

General tolerances for nominal dimensions:
 Arm lengths ±2 mm
 Product pitch ±1 mm
 Width ±1 mm
 Holes ±0.4 mm

Drawn by:	Vilmech
Checked by:	I.M.
Approved by:	U.K.
Date:	12.04.2026



Description:		Angle bracket 90x90x40x2,5
		135°
ART:		73104
Size:	A3	
Material:	HDG DX51D + Z275/ HDG S250GD + Z275	
Projection:	M 1:1	
Weight:	0,123	
Version:	A	



A (1 : 1.2)

HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø7 THRU	4
C	Ø13 THRU	2

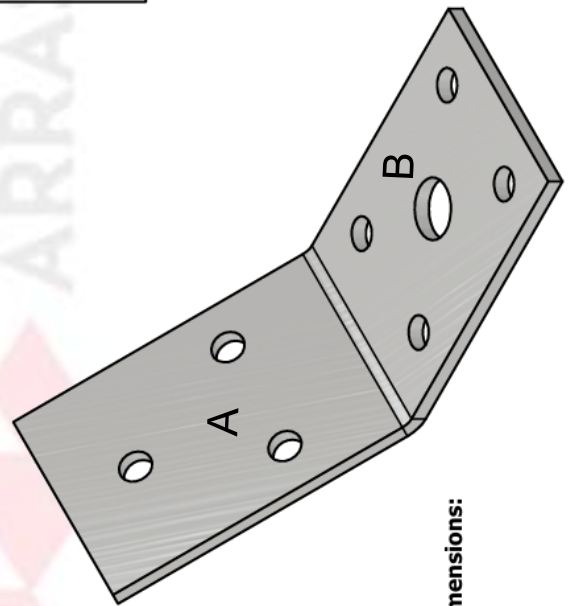
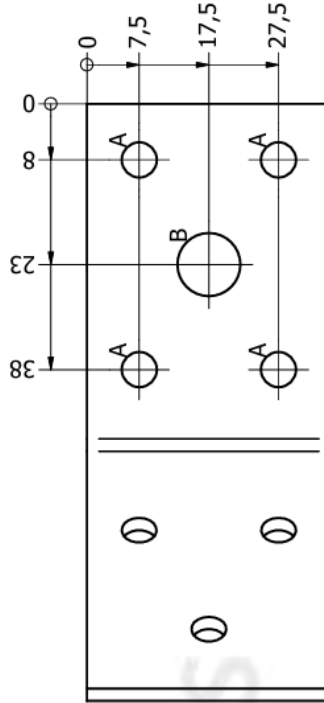
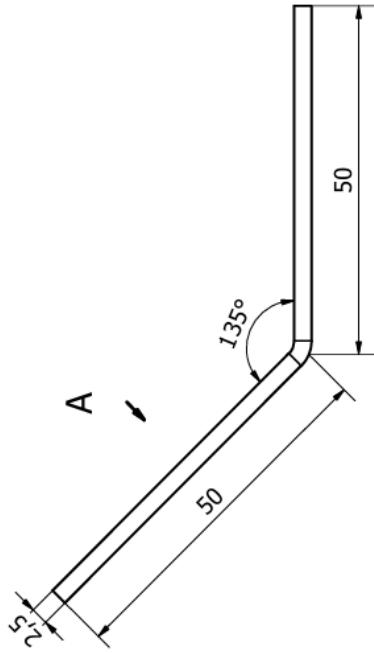
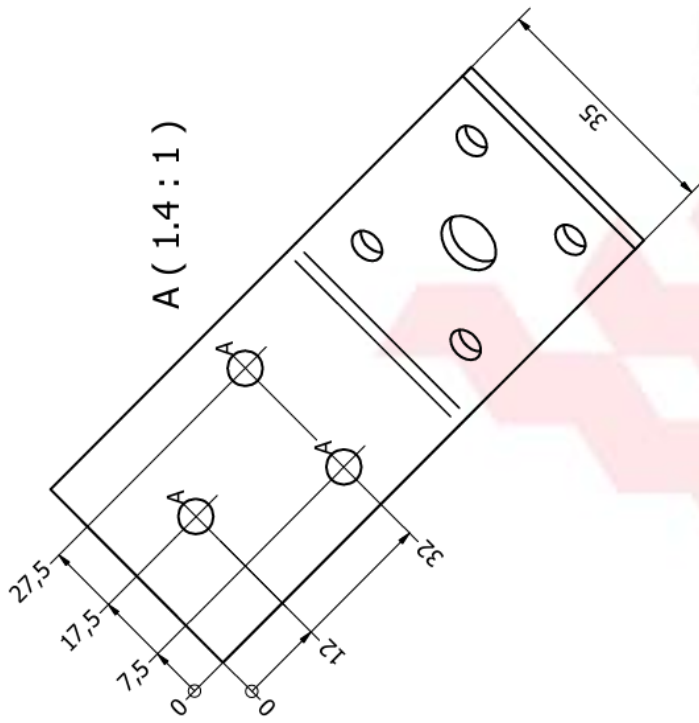
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by:	Vlilmech
Checked by:	I.M.
Approved by:	U.K.
Date:	12.04.2026



Description:	
Angle bracket 90x90x65x2,5	
135°	
ART: 73107	
Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M1 : 1.2	Weight: 0,209
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	7
B	Ø9 THRU	1

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

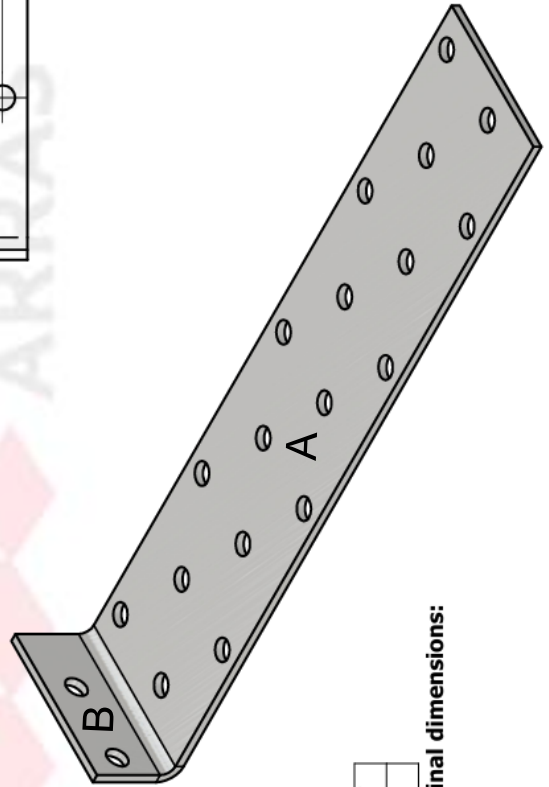
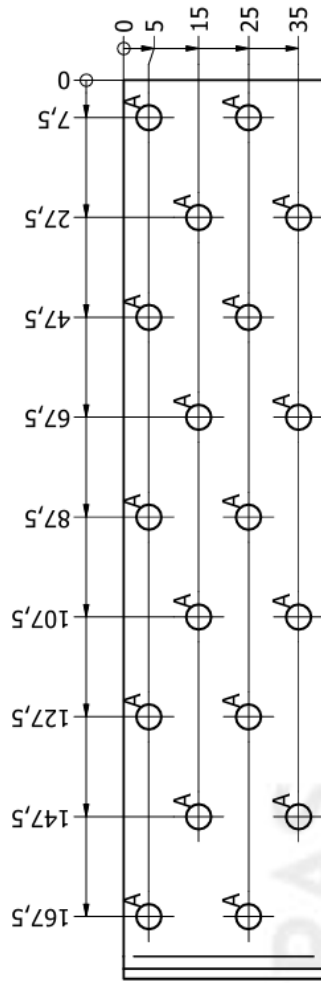
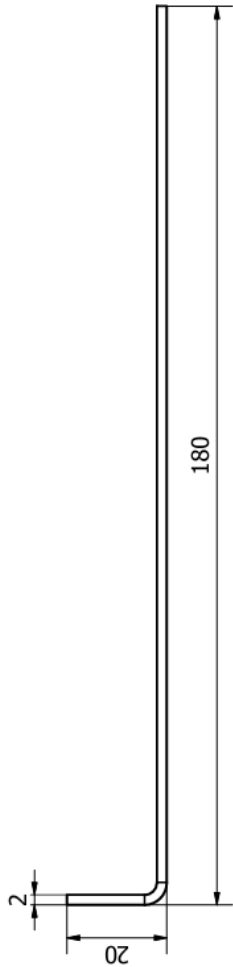
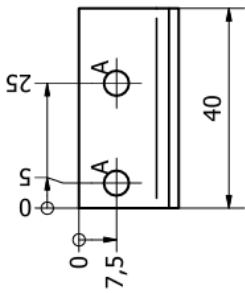
Drawn by: Vilimech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 50x50x35x2,5
 135°

ART: 73111



Size: A3
 Protection: HDG DX51D + Z275/
 HDG S250GD + Z275
 Material: HDG DX51D + Z275/
 HDG S250GD + Z275
 M1.4 : 1 Weight: 0,062
 Version: A

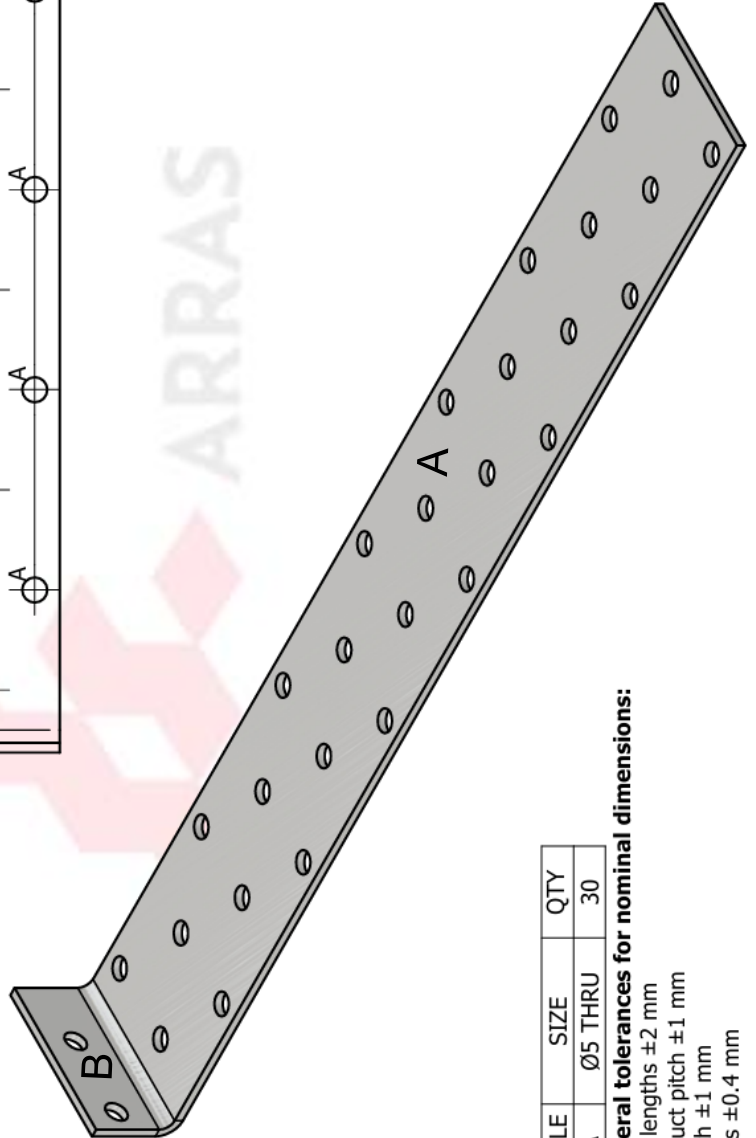
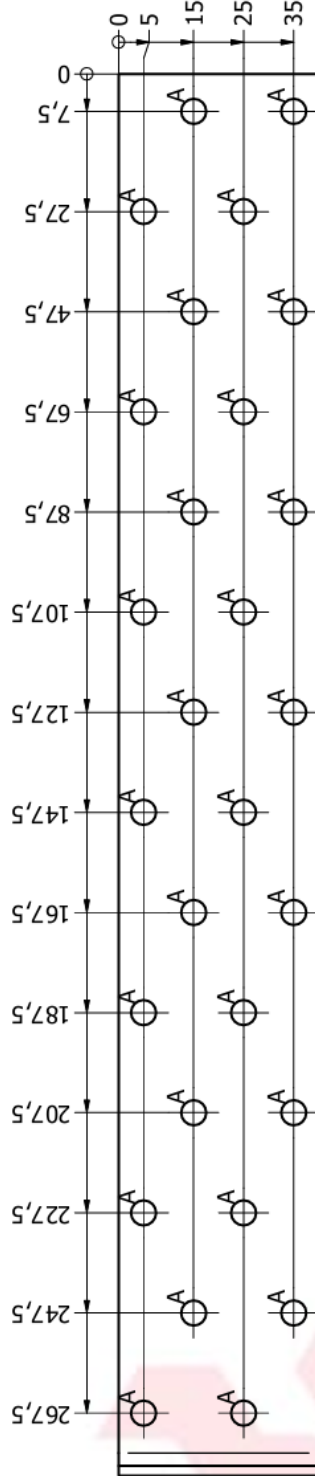
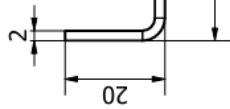
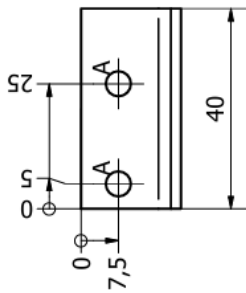


HOLE	SIZE	QTY
A	Ø5 THRU	20

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm



Drawn by: Vlmech		Description:
Checked by: I.M.		Concrete anchor 180x20x40x2,0
Approved by: U.K.		ART: 73201
Date: 12.04.2026		Material: HDG DX51D + Z275/ HDG S250GD + Z275
		Size: A3
		Projection: 
		M 1 : 1
		Weight: 0,116
		Version: A

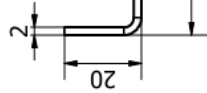
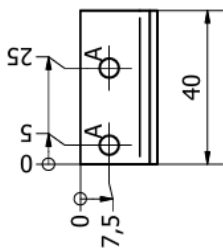


HOLE	SIZE	QTY
A	Ø5 THRU	30

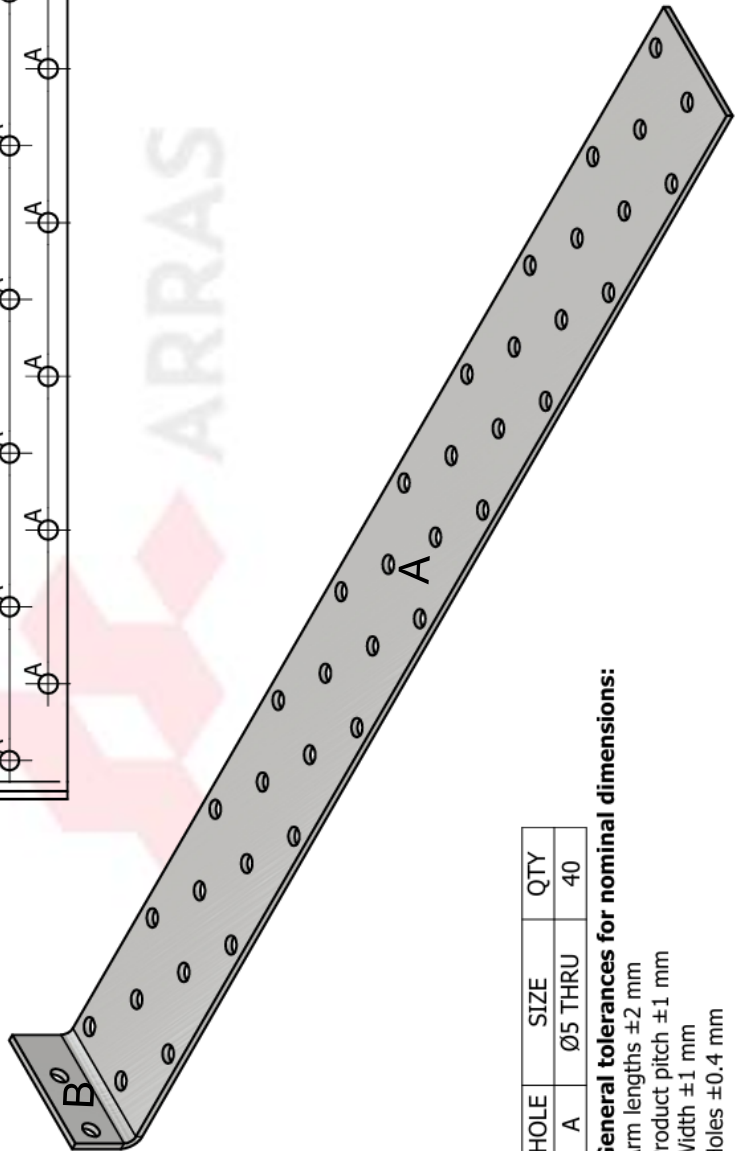
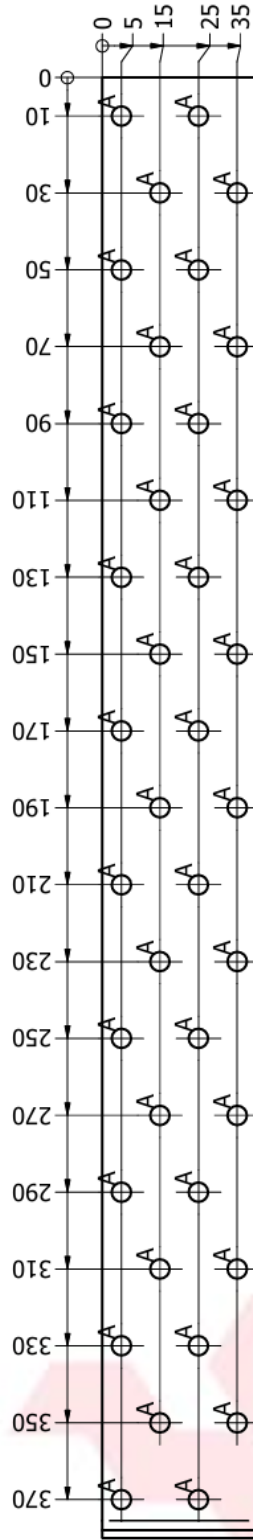
General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmech	
Checked by: I.M.	
Approved by: U.K.	
Date: 12.04.2026	
Description: Concrete anchor 280x20x40x2,0	
ART: 73202	
Size: A3	Material: HDG DX51D + Z275/
Projection: 	HDG S250GD + Z275
M 1 : 1	Weight: 0,176
Version: A	



380



HOLE	SIZE	QTY
A	Ø5 THRU	40

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vfilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026

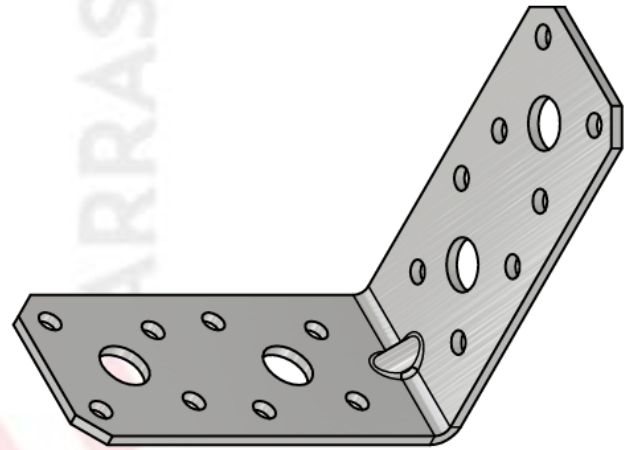
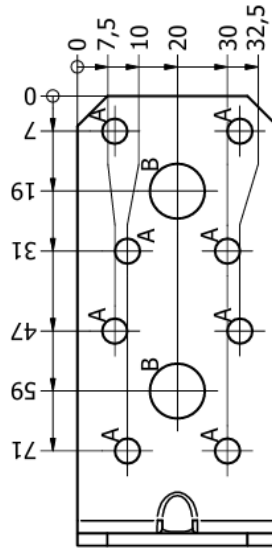
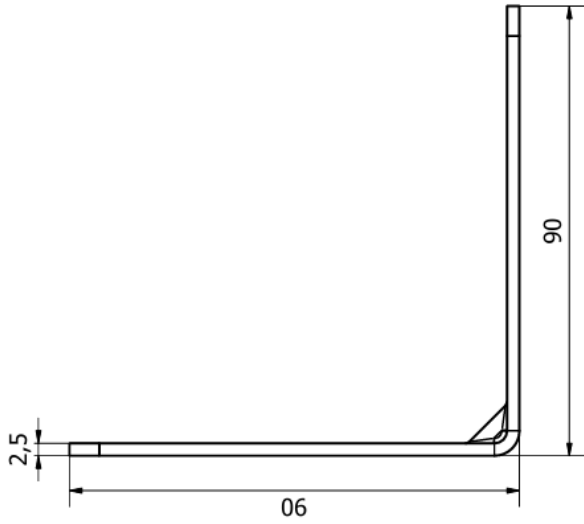
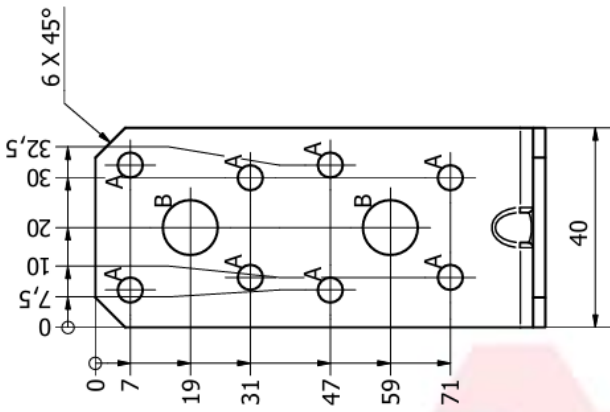


Description:

Concrete anchor 380x20x40x2,0

ART: **73203**

Size:	A3	Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Protection:		M1 : 1.3	Weight: 0,238
			Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø11 THRU	4

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

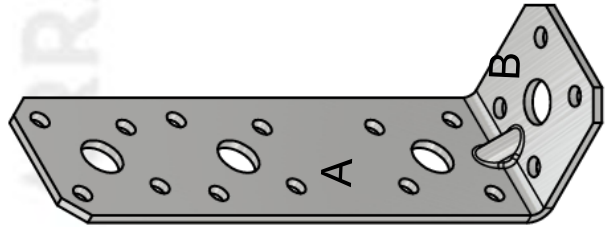
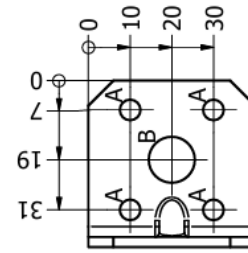
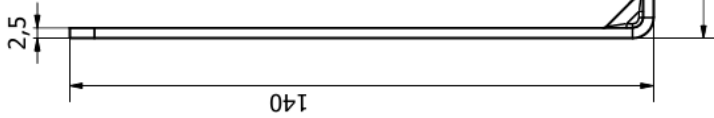
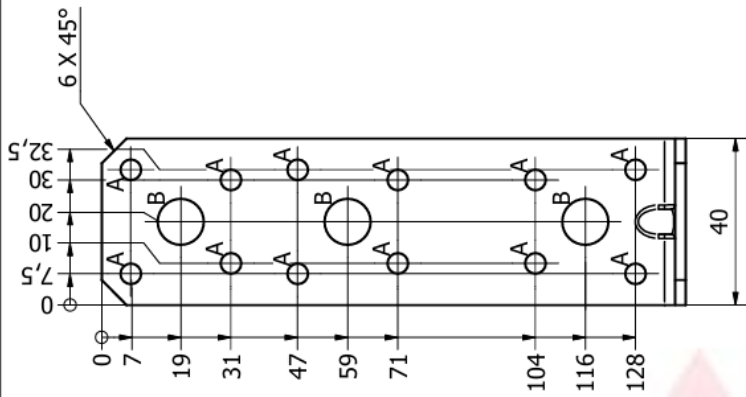
Drawn by: Vlimech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 90x90x40x2,5
 stiffened

ART: 73605

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
Version:	M 1 : 1
Weight:	0.123
	A



HOLE	SIZE	QTY
A	Ø5 THRU	16
B	Ø11 THRU	4

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

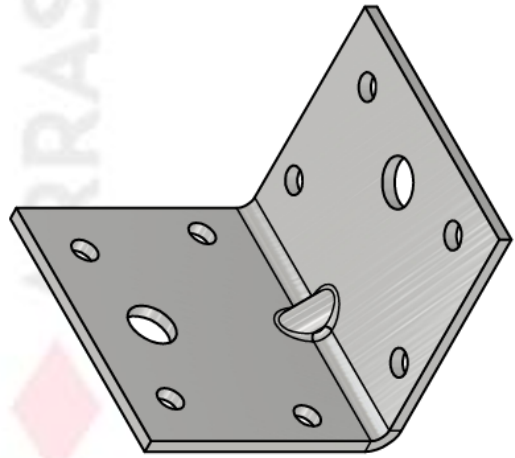
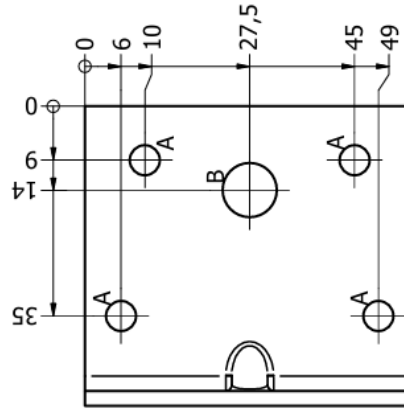
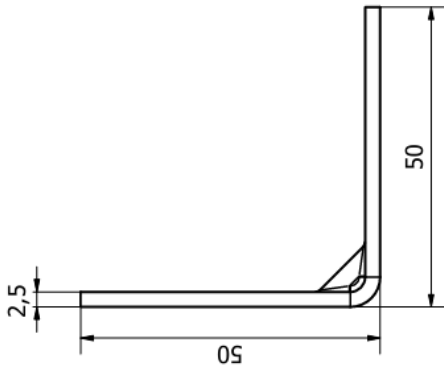
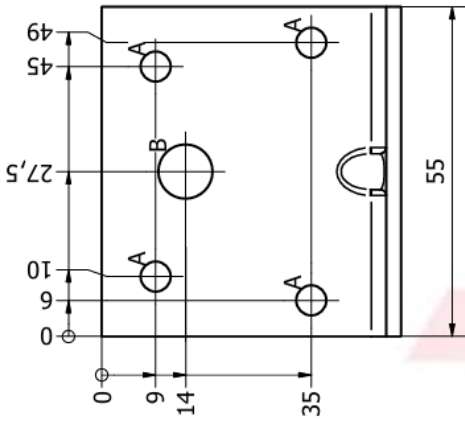
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 140x40x40x2,5
 stiffened

ART: **73606**

Size: A3	Material: HDG DX51D + Z275/	Version: A
Projection:	HDG S250GD + Z275	
M1 : 1.2	Weight: 0.123	



HOLE	SIZE	QTY
A	Ø5 THRU	8
B	Ø9 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

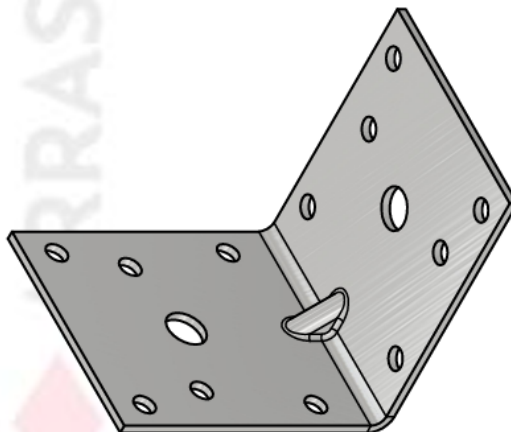
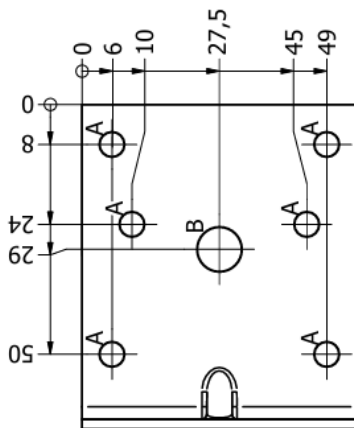
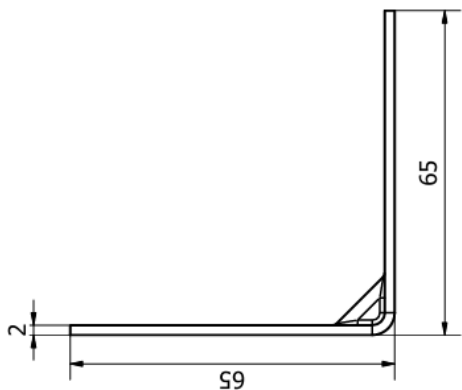
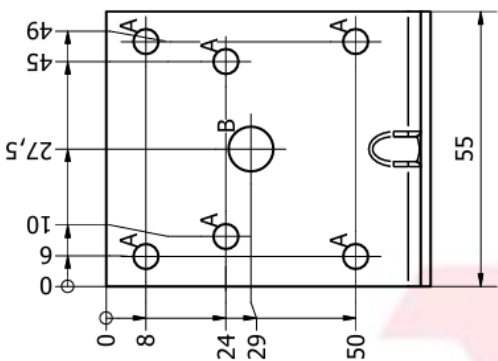
Drawn by: Vjlimech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 50x50x55x2,5
 stiffened

ART: 73609

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M1.2 : 1	Weight: 0.098
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	12
B	Ø9 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilimech

Checked by: I.M.

Approved by: U.K.

Date: 12.04.2026



Description:
Angle bracket 65x65x55x2,0
stiffened

ART: 73610

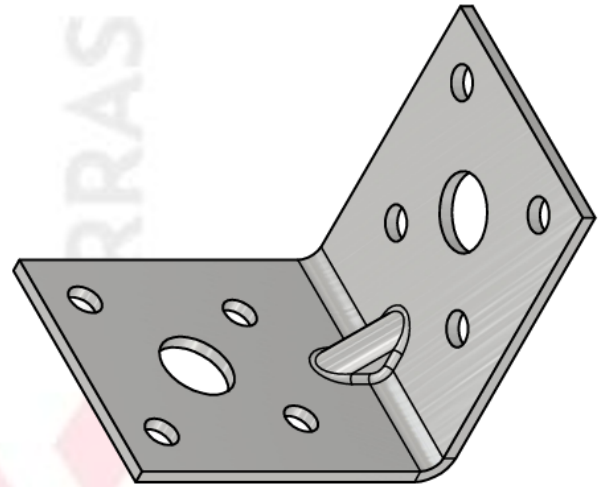
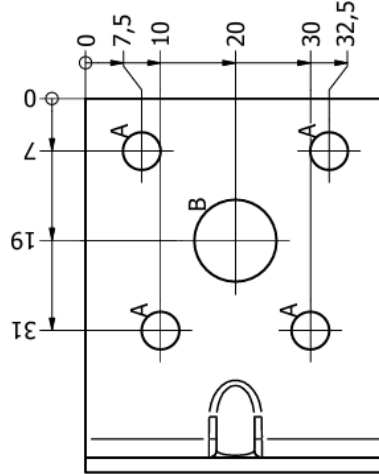
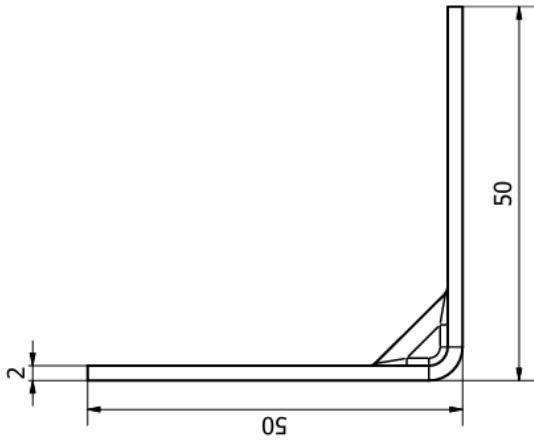
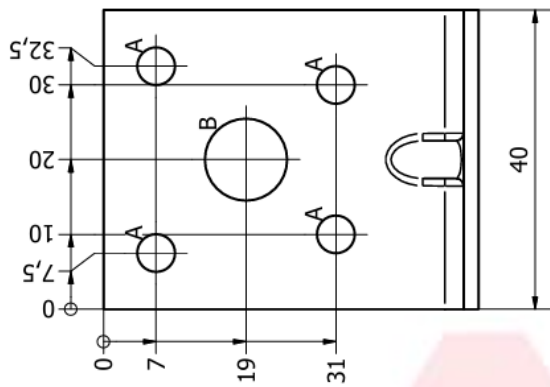
Size: A3

Material: HDG DX51D + Z275/

HDG S250GD + Z275

Weight: 0.104

Version: A



HOLE	SIZE	QTY
A	Ø5 THRU	8
B	Ø11 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

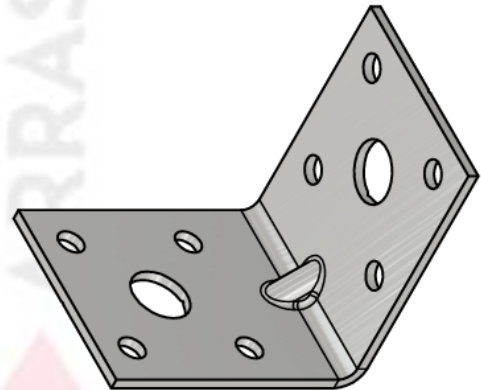
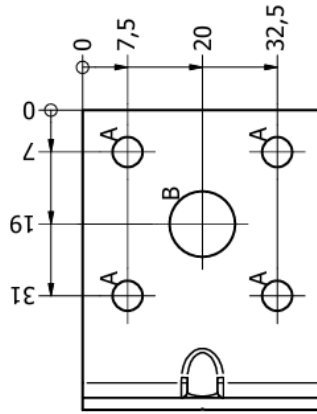
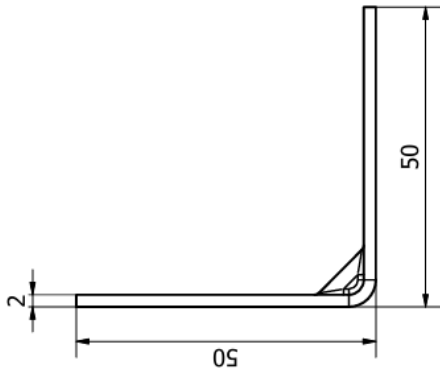
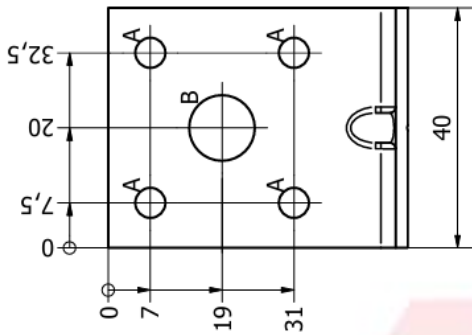
Drawn by: Vlmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 50x50x40x2,0
 stiffened

ART: **73612**

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	M1.5 : 1
Weight:	0.055
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	8
B	Ø11 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

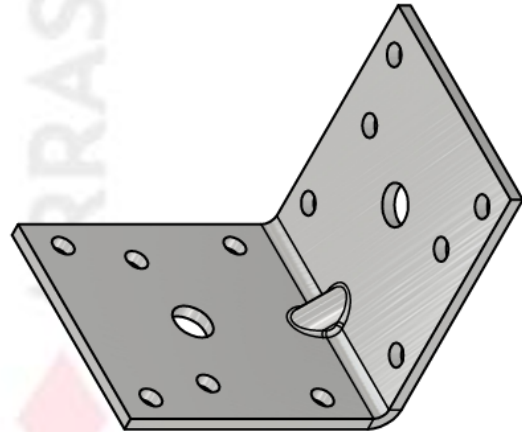
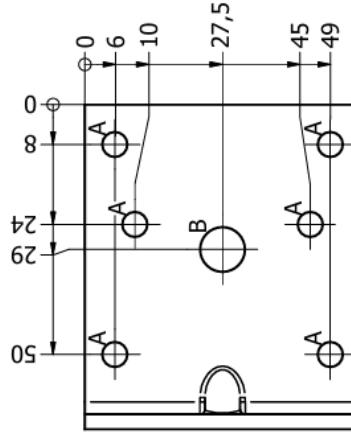
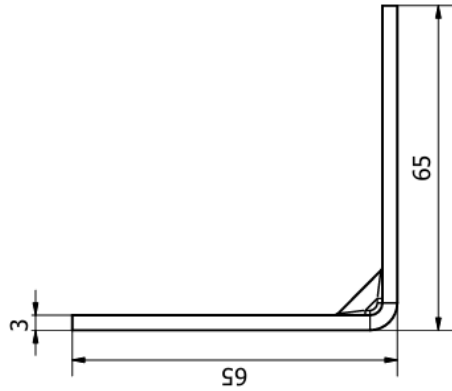
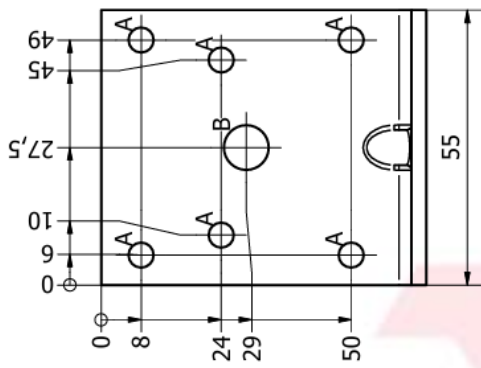
Drawn by: Vjimech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 50x50x40x2,5
 stiffened

ART: 73622

Size:	A3
Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Projection:	
M1.2 : 1	Weight: 0.069
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	12
B	Ø9 THRU	2

General tolerances for nominal dimensions:

Arm lengths ± 2 mm
 Product pitch ± 1 mm
 Width ± 1 mm
 Holes ± 0.4 mm

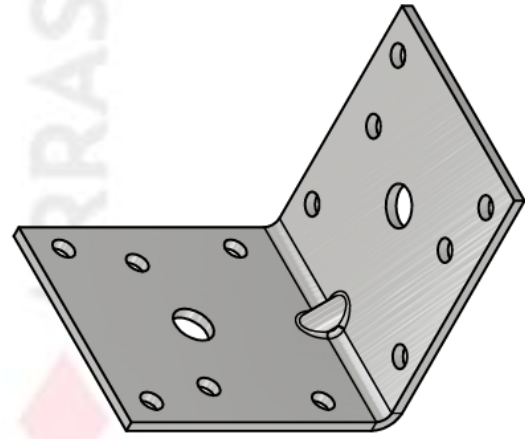
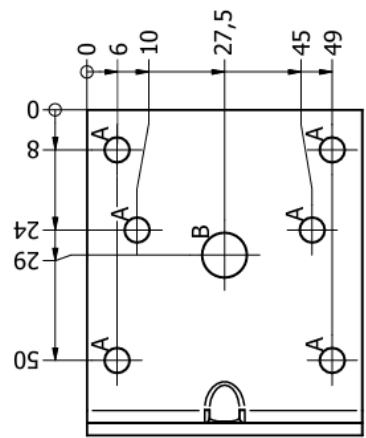
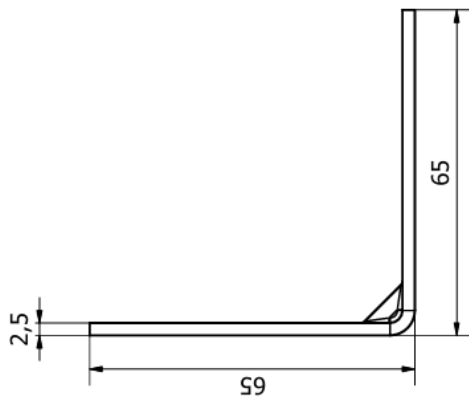
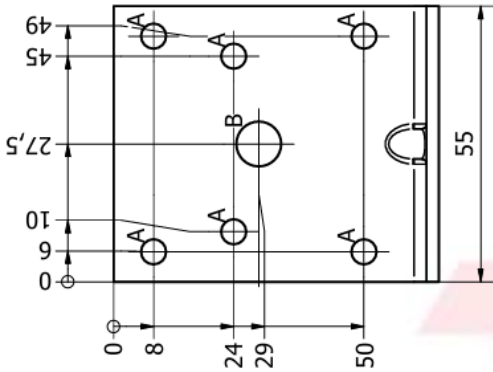
Drawn by: Vlmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 65x65x55x3,0
 stiffened

ART: **73623**

Size:	A3
Projection:	HDG DX51D + Z275/ HDG S250GD + Z275
Version:	M 1 : 1 Weight: 0.154
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	12
B	Ø9 THRU	2

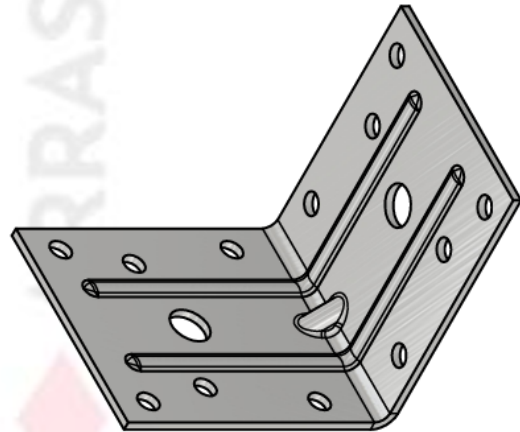
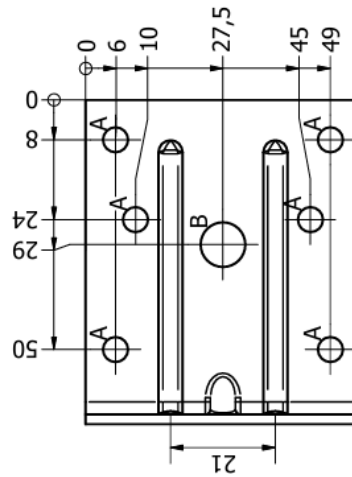
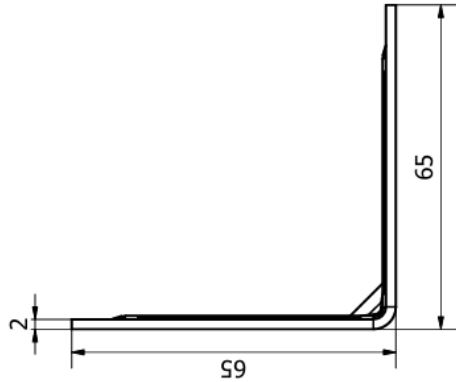
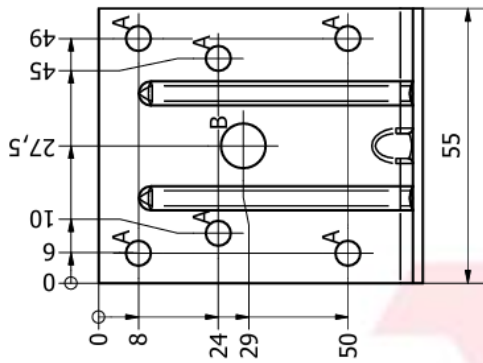
General tolerances for nominal dimensions:

- Arm lengths ±2 mm
- Product pitch ±1 mm
- Width ±1 mm
- Holes ±0.4 mm

Drawn by: Vilmech
Checked by: I.M.
Approved by: U.K.
Date: 12.04.2026



Description: Angle bracket 65x65x55x2,5 stiffened	
ART: 73624	
Size: A3	Material: HDG DX51D + Z275/
Protection:	HDG S250GD + Z275
M 1 : 1	Weight: 0.129
Version:	A



HOLE	SIZE	QTY
A	Ø5 THRU	12
B	Ø9 THRU	2

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

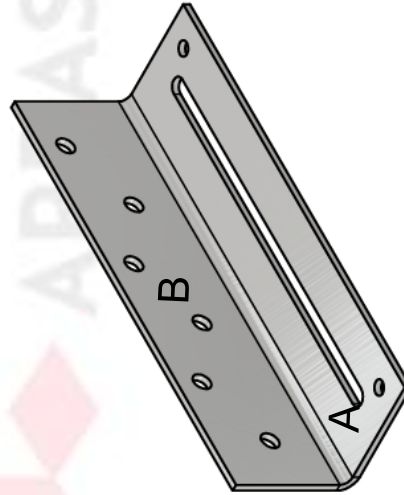
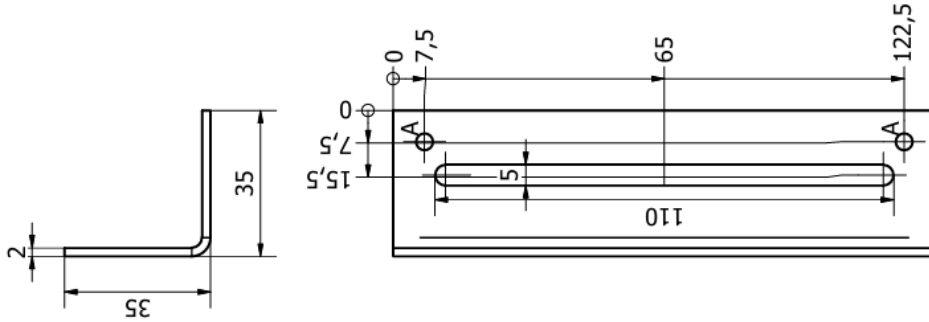
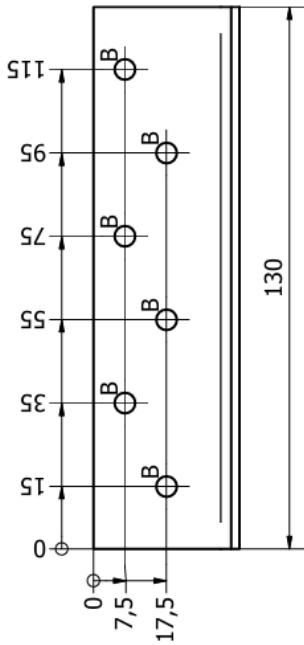
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket 65x65x55x2,0
 stiffened grooved

ART: **73652**

Size: A3	Material: HDG DX51D + Z275/	Version: A
Projection: M 1:1	HDG S250GD + Z275	
Weight: 0.104		



HOLE	SIZE	QTY
A	Ø4 THRU	2
B	Ø5 THRU	6
C	SLOT 5x110	1

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

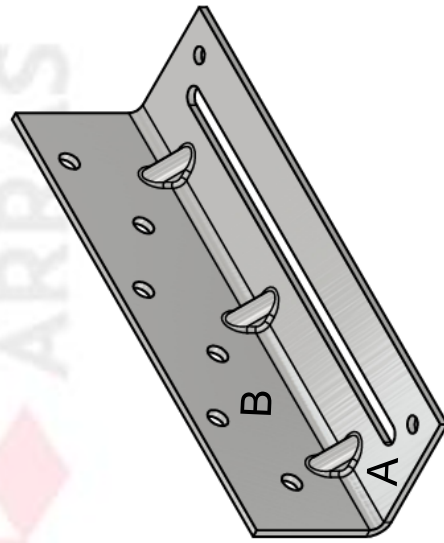
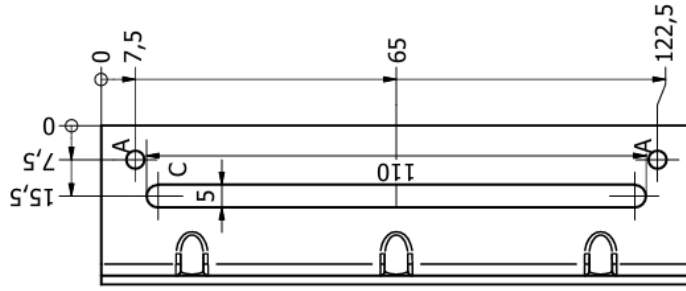
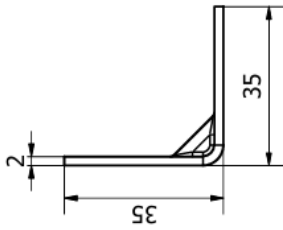
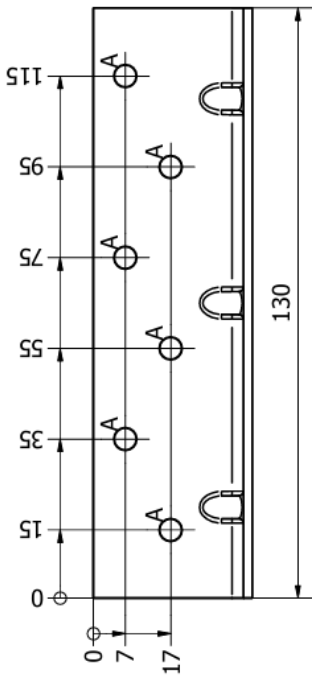
Drawn by: Vilmech
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket for log homes
 35x35x130x2,0

ART: **74402**

Size: A3
 Projection:
 Material: HDG DX51D + Z275/
 HDG S250GD + Z275
 M1 : 1.2 Weight: 0,126
 Version: A



HOLE	SIZE	QTY
A	Ø4 THRU	2
B	Ø5 THRU	6
C	SLOT 5x110	1

General tolerances for nominal dimensions:

- Arm lengths ± 2 mm
- Product pitch ± 1 mm
- Width ± 1 mm
- Holes ± 0.4 mm

Drawn by: Vilmec
 Checked by: I.M.
 Approved by: U.K.
 Date: 12.04.2026



Description:
 Angle bracket for log homes
 35x35x130x2,0 stiffened

ART: **74406**

Size:	A3	Material:	HDG DX51D + Z275/ HDG S250GD + Z275
Protection:		M1 : 1.1	Weight: 0.126
Version:	A		