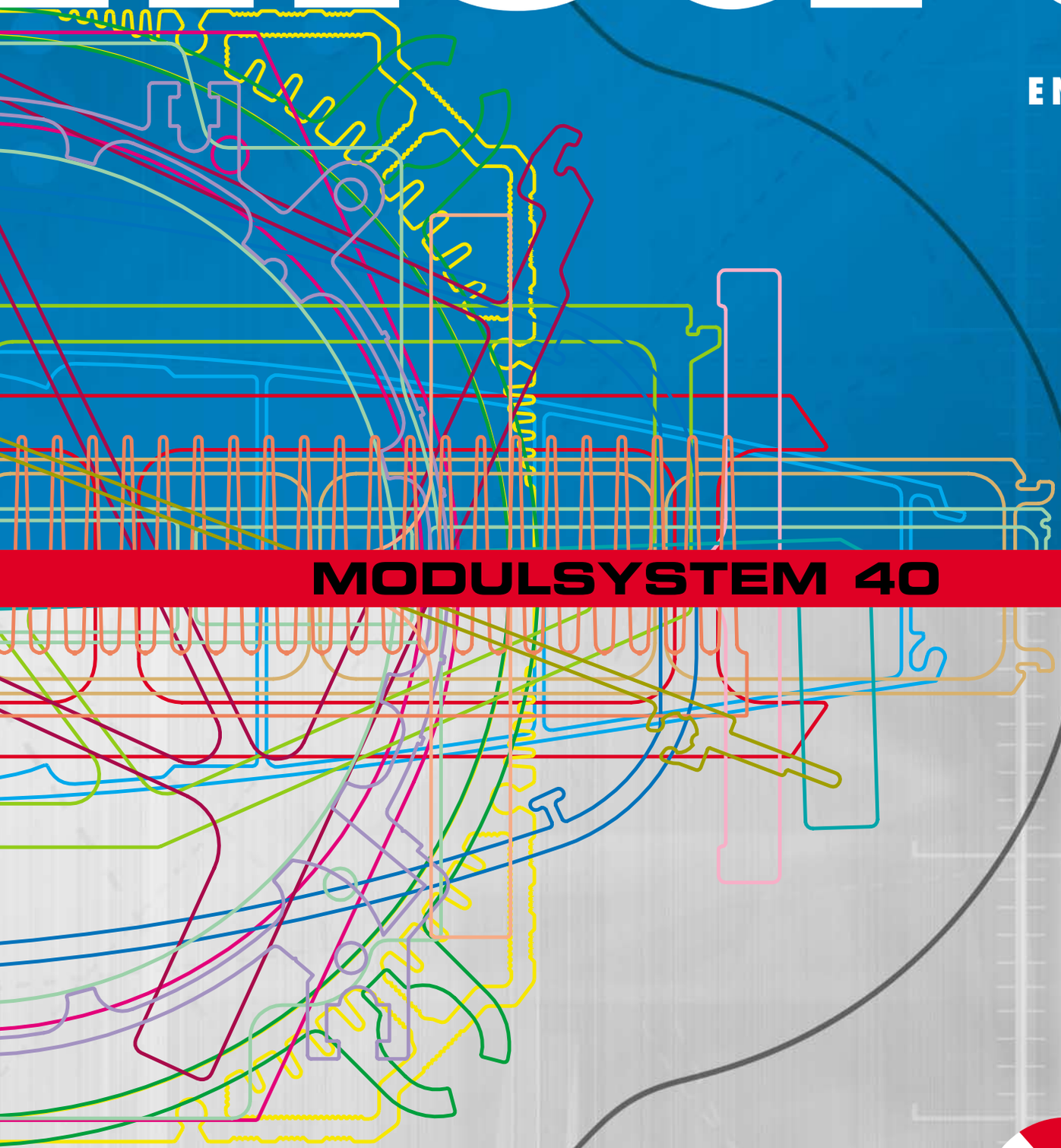
metra

ENGLISH



MODULSYSTEM 40

metra
PROTAGONISTI DI UN'EPOCA

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METRA spa GENERAL SALES CONDITIONS FOR ITALY

Art. 1 Object and sphere of application of these conditions – These general conditions regulate the supply relationship among the parties except for any special dispensations specifically agreed in writing by the parties. However, notwithstanding any special dispensations agreed in writing these conditions shall continue to be in force as far as those parts not specially dispensed.

Art. 2 Formation of the contract – Acceptance by the buyer of Metra's offer or of its order confirmation, in whichever way it may be effected, shall entail the acceptance of these general sales conditions, and this applies even if acceptance of the contract is effected through a simple execution thereof. Offers made by Metra's sales agents are not binding upon Metra until confirmed by Metra itself.

Art. 3 Samples and modifications. – 3.1 – Information date, dimensions, working and assembly drawings, prices, output, colours and other date appearing in catalogues, prospects, publicity apvertisement, drawings, price lists or any other Metra documents, such as the characteristics of samples and models sent by Metra to the buyer are to be retained as indicative of approximate value. These date are not binding on the company unless expressly stated as such in the written offer or in the written confirmation by Metra. – 3.2 Modification of the products- Metra reserves the right to carry out non-substantial technical modifications to its own products which may be deemed fit due to production requirements without being obliged to communicate such changes.

Art. 4 Guarantee – 4.1 – Product conformity - within the provisions of this article, Metra guarantees the conformity of its finished products. By the term "product conformity" it is intended that the products agree both in quality and type to what is defined in the contract and that they are free of any defects which may make them unsuitable for the use for which they are produced. As far as quantity is concerned, the buyer recognises the used tolerances in extrusion to Metra. 4.2 – Extension of the guarantee – The guarantee against defects is limited only to defects of the products concerning the material or the construction which can be proven to be Metra's responsibility; it doesn't apply, therefore, in cases where the buyer cannot prove to have correctly installed or used the products. 4.3 – Metra is not held responsible for non-conformity due to possible crashing or scratches due to transportation or to handling. 4.4 – As far as the construction systems, or other industrial uses are concerned, reference is to be made to the "general notes" and to the "prescriptions" dealing with safety and to whatever is contained in Metra's catalogues and technical documentation, which upon confirmation of the order, the buyer acknowledges to accept and which, in any case, form an integral part of these general conditions. 4.5 – Should Metra have carried out certain technical modifications to the products as provided for by art. 3.2, Metra guarantees that these products will have the same functional performance. Metra is not responsible for non-conformity of those products whose parts are subject to continuous wear and tear. Metra is not responsible for non-conformity of products whose non-conformity was caused by a deed subsequent to the passing of the risk to the buyer. 4.6 – Product installation - Metra dose not guarantee against possible product defects due to incorect product installation. 4.7 – complaints – The buyer has the onus of checking product conformity and that they are free of defects within eight days of reception of the products, and in any case before starting any work on the said products. The buyer must report any defects apparent or latent of the products within a short time from discovering the defects, and in any case no later than six months from the delivery date. Complaints must be notified to Metra by registered mail detailing the defects or the alleged non-conformity. The buyer delays from his guarantee rights if, won request by Metra, to controls herd reasonable by Metra, or, should Metra request that the buyer return the faulty products at its own expenses, the buyer failed to do so within eight days from the request 4.8 – Remedies – following the buyer's regular notification made in terms of this article, Metra, at its own choice, could: a) supply the buyer ex works products of the same type and quantity as the faulty ones or the ones not conforming to the ones agreed upon within a reasonable period of time considering the extent of the dispute; b) credit the buyer's account with a sum of money equal to that of the faulty and non-performing products. Metra, in this case, could request the return of the faulty products which then become property of Metra. 4.9 – Metra's responsibility limitation – possible compensation to the buyer of whatever damages, cannot exceed the price of the disputed products as invoiced. The guarantee as per this article replaces and replaces the legal guarantees for defects and non-conformity and excludes any other possible Metra responsibilities originating from the products supplied. The buyer cannot make any further requests for compensation of the damages nor can he request any price reduction or the resolution of the contract. Metra cannot be held responsible for any indirect or consequential damages.

Art. 5 – Technical norms and manufacturer responsibilities – On the premise that as far as the product characteristics are concerned, Metra complies with the legal provisions ruling in Italy, the buyer takes on full risk for any possible non-conformity between the Italian rules and those ruling in the country where the goods are delivered thus holding Metra free from any responsibilities. Metra guarantees the performance of its products only and exclusively in relation to the uses, destinations, applications, tolerances, etc. as expressly indicated by Metra. The buyer is not authorized to dispose of the products supplied by Metra in a way not complying with the provisions as stated in the previous point.

No special dispensations to this article can be considered as valid unless specifically and expressly defined and accepted in writing by the parties hereto.

Art. 6 - 6.1 – **Delivery of the goods**. Except for as otherwise agreed, the delivery of the products is intended to be ex works; this applies also if the delivery is agreed to be arranged by Metra, in which case Metra will act as an agent of the buyer, since it is understood that the transport is undertaken at the buyer's risk and expense. 6.2 – The passing of the risk – The risks relative to the supply pass to the buyer at the moment the products leave Metra's factory, unless the commercial terms and the applicable norms do not provide for an antecedent period. Should the buyer not take delivery of the products at the delivery date for reasons which cannot be held against Metra, and should the risks have not passed as provided for in the preceding subsection, the risk shall pass on to the buyer at the agreed delivery date. Metra shall not be held responsible for any perishing or damaging of the products which may take place after the risks have passed. The buyer is in any case not exempted from the onus of having to pay for the products which may have been damaged or may have perished after the risks have passed. 6.3 - Starting of the delivery time – Even if the parties have agreed on the time when delivery will start, the time of delivery as indicated on the confirmation of order shall not start unless the following conditions have been complied with: a) the buyer has provided for the payment of the agreed instalment of the price due on account, and furthermore, b) has provided for the establishment of a letter of credit as a greed upon in the contract. Except for as otherwise agreed, delivery ex works of the products takes place through the written communication (even via telex or facsimile) to the buyer that products are at its disposal. 6.4 – Onus of Metra to deliver the goods: The delivery terms are intended as approximate in favour of Metra, and in any case with a fair margin of tolerance. Should there be a delivery delay proved to be Metra's fault, the buyer could resolve the contract, but only for the part not delivered, by sending Metra a registered letter with proof of delivery of its intention to cancel and having allowed a new delivery term of at least 30 days from the reception of the letter, within which period Metra could deliver all the goods not yet delivered as specified in the letter. This holds good also for partial deliveries about which it is specially understood that at no time delay in delivering, or failure to deliver one or more than one delivery, or the partial resolution of the contract for such reason as allowed for in this clause, can give the buyer the right to resolve the contract concerning the deliveries already effected or the future ones. Any Metra responsibility for damages deriving from either early or late deliveries either total or partial is hereby excluded. 6.5 – Obstacles independent from the parties' will – the delivery term shall be postponed for a period equal to the duration of the obstacle which happens independently from Metra's and the buyer's will after the contract has been agreed upon and which may cause the delivery to become either temporarily impossible, or excessively onerous. As soon as Metra will gain knowledge of the obstacle, Metra shall inform the buyer within a reasonable period of time of the existence of the obstacle, and unless not clearly understood from the nature of the obstacle, its probable effects on the obligation to deliver. Metra shall also inform the buyer when the obstacle will cease to exist. Both Metra and the buyer will have the power to resolve the contract by giving one month notice by registered letter with proof of reception if, at the expiry of a reasonable period from the agreed delivery date, such obstacle persists. The arising of the circumstances provided for in this article shall not give neither Metra nor the buyer any rights whatsoever to claim for damages or compensations of any nature.

Art. 7 – Payment – 7.1 – Prices and payments – the prices for the goods are intended to be ex works. Payments and any other amounts due for any reason to Metra, are intended to be made net to Metra's domicile. Except for as otherwise agreed upon in writing, payments must be made upon delivery of the goods at the bank indicated by Metra. Any payments made to Metra's agents or to Metra's representatives are not intended as having been made to Metra until such time as the money actually reaches Metra. 7.2 – Payment delays. Any delay or irregularities in payments, give Metra the right either to stop deliveries or to resolve the contracts even if not concerning the payments in question and the right to claim for any possible damages. Metra has in any case the right, starting from the time payments are due, to claim for interests at the rate ruling in Italy, increased by three per cent. Delays in payments give Metra, furthermore, the right to exclude the guarantee as per article 4, for the whole period during which the delay persist. The buyer cannot have any rights on any possible non performance by Metra if it is not up to date with his payments. The buyer is obliged to pay in full even in cases of dispute or controversy. No compensations against possible credits are possible in favour of Metra.

Art. 8 – Right of ownership - In case payments are to be made either in full or in part after the delivery, the products delivered remain the property of Metra until such time as payment is made for the whole amount due.

Art. 9 – Subsequent excessive onerousness. Should, for any reason not reasonably foreseable by any entrepreneur of the sector with a normal working experience, the execution of Metra's obligations become, before its execution, excessively onerous in relation to the performance originally agreed upon, in a way to change the relationship itself by more than 20 per cent, Metra can request a revision of the contractual conditions, and otherwise declare the contract null and void.

Art. 10 – Interpretation, changes, invalid clauses – Any references to price lists, general conditions, or any other of Metra's or third party materials are intended to refer to effective documents at the time they have been called except for as otherwise stated . Every change or integration by the contracting parties, to whom these general conditions apply, will have to be made in writing under the penalty of becoming null and void. The special dispensation of one or more of these general conditions must not be neither interpreted extensively nor in their analogy and they do not imply the will to not apply the general conditions in their entirety. In case of invalid or ineffective contractual disposition, the contract, in its entirety is integrated and interpreted as if it contains all the clauses which would allow to reach, in a legal manner, the main objective pursued by the agreement containing the clauses in question.

Art. 11 Jurisdiction – Any controversy relative or inherent to contracts to which these general conditions apply are under the jurisdiction of the court of Brescia. Metra may, however, elect to act within the buyer's forum.

Art. 12 – As for what has not herewith mentioned about sale terms, please refer to the commercial price list: METRA EDILIZIA and METRA INDUSTRIA.

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IGQ

CERTIFICATO
CERTIFICATE

IGQ 9434

Si certifica che il sistema di gestione per la qualità di:
We hereby certify that the quality management system operated by:

Metra Spa

Rodengo Saiano

Via Provinciale Stacca, 1
25050 Rodengo Saiano BS

è conforme alla norma:
is in compliance with the standard:

UNI EN ISO 9001:2000

per le seguenti attività:
for the following activities:

EA: 17

Progettazione e fabbricazione di profilati di precisione estrusi in lega di alluminio e componentistica accessoria impiegati nei sistemi per l'edilizia e nelle applicazioni industriali

Design and manufacture of aluminium alloy extruded sections and fittings employed in the construction industry and other industrial applications

prima emissione: *first issued on:* **1994-12-16**
emissione corrente: *last issued on:* **2003-07-08**
data di scadenza: *valid until:* **2006-06-30**

Il Direttore
Dario Agalbato

www.igq.it - info@igq.it

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IQNet

THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and its partner

CISQ/IGQ

hereby certify that the organization

Metra Spa

Rodengo Saiano

Via Provinciale Stacca, 1
25050 Rodengo Saiano BS

has implemented and maintains a Quality Management System
which fulfills the requirements of the standard

ISO 9001:2000

for the following activities:

Design and manufacture of aluminium alloy extruded sections and fittings employed in the construction industry and other industrial applications

issued on: **2003-07-08**
valid until: **2006-06-30**

CISQ/IGQ certified since: **1994-12-16**

Registration Number:

IT- 0123 IGQ 9434

IQNet

Fabio Roversi
President of IQNet

CISQ

Gianrenzo Prati
President of CISQ

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GENERAL NOTES

Profiles alloy: EN AW-6060 EN AW-6005 A EN AW-6082.

Hardness: T 5 - T 6

Dimensional and thickness tolerances: as per UNI 3879: EN755.9 standards

Profiles weight: The weight reported is theoretical and it could change according to dimensional tolerances of profiles (UNI 3879; EN 755.9).

Profiles dimensions: The dimensions reported are theoretical and they could change according to the dimensional tolerances of the extrusion (UNI 3879; EN 755.9).
This variation, which applies to all profiles, may have an influence, even if minimal, on the coupling system.
Both the painting and the anodising could contribute to increase or decrease the thickness of the profiles and could particularly increase or decrease the clearance during coupling phase.

Surface finishing of aluminium profiles: The protection and the finishing of the profiles surfaces must be carried out through anodising or painting.
— The anodising, with the European label "EURAS-EWAA/QUALANOD in the colour_____ will have to be carried out at the completion of the cycle which includes the preliminary operations: pickling , degreasing and either mechanical or chemical silking. The thickness of the oxide .must be guaranteed with an average value of 15 microns (class 15 Microns UNI 4522-66) unless otherwise required by the customer.
— The painting, with the European label "QUALICOAT" in the colour_____ according to R.A.L. table will have a thickness of 60 microns and will be carried out with a cycle which includes:
1) Acid degreasing at approximately 50°C
2) Double demineralizing washing
3) Pickling at about 50°C
4) Double demineralizing washing
5) Acid deoxidation
6) Double demineralizing washing
7) Chromizing at about 30°C
8) Demineralizing washing
9) Specific demineralizing washing
10) Drying
11) Painting through polyester powders with electrostatic application and baking in oven at about 180°.

In order to guarantee the duration and weatherproof, certain controls will have to be carried out; among these, the most important are the following:
– Control on the backing temperature which must be constant for all profiles.
– Control of the adhesion according to ISO 2409.
– Control of the resistance to bending according to EN ISO 1519.
– Control of the resistance to drawing according to EN ISO 1520.
– Control to crashing according to ASTM D 2794.
– Control of gloss according to ISO 2813.

Alloy EN AW-6060

PHYSICAL CHARACTERISTICS

Secific weight:	2,69	g / cm³	Coefficient of thermal expansion:	- from 20° to 100 °C:	23 • 10⁻⁶	1 / °K
Lower melting point:	605	°C		- from 20° to 200 °C:	24 • 10⁻⁶	1 / °K
Specific heat at 100 °C:	0,92	J / g • °K		- from 20° to 300 °C:	25 • 10⁻⁶	1 / °K
Thermal conductivity at 20 °C			Electric resistivity at 20 °C	- 0 Temper:	3,14	microOhm • cm
- 0 Temper:	2,09	W / cm • °K		- T6 Temper:	3,25	microOhm • cm
- T6 Temper:	1,75	W / cm • °K	Elasticity Young modulus:		67 000	N / mm²

CHEMICAL COMPOSITION ACCORDING TO EUROPEAN STANDARDS EN 573.3

Alloy designation	Si	Fe	Cu max	Mn max	Mg	Cr max	Zn max	Ti max	Others Each max	Others Total max	Al
EN AW-6060	0,3÷0,6	0,1÷0,3	0,10	0,10	0,35÷0,6	0,05	0,15	0,10	0,05	0,15	rest

MECHANICAL PROPERTIES ACCORDING TO EUROPEAN STANDARDS EN 755.2

Tipe of semiproduct	SUPPLY CONDITION Name	Symbol	Wall Thickness (mm)	Ultimate tensile strength Rm (Mpa)	Proof strength Rp 0.2% (Mpa)	Elongation A %	Elongation A_{50} mm %
Profile	Water quenching + natural ageing	T 4 (*)	e ≤ 25	120 min	60 min	16 min	14 min
	Press quenching + artificial ageing	T 5	e ≤ 5	160 »	120 »	8 »	6 »
			5 < e ≤ 25	140 »	100 »	8 »	6 »
	Water quenching + artificial ageing	T 6 (*)	e ≤ 3	190 »	150 »	8 »	6 »
			3 < e ≤ 25	170 »	140 »	8 »	6 »

(*) Mechanical properties at the indicated temper may be obtained by press quenching

Alloy EN AW-6005 A

PHYSICAL CHARACTERISTICS

Secific weight:	2,69	g / cm³	Coefficient of thermal expansion:	- from 20° to 100 °C:	23,3 • 10⁻⁶	1 / °K
Lower melting point:	590	°C		- from 20° to 200 °C:	24,2 • 10⁻⁶	1 / °K
Specific heat at 100 °C:	0,94	J / g • °K		- from 20° to 300 °C:	25,1 • 10⁻⁶	1 / °K
Thermal conductivity at 20 °C			Electric resistivity at 20 °C	- 0 Temper:	3,1	microOhm • cm
- 0 Temper:	2,01	W / cm • °K		- T6 Temper:	3,6	microOhm • cm
- T6 Temper:	1,82	W / cm • °K	Elasticity Young modulus:		69 000	N / mm²

CHEMICAL COMPOSITION ACCORDING TO EUROPEAN STANDARDS EN 573.3

Alloy designation	Si	Fe max	Cu max	Mn max	Mg	Cr max	Zn max	Ti max	Others Each max	Others Total max	Al
EN AW-6005 A	0,5÷0,9	0,35	0,30	0,5 (1)	0,4÷0,7	0,3 (1)	0,20	0,10	0,05	0,15	rest

Note (1): (Mn + Cr) = 0,12÷0,50

MECHANICAL PROPERTIES ACCORDING TO EUROPEAN STANDARDS EN 755.2

Tipe of semiproduct	SUPPLY CONDITION Name	Symbol	Wall Thickness (mm)	Ultimate tensile strength Rm (Mpa)	Proof strength Rp 0.2% (Mpa)	Elongation A %	Elongation A_{50} mm %
Open profile	Water quenching + natural ageing	T 4 (*)	e ≤ 25	180 min	90 min	15 min	13 min
	Water quenching + artificial ageing	T 6 (*)	e ≤ 5	270 »	225 »	8 »	6 »
			5 < e ≤ 10	260 »	215 »	8 »	6 »
			10 < e ≤ 25	250 »	200 »	8 »	6 »
Hollow profile	Water quenching + natural ageing	T 4 (*)	e ≤ 10	180 min	90 min	15 min	13 min
	Water quenching + artificial ageing	T 6 (*)	e ≤ 5	255 »	215 »	8 »	6 »
			5 < e ≤ 25	250 »	200 »	8 »	6 »

(*) Mechanical properties at the indicated temper may be obtained by press quenching

ALLOY EN AW-6082

PHYSICAL CHARACTERISTICS

Secific weight:	2,69	g / cm³	Coefficient of thermal expansion:	- from 20° to 100 °C:	23,2 • 10⁻⁶	1 / °K
Lower melting point:	555	°C		- from 20° to 200 °C:	24,1 • 10⁻⁶	1 / °K
Specific heat at 100 °C:	0,96	J / g • °K		- from 20° to 300 °C:	25,0 • 10⁻⁶	1 / °K
Thermal conductivity at 20 °C			Electric resistivity at 20 °C	- 0 Temper:	3,14	microOhm • cm
- 0 Temper:	2,09	W / cm • °K		- T6 Temper:	3,85	microOhm • cm
- T6 Temper:	1,72	W / cm • °K	Elasticity Young modulus:		69 000	N / mm²

CHEMICAL COMPOSITION ACCORDING TO EUROPEAN STANDARDS EN 573.3

Alloy designation	**Si**	**Fe** max	**Cu** max	**Mn**	**Mg**	**Cr** max	**Zn** max	**Ti** max	Others Each max	Others Total max	Al
EN AW-6082	0,7÷1,3	0,50	0,10	0,4÷1,0	0,6÷1,2	0,25	0,20	0,10	0,05	0,15	rest

MECHANICAL PROPERTIES ACCORDING TO EUROPEAN STANDARDS EN 755.2

Tipe of semiproduct	SUPPLY CONDITION Name	SUPPLY CONDITION Symbol	Wall Thickness (mm)	Ultimate tensile strength Rm (Mpa)	Proof strength Rp 0.2% (Mpa)	Elongation A %	Elongation A50 mm %
Profile	annealed or raw of extrusion	0,H111	all	160 max	110 max	14 min	12 min
	water quenching or natural ageing	T 4 (*)	e ≤ 25	205 min	110 min	14 min	12 min
Open profile	die quenching + artificial ageing	T 5	e ≤ 5	270 »	230 »	8 »	6 »
	water quenching + artificial ageing	T 6 (*)	e ≤ 5	290 »	250 »	8 »	6 »
			5 < e ≤ 25	310 »	260 »	10 »	8 »
Hollow profile	die quenching + artificial ageing	T 5	e ≤ 5	270 »	230 »	8 »	6 »
	water quenching + artificial ageing	T 6 (*)	e ≤ 5	290 »	250 »	8 »	6 »
			5 < e ≤ 15	310 »	260 »	10 »	8 »

(*) Mechanical properties at the indicated temper may be obtained by press quenching

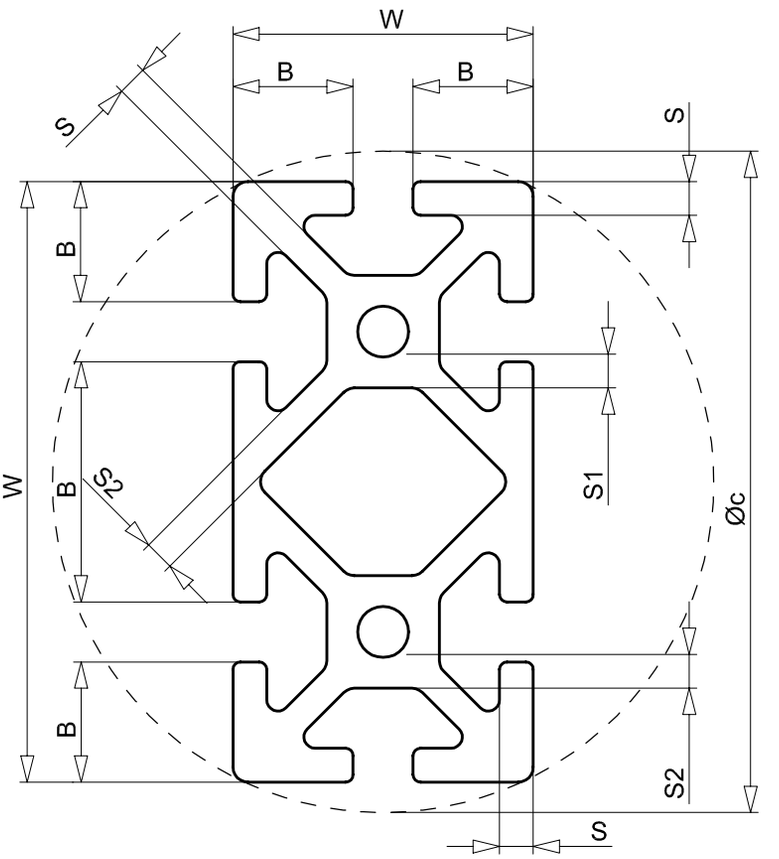
NOTES

SHAPE AND DIMENSIONAL TOLERANCES in conformity with EN 12020-2

Table 1

dimension B or W (mm) over	dimension B or W (mm) up to	dimensional tolerance B or W (mm)
	10	±0.15
10	15	±0.2
15	30	±0.25
30	45	±0.3
45	60	±0.4
60	90	±0.45
90	120	±0.6
120	150	±0.8
150	180	±1
180	240	±1.2
240	300	±1.5

The table 1 gives the tolerances B and W for transversal sections



W = Dimensions of surfaces with grooves

B = Dimensions of continuous surfaces

S = Thickness of walls not close to cavity

S_1, S_2 = Thickness of walls close to 1 or more cavities

Øc = Diameter of circumscribed circle

Table 2

Thickness (mm) over	Thickness (mm) up to	Tolerance on thickness S, S_1, S_2 in function of circumscribed diameter Øc — S: Øc ⁻ 100	S: Øc 100 ⁻ 300	S_1 o S_2: Ø ⁻ 100	S_1 o S_2: Øc 100 ⁻ 300
	1.5	±0.15	±0.2	±0.2	±0.3
1.5	3	±0.15	±0.25	±0.25	±0.4
3	6	±0.2	±0.3	±0.4	±0.6
6	10	±0.25	±0.35	±0.6	±0.8
10	15	±0.3	±0.4	±0.8	±1
15	20	±0.35	±0.45	±1.2	±1.5
20	30	±0.4	±0.5	-	-
30	40	±0.45	±0.6	-	-

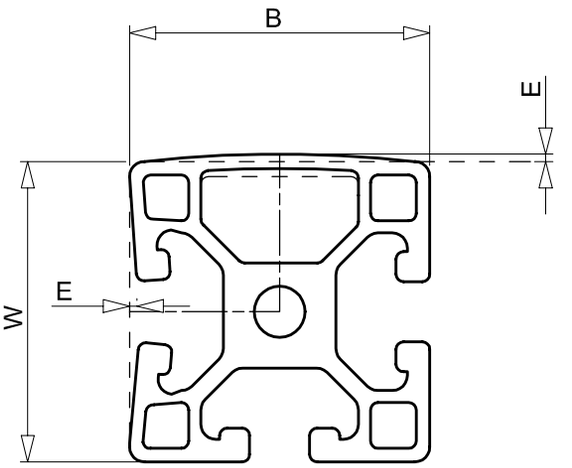
Thickness tolerances: refer to table 2

PLANARITY TOLERANCES

Table 3

dimension B or W (mm) over	dimension B or W (mm) up to	Planarity tolerances E (mm)
	30	0.2
30	60	0.3
60	100	0.4
100	150	0.5
150	200	0.7
200	250	0.85
250	300	1

The values of table 3 are valid both for dimensions B and for dimensions W referring to grooved surfaces.



STRAIGHTNESS TOLERANCES IN LONGITUDINAL DIRECTION

For local deformations the deviation A, referred to a 300 mm base, must not exceed 0.3 mm; the total deformation H must observe the limits of table 4

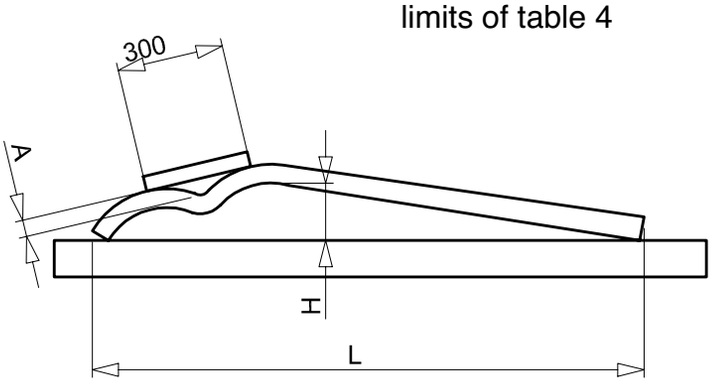


Table 4

Length L (mm)	up to 1000	from 1000 to 2000	from 2000 to 3000	from 3000 to 4000	from 4000 to 5000	from 5000 to 6000	over 6000
Tolerance H (mm)	0.7	1.3	1.8	2.2	2.6	3	3.5

TWISTING TOLERANCES

With the profile laying on a flat base under the action of its own weight, the deviation T from the supporting plane, measured in any point of the lower edge of the profile, must observe the values of table 5.

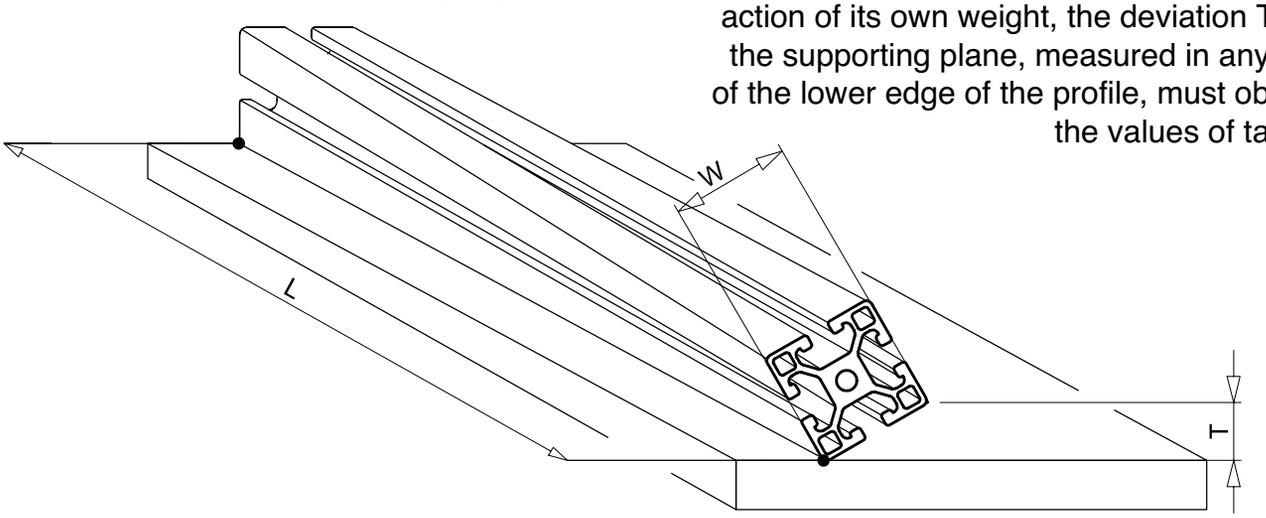
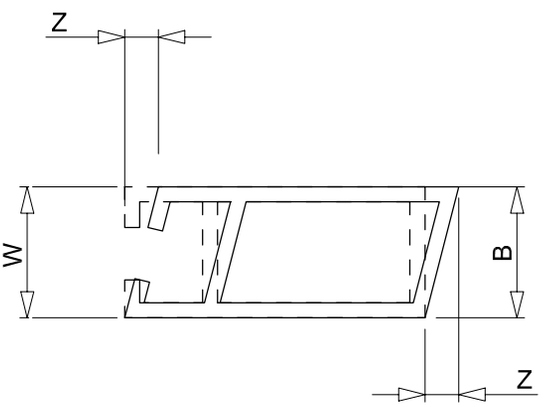


Table 5

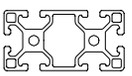
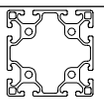
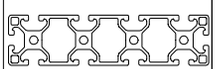
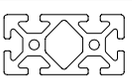
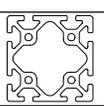
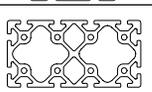
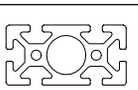
Width W (mm) over	Width W (mm) up to	Twisting tolerance T in function of length L: up to 1000	from 1000 to 2000	from 2000 to 3000	from 3000 to 4000	from 4000 to 5000	from 5000 to 6000	over 6000
	25	1	1.5	1.5	2	2	2	to be agreed
25	50	1	1.2	1.5	1.8	2	2	
50	75	1	1.2	1.2	1.5	2	2	
75	100	1	1.2	1.5	2	2.2	2.5	
100	125	1	1.5	1.8	2.2	2.5	3	
125	150	1.2	1.5	1.8	2.2	2.5	3	
150	200	1.5	1.8	2.2	2.6	3	3.5	
200	300	1.8	2.5	3	3.5	4	4.5	

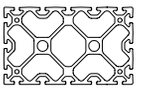
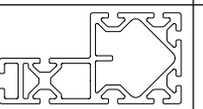
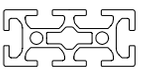
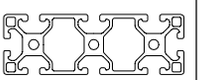
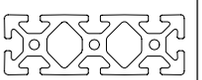
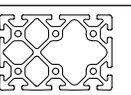
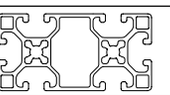
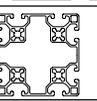
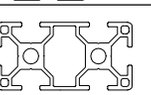
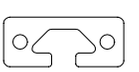
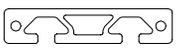
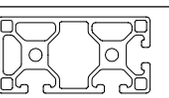
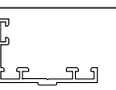
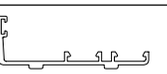
PERPENDICULARITY TOLERANCES

dimension B or W (mm) over	dimension B or W (mm) up to	Tolerance on dimensions Z (mm)
	30	0.3
30	50	0.4
50	80	0.5
80	100	0.6
100	120	0.7
120	140	0.8
140	160	0.9
160	180	1
180	200	1.2
200	240	1.5

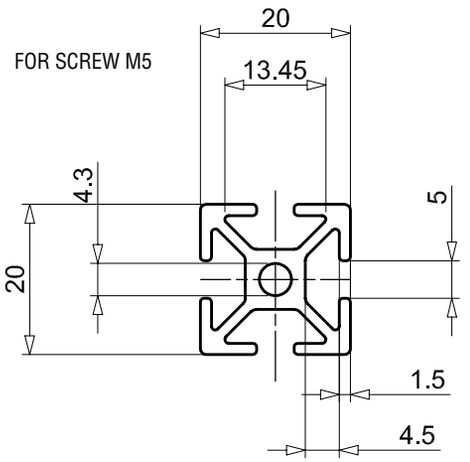


If the profile's shape includes, surfaces at 90° between them, the max deviation Z from orthogonality is indicated in table 6.

SECTION	CODE	DESCRIPTION	TABLE
	R 7157	TUBULAR 20X20	A2
	R 7158	TUBULAR 20X20L	A2
	R 7159	TUBULAR 20X32	A5
	R 7160	TUBULAR 40X40 LIGHT WEIGHT	A9
	R 7161	TUBULAR 40X40 LIGHT WEIGHT	A10
	R 7162	TUBULAR 40X80 LIGHT WEIGHT	A11
	R 7163	TUBULAR 80X80 LIGHT WEIGHT	A12
	R 7164	TUBULAR 20X20	A3
	R 7165	TUBULAR 40X160 LIGHT WEIGHT	A14
	R 7166	TUBULAR 20X40	A6
	R 7167	TUBULAR 40X40 LIGHT WEIGHT	A9
	R 7168	TUBULAR 40X40X45° LIGHT WEIGHT	A10
	R 7169	TUBULAR 40X40X45° HEAVY	A15
	R 7170	TUBULAR 40X40 HEAVY	A15
	R 7171	TUBULAR 40X80 HEAVY	A18
	R 7172	TUBULAR 80X80 HEAVY	A18
	R 7173	TUBULAR 80X160 HEAVY	A21
	R 7174	TUBULAR 40X40X135° HEAVY	A17
	R 7175	TUBULAR 40X80 HEAVY	A17
	R 7176	TUBULAR 20X32	A5

SECTION	CODE	DESCRIPTION	TABLE
	R 7177	TUBULAR 120X200 HEAVY	A22
	R 7179	TUBULAR FOR PNEUMATICS	A25
	R 8439		A23
	R 8936	TUBULAR 30X70	A25
	R 9402	TUBULAR 40X120 LIGHT WEIGHT	A13
	R 9403	TUBULAR 40X120 HEAVY WEIGHT	A19
	R 9404	TUBULAR 80X120 HEAVY WEIGHT	A20
	R 9725	TUBULAR 30X30	A4
	R 9726	TUBULAR 60X60	A24
	R 10170	TUBULAR 40X40 EXTRA LIGHT WEIGHT	A7
	R 10171	TUBULAR 40X80 EXTRA LIGHT WEIGHT	A7
	R 10172	TUBULAR 80X80 EXTRA LIGHT WEIGHT	A8
	R 10173	TUBULAR 40X40 LIGHT WEIGHT ROUNDED	A11
	R 10177	TUBULAR 30X60	A4
	R 10179	TUBULAR 45X16.5	A16
	R 10180	TUBULAR 80X16.5	A16
	R 10181	TUBULAR 40X80 3 CAVITIES	A12
	A 1910	PROFILE FOR CEMENTED BAR Ø 12	A27
	4606	40 MM COMPLEMENTARY PROFILE	A26
	4732	80 MM COMPLEMENTARY PROFILE	A26
	G 1351	8 MM CAVITY COVER PROFILE	A27

PROFILE 20x20



CODE FOR ORDER
R 7157 BAR LENGTH 6100 mm

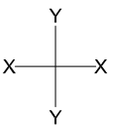
TECHNICAL FEATURES

EXT. PERIMETER	170	mm
PARTS IN VIEW	60	mm
SURFACE	170	mm^2
WEIGHT	0.459	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	0.68	cm^4
	Jy	0.68	cm^4
Moment of resistance	Wx	0.68	cm^3
	Wy	0.68	cm^3

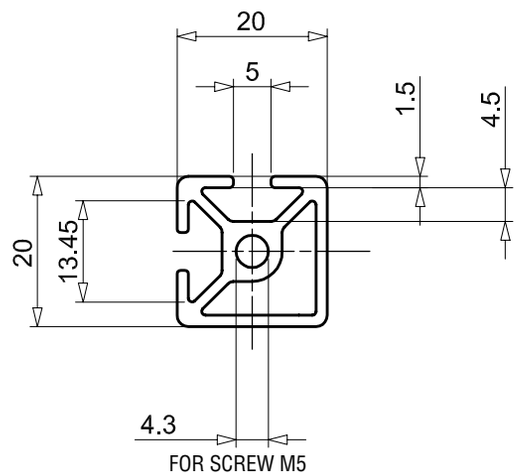
FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B



MATERIAL

ALLOY EN AW 6060

PROFILE 20x20 2 CAVITIES



CODE FOR ORDER
R 7158 BAR LENGTH 6100 mm

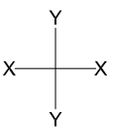
TECHNICAL FEATURES

EXT. PERIMETER	123	mm
PARTS IN VIEW	70	mm
SURFACE	170	mm^2
WEIGHT	0.459	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	0.69	cm^4
	Jy	0.69	cm^4
Moment of resistance	Wx	0.69	cm^3
	Wy	0.69	cm^3

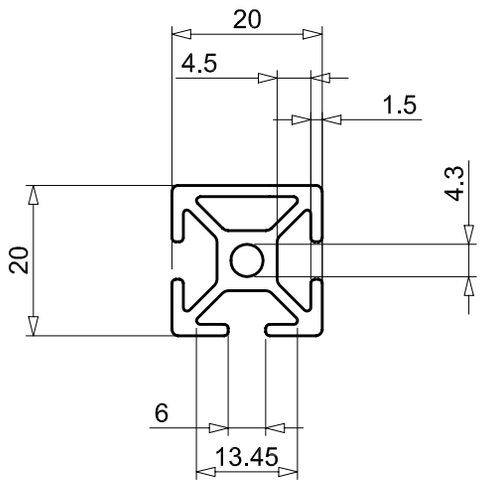
FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B



MATERIAL

ALLOY EN AW 6060

PROFILE 20x20
2 CAVITIES



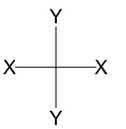
TECHNICAL FEATURES

EXT. PERIMETER	148	mm
PARTS IN VIEW	65	mm
SURFACE	178	mm^2
WEIGHT	0.481	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	0.64	cm^4
	Jy	0.71	cm^4
Moment of resistance	Wx	0.64	cm^3
	Wy	0.68	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

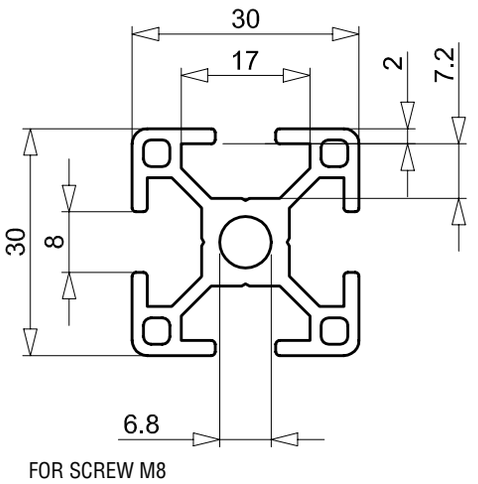


CODE FOR ORDER
R 7164 BAR LENGTH 6100 mm

MATERIAL

ALLOY	EN AW 6060

PROFILE 30x30



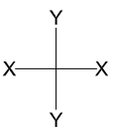
FOR SCREW M8

TECHNICAL FEATURES

EXT. PERIMETER	240	mm
PARTS IN VIEW	80	mm
SURFACE	323	mm^2
WEIGHT	0.872	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	2.85	cm^4
	Jy	2.85	cm^4
Moment of resistance	Wx	1.9	cm^3
	Wy	1.9	cm^3

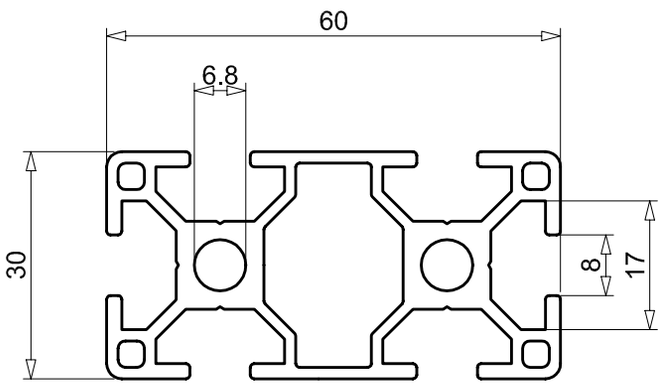


CODE FOR ORDER
R 9725 BAR LENGTH 6100 mm

MATERIAL

ALLOY EN AW 6060

PROFILE 30x60

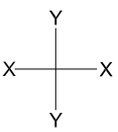


TECHNICAL FEATURES

EXT. PERIMETER	363	mm
PARTS IN VIEW	132	mm
SURFACE	542	mm^2
WEIGHT	1.490	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	4.994	cm^4
	Jy	20.149	cm^4
Moment of resistance	Wx	3.329	cm^3
	Wy	6.716	cm^3

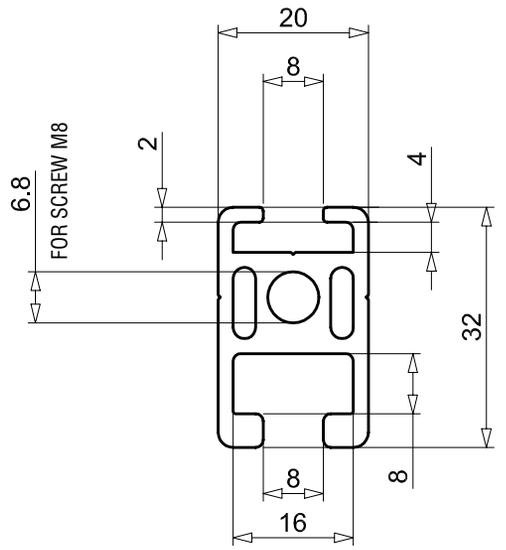


CODE FOR ORDER
R 10177 BAR LENGTH 6100 mm

MATERIAL

ALLOY EN AW 6060

PROFILE 20x32



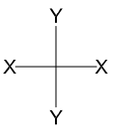
TECHNICAL FEATURES

EXT. PERIMETER	165	mm
PARTS IN VIEW	93	mm
SURFACE	301	mm^2
WEIGHT	0.813	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	2.433	cm^4
	Jy	1.428	cm^4
Moment of resistance	Wx	1.478	cm^3
	Wy	1.428	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

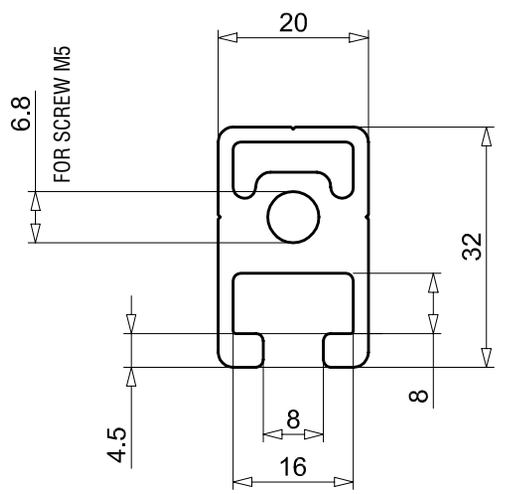


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7159 BAR LENGTH 6100 mm

PROFILE 20x32



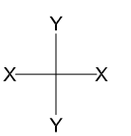
TECHNICAL FEATURES

EXT. PERIMETER	139	mm
PARTS IN VIEW	91	mm
SURFACE	351	mm^2
WEIGHT	0.948	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	2.702	cm^4
	Jy	1.579	cm^4
Moment of resistance	Wx	1.582	cm^3
	Wy	1.579	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

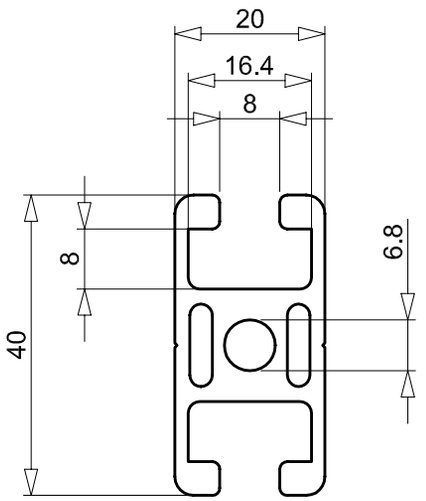


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7176 BAR LENGTH 6100 mm

PROFILE 20x40

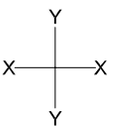


TECHNICAL FEATURES

EXT. PERIMETER	194 mm
PARTS IN VIEW	104 mm
SURFACE	362 mm^2
WEIGHT	0.977 Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	4.463	cm^4
	Jy	1.722	cm^4
Moment of resistance	Wx	2.232	cm^3
	Wy	1.722	cm^3



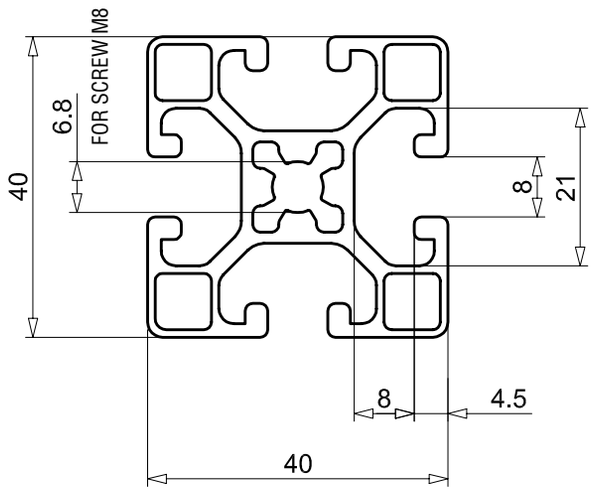
FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

CODE FOR ORDER
R 7166 BAR LENGTH 6100 mm

MATERIAL

ALLOY EN AW 6060

PROFILE 40x40
LIGHT WEIGHT

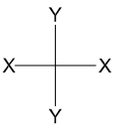


TECHNICAL FEATURES

EXT. PERIMETER	363	mm
PARTS IN VIEW	128	mm
SURFACE	488	mm^2
WEIGHT	1.318	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	7.132	cm^4
	Jy	7.132	cm^4
Moment of resistance	Wx	3.564	cm^3
	Wy	3.564	cm^3

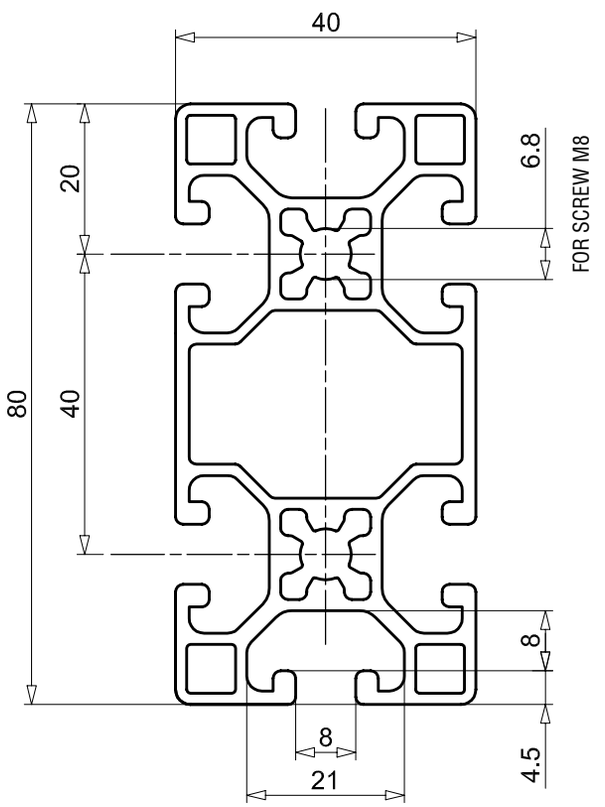


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 10170 BAR LENGTH 6100 mm

PROFILE 40x80
LIGHT WEIGHT



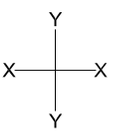
TECHNICAL FEATURES

EXT. PERIMETER	545	mm
PARTS IN VIEW	192	mm
SURFACE	901	mm^2
WEIGHT	2.432	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	15.151	cm^4
	Jy	59.684	cm^4
Moment of resistance	Wx	7.576	cm^3
	Wy	14.921	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING
TO THE ELASTIC, BENDING AND TWISTING
DEFORMATIONS, REFER TO GROUP B

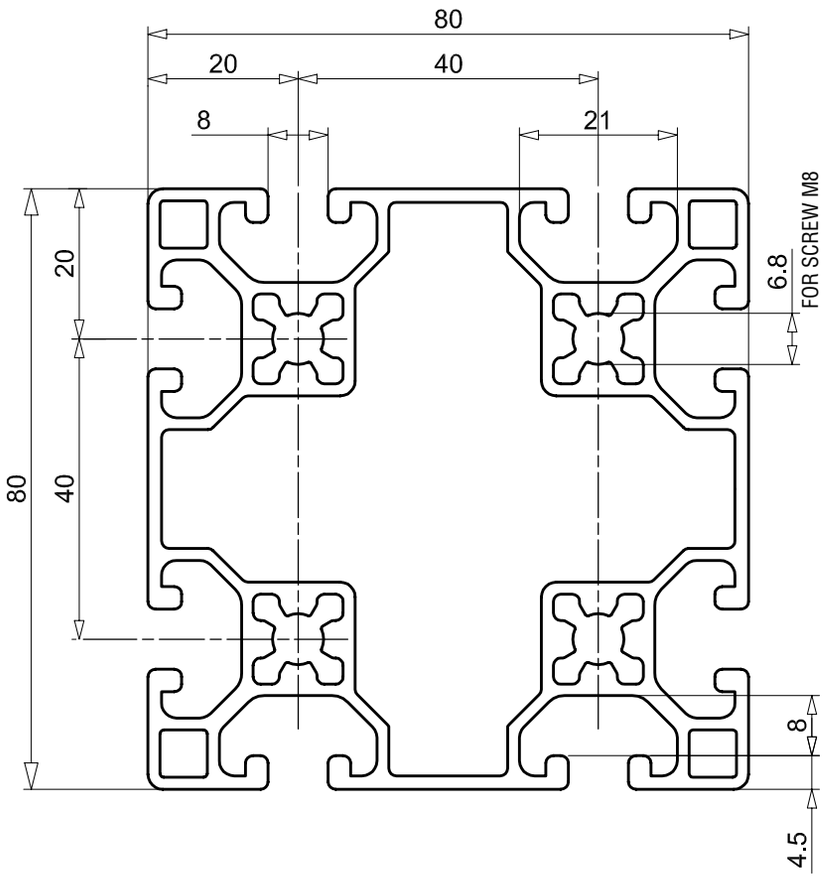


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 10171 BAR LENGTH 6100 mm

PROFILE 80x80
LIGHT WEIGHT



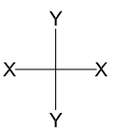
TECHNICAL FEATURES

EXT. PERIMETER	728	mm
PARTS IN VIEW	256	mm
SURFACE	1424.5	mm^2
WEIGHT	3.846	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	103.553	cm^4
	Jy	103.553	cm^4
Moment of resistance	Wx	25.888	cm^3
	Wy	25.888	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

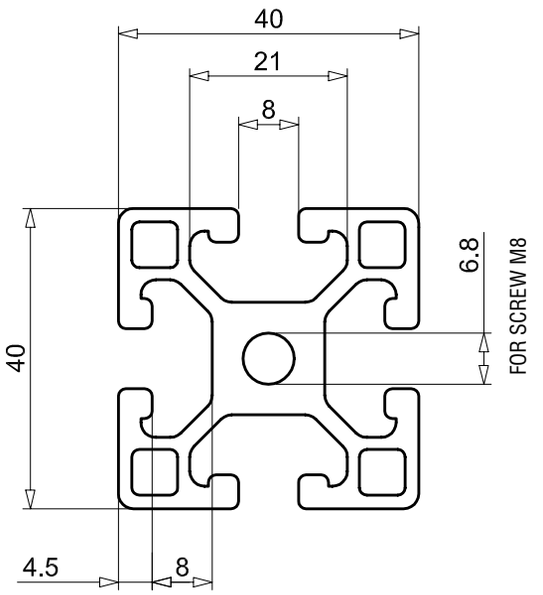


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 10172 BAR LENGTH 6100 mm

PROFILE 40x40
LIGHT WEIGHT



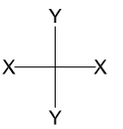
TECHNICAL FEATURES

EXT. PERIMETER	344	mm
PARTS IN VIEW	128	mm
SURFACE	663	mm^2
WEIGHT	1.790	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	9.913	cm^4
	Jy	9.913	cm^4
Moment of resistance	Wx	4.957	cm^3
	Wy	4.957	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

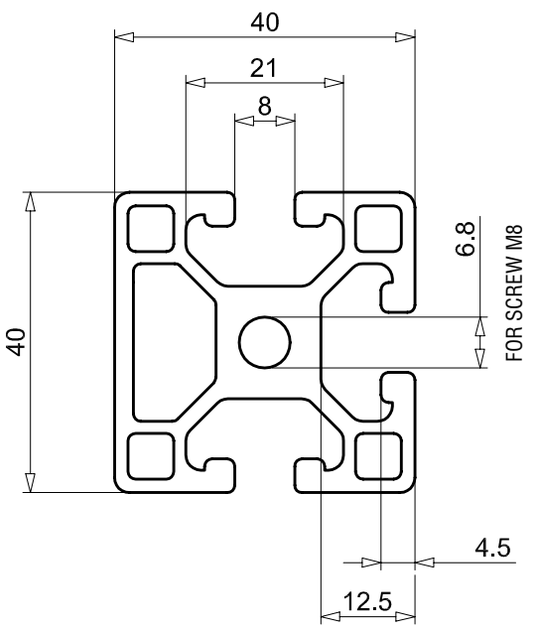


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7160 BAR LENGTH 6100 mm

PROFILE 40x40
3 CAVITIES LIGHT WEIGHT



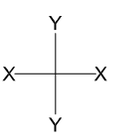
TECHNICAL FEATURES

EXT. PERIMETER	296	mm
PARTS IN VIEW	158	mm
SURFACE	648	mm^2
WEIGHT	1.749	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	9.786	cm^4
	Jy	10.005	cm^4
Moment of resistance	Wx	4.888	cm^3
	Wy	4.979	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

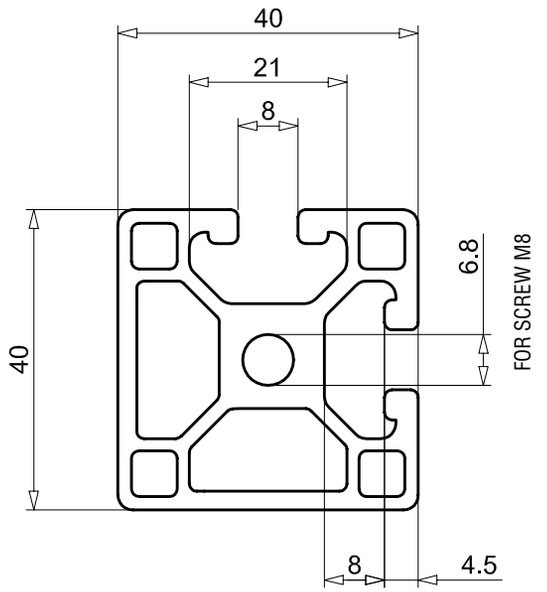


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7167 BAR LENGTH 6100 mm

PROFILE 40x40
2 CAVITIES LIGHT WEIGHT



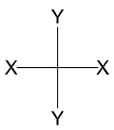
TECHNICAL FEATURES

EXT. PERIMETER	250	mm
PARTS IN VIEW	144	mm
SURFACE	663	mm^2
WEIGHT	1.709	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	9.878	cm^4
	Jy	9.878	cm^4
Moment of resistance	Wx	4.921	cm^3
	Wy	4.921	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

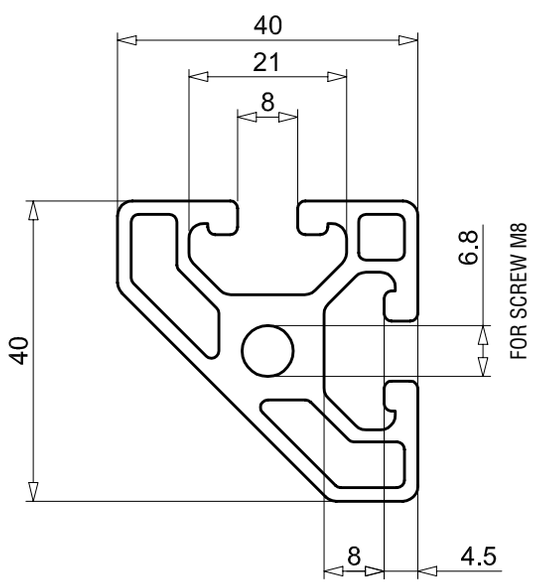


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7161 BAR LENGTH 6100 mm

PROFILE 40x40
45° LIGHT WEIGHT



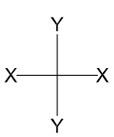
TECHNICAL FEATURES

EXT. PERIMETER	234	mm
PARTS IN VIEW	124	mm
SURFACE	519	mm^2
WEIGHT	1.401	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	6.410	cm^4
	Jy	6.410	cm^4
Moment of resistance	Wx	2.777	cm^3
	Wy	2.777	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

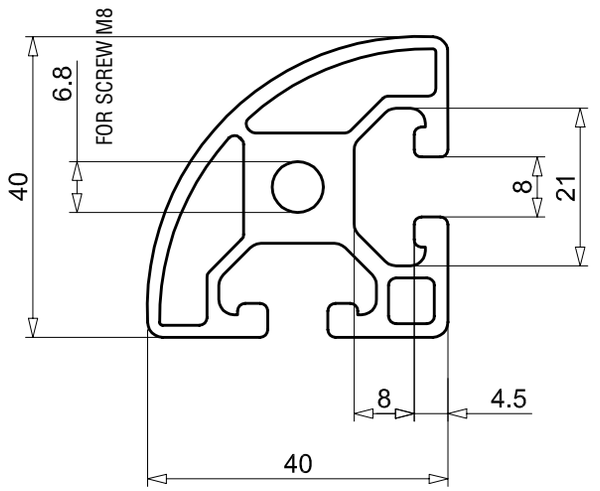


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7168 BAR LENGTH 6100 mm

PROFILE 40x40
LIGHT WEIGHT ROUNDED

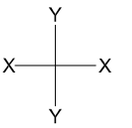


TECHNICAL FEATURES

EXT. PERIMETER	235	mm
PARTS IN VIEW	121	mm
SURFACE	542	mm^2
WEIGHT	1.463	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	6.809	cm^4
	Jy	6.808	cm^4
Moment of resistance	Wx	3.044	cm^3
	Wy	3.052	cm^3

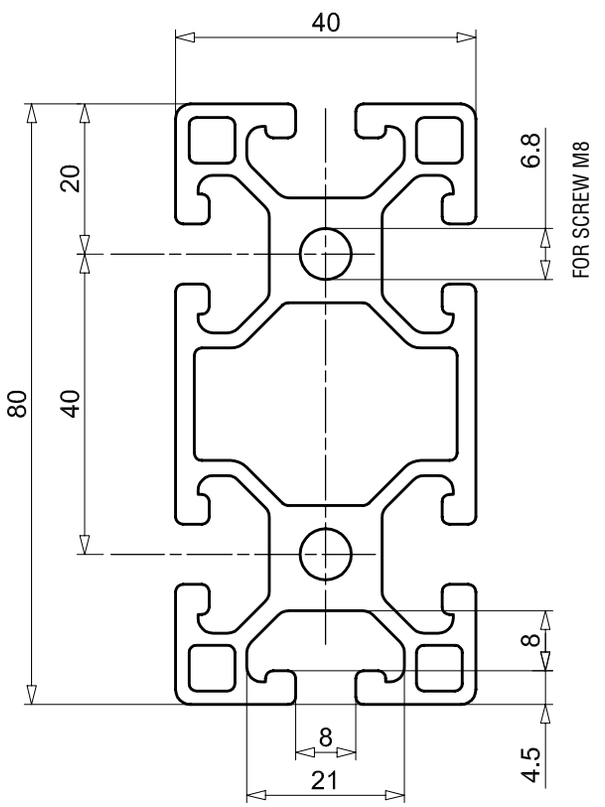


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 10173 BAR LENGTH 6100 mm

PROFILE 40x80
LIGHT WEIGHT



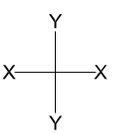
TECHNICAL FEATURES

EXT. PERIMETER	517	mm
PARTS IN VIEW	192	mm
SURFACE	1123	mm^2
WEIGHT	3.032	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	72.237	cm^4
	Jy	18.458	cm^4
Moment of resistance	Wx	18.059	cm^3
	Wy	9.229	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

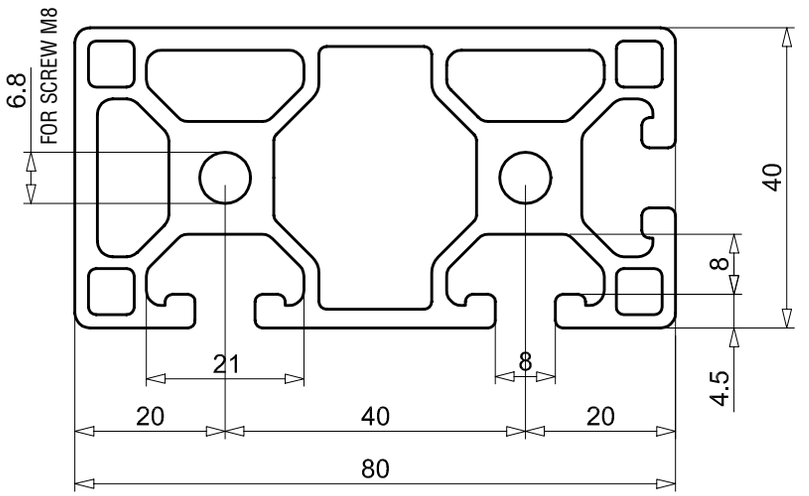


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7162 BAR LENGTH 6100 mm

PROFILE 40x80
3 CAVITIES LIGHT WEIGHT

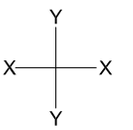


TECHNICAL FEATURES

EXT. PERIMETER	377	mm
PARTS IN VIEW	210	mm
SURFACE	1163	mm^2
WEIGHT	3.14	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	19.493	cm^4
	Jy	75.379	cm^4
Moment of resistance	Wx	9.525	cm^3
	Wy	18.63	cm^3

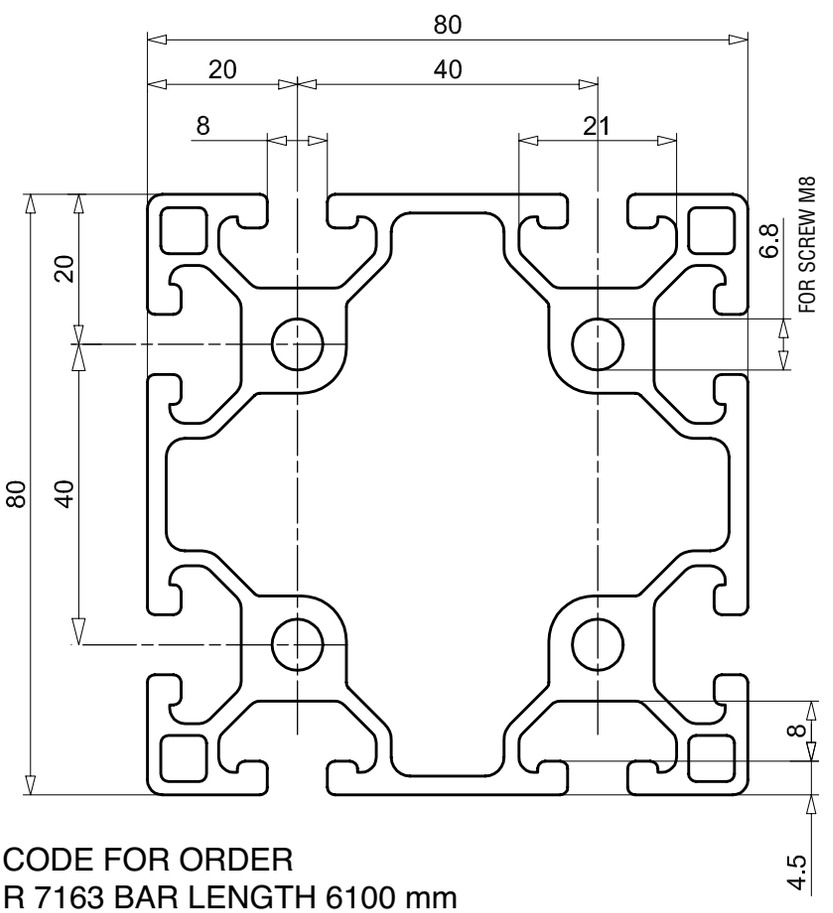


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 10181 BAR LENGTH 6100 mm

PROFILE 80x80
LIGHT WEIGHT



TECHNICAL FEATURES

EXT. PERIMETER	691	mm
PARTS IN VIEW	256	mm
SURFACE	1694	mm^2
WEIGHT	4.574	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	124.759	cm^4
	Jy	124.759	cm^4
Moment of resistance	Wx	31.190	cm^3
	Wy	31.190	cm^3

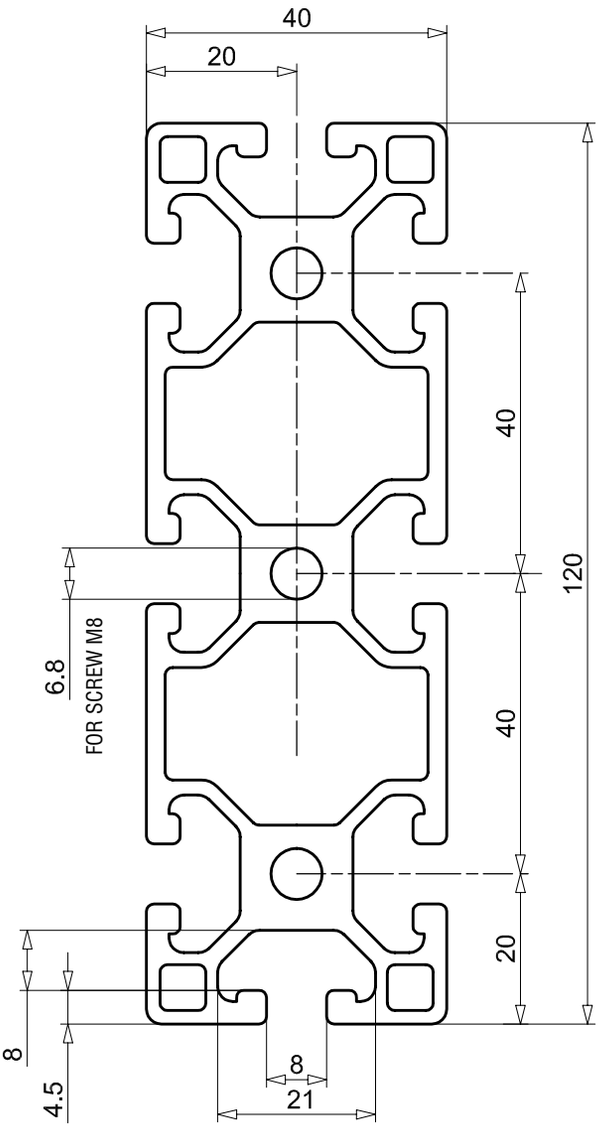
FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7163 BAR LENGTH 6100 mm

PROFILE 40x80
LIGHT WEIGHT



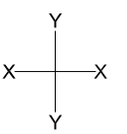
TECHNICAL FEATURES

EXT. PERIMETER		691 mm
PARTS IN VIEW		236 mm
SURFACE		1584 mm^2
WEIGHT		4.277 Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	27.002 cm^4
	Jy	224.416 cm^4
Moment of resistance	Wx	13.501 cm^3
	Wy	37.403 cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

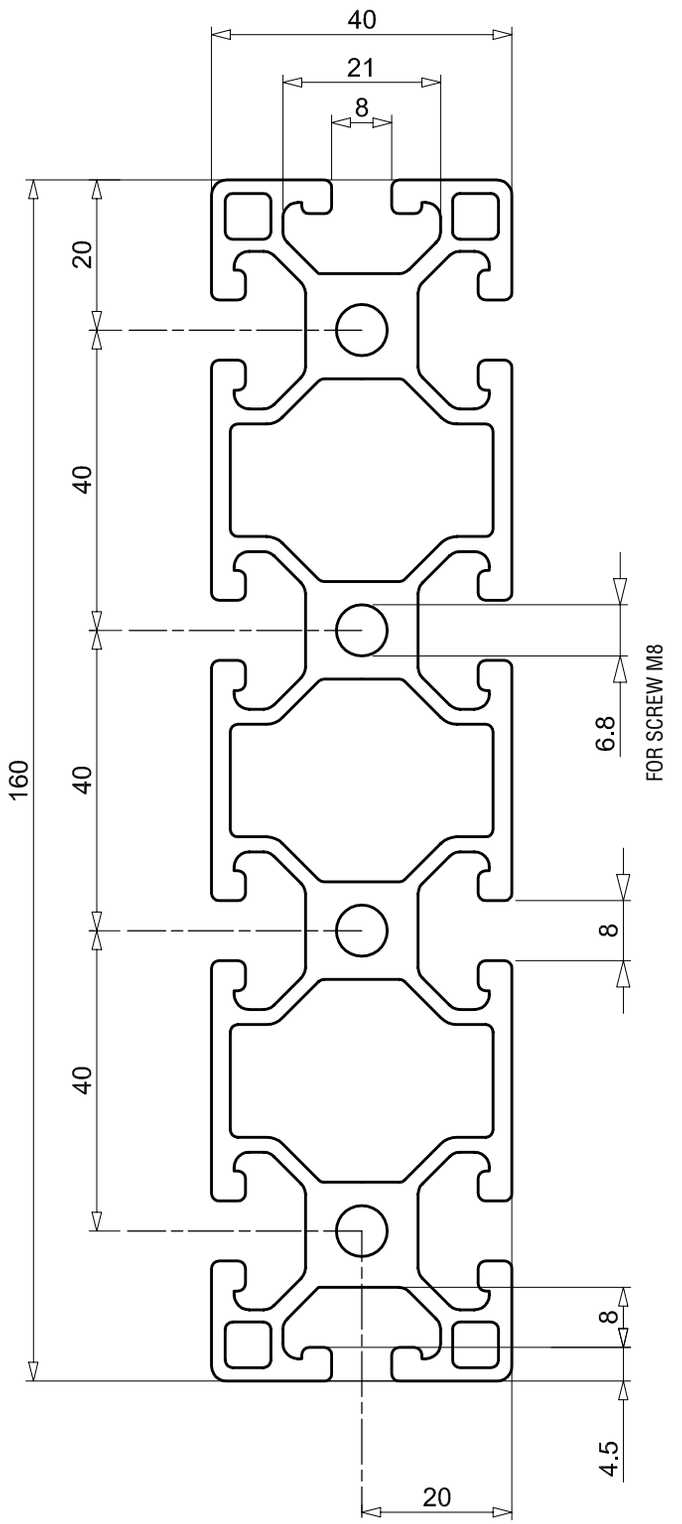


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 9402 BAR LENGTH 6100 mm

PROFILE 40x160
LIGHT WEIGHT



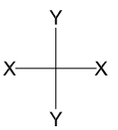
TECHNICAL FEATURES

EXT. PERIMETER	864 mm
PARTS IN VIEW	384 mm
SURFACE	2043 mm^2
WEIGHT	5.516 Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	503.196 cm^4
	Jy	35.546 cm^4
Moment of resistance	Wx	62.899 cm^3
	Wy	17.722 cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

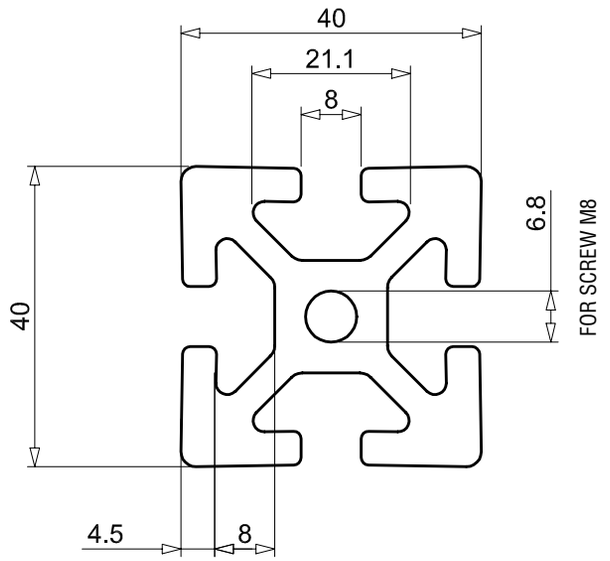


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7165 BAR LENGTH 6100 mm

PROFILE 40x40
HEAVY WEIGHT WITH PRE-LOAD



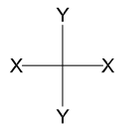
TECHNICAL FEATURES

EXT. PERIMETER	318	mm
PARTS IN VIEW	128	mm
SURFACE	880	mm^2
WEIGHT	2.376	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	14.002	cm^4
	Jy	14.002	cm^4
Moment of resistance	Wx	7.001	cm^3
	Wy	7.001	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

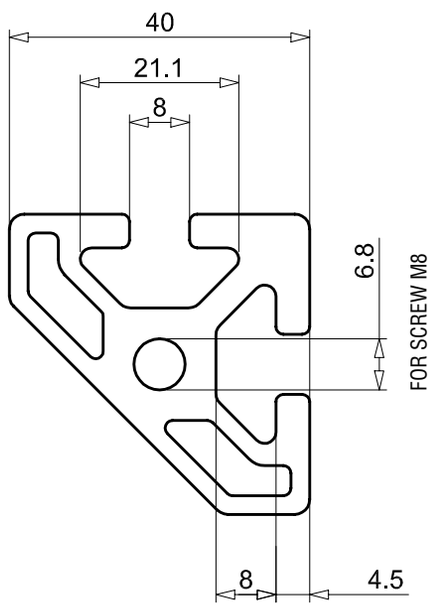


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7170 BAR LENGTH 6100 mm

PROFILE 40x40
45° HEAVY WEIGHT



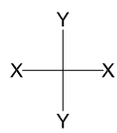
TECHNICAL FEATURES

EXT. PERIMETER	224	mm
PARTS IN VIEW	124	mm
SURFACE	653	mm^2
WEIGHT	1.763	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	8.349	cm^4
	Jy	8.349	cm^4
Moment of resistance	Wx	3.55	cm^3
	Wy	3.55	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

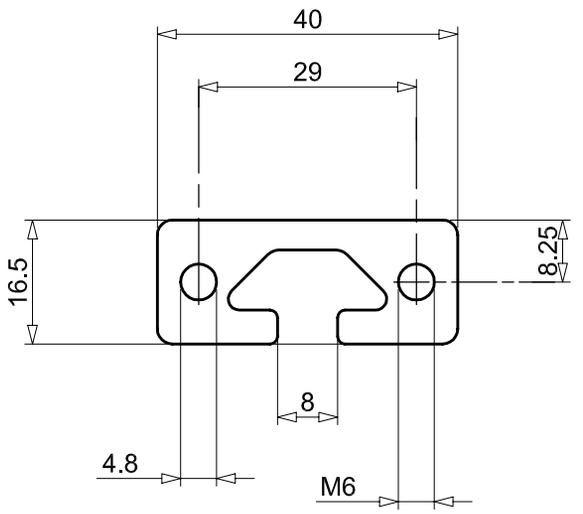


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7169 BAR LENGTH 6100 mm

PROFILE 40x16.5
HEAVY WEIGHT

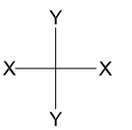


TECHNICAL FEATURES

EXT. PERIMETER	151	mm
PARTS IN VIEW	105	mm
SURFACE	451	mm^2
WEIGHT	1.218	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	1.253	cm^4
	Jy	7.529	cm^4
Moment of resistance	Wx	1.421	cm^3
	Wy	3.765	cm^3

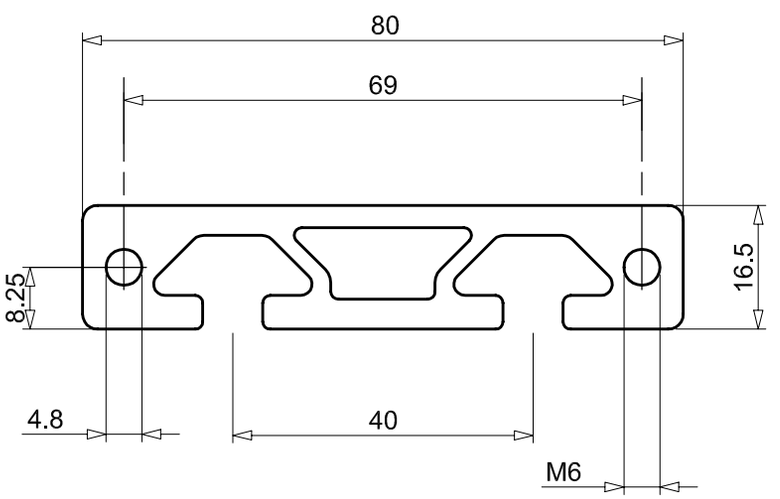


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 10179 BAR LENGTH 6100 mm

PROFILE 40x16.5
HEAVY WEIGHT

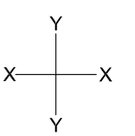


TECHNICAL FEATURES

EXT. PERIMETER	272	mm
PARTS IN VIEW	177	mm
SURFACE	772	mm^2
WEIGHT	2.084	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	2.402	cm^4
	Jy	50.708	cm^4
Moment of resistance	Wx	2.768	cm^3
	Wy	12.677	cm^3

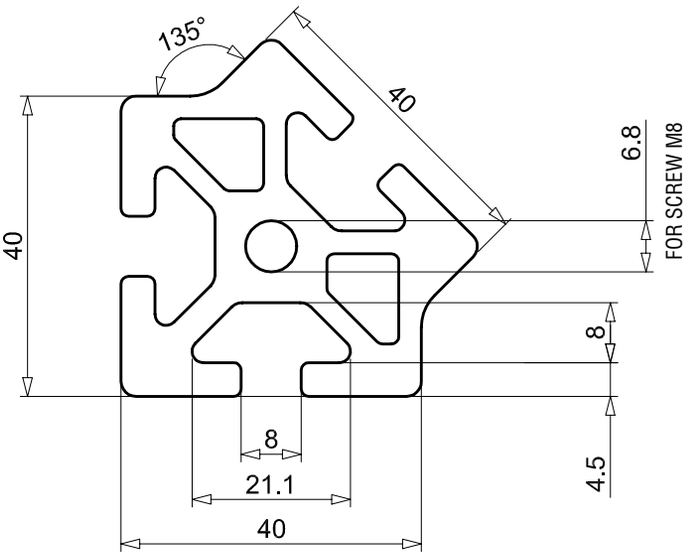


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 10180 BAR LENGTH 6100 mm

PROFILE 40x40
135° HEAVY WEIGHT



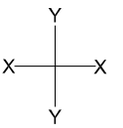
TECHNICAL FEATURES

EXT. PERIMETER	286	mm
PARTS IN VIEW	128	mm
SURFACE	939	mm^2
WEIGHT	2.535	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	15.753	cm^4
	Jy	15.756	cm^4
Moment of resistance	Wx	5.852	cm^3
	Wy	5.853	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

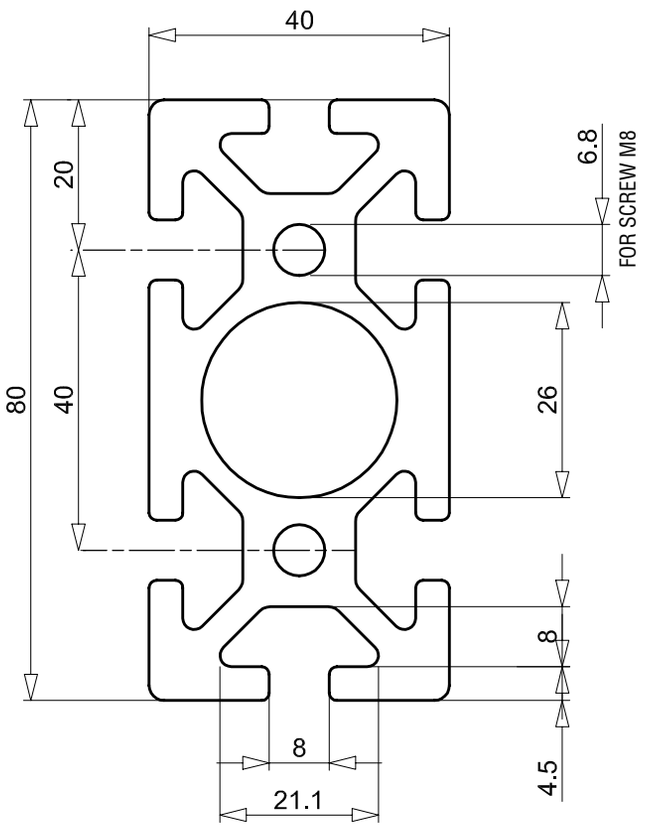


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7174 BAR LENGTH 6100 mm

PROFILE 40x80
HEAVY WEIGHT



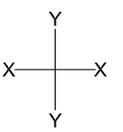
TECHNICAL FEATURES

EXT. PERIMETER	482	mm
PARTS IN VIEW	192	mm
SURFACE	1574	mm^2
WEIGHT	4.250	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	98.387	cm^4
	Jy	26.926	cm^4
Moment of resistance	Wx	24.597	cm^3
	Wy	23.463	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

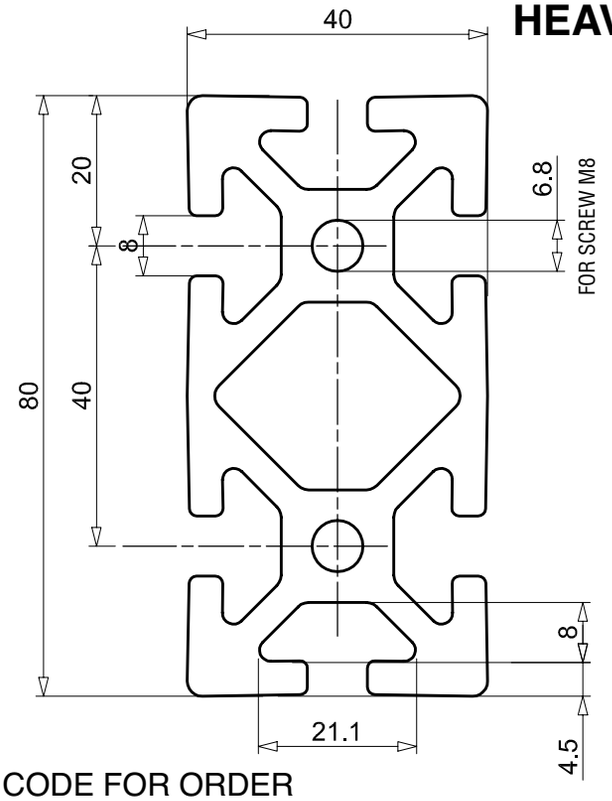


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7175 BAR LENGTH 6100 mm

PROFILE 40x80
HEAVY WEIGHT WITH PRE-LOAD



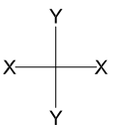
TECHNICAL FEATURES

EXT. PERIMETER	478	mm
PARTS IN VIEW	192	mm
SURFACE	1558	mm^2
WEIGHT	4.207	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	98.219	cm^4
	Jy	26.011	cm^4
Moment of resistance	Wx	24.555	cm^3
	Wy	13.006	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

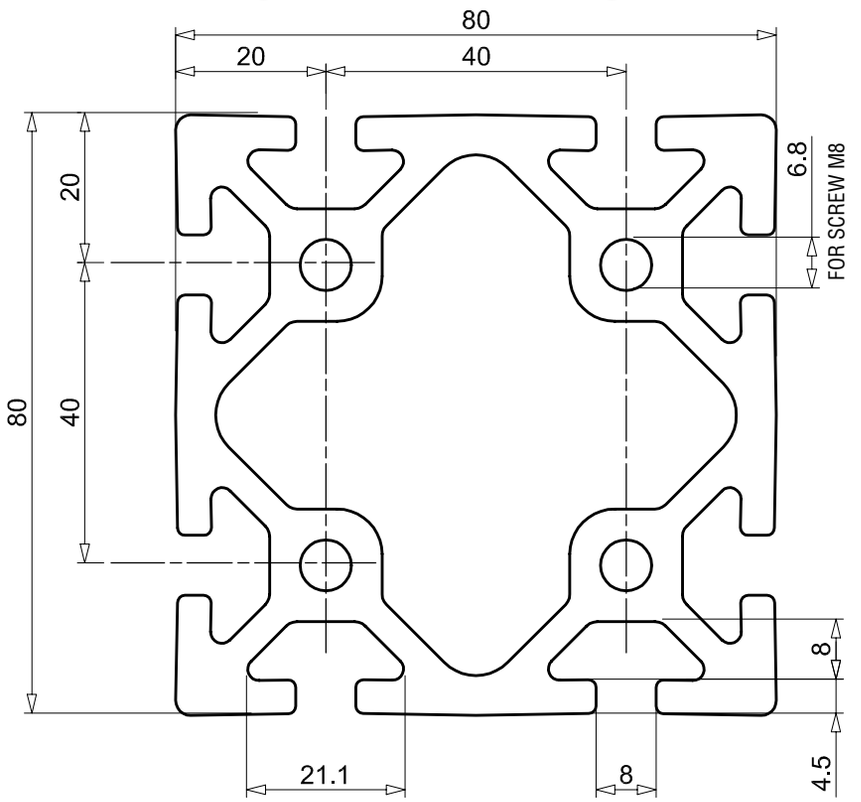


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7171 BAR LENGTH 6100 mm

PROFILE 80x80
HEAVY WEIGHT WITH PRE-LOAD



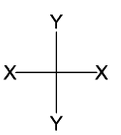
TECHNICAL FEATURES

EXT. PERIMETER	638	mm
PARTS IN VIEW	256	mm
SURFACE	2422	mm^2
WEIGHT	6.539	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	175.68	cm^4
	Jy	175.68	cm^4
Moment of resistance	Wx	43.92	cm^3
	Wy	43.92	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

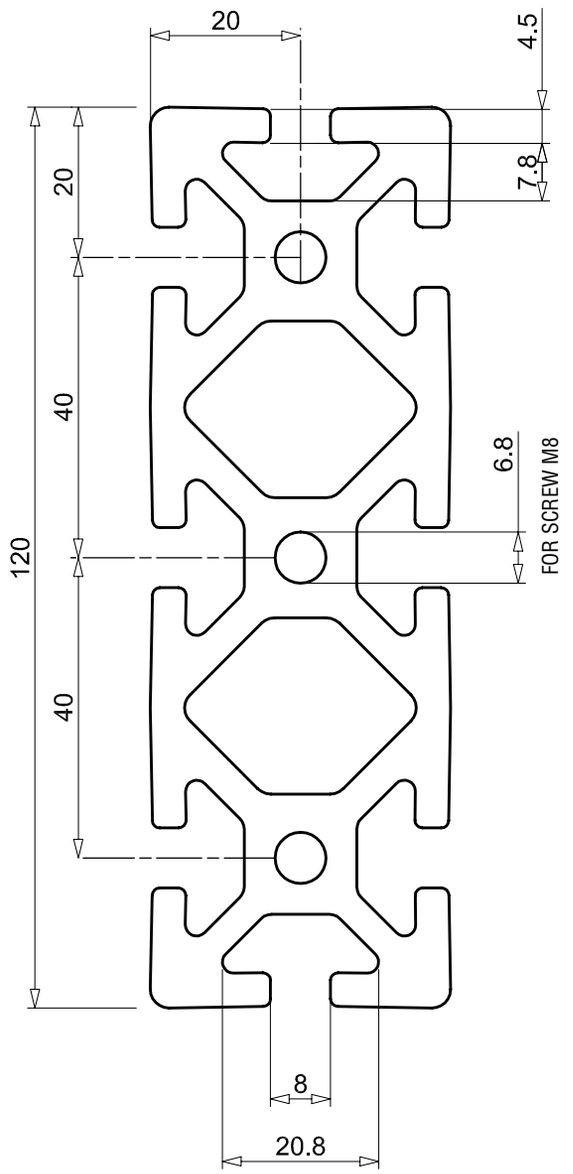


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7172 BAR LENGTH 6100 mm

PROFILE 40x120
HEAVY WEIGHT WITH PRE-LOAD



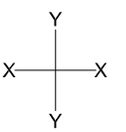
TECHNICAL FEATURES

EXT. PERIMETER	638	mm
PARTS IN VIEW	236	mm
SURFACE	2334	mm^2
WEIGHT	6.032	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	311.220	cm^4
	Jy	38.960	cm^4
Moment of resistance	Wx	51.897	cm^3
	Wy	19.481	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

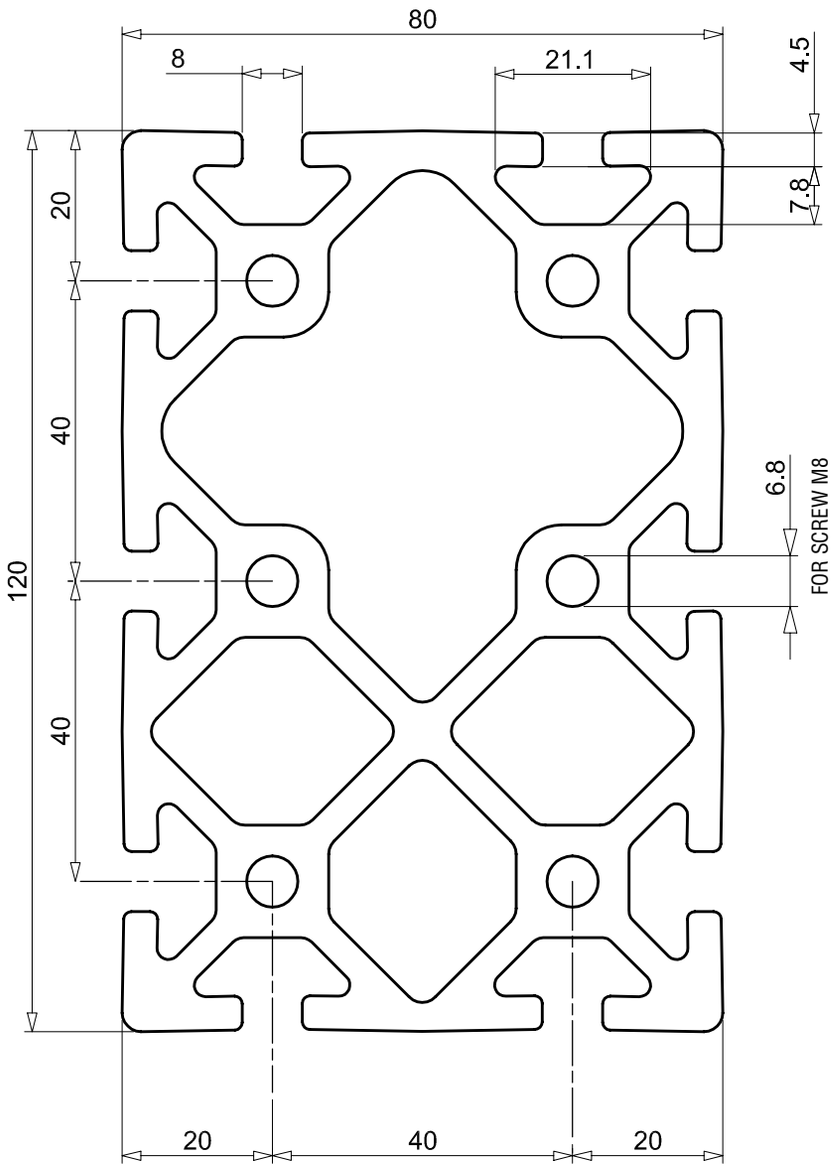


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 9403 BAR LENGTH 6100 mm

PROFILE 80x120
HEAVY WEIGHT WITH PRE-LOAD



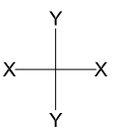
TECHNICAL FEATURES

EXT. PERIMETER	797 mm
PARTS IN VIEW	300 mm
SURFACE	3571 mm^2
WEIGHT	9.642 Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	529.588 cm^4
	Jy	253.727 cm^4
Moment of resistance	Wx	85.922 cm^3
	Wy	63.417 cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

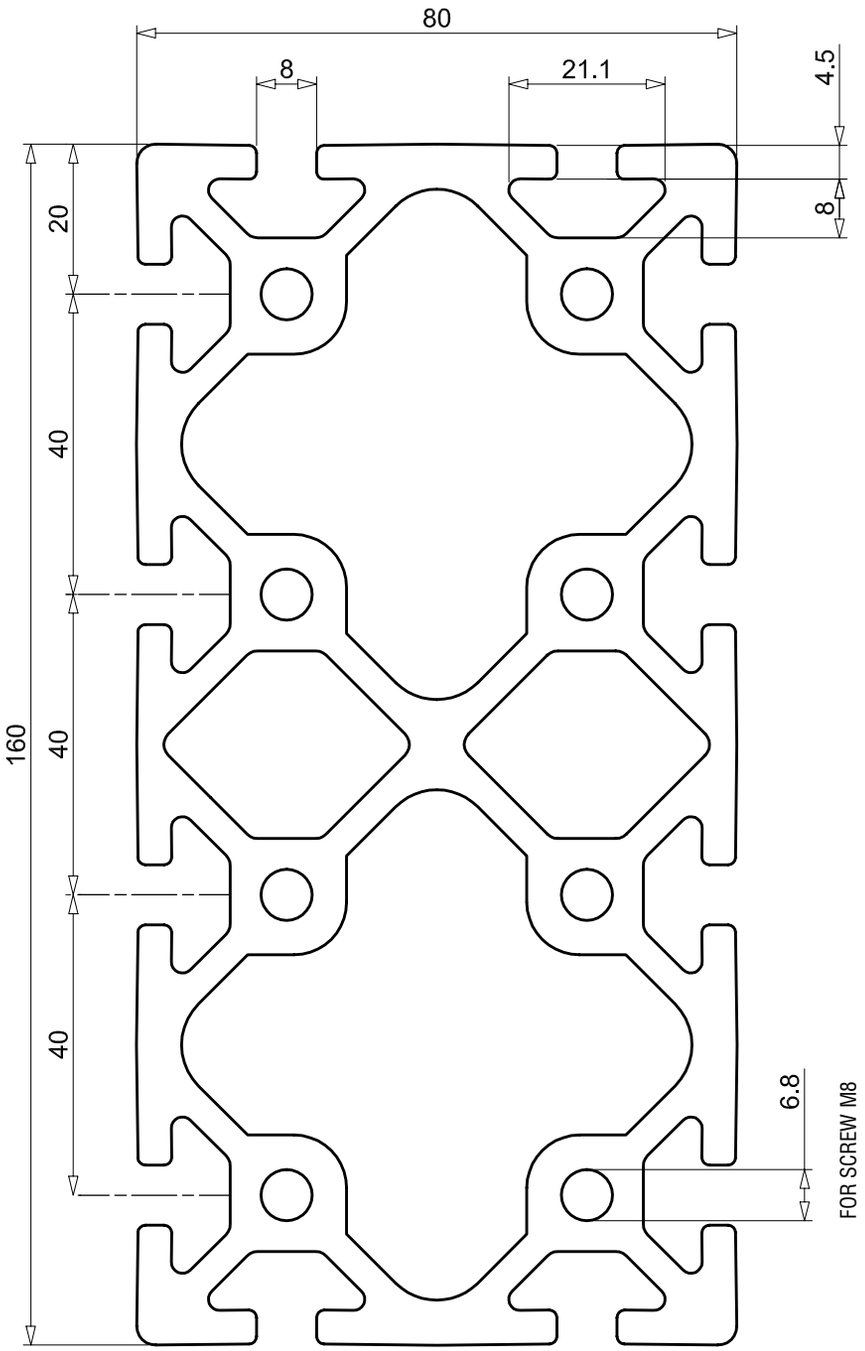


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 9404 BAR LENGTH 6100 mm

PROFILE 80x160
HEAVY WEIGHT WITH PRE-LOAD



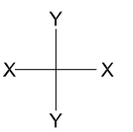
TECHNICAL FEATURES

EXT. PERIMETER	960 mm
PARTS IN VIEW	448 mm
SURFACE	4554 mm^2
WEIGHT	12.29 Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	1147.892 cm^4
	Jy	335.465 cm^4
Moment of resistance	Wx	143.483 cm^3
	Wy	83.868 cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

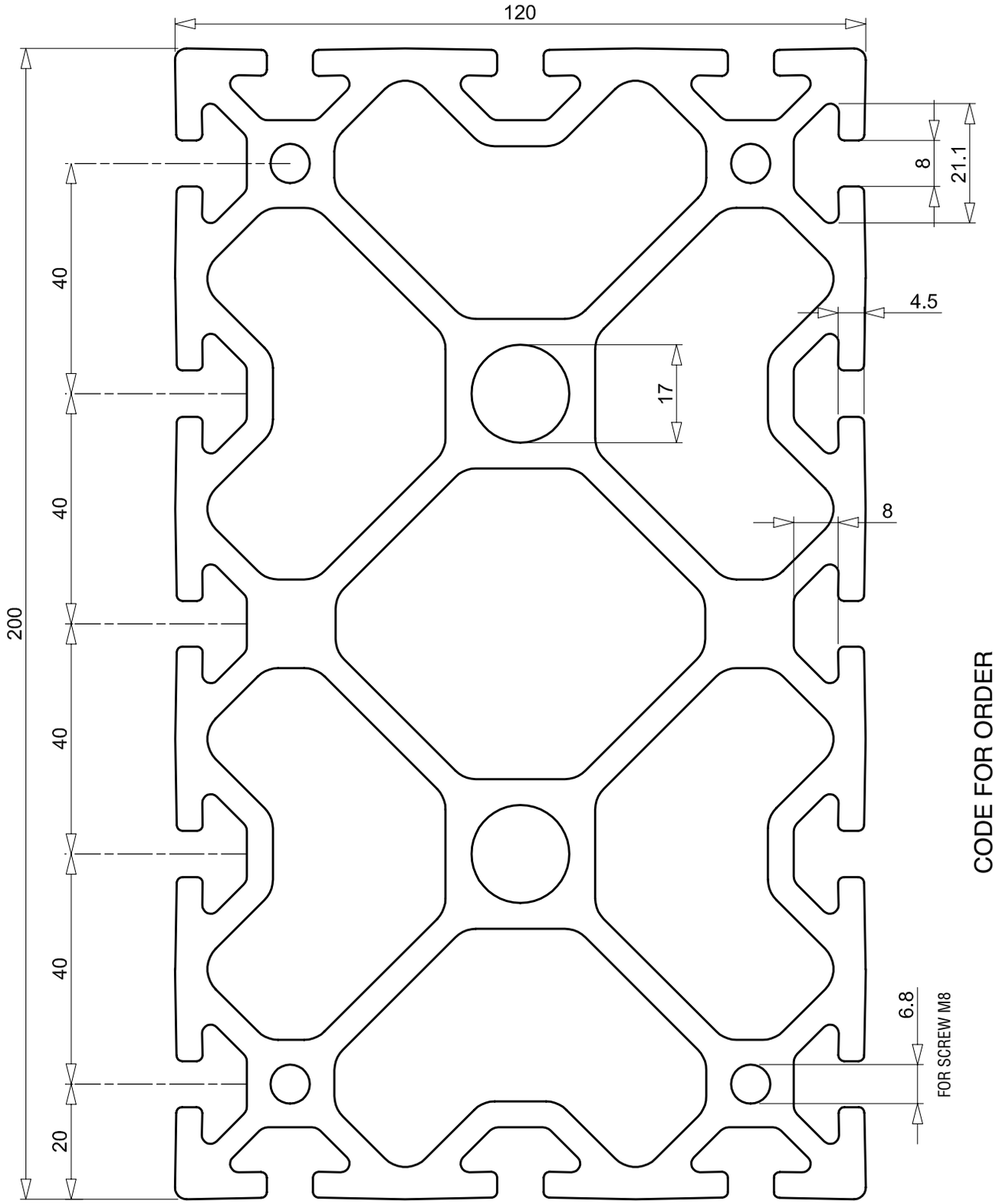


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7173 BAR LENGTH 6100 mm

PROFILE 120x200 HEAVY WEIGHT WITH PRE-LOAD



CODE FOR ORDER
R 7177 BAR LENGTH 6100 mm

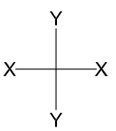
MATERIAL

ALLOY EN AW 6060

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

TECHNICAL FEATURES

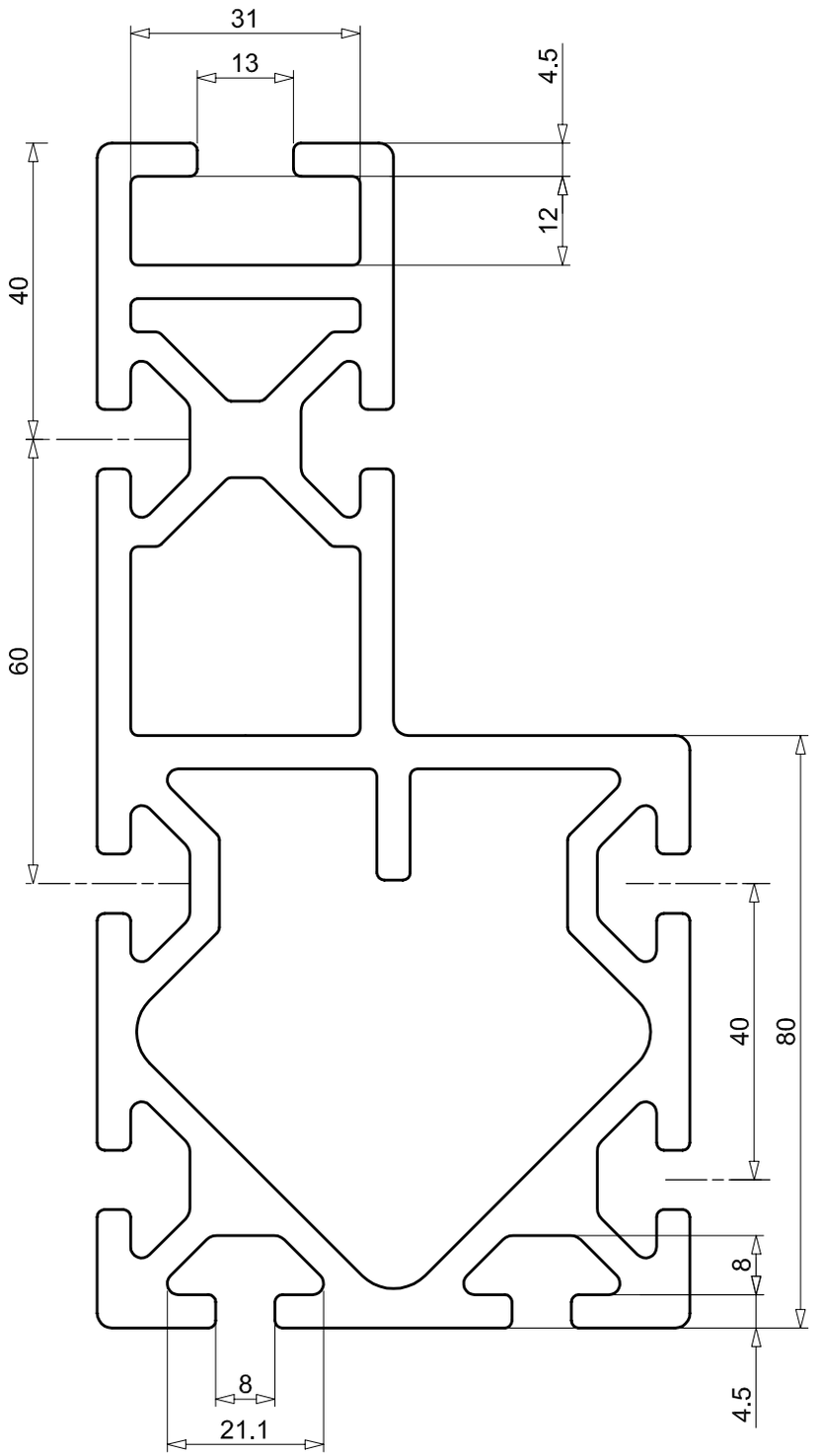
Moment of inertia	Jx	3022,650 cm^4
	Jy	1208.716 cm^4
Moment of resistance	Wx	302.264 cm^3
	Wy	201.453 cm^3



TECHNICAL FEATURES

EXT. PERIMETER	1278 mm
PARTS IN VIEW	480 mm
SURFACE	7505 mm^2
WEIGHT	20.26 Kg/m

"L" PROFILE 80x160
HEAVY WEIGHT



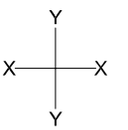
TECHNICAL FEATURES

EXT. PERIMETER	868	mm
PARTS IN VIEW	378	mm
SURFACE	3392	mm^2
WEIGHT	9.158	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	808.742	cm^4
	Jy	226.484	cm^4
Moment of resistance	Wx	89.960	cm^3
	Wy	47.872	cm^3

FOR THE CHOICE OF PROFILES FOLLOWING TO THE ELASTIC, BENDING AND TWISTING DEFORMATIONS, REFER TO GROUP B

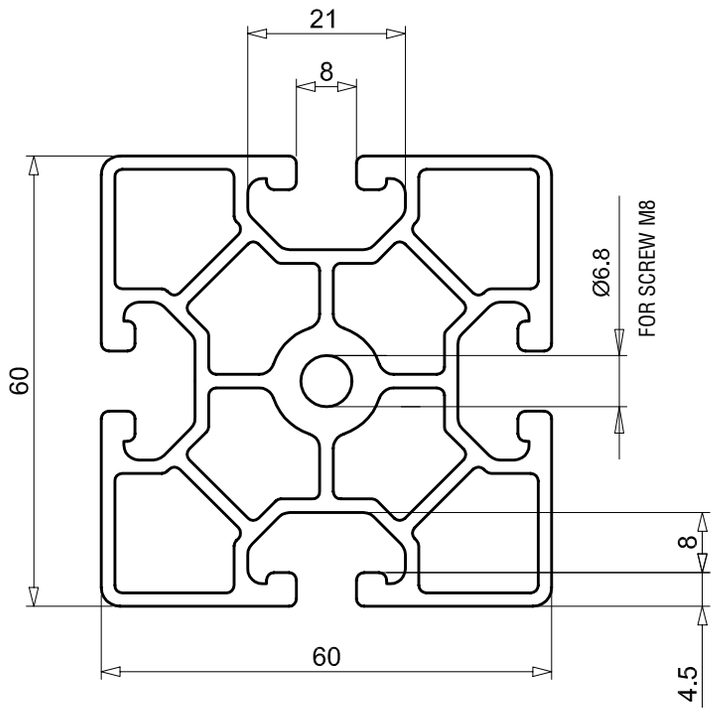


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 8439 BAR LENGTH 6100 mm

PROFILE 60x60

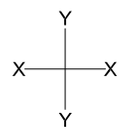


TECHNICAL FEATURES

EXT. PERIMETER	423	mm
PARTS IN VIEW	208	mm
SURFACE	1057	mm^2
WEIGHT	2.856	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	35.400	cm^4
	Jy	35.400	cm^4
Moment of resistance	Wx	11.800	cm^3
	Wy	11.800	cm^3

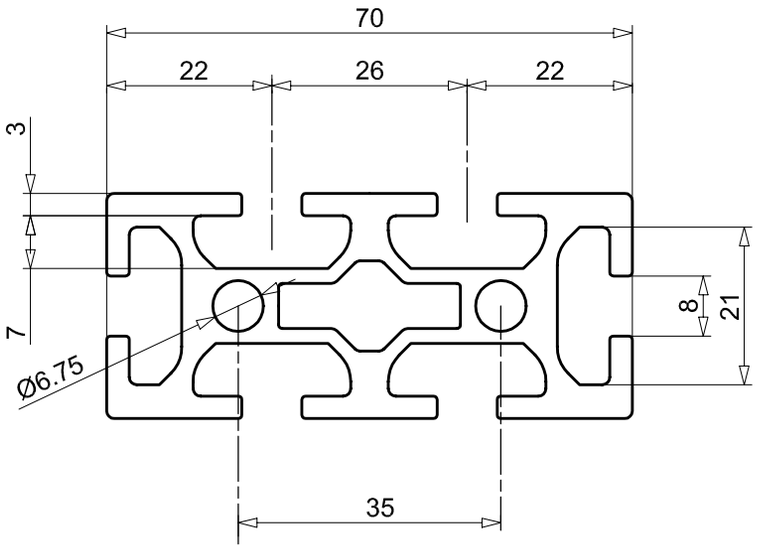


MATERIAL

ALLOY	EN AW 6060

CODE FOR ORDER
R 9726 BAR LENGTH 6100 mm

PROFILE 30x70

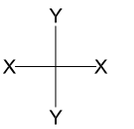


TECHNICAL FEATURES

EXT. PERIMETER	440	mm
PARTS IN VIEW	152	mm
SURFACE	880	mm^2
WEIGHT	2.376	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	8.596	cm^4
	Jy	42.024	cm^4
Moment of resistance	Wx	5.731	cm^3
	Wy	12.007	cm^3

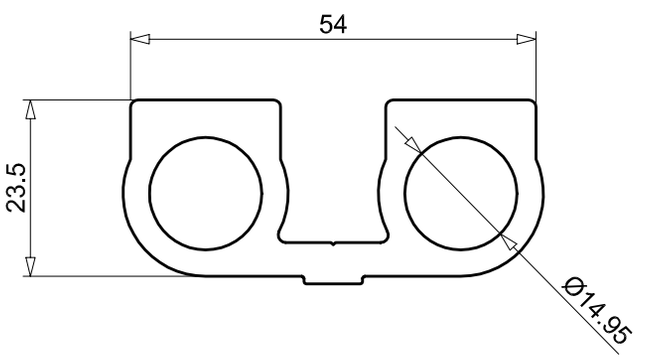


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 8936 BAR LENGTH 6100 mm

PROFILE FOR AIR CONVEYANCE

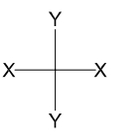


TECHNICAL FEATURES

EXT. PERIMETER	186	mm
PARTS IN VIEW	0	mm
SURFACE	647	mm^2
WEIGHT	1.747	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	4.141	cm^4
	Jy	18.505	cm^4
Moment of resistance	Wx	6.609	cm^3
	Wy	12.007	cm^3

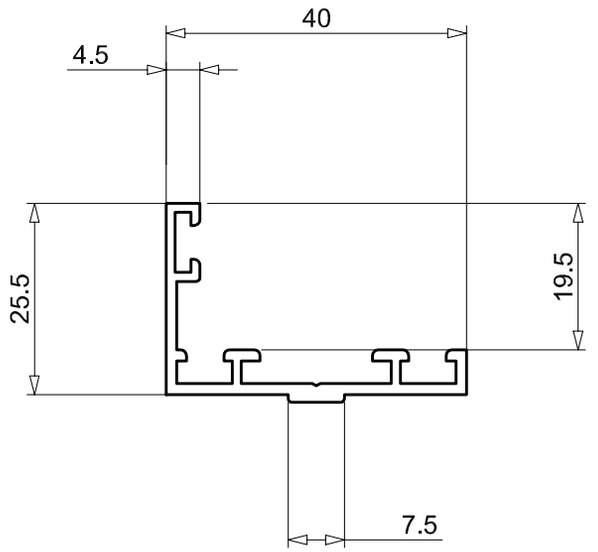


MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
R 7179 BAR LENGTH 6100 mm

COMPLEMENTARY PROFILE FOR APPLICATION WITH SERIES NC 40N



TECHNICAL FEATURES

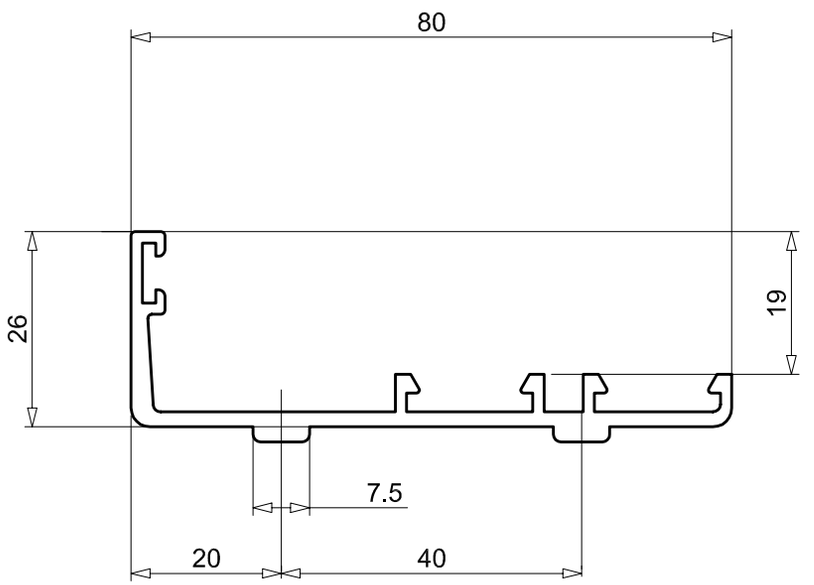
EXT. PERIMETER	196 mm
PARTS IN VIEW	35 mm
SURFACE	141.5 mm²
WEIGHT	0.382 Kg/m

MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
CS 4606 BAR LENGTH 6100 mm

COMPLEMENTARY PROFILE FOR APPLICATION WITH SERIES NC 40N



TECHNICAL FEATURES

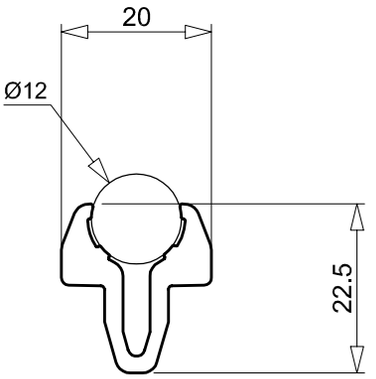
EXT. PERIMETER	280 mm
PARTS IN VIEW	42 mm
SURFACE	292 mm²
WEIGHT	0.788 Kg/m

MATERIAL

ALLOY EN AW 6060

CODE FOR ORDER
CS 4732 BAR LENGTH 6100 mm

PROFILE FOR IRON ROD

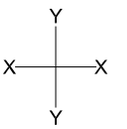


TECHNICAL FEATURES

EXT. PERIMETER	111	mm
PARTS IN VIEW	15	mm
SURFACE	160	mm^2
WEIGHT	0.432	Kg/m

TECHNICAL FEATURES

Moment of inertia	Jx	0.479	cm^4
	Jy	0.548	cm^4
Moment of resistance	Wx	0.390	cm^3
	Wy	0.547	cm^3

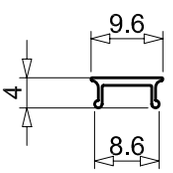


CODE FOR ORDER
A 1910 BAR LENGTH 6100 mm

MATERIAL

ALLOY EN AW 6060

CAVITY COVER 8 mm



TECHNICAL FEATURES

EXT. PERIMETER	33	mm
PARTS IN VIEW	8	mm
SURFACE	11.9	mm^2
WEIGHT	0.032	Kg/m

CODE FOR ORDER
G 1351 BAR LENGTH 3000 mm

NOTES

CHOICE OF MODULSYSTEM PROFILES FOR STRUCTURAL APPLICATION

The notes of these pages give a short graphic calculation process in order to help the designer in the choice of the profiles and in the general dimensioning, for those structural applications where the material must bear bending or torsional external loads.
The method applies the Construction Theory criteria to some basic models of a beam subject to flexion or torsion, so this method takes rigorous validity, when the real employ of Modulsystem profiles corresponds exactly to one of the schemes here given.

I). Verification of bending deformation under concentrated load.

The basic schemes considered are those shown in Table B2:
Scheme (**a**) : beam with length L, fixed at one end and loaded at the opposite end.
Scheme (**b**) : beam with length L, laying at both ends and loaded in the midpoint.
Scheme (**c**) : beam with length L, fixed at both ends and loaded in the midpoint.

For the above schemes the maximum elastic deflection under the load F is given by the equation:

$$f = F \times L^3 / (k_i \times E \times J)$$

where:
f = maximum elastic deflection, expressed in [mm], measured in the application point of the force.
F = external force applied, expressed in [Newton].
L = length of the beam (= bay between the bearings), expressed in [mm].
k i = constant coefficient expressed in [mm4/cm4], with numerical value equal to:

scheme (**a**) : $k_i = k_a = 3 \times 10^4$
scheme (**b**) : $k_i = k_b = 48 \times 10^4$
scheme (**c**) : $k_i = k_c = 192 \times 10^4$

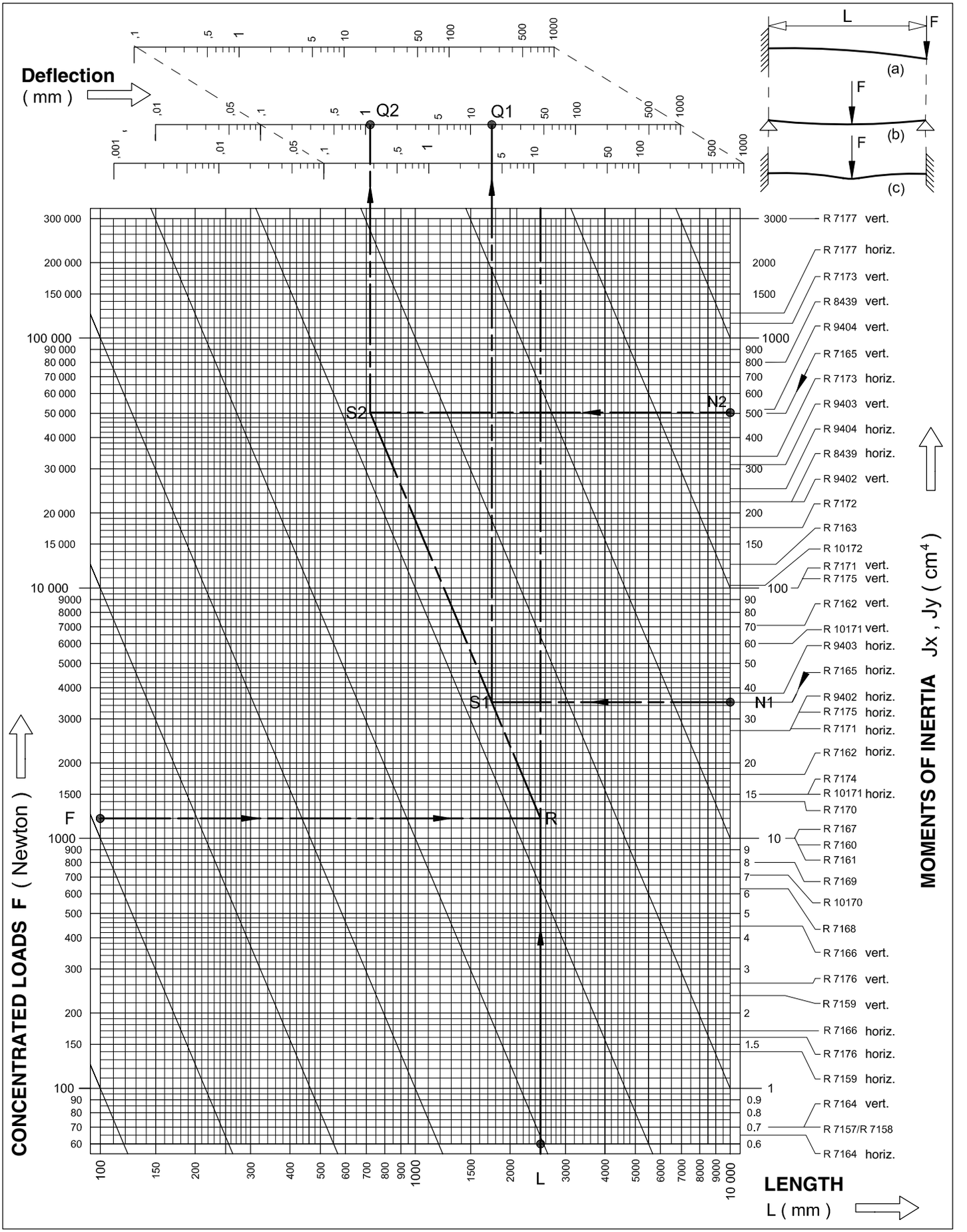
E = elastic linear Young modulus, expressed in [Newton / mm ^{2}].
E = 67 000 Nmm $^{-2}$ for alloy 6060; E = 69 000 Nmm $^{-2}$ for alloys 6005 A ÷ 6082 .
J = it corresponds to one of the inertial moments J_x or J_y of profile section, expressed in [cm^4] .
With load F directed along the vertical **y** direction, consider $\mathbf{J_x}$ if the profile is oriented with axis x horizontal, while consider $\mathbf{J_y}$ if the profile is oriented with axis **x** vertical.

Example of calculation - table B2 .

From the general layout of the structure, suppose that input data are: concentrated load, beam model and length.
Load = 1200 Newton vertical (point **F**) - scheme (b) - Length = 2500 mm (point **L**)
Furthermore, we want to use the profile R 7165 as it is - for example - available in stock. Inertial data for this profile are:
J_x = 35,54 cm^4 if horizontally disposed (point **N1**) - J_y = 503,2 cm^4 if vertically disposed (point **N2**)
From point F (= 1200) of metric scale of loads, a horizontal line must be drawn in the diagram until it intersects in R the vertical line from point L.
From R, draw a line parallel to the array of slanting lines already present in the diagram.
Then, from the list of profiles on right side, start from point N1 (J_x = 35,54 cm^4) and, following the indicated route, intersect in S1 the slanting line already drawn.
From S1 draw a vertical line until it intersects in Q1 the metric scale of deflections, referring to scheme (b), and read on this scale the result : elastic deflection f = ~ 16 mm.
Should this deflection be considered too high, the profile could be oriented vertically; in this second case, start again at a higher position from point N2 (J_y = 503,2 cm^4), enter horizontally till point S2, and from here vertically up to intersect in Q2 the scale of deflections, where the new result is f = ~ 1,1 mm.

NOTE : Intersect only forces with lengths, and deflections with inertia moments.
It is wrong to intersect forces with deflections, or lengths with inertia moments

ELASTIC BENDING DEFORMATIONS WITH CONCENTRATED LOAD



II). Verification of bending deformation under distributed load.

The main schemes considered differ from those at previous pages because the load - with resultant F - is uniformly distributed on the whole length of the beam; see Table B4 :

Scheme (d) : beam with length L, fixed at one end and free at the opposite end.
Scheme (e) : beam with length L, laying at both ends
Scheme (f) : beam with length L, fixed at both ends

The equation of the maximum deflection is the same of the precedent one, but with different values of the coefficient k_i :

$$f = F \times L^3 / (k_i \times E \times J)$$

where:

f = maximum elastic deflection in [mm], measured at the free end of scheme (d) or in the midpoint of schemes (e), (f).
F = resultant of external loads distributed on the length L, expressed in [Newton].
L = length of the beam (= bay between the bearings), expressed in [mm].
k_i = constant coefficient expressed in [mm4/cm4], with numerical value equal to:

scheme (d) : $k_i = k\,d = 8 \times 10^4$

scheme (e) : $k_i = k\,e = 76{,}8 \times 10^4$

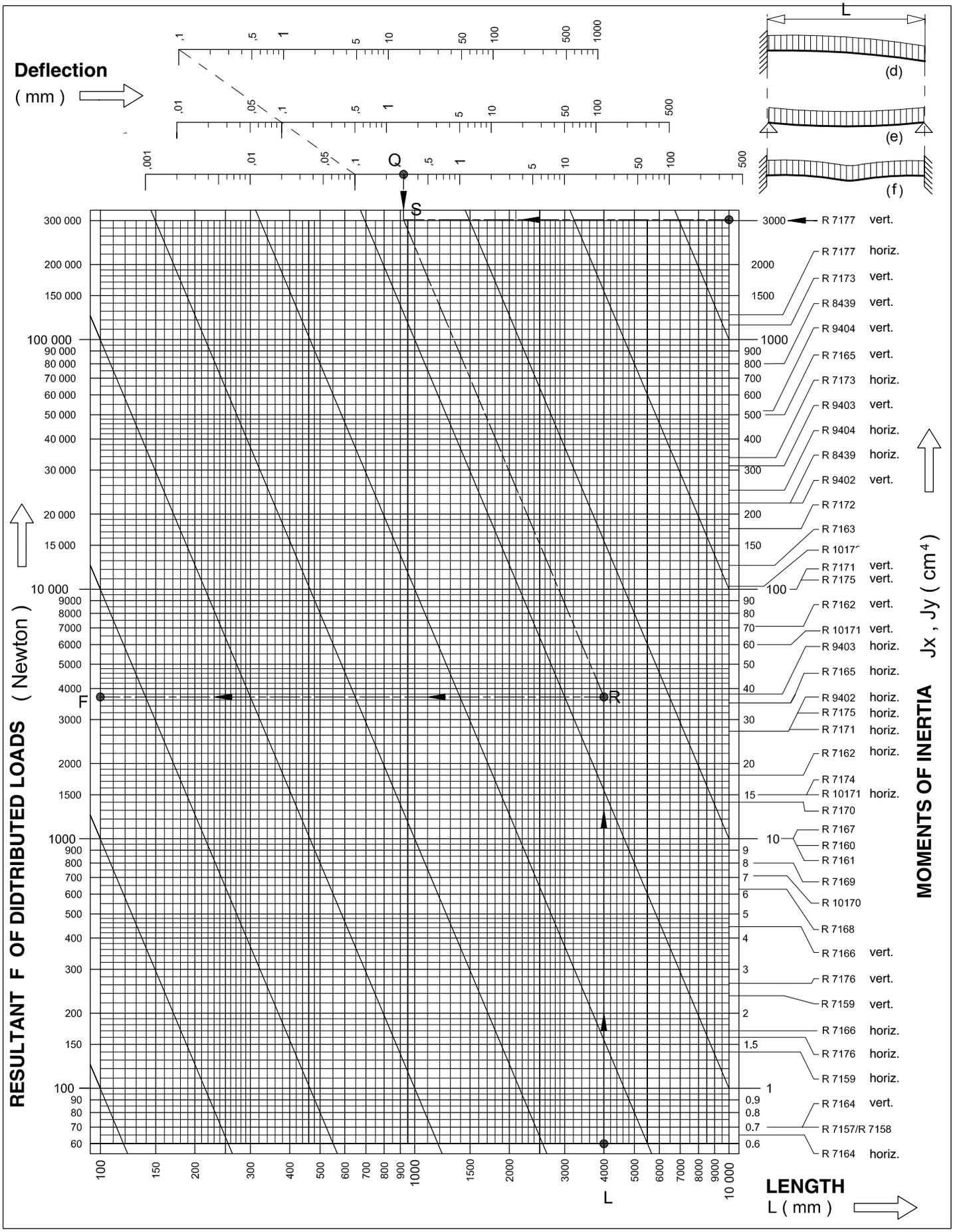
scheme (f) : $k_i = k\,f = 384 \times 10^4$

E = elastic linear Young modulus, expressed in [Newton / mm ^{2}].
E = 67 000 Nmm -2 for alloy 6060; E = 69 000 Nmm $^{-2}$ for alloys 6005 A ÷ 6082 .
J = moment of inertia of cross section, identified as J_x or J_y, as described in Table B1.

Example of calculation - table B4 .
From the general layout of the structure, suppose that input data are: beam model and length, kind of profile, and the maximum deflection allowed.
We want to know the external load, distributed on the beam, which causes the required deflection.
scheme (f) – f = 0,3 mm – L = 4000 mm – profile R 7177 vertically disposed ($J_y = 3022$ cm^4) : point N
On the metric scale of deflections for scheme (f) draw the point **Q** with abscissa f = 0,3.
At the same way, on the scale of lengths, draw the point **L** with abscissa 4000.
From point N of the list of profiles, enter horizontally up to intersect in S the vertical descendant from Q.
From S, draw a line parallel to the array of slanting lines, until it intersects in R the vertical outgoing from point L .
From R, go on horizontally to the graphic scale of distributed loads, where the resulting F is : ~ 3700 Newton.
Once the weight of the profile (202,7 Newton) is deducted from this value, the capacity load obtained is: ~ 3500 Newton

NOTE : Intersect only forces with lengths, and deflections with inertia moments.
It is wrong to intersect forces with deflections, or lengths with inertia moments.

ELASTIC BENDING DEFORMATIONS WITH DISTRIBUTED LOAD



III). Verification of angular deformation produced by a torsional load.

A torque with torsional moment M_t is applied to the beam, fixed in one of the two following schemes (see Table B6):

Scheme (g) : beam with length L, fixed at one end and subject to a torque at the opposite free end.
Scheme (h) : beam with length L, fixed at both ends and subject to a torque in the mid section.

The maximum elastic twisting angle is measured in the section where the torque is applied, and it is equal to:

$$\alpha = M_t \times L / (k_i \times G \times J_p)$$

where:

α = maximum twisting angle, expressed in degrees [° + decimal fractions after point].
M_t = External torque applied, expressed in [Newton x metre] .
L = Length of the beam subject to twisting, expressed in [mm].
k_i = constant coefficient expressed in [° · cm ^{4} / mm^3 · m] with numerical value equal to:

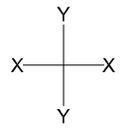
scheme (g) : $k_i = k_g = \pi / 18 = 0{,}1745$
scheme (h) : $k_i = k_h = 4\pi / 18 = 0{,}6981$

G = Gibbs elastic modulus or tangential shear modulus; for light alloys: G = 25 000 Newton / mm ^{2}
J_p = polar moment of inertia of profile cross section, expressed in [cm ^{4}] ($J_p = J_x + J_y$) .

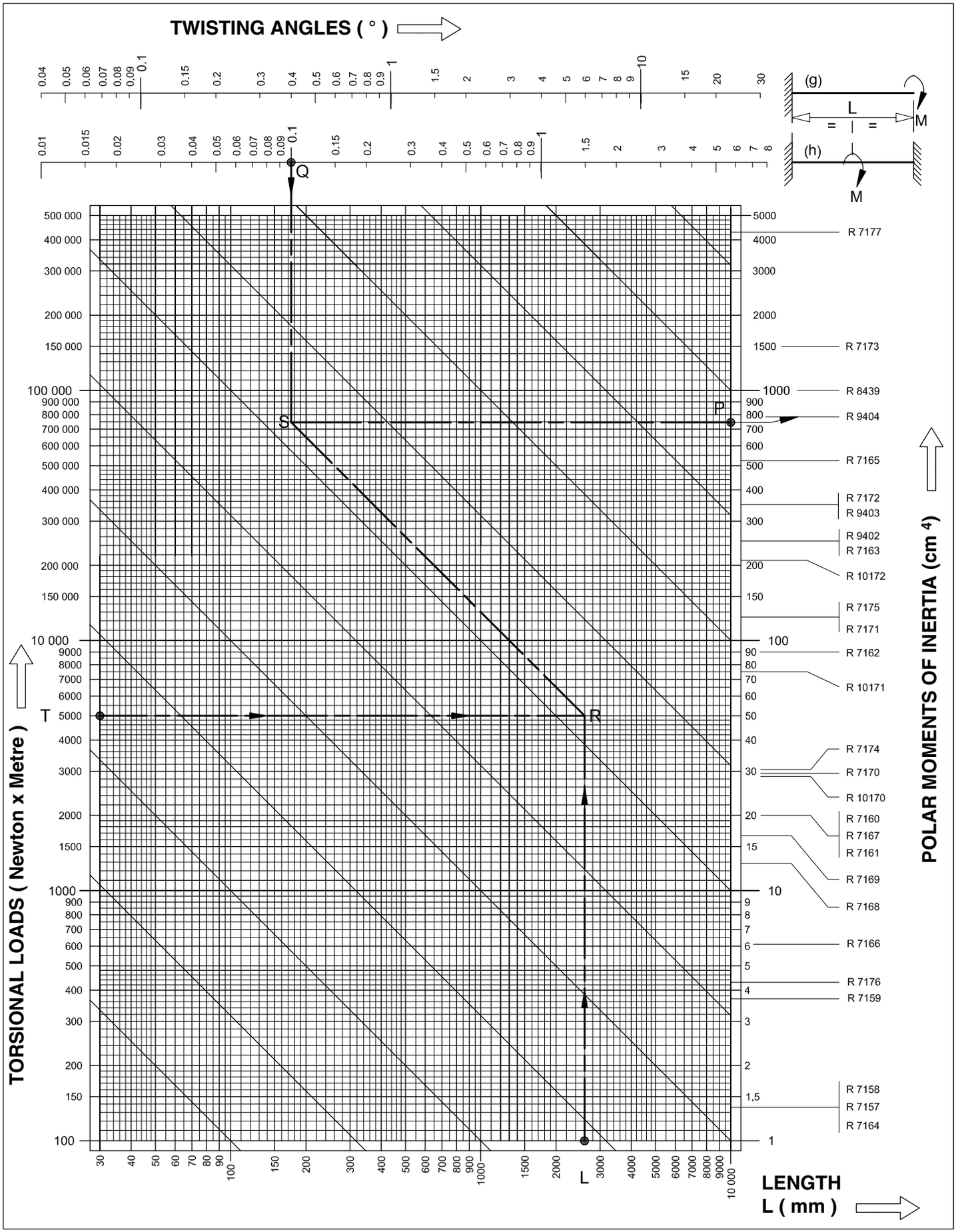
Example of calculation referred to torsion - table B6 .

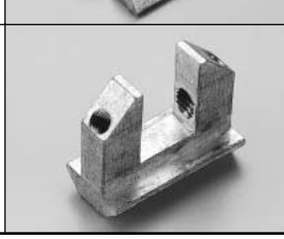
From the general layout of the structure, suppose that input data are:
scheme (h) – beam length – torsional load – maximum twisting angle.
M_t = 5000 Nm (point **T**) – L = 2600 mm (point **L**) – scheme (h) - α = 0,1 ° (point **Q**)
Locate the above data on the correspondent metric scales.
Draw the horizontal line from T up to intersect in R the vertical outgoing from L .
Draw through R the parallel to the array of slanting lines, until it intersects in S the vertical coming down from Q .
Draw the horizontal line from S to the right, and read in P the result on the scale of polar moments: J_p = ~ 750 cm^4.
Therefore, looking at the nearest higher position, it is necessary to use the profile R 9404,
giving $J_p = J_x + J_y$ = 783,3 cm^4.

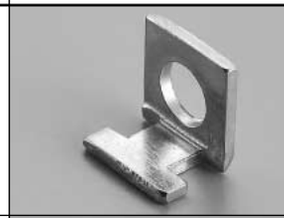
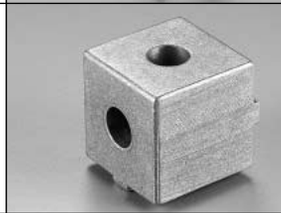
NOTE : Intersect only torsional moments with lengths, and angles with inertia moments.
It is wrong to intersect torsional moments with angles, or lengths with inertia moments.

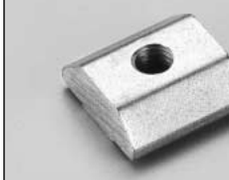


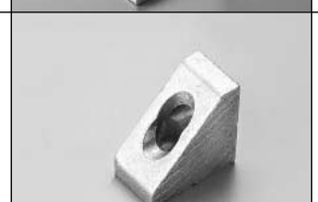
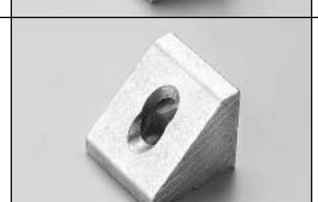
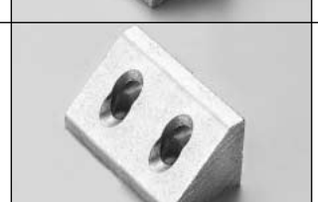
ELASTIC TWISTING DEFORMATIONS

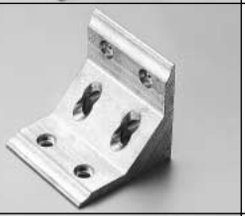
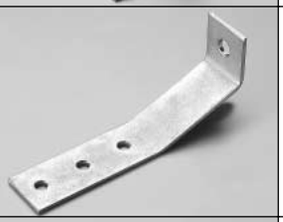
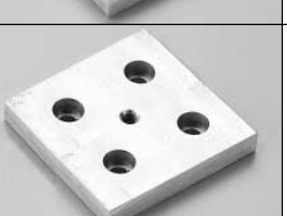
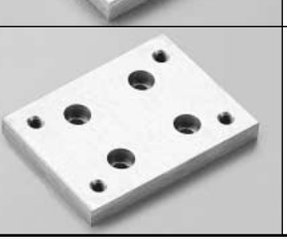


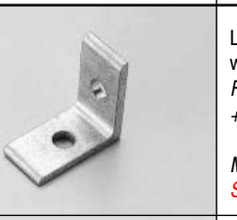
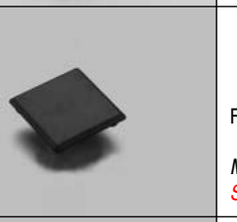
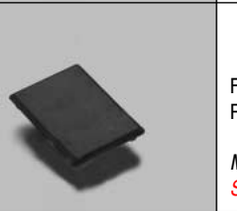
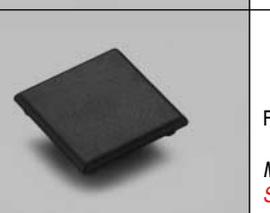
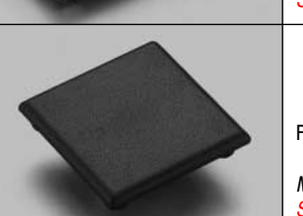
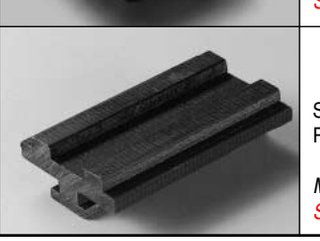
CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1229		Micro with key *Fit with Ma 1233* *+ 2 pcs Mu 0681* *Material:* – *See page:* –			●
Ma 1230		Micro pivot Ø 8 *Material:* – *See page:* –			●
Ma 1233		Micro support with key L = 62 (for casement) *Material:* Alloy EN AW-6060 *See page:* 103			●
Ma 1242		Connection accessory Modulsystem - Modulframe *Material:* Alloy EN AW-6060 *See page:* 101			●
Ma 1310		Hinge for door *Fit with 2 pcs Ma 1340* *+ 4 pcs Mu 0641* *Material:* Stainless steel - Polyamide *See page:* 85			●
Ma 1311		Handle for door 122 mm interaxis *Fit with 2 pcs Ma 1336* *+ 2 pcs Mu 0643* *Material:* Black polyamide *See page:* 88		●	●
Ma 1317		Kit for single connection *Fit with 1 pc Mu 0644* *+ 2 pcs Mu 0642* *Material:* Alloy EN AW-6060 EN AW-6005 A *See page:* 56			●
Ma 1318		Kit for double connection *Fit with 1 pc Mu 0644* *+ 2 pcs Mu 0642* *Material:* Alloy EN AW-6060 EN AW-6005 A *See page:* 57			●
Ma 1319		Connection U Bolt *Fit with 2 pcs Mu 0646* *Material:* Alloy EN AW-6060 *See page:* 66			●

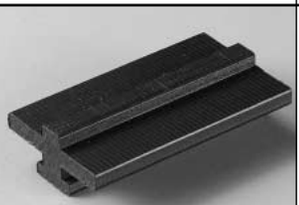
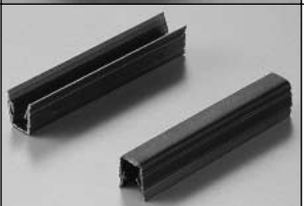
CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1320		Anti rotating plate for profile R 7159 *Fit with 1 pc Mu 0644* *Material:* Galvanized steel *See page:* 65	●	●	●
Ma 1321		2 way joint *Fit with 2 pcs Mu 0512* *Material:* Alloy EN AW-6060 *See page:* 61			●
Ma 1322		2 way joint *Fit with 3 pcs Mu 0512* *Material:* Alloy EN AW-6060 *See page:* 62			●
Ma 1323		Cavity cover *Material:* Black P.V.C. *See page:* 82			●
Ma 1324		Rotating whee Ø 50 M8 *Material:* Steel - Rubber *See page:* 95		●	●
Ma 1325		Wheel Ø 100 with turning bulb without brake Fixing screw M12 *Material:* Steel - Rubber *See page:* 95			●
Ma 1326		Wheel Ø 100 with turning bulb with brake Fixing screw M12 *Material:* Steel - Rubber *See page:* 95			●
Ma 1327		Wheel Ø 100 with rotating plate *Fit with 1 pc Ma 1358* *e 4 pcs Mu 0638* *Material:* Steel - Rubber *See page:* 95			●
Ma 1328		Wheel Ø 100 with rotating plate and brake *Fit with 1 pc Ma 1358* *e 4 pcs Mu 0638* *Material:* Steel - Rubber *See page:* 95			●

CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1329		Wheel Ø 100 with fixing plate *Fit with 1 pc Ma 1358* *e 4 pcs Mu 0638* *Material:* Steel - Rubber *See page:* 95			●
Ma 1333		Fixing plate M4 for Series 20 *Material:* Galvanized steel *See page:* 78	●	●	
Ma 1334		Fixing plate M5 for Series 20 *Material:* Galvanized steel *See page:* 78	●	●	
Ma 1335		18 mm slide with one M6 hole *Material:* Zama *See page:* 78			●
Ma 1336		18 mm slide with one M8 hole *Material:* Zama *See page:* 78			●
Ma 1337		Hinge for 30x30 *Fit with 2 pcs Ma 1472* *+ 1 pc Ma 1341* *Material:* Alloy EN AW-6060 *See page:* 105		●	
Ma 1338		Hinge for 40x30 *Fit with 4 pcs Ma 1472* *Material:* Alloy EN AW-6060 *See page:* 105		●	●
Ma 1339		40 mm slide with two holes M6 20 mm holes interaxis *Material:* Alloy EN AW-6005 A *See page:* 80			●
Ma 1340		50 mm slide with two holes M6 30 mm holes interaxis *Material:* Alloy EN AW-6005 A *See page:* 80			●

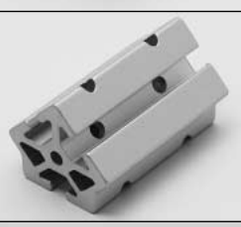
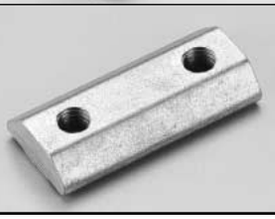
CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1341		60 mm slide with two holes M6 40 mm holes interaxis *Material:* Alloy EN AW-6005 A *See page:* 80			●
Ma 1342		40 mm slide with two holes M8 25 mm holes interaxis *Material:* Alloy EN AW-6005 A *See page:* 80			●
Ma 1343		50 mm slide with two holes M8 30 mm holes interaxis *Material:* Alloy EN AW-6005 A *See page:* 80			●
Ma 1344		60 mm slide with two holes M8 40 mm holes interaxis *Material:* Alloy EN AW-6005 A *See page:* 80			●
Ma 1345		Light small corner cleat with two holes Ø 8,5 mm *Fit with 2 pcs Ma 1336* *+ 2 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 69			●
Ma 1346		Small corner cleat 60x60x40 *Fit with 2 pcs Ma 1342* *+ 4 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 70			●
Ma 1347		Small corner cleat 40x40x20 *Fit with 2 pcs Ma 1336* *+ 2 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 68		●	●
Ma 1348		Small corner cleat 40x40x40 *Fit with 2 pcs Ma 1336* *+ 2 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 71			●
Ma 1349		Small corner cleat 40x40x80 *Fit with 4 pcs Ma 1336* *+ 4 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 72			●

CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1350		Small corner cleat 80x80x40 *Fit with 4 pcs Ma 1344* *+ 4 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 73			●
Ma 1351		Small corner cleat 80x80x80 *Fit with 4 pcs Ma 1344* *+ 4 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 75			●
Ma 1352		Ground anchoring bracket *Fit with 3 pcs Ma 1336* *+ 3 pcs Mu 0643* *Material:* Galvanized steel *See page:* 96			●
Ma 1353		40x80 plate for M8 articulated feet *Fit with 2 pcs Mu 0512* *Material:* Alloy EN AW-6082 *See page:* 90			●
Ma 1354		40x80 plate for M10 articulated feet *Fit with 2 pcs Mu 0512* *Material:* Alloy EN AW-6082 *See page:* 90			●
Ma 1355		40x80 plate for M12 articulated feet *Fit with 2 pcs Mu 0512* *Material:* Alloy EN AW-6082 *See page:* 90			●
Ma 1356		80x80 plate for M12 articulated feet *Fit with 4 pcs Mu 0512* *Material:* Alloy EN AW-6082 *See page:* 91			●
Ma 1357		80x80 plate for M16 articulated feet *Fit with 4 pcs Mu 0512* *Material:* Alloy EN AW-6082 *See page:* 91			●
Ma 1358		100x80 plate for wheel fixing *Fit with 4 pcs Mu 0512* *Material:* Alloy EN AW-6082 *See page:* 93			●

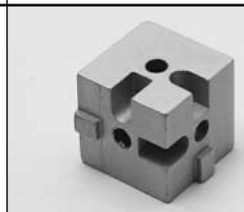
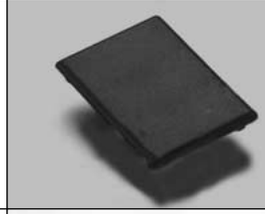
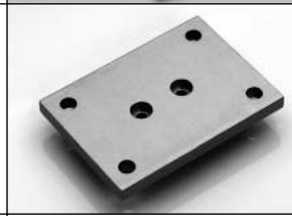
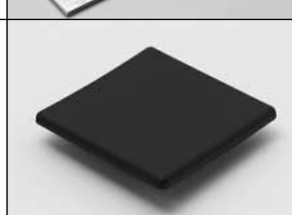
CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1359		Light corner cleat for Series 20 with two holes Ø 5,5 mm *Fit with 2 pcs Ma 1334* *+ 2 pcs Mu 0637* *Material:* Alloy EN AW-6060 *See page:* 68	●	●	
Ma 1360		Light hinge for Series 20 with holes four Ø 5,5 mm *Fit with 4 pcs Ma 1333* *+ 4 pcs Mu 0639* *Material:* Stainless steel - Polyamide *See page:* 85	●	●	
Ma 1361		Finishing cap 20x20 *Material:* Black nylon *See page:* 81	●		
Ma 1362		Finishing cap for profile R 7159 *Material:* Black nylon *See page:* 81	●	●	●
Ma 1363		Finishing cap 40x40 *Material:* Black nylon *See page:* 81			●
Ma 1364		Finishing cap for profile R 7168 - R 7169 *Material:* Nylon *See page:* 81			●
Ma 1365		Finishing cap 40x80 *Material:* Black nylon *See page:* 81			●
Ma 1366		Finishing cap 80x80 *Material:* Black nylon *See page:* 81			●
Ma 1368		Sliding guide for profile R 7159 *Material:* Black polyethylene *See page:* 86			●

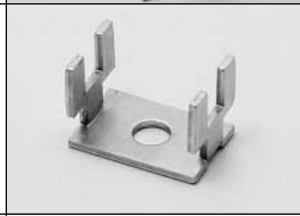
CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1369		Sliding guide for Series 40 *Material:* Black polyethylene *See page:* 86			●
Ma 1370		Crade slide with 22 mm ball with one hole M6 *Material:* Galvanized steel *See page:* 79			●
Ma 1371		Crade slide with 22 mm ball with one hole M8 *Material:* Galvanized steel *See page:* 79			●
Ma 1372		Crade slide with 22 mm ball with one hole M6 *Material:* Galvanized steel *See page:* 79			●
Ma 1373		Crade slide with 22 mm ball with one hole M8 *Material:* Galvanized steel *See page:* 79			●
Ma 1377		Cavity reducer *Material:* Black P.V.C. *See page:* 82		●	●
Ma 1378		Base Ø 40 for articulated foot *Material:* Black polyamide *See page:* 98		●	●
Ma 1379		Anti-skid plate - anti-vibration for base Ø 40 *Material:* Black rubber *See page:* 98		●	●
Ma 1380		Base Ø 60 for articulated foot *Material:* Black polyamide *See page:* 98		●	●

CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1381		Anti-skid plate - anti-vibration for base Ø 60 *Material:* Black rubber *See page:* 98		●	●
Ma 1382		Base Ø 80 with 2 anchoring holes for articulated foot *Material:* Black polyamide *See page:* 98			●
Ma 1383		Anti-skid plate - anti-vibration with 2 anchoring holes for base Ø 80 *Material:* Black rubber *See page:* 98			●
Ma 1384		Stem M8x80 for articulated foot *Material:* Galvanized steel *See page:* 98		●	●
Ma 1385		Stem M10x90 for articulated foot *Material:* Galvanized steel *See page:* 98			●
Ma 1386		Stem M12x100 for articulated foot *Material:* Galvanized steel *See page:* 98			●
Ma 1387		Stem M16x100 for articulated foot *Material:* Galvanized steel *See page:* 98			●
Ma 1388		Block for universal fixing with one hole M6 *Material:* Black polyamide - Galvanized steel *See page:* –			●
Ma 1389		Spacer 2 mm for Ma 1388 *Material:* Black polyamide *See page:* –			●

CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1390		Spacer 3 mm for Ma 1388 *Material:* Black polyamide *See page:* –			●
Ma 1391		Spacer 5 mm for Ma 1388 *Material:* Black polyamide *See page:* –			●
Ma 1392		Clip fixing block *Material:* Black polyamide *See page:* –			●
Ma 1395		Magnetic door stopper *Fit with 2 pcs Mu 0641* *Material:* Stainless steel - Black polyamide + Magnet *See page:* 89		●	●
Ma 1396		Fixing bracket for Ma 1395 with two holes M6 and two slots *Material:* Alloy EN AW-6060 *See page:* 89			●
Ma 1397		Sliding hook *Material:* Polyamide - Galvanized steel *See page:* 82			●
Ma 1398		40x40x45° fixing angle *Material:* Alloy EN AW-6060 *See page:* 100			●
Ma 1399		40x80x45° fixing angle *Material:* Alloy EN AW-6060 *See page:* 100			●
Ma 1400		38 mm slide with two holes M6 20 mm interaxis *Material:* Alloy EN AW-6005 A *See page:* 80			●

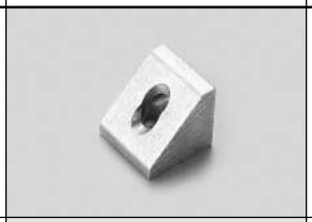
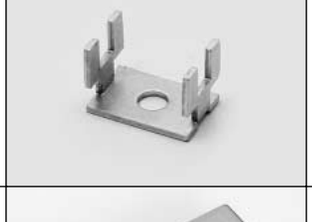
CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1401		Light corner cleat with two Ø 8,5 with anti-rotating punching *Fit with 2 pcs Ma 1336* *+ 2 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 69			●
Ma 1402		60x60x40 light corner cleat with anti-rotating punching *Fit with 2 pcs Ma 1342* *+ 4 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 70			●
Ma 1403		40x40x40 light corner cleat with anti-rotating punching *Fit with 2 pcs Ma 1336* *+ 2 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 71			●
Ma 1404		40x40x80 light corner cleat with anti-rotating punching *Fit with 4 pcs Ma 1336* *+ 4 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 72			●
Ma 1405		80x80x40 light corner cleat with anti-rotating punching *Fit with 2 pcs Ma 1344* *+ 4 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 74			●
Ma 1406		80x80x80 light corner cleat with anti-rotating punching *Fit with 4 pcs Ma 1344* *+ 8 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 76			●
Ma 1407		40x20 finishing cap in black nylon for profile R 7166 *Material:* Black nylon *See page:* 81	●	●	●
Ma 1408		Connecting kit with cut for central plugging *Material:* Alloy EN AW-6060 EN AW-6005 A *See page:* 60			●
Ma 1409		2 ways joint for series 40 with cut for central plugging *Fit with 2 pcs Mu 0512* *Material:* Alloy EN AW-6060 *See page:* 63			●

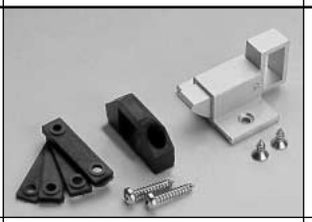
CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1410		3 ways joint for series 40 with cut for central plugging *Fit with 3 pcs Mu 0512* *Material:* Alloy EN AW-6060 *See page:* 64			●
Ma 1411		Aluminium hinge pivot Ø 7 mm *Material:* Alloy EN AW-6060 *See page:* 83			●
Ma 1412		Aluminium hinge for micro pivot Ø 8 mm *Material:* Alloy EN AW-6060 *See page:* 84			●
Ma 1413		30x70 finishing cap for profile R 8936 *Material:* Black nylon *See page:* 81		●	●
Ma 1414		100x140 for floor fixing plate for profile R 8936 *Material:* Alloy EN AW-6082 *See page:* 94		●	●
Ma 1415		30x70 plate for M10 articulated base for profile R 8936 *Material:* Alloy EN AW-6082 *See page:* 90		●	●
Ma 1416		Lateral anchoring bracket *Material:* Galvanized steel *See page:* 97		●	●
Ma 1417		60x60 finishing cap *Material:* Black nylon *See page:* 81		●	●
Ma 1418		80x80 plate for M10 articulated base *Fit with 4 pcs Mu 0512* *Material:* Alloy EN AW-6082 *See page:* 91			●

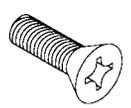
CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1419		Hinge for Ø 7 mm pivot for Modulframe connection *Material:* Alloy EN AW-6060 *See page:* 83			●
Ma 1420		Hinge for Ø 8 mm micro pivot for Modulframe connection *Material:* Alloy EN AW-6060 *See page:* 84			●
Ma 1421		80x120 plate for M16 articulated base *Fit with 4 pcs Mu 0512* *Material:* Alloy EN AW-6082 *See page:* 92			●
Ma 1422		80x80x120 small corner cleat *Fit with 6 pcs Ma 1344* *+ 12 pcs Mu 0643* *Material:* Alloy EN AW-6060 *See page:* 77			●
Ma 1423		Anti-rotating plate *Fit with 1 pcs Mu 0698* *Material:* Stainless steel *See page:* 66			●
Ma 1424		Kit for fixing of modules *Fit with 2 pcs Ma 1336* *+ 2 pcs Mu 0696* *Material:* Aluminium *See page:* 102		●	●
Ma 1425		Connection kit 80x80 *Fit with 4 pcs Mu 0644* *+ 4 pcs Mu 0642* *Material:* Aluminium *See page:* 59			●
Ma 1426		Connection kit 40x80 *Fit with 2 pcs Mu 0644* *+ 4 pcs Mu 0642* *Material:* Aluminium *See page:* 58			●
Ma 1427		Anchorage bracket 80x120 *Material:* Galvanized steel *See page:* 99			●

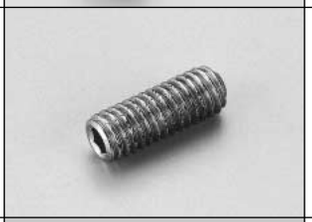
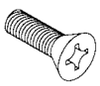
CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1428		Sliding guide 40 with 40 *Material:* Black polyamide *See page:* 87			●
Ma 1429		Sliding guide 40 with 30 and 30 with 30 *Material:* Black polyamide *See page:* 87		●	●
Ma 1430		18 mm slide with one hole M4 *Material:* Alloy EN AW-6060 *See page:* 78			●
Ma 1431		18 mm slide with one hole M5 *Material:* Alloy EN AW-6060 *See page:* 78			●
Ma 1432		Connection plate *Fit with Mu 0661* *Material:* Galvanized steel *See page:* 106			●
Ma 1433		3 ways joint *Fit with 3 pcs Mu 0696* *Material:* Aluminium pressofuso *See page:* 107			●
Ma 1434		Rounded finishing cap for Ma 1433 *Material:* Black nylon *See page:* 107			●
Ma 1435		Connection for aligned combination *Material:* Galvanized steel *See page:* 106			●
Ma 1436		Finishing cap for profile R 10173 *Material:* Black nylon *See page:* 81			●

CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1437		Connection for articulation with socket head screw *Fit with Mu 0696 and with* *Ma 1336* *Material:* – *See page:* 108			●
Ma 1438		Lock *Fit with 4 pcs Mu 0838* *Material:* – *See page:* 109			●
Ma 1439		Hammer shaped slide M8 *Material:* Galvanized steel *See page:* 110			●
Ma 1440		Connection plate 30x60 for articulated base M8 *Fit with 2 pcs Ma 1336* *+ 2 pcs Mu 0839* *Material:* Galvanized steel *See page:* 111			●
Ma 1441		Crade slide with 22 mm ball with one hole M6 *Material:* Zama *See page:* 79			●
Ma 1442		Crade slide with 22 mm ball with one hole M8 *Material:* Zama *See page:* 79			●
Ma 1471		30x30 finishing cap *Material:* Black P.V.C. *See page:* 81	●		
Ma 1472		Slide M6 *Material:* Galvanized steel *See page:* –		●	●
Ma 1473		30x30 light corner cleat *Fit with 2 pcs Ma 1472* *+ 2 pcs Mu 0605* *Material:* Aluminium *See page:* 67		●	

CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 1474		30x30x30 light corner cleat *Fit with 2 pcs Ma 1472* *+ 2 pcs Mu 0605* *Material:* Alloy EN AW-6060 *See page:* 67		●	
Ma 1475		Anti-rotating plate *Material:* Alloy EN AW-6060 *See page:* 65		●	
Ma 1476		Plate 30x60 per piede snodato M8 *Fit with 2 pcs Mu 0512* *Material:* Alloy EN AW-6060 *See page:* 104		●	
Ma 1477		Squadretta pesante 30x60 *Fit with 4 pcs Ma 1472* *+ 4 pcs Mu 0605* *Material:* Alloy EN AW-6060 *See page:* 104		●	
Ma 1478		Finishing cap 30x60 *Material:* Black nylon *See page:* 81		●	
Ma 1479		Slide M5 *Material:* Zama *See page:* 78		●	
Ma 1480		Slide M6 *Material:* Zama *See page:* 78		●	
Ma 1802		Plate 17x21,5 M8 *Material:* Galvanized steel *See page:* 110			●
Ma 2017.N		Finishing cap Ø 11,5 *Material:* Black P.V.C. *See page:* –			●

CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Ma 2322		Catch *Material:* Aluminium - Nylon *See page:* –		●	●

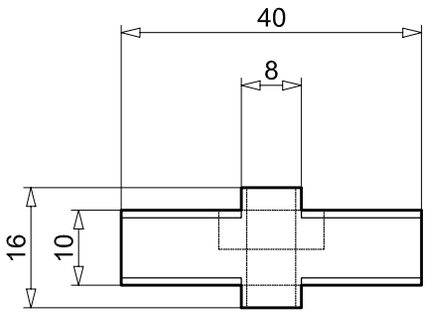
CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Mu 0512		M8x20 mm cheese-headed screw *Material:* Galvanized steel *See page:* –			●
Mu 0605		M6x10 mm cheese-headed screw *Material:* Galvanized steel *See page:* –		●	
Mu 0637		M5x8 mm cheese-headed screw *Material:* Galvanized steel *See page:* –	●		
Mu 0638		M8x12 mm cheese-headed screw *Material:* Galvanized steel *See page:* –			●
Mu 0639		M4x12 mm flathead screw *Material:* Galvanized steel *See page:* –	●		
Mu 0640		M5x12 mm roundheaded screw *Material:* Galvanized steel *See page:* –	●		
Mu 0641		M6x16 mm cheese-headed screw *Material:* Galvanized steel *See page:* –			●
Mu 0642		M6x22 mm cheese-headed screw *Material:* Galvanized steel *See page:* –			●
Mu 0643		M8x16 mm cheese-headed screw *Material:* Galvanized steel *See page:* –			●

CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Mu 0644		M8x20 mm roundheaded screw *Material:* Galvanized steel *See page:* –			●
Mu 0646		M6x12 mm flat headed grub screw *Material:* Galvanized steel *See page:* –			●
Mu 0647		Hexagonal headed screwdriver for Mu 0642 *Material:* Steel *See page:* –			
Mu 0661		M6x14 mm flathead screw *Material:* Galvanized steel *See page:* –			●
Mu 0696		M8x14 mm roundheaded screw *Material:* Galvanized steel *See page:* –		●	●
Mu 0698		M8x30 mm roundheaded screw *Material:* Galvanized steel *See page:* –			●
Mu 0699		M8x30 mm cheese-headed screw *Material:* Galvanized steel *See page:* –			●
Mu 0838		M6x14 mm roundheaded screw *Material:* Galvanized steel *See page:* –			
Mu 0839		M8 flathead screw *Material:* Galvanized steel *See page:* –			

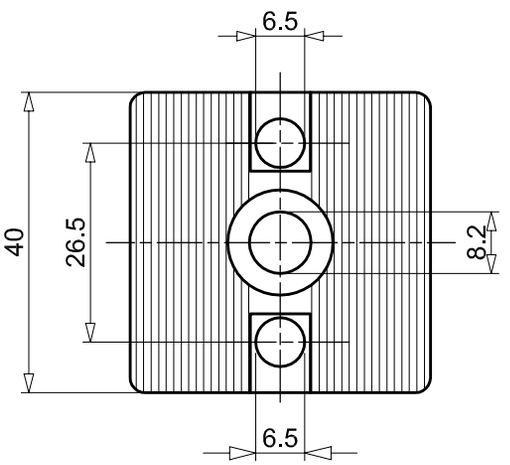
CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40
Mg 016 P		Cavity cover and sealing gasket *Material:* P.V.C. *See page:* –		●	●

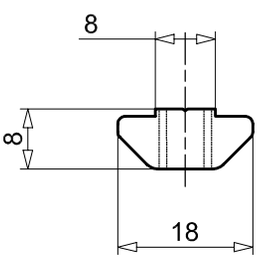
CODE	PICTURE	UTILIZATION	Series 20	Series 30	Series 40

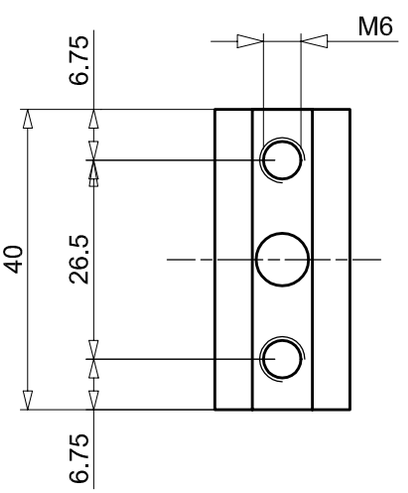
Ma 1317 Sieved
Ma 1317.A Anodised silver



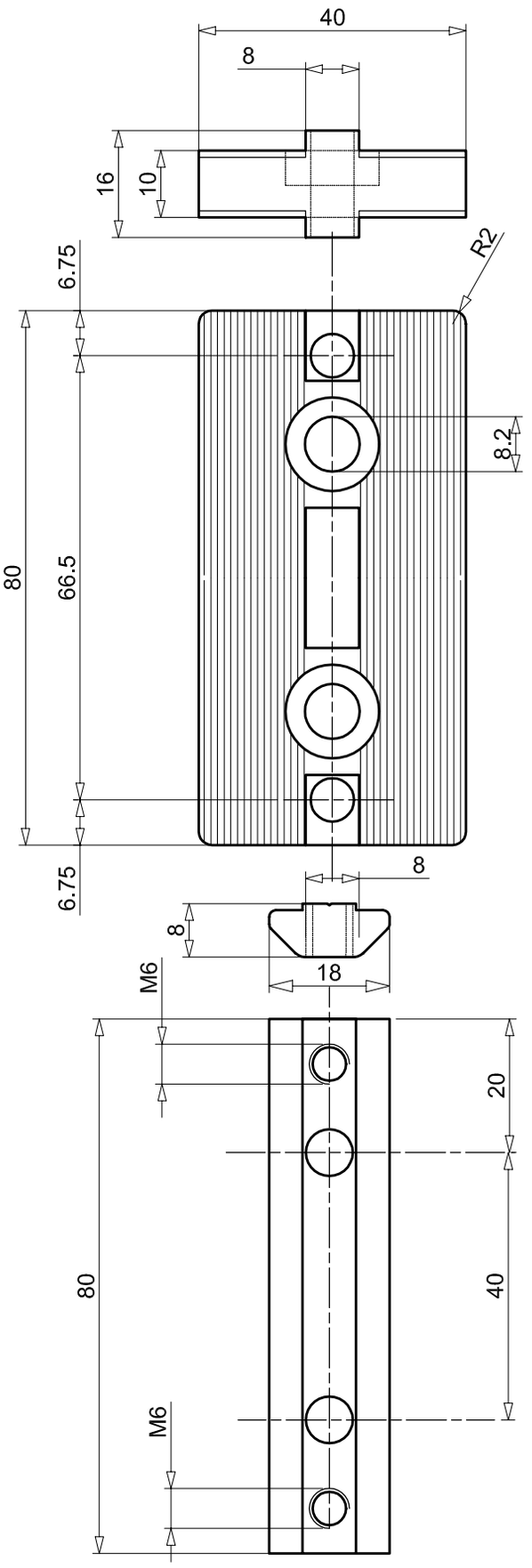
For fitting, see: GROUP E - TABLE 1/2





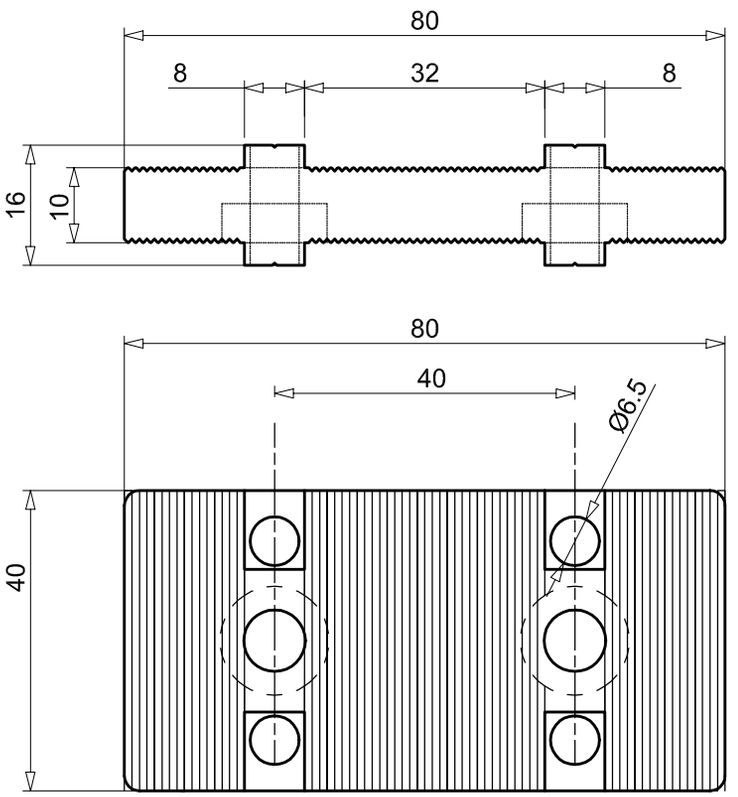


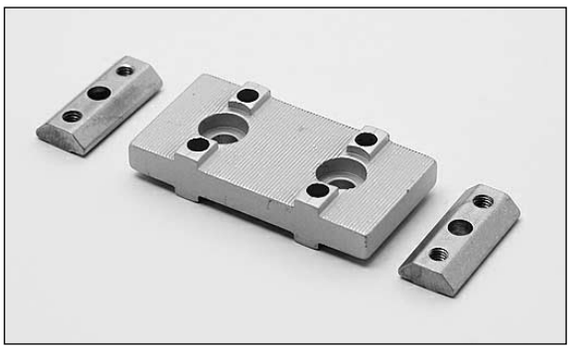
Ma 1318 Sieved
Ma 1318.A Anodised silver



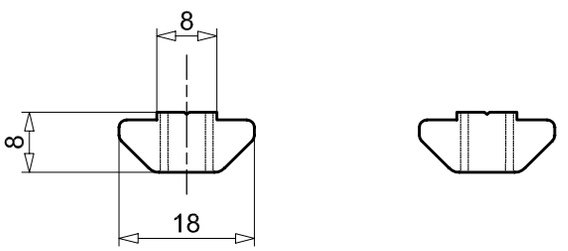
For fitting, see: GROUP E - TABLE 1/2

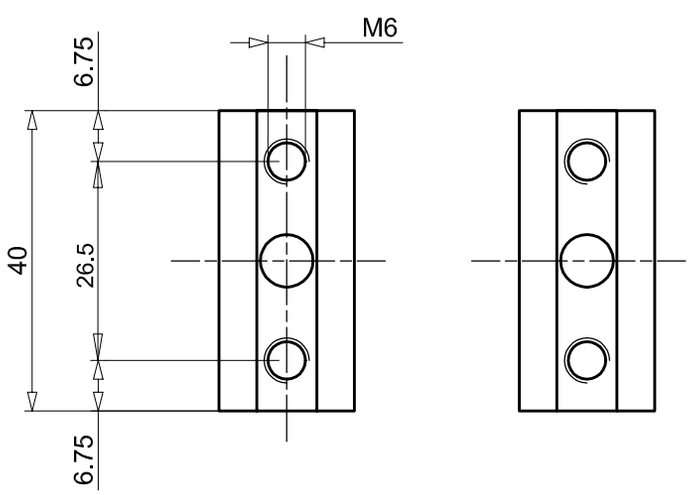
Ma 1426 Sieved
Ma 1426.A Anodised silver



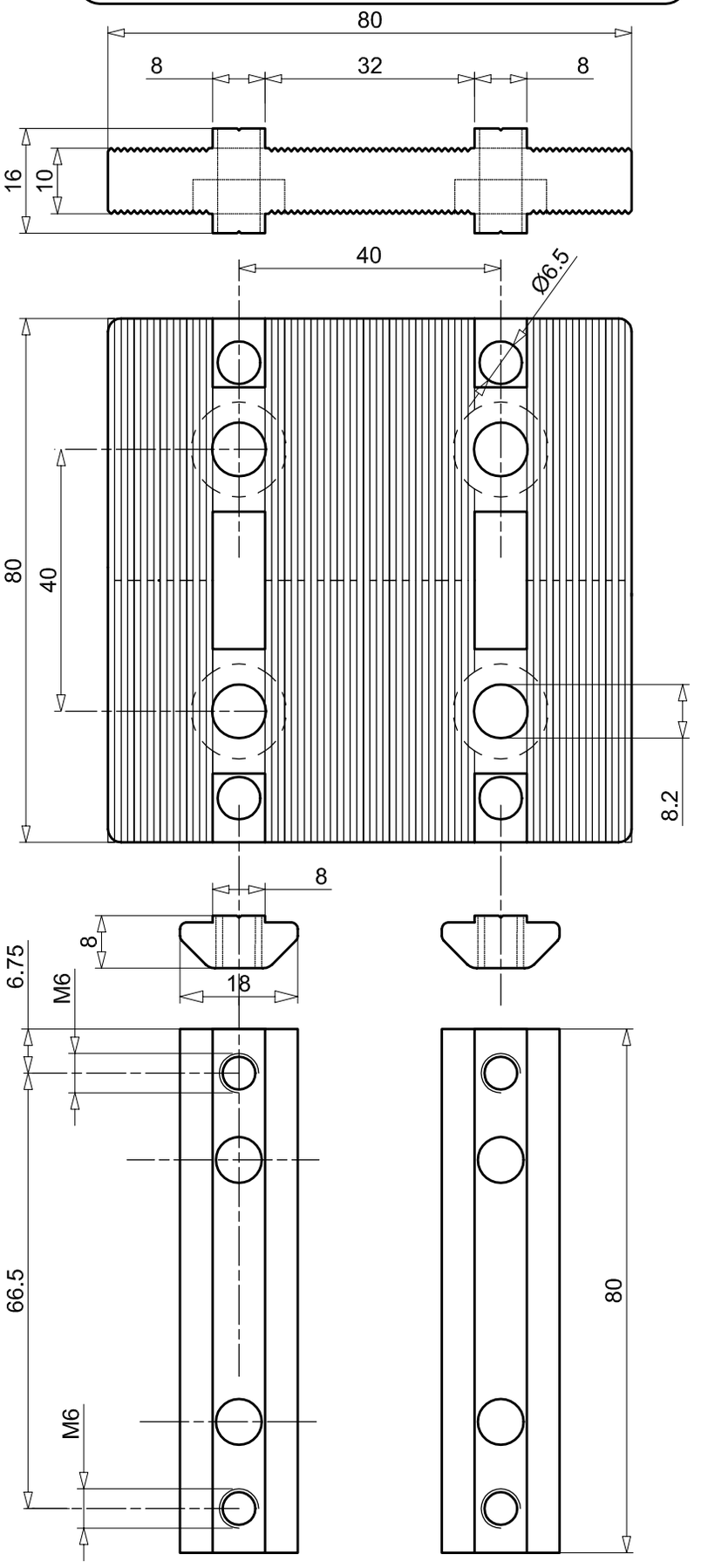


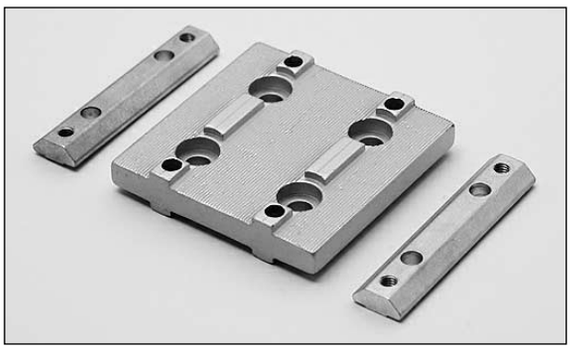
For fitting, see: GROUP E - TABLE 1/2





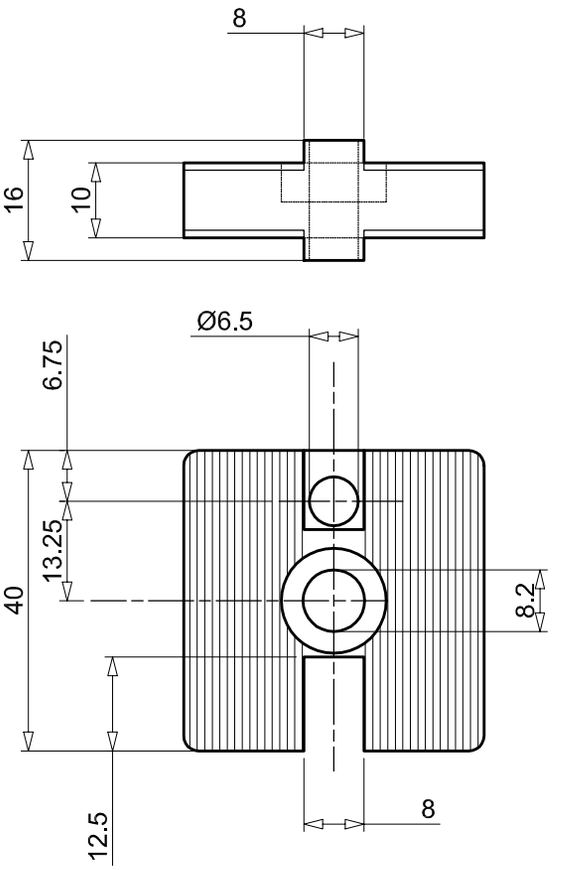
Ma 1425 Sieved
Ma 1425.A Anodised silver

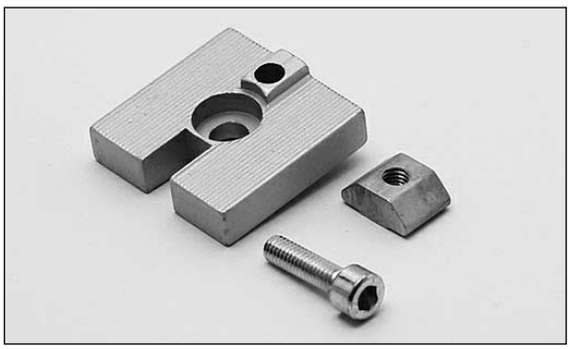




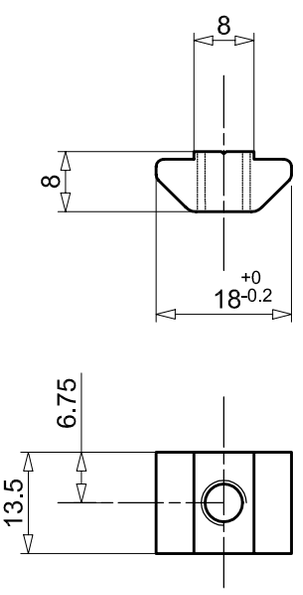
For fitting, see: GROUP E - TABLE 1/2

Ma 1408 Sieved
Ma 1408.A Anodised silver

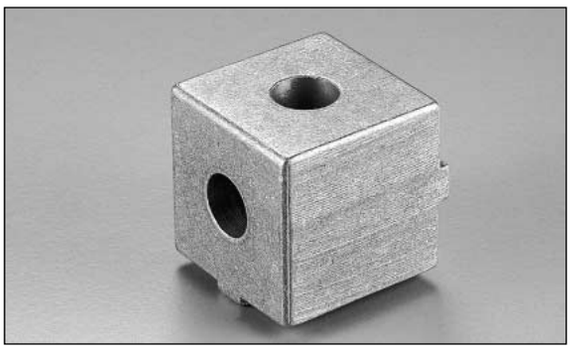




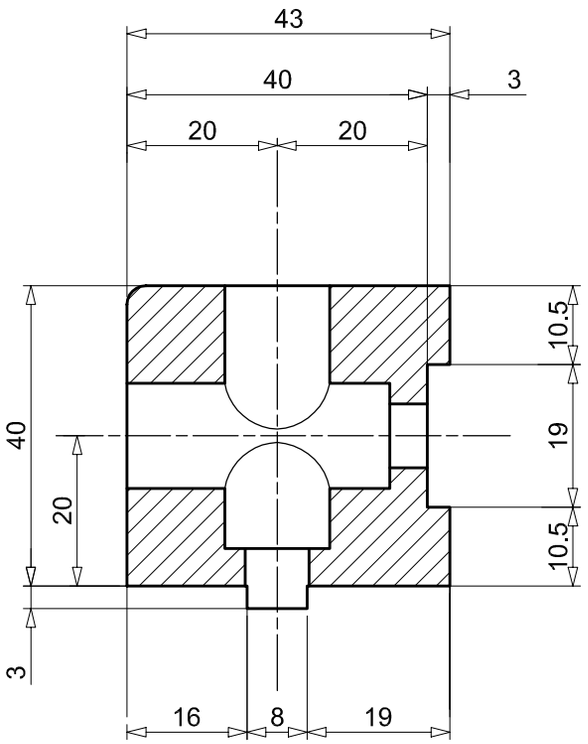
For fitting, see: GROUP E - TABLE 3/4

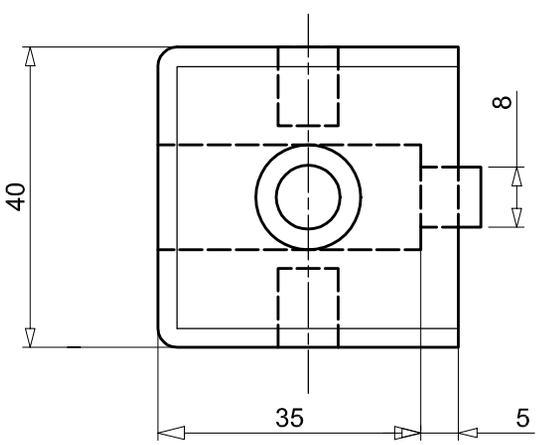


Ma 1321 Sieved
Ma 1321.A Anodised silver



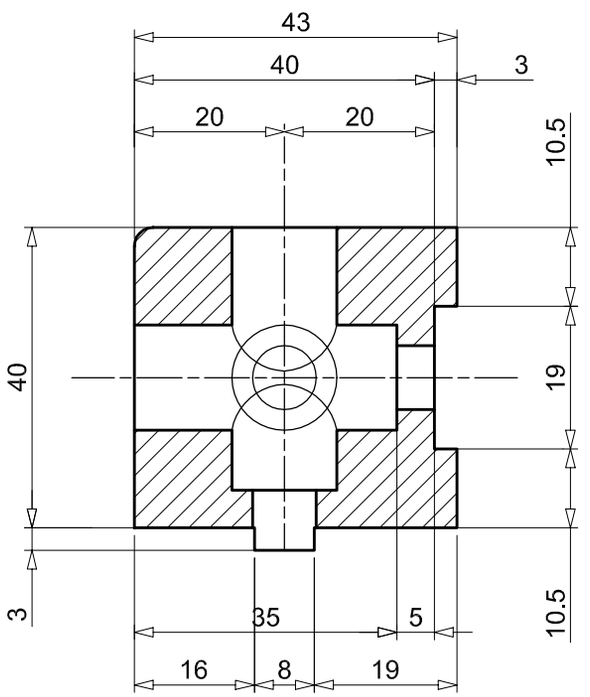
For fitting, see: GROUP E - TABLE 10/11

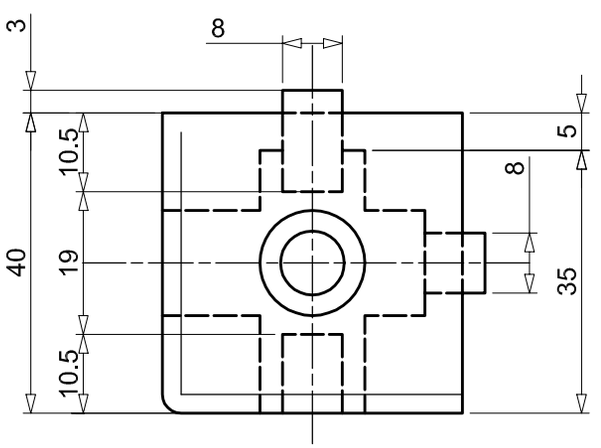




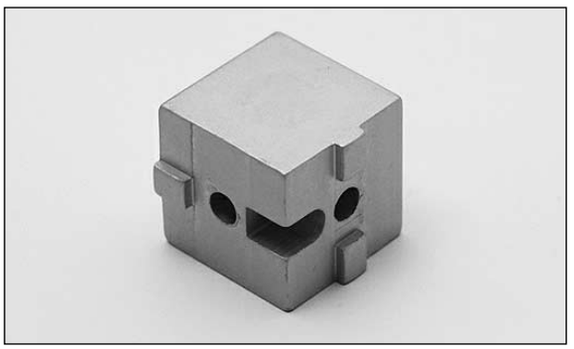
Ma 1322 Sieved
Ma 1322.A Anodised silver

For fitting, see: GROUP E - TABLE 10/11

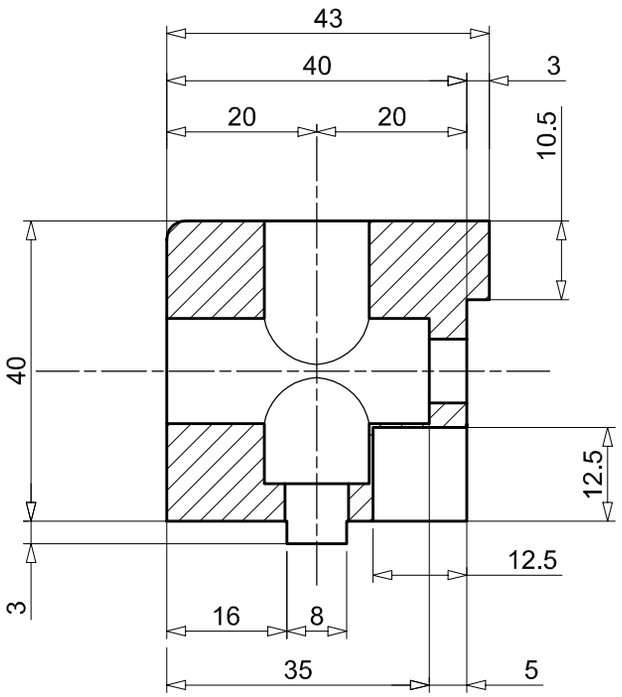


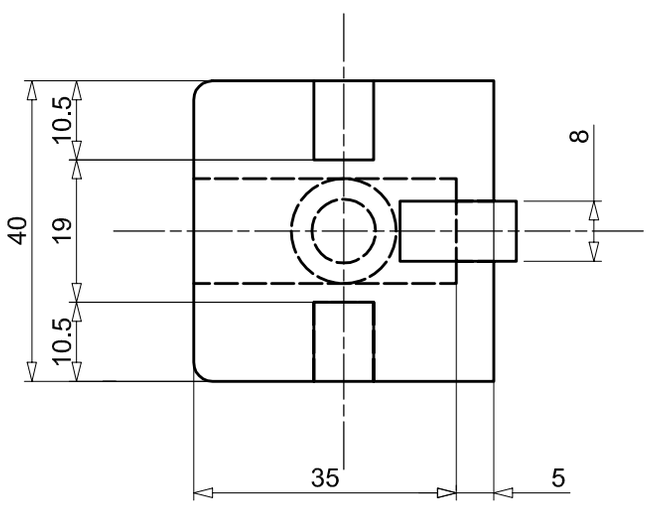


Ma 1409 Sieved
Ma 1409.A Anodised silver

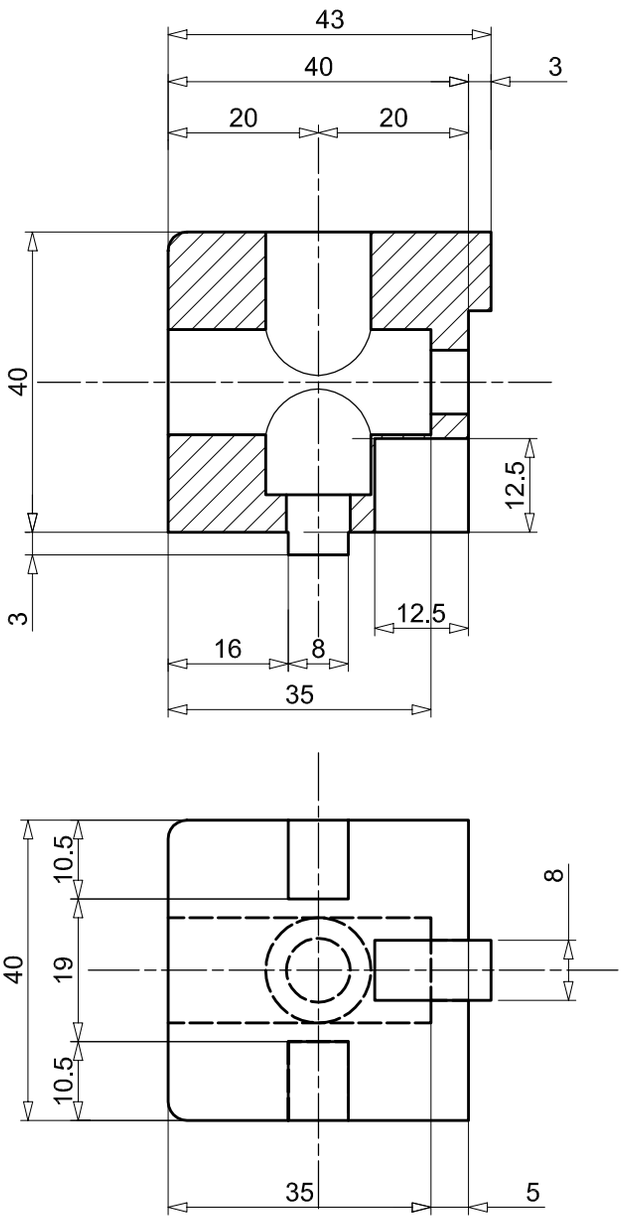


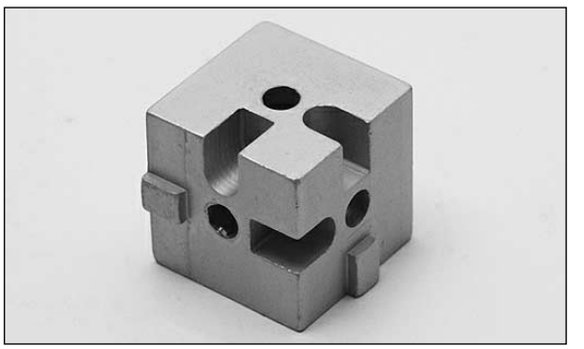
For fitting, see: GROUP E - TABLE 10/11





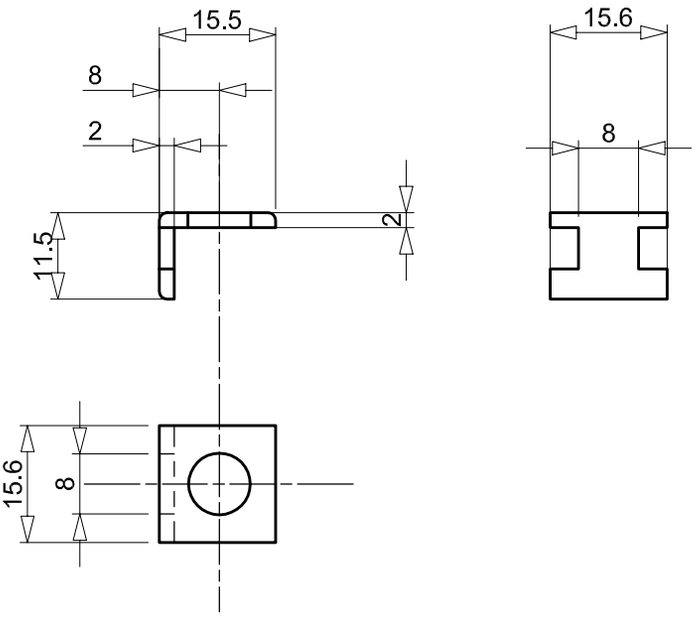
Ma 1410 **Sieved**
Ma 1410.A **Anodised silver**

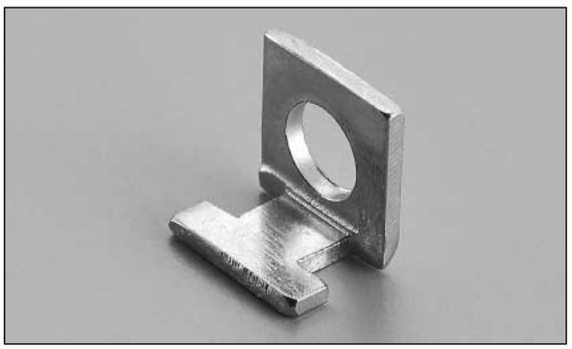




For fitting, see: GROUP E - TABLE 10/11

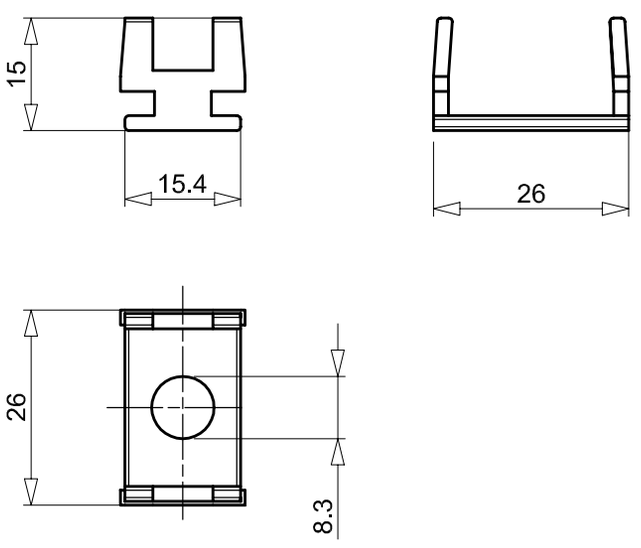
Ma 1320 Sieved

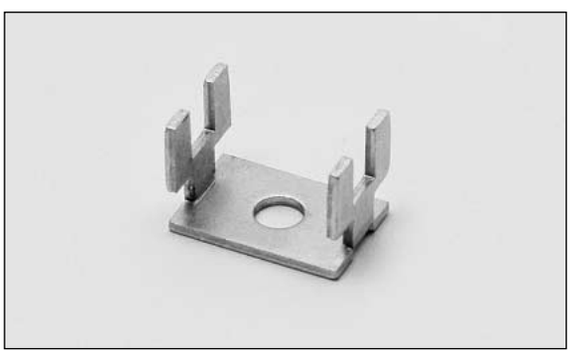




For fitting, see: GROUP E - TABLE 7/9

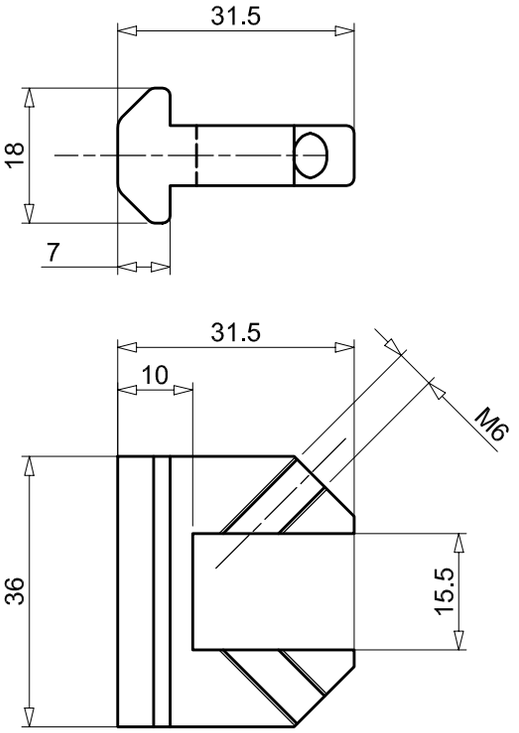
Ma 1475

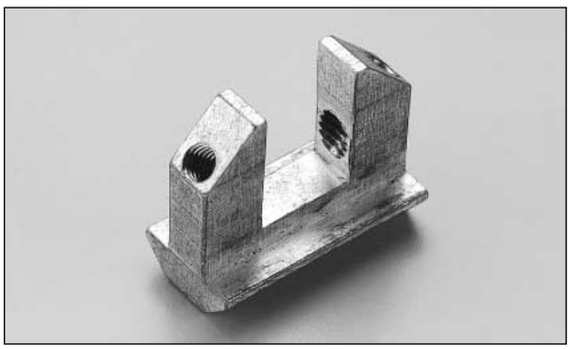




For fitting, see: GROUP E - TABLE 8/9

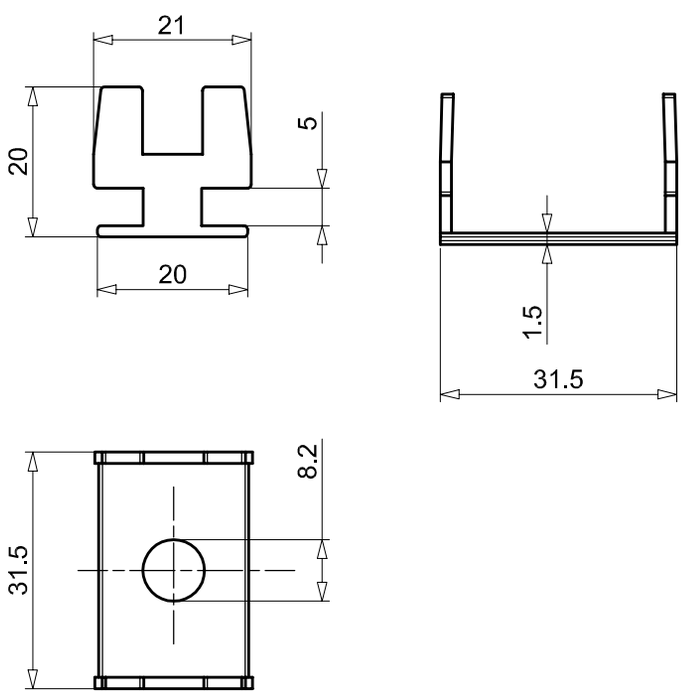
Ma 1319 Sieved

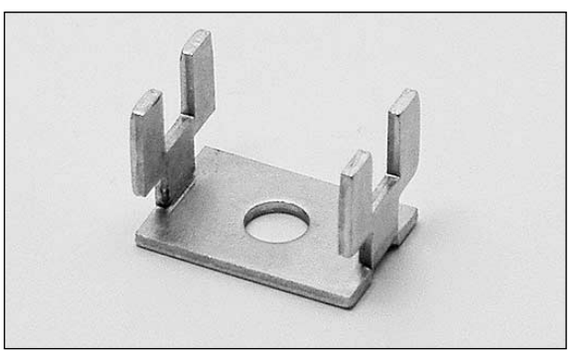




For fitting, see: GROUP E - TABLE 5/9

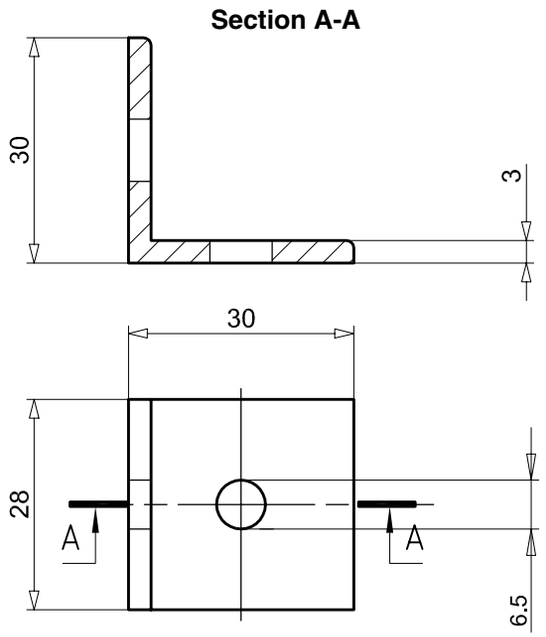
Ma 1423 Sieved

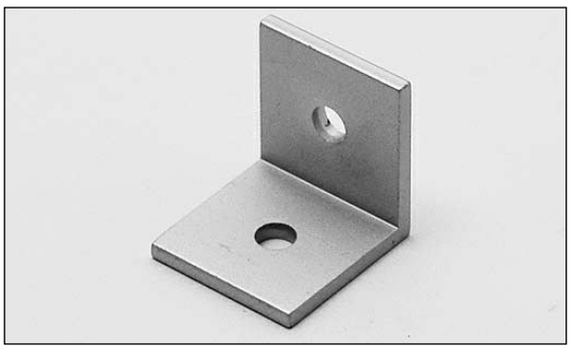




For fitting, see: GROUP E - TABLE 6/9

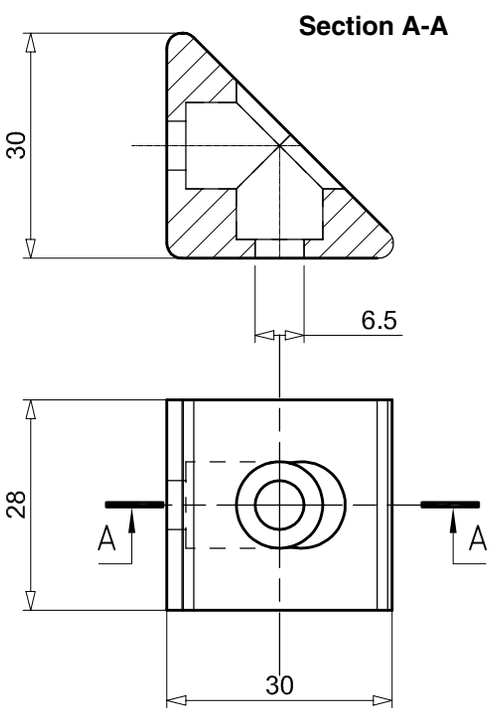
Ma 1473 Sieved
Ma 1473.A Anodised silver





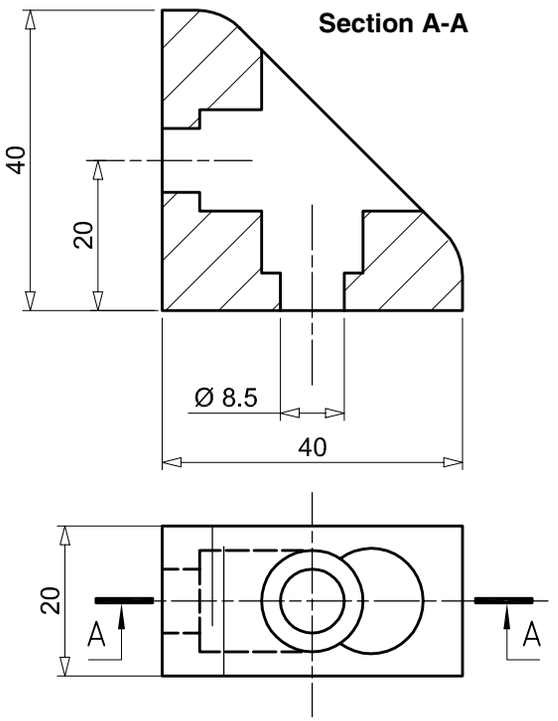
For fitting, see: GROUP E - TABLE 12

Ma 1474 Sieved
Ma 1474.A Anodised silver



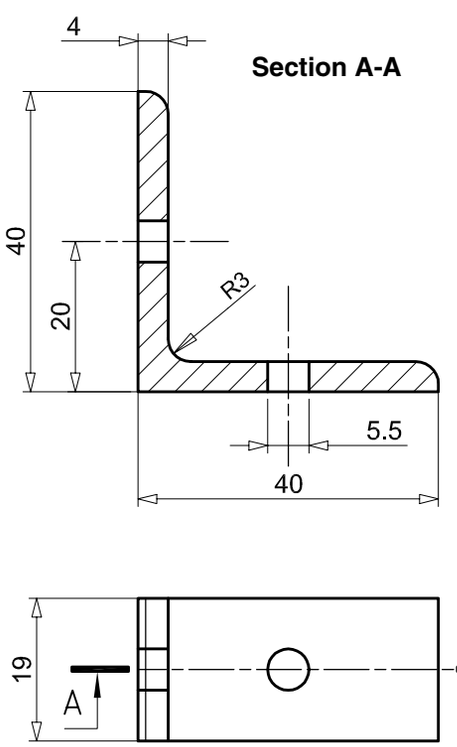
For fitting, see: GROUP E - TABLE 12

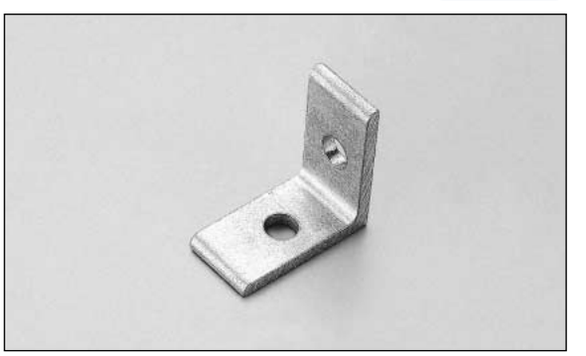
Ma 1347 Sieved
Ma 1347.A Anodised silver



For fitting, see: GROUP E - TABLE 13/15

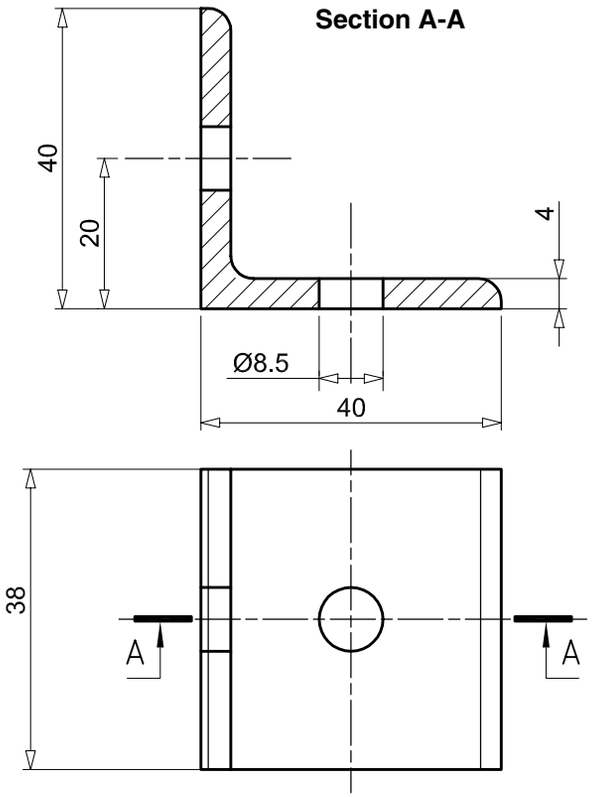
Ma 1359 Sieved
Ma 1359.A Anodised silver

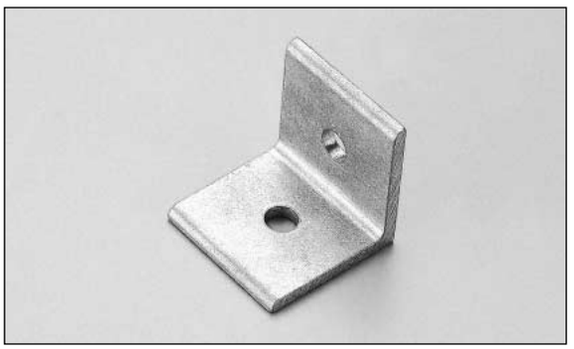




For fitting, see: GROUP E - TABLE 13

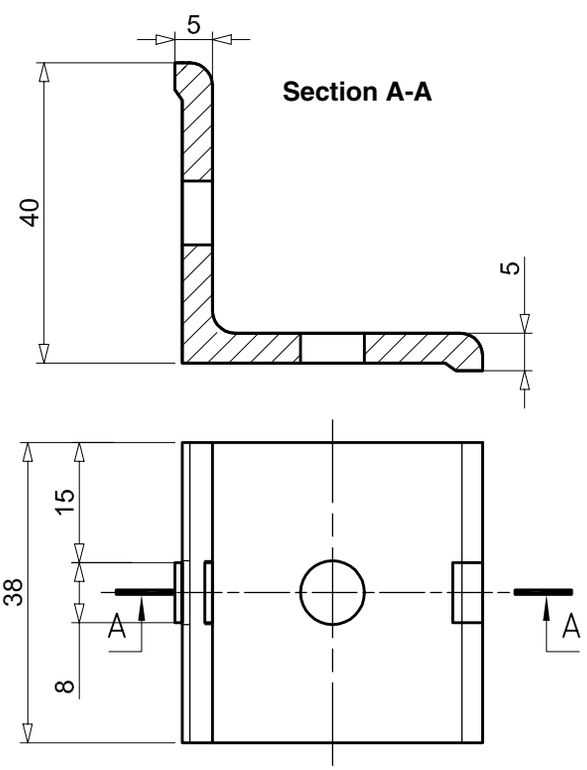
Ma 1345 Sieved
Ma 1345.A Anodised silver

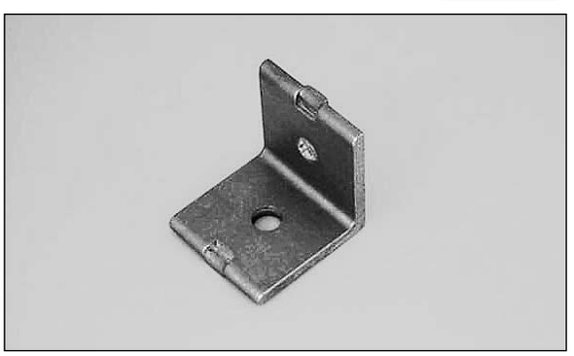




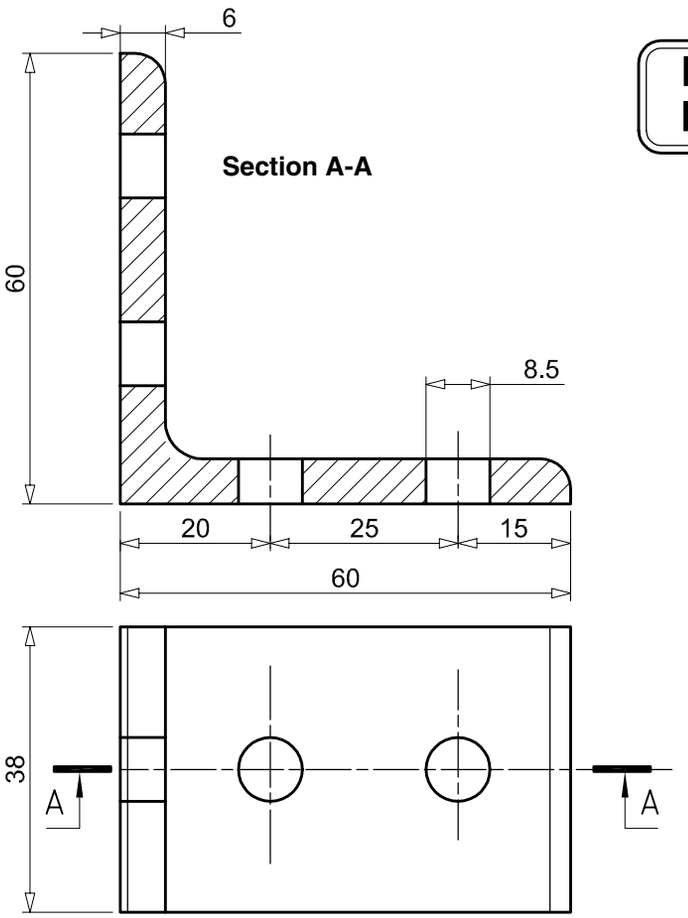
For fitting, see: GROUP E - TABLE 14

Ma 1401 Sieved
Ma 1401.A Anodised silver



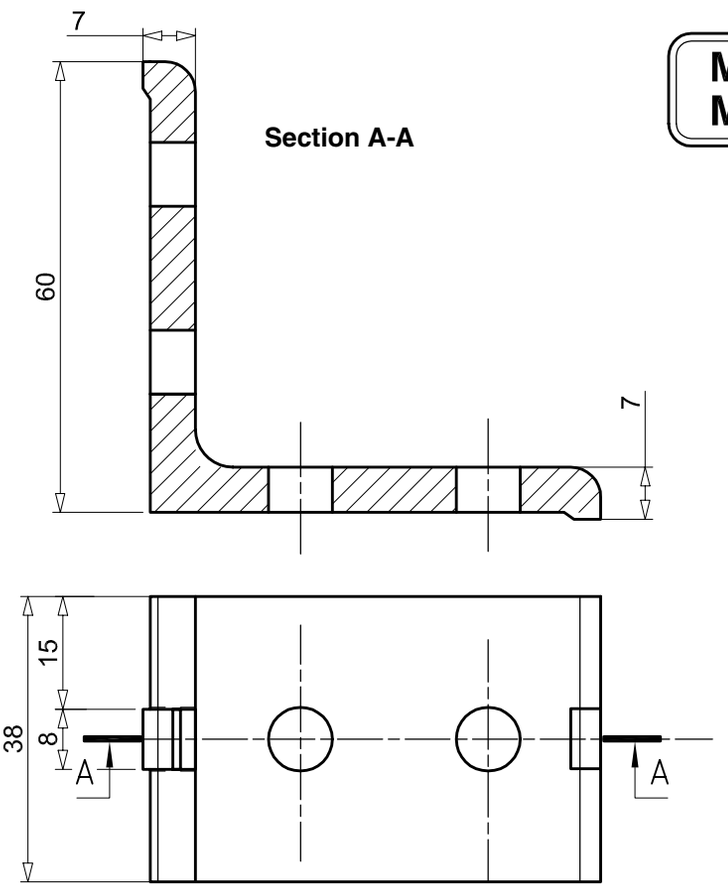


For fitting, see: GROUP E - TABLE 14

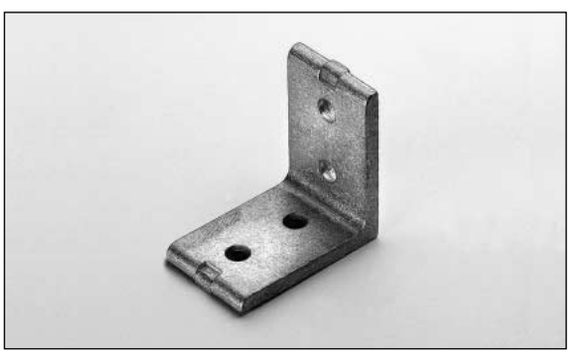


Ma 1346 **Sieved**
Ma 1346.A **Anodised silver**

For fitting, see: GROUP E - TABLE 14

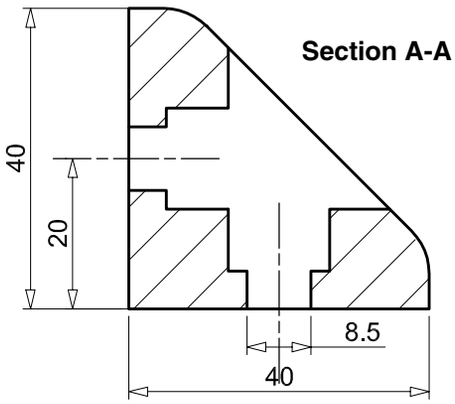


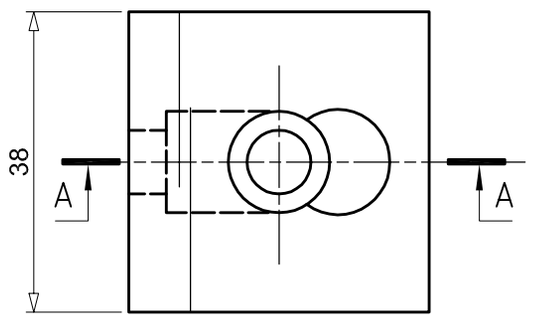
Ma 1402 **Sieved**
Ma 1402.A **Anodised silver**



For fitting, see: GROUP E - TABLE 14

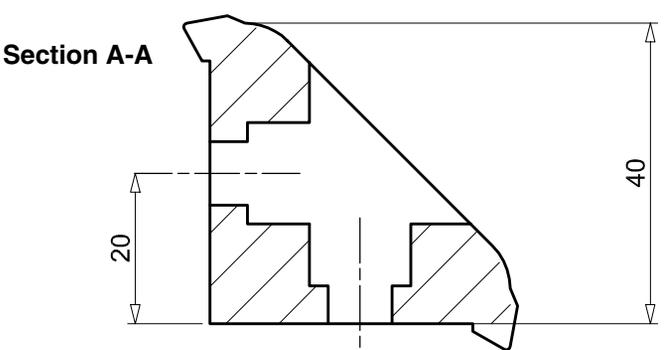
Ma 1348 Sieved
Ma 1348.A Anodised silver

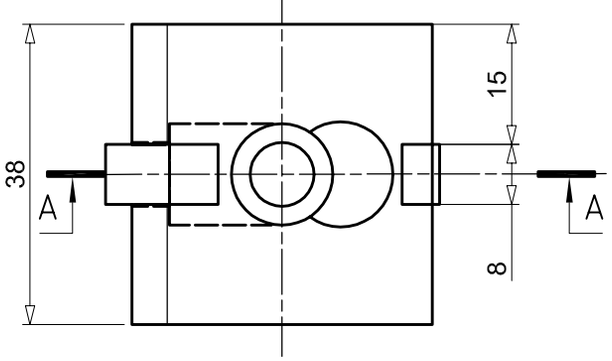




For fitting, see: GROUP E - TABLE 15

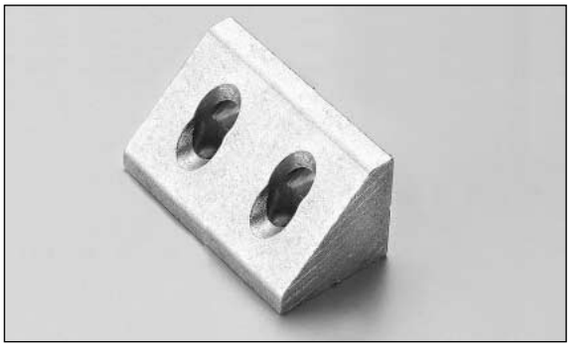
Ma 1403 Sieved
Ma 1403.A Anodised silver



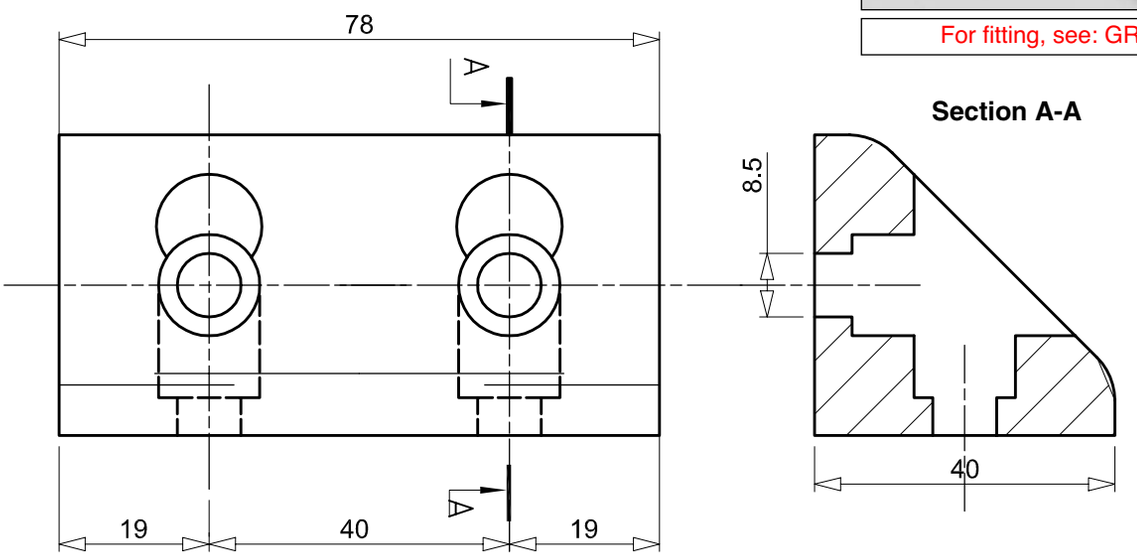


For fitting, see: GROUP E - TABLE 15

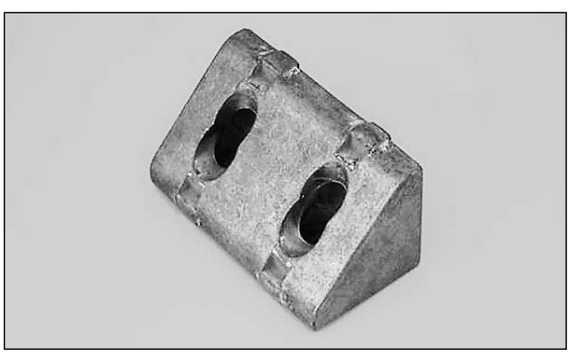
Ma 1349 Sieved
Ma 1349.A Anodised silver



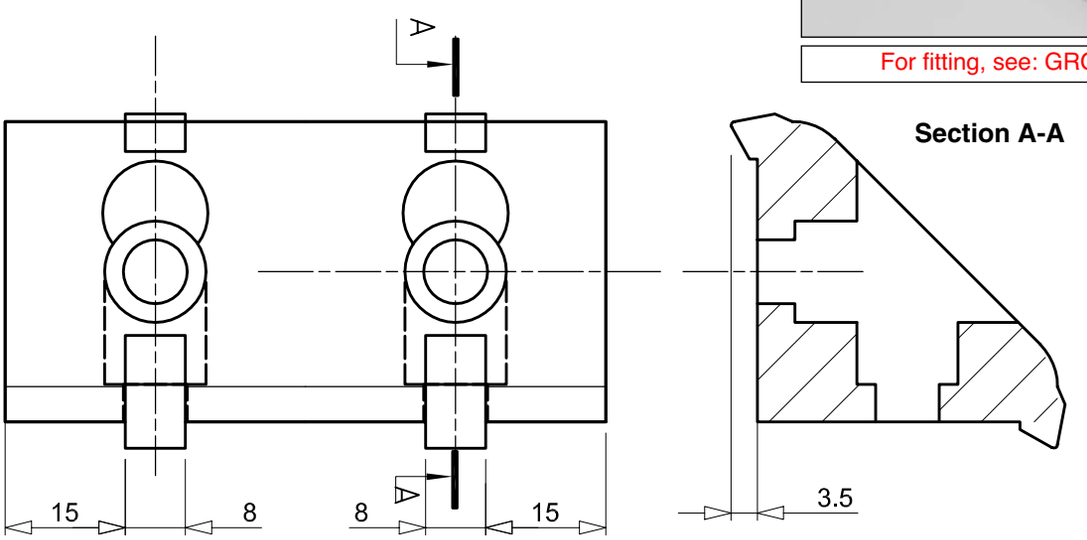
For fitting, see: GROUP E - TABLE 16



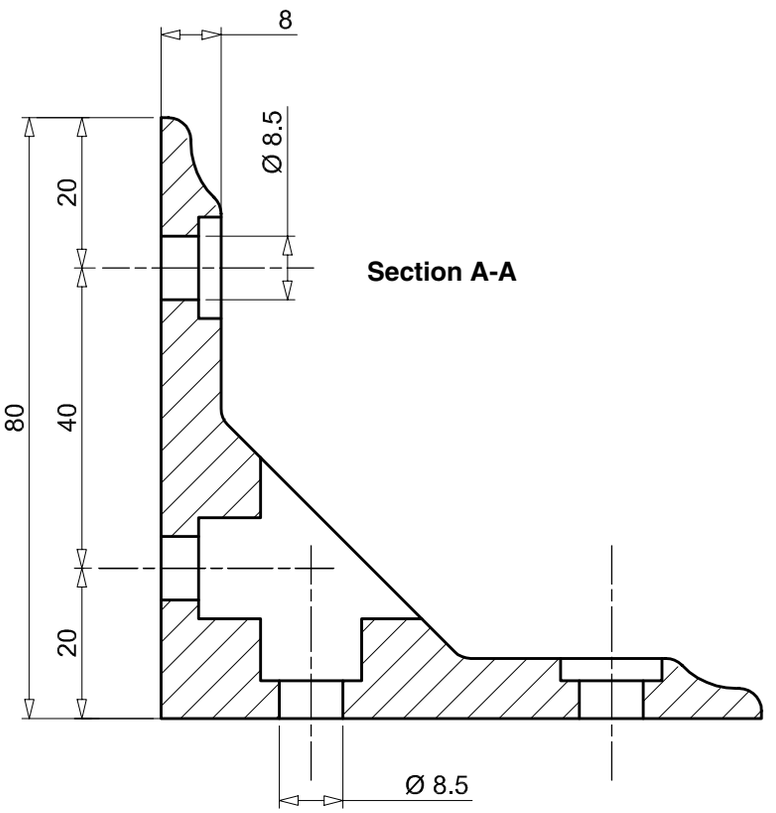
Ma 1404 Sieved
Ma 1404.A Anodised silver



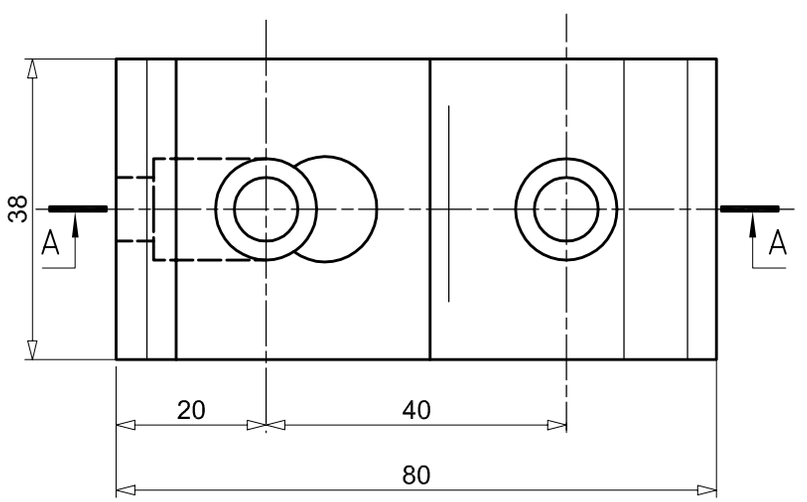
For fitting, see: GROUP E - TABLE 16



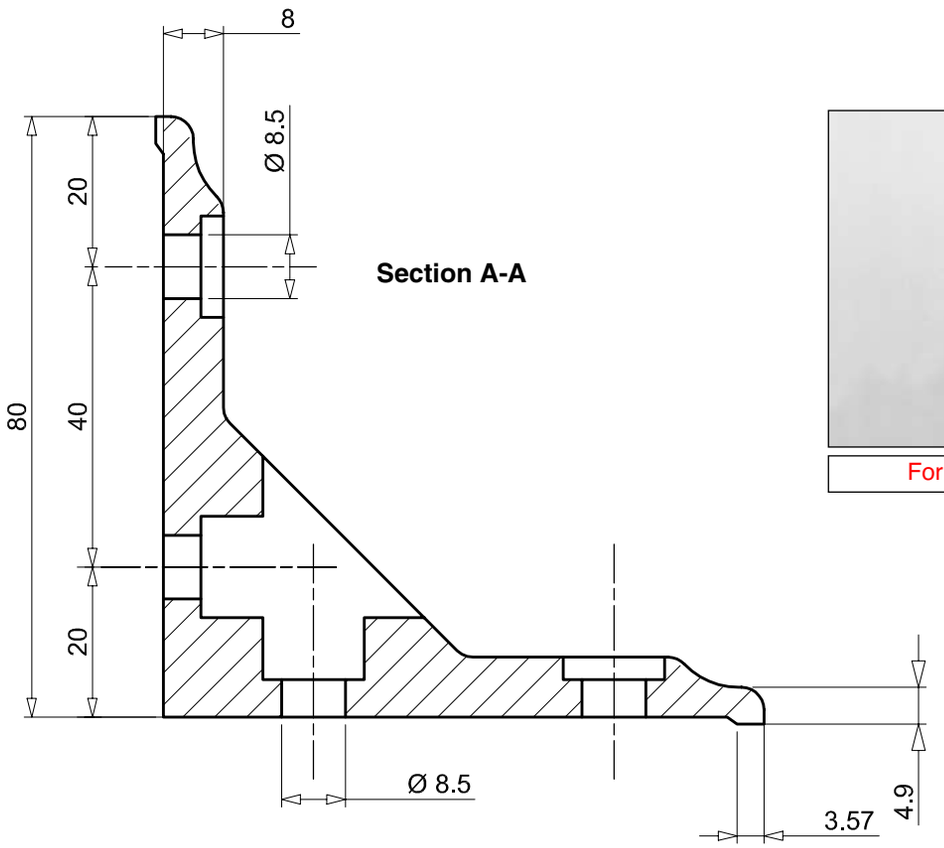
Ma 1350 **Sieved**
Ma 1350.A **Anodised silver**



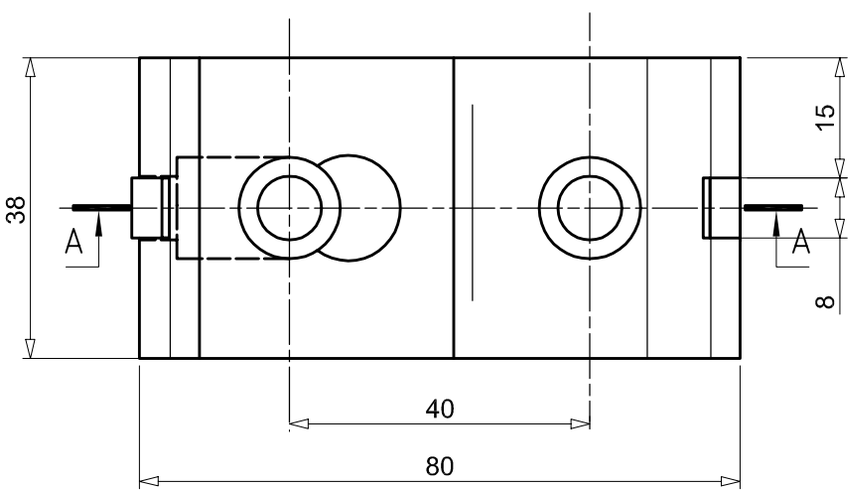
For fitting, see: GROUP E - TABLE 16



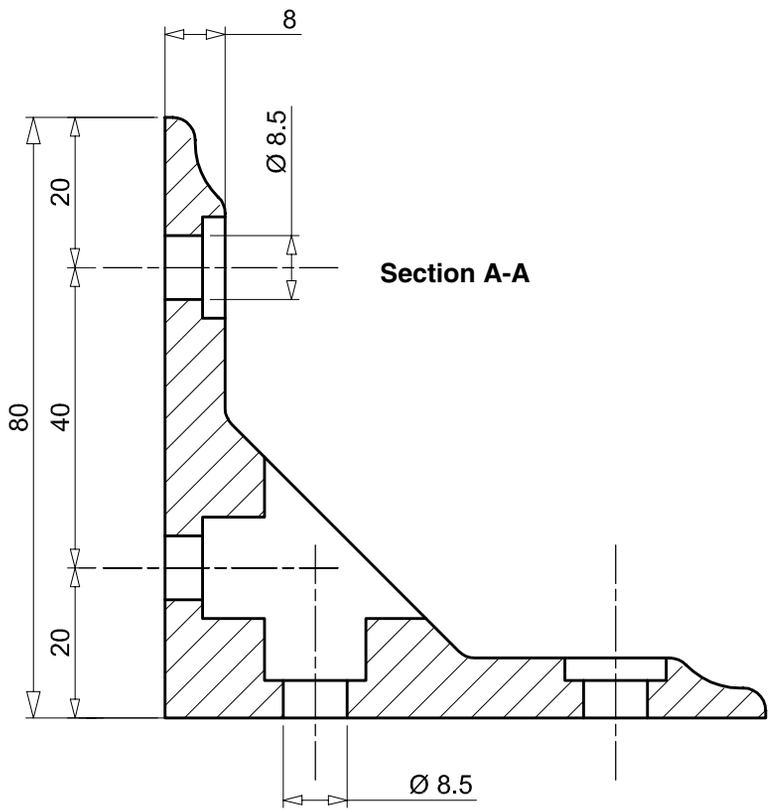
Ma 1405 Sieved
Ma 1405.A Anodised silver

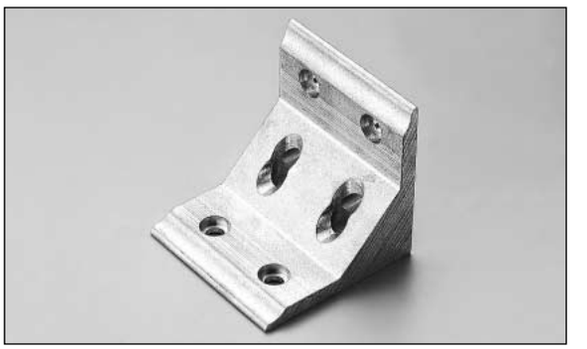


For fitting, see: GROUP E - TABLE 16

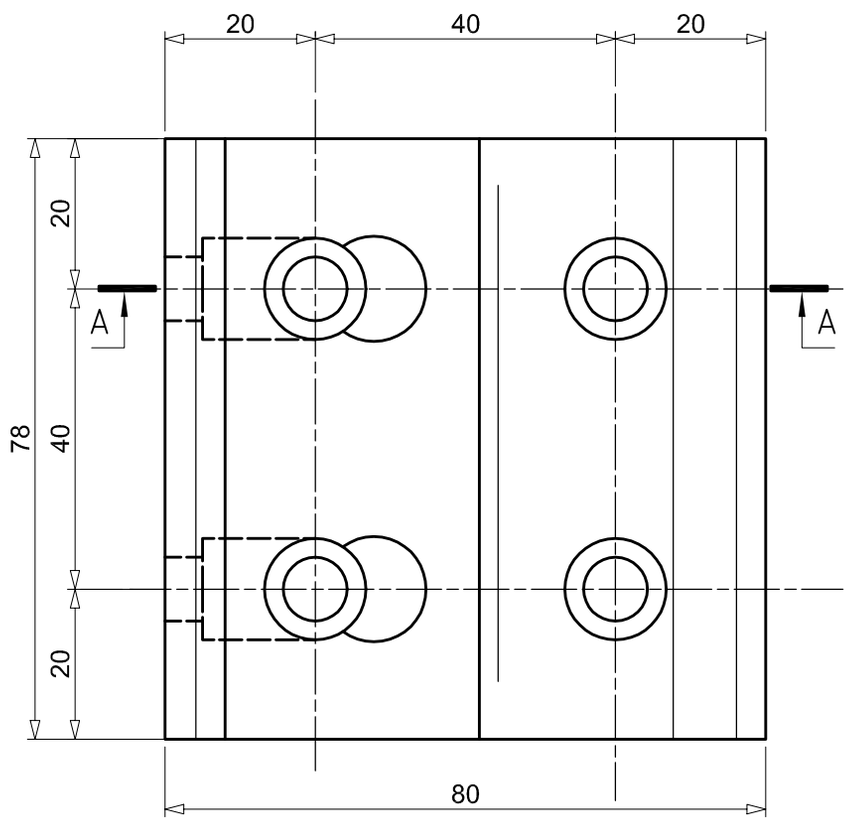


Ma 1351 Sieved
Ma 1351.A Anodised silver

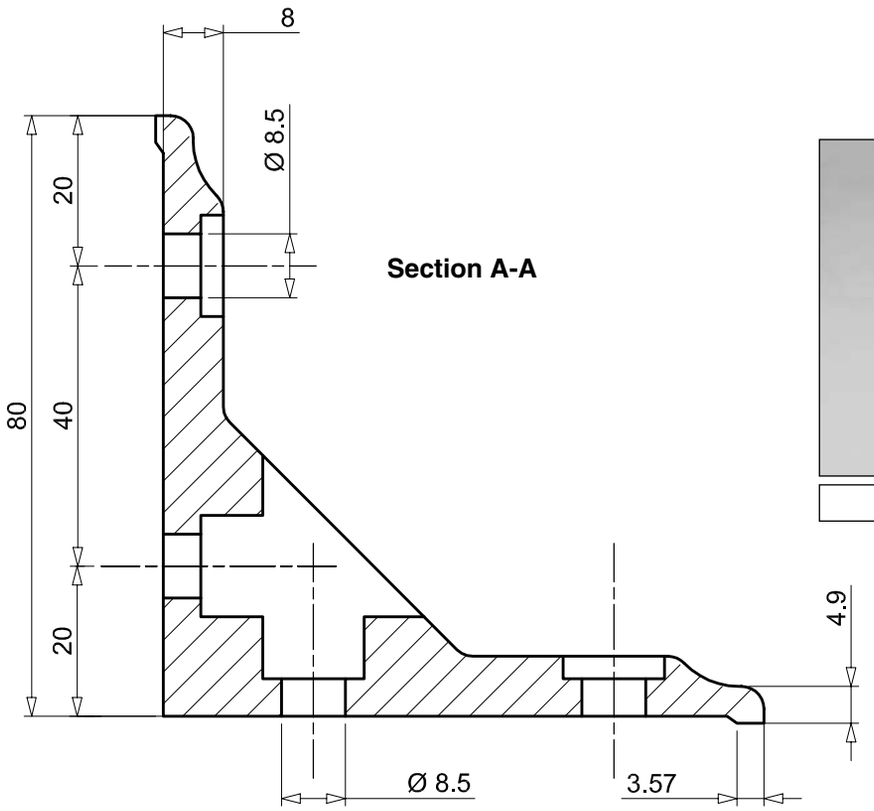


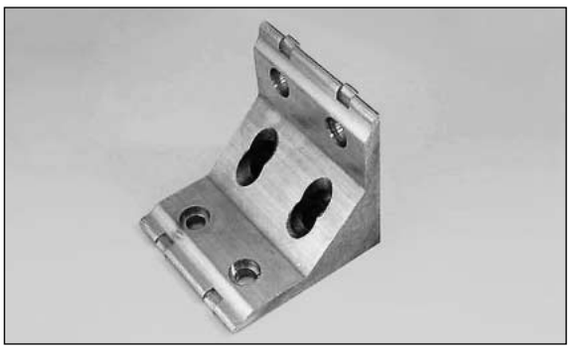


For fitting, see: GROUP E - TABLE 16

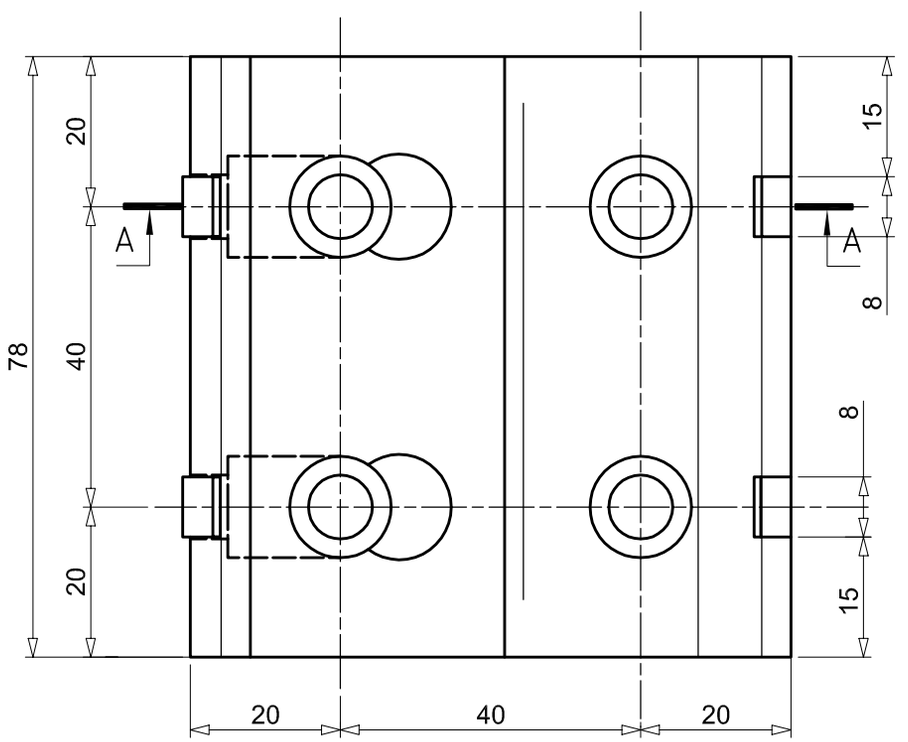


Ma 1406 Sieved
Ma 1406.A Anodised silver

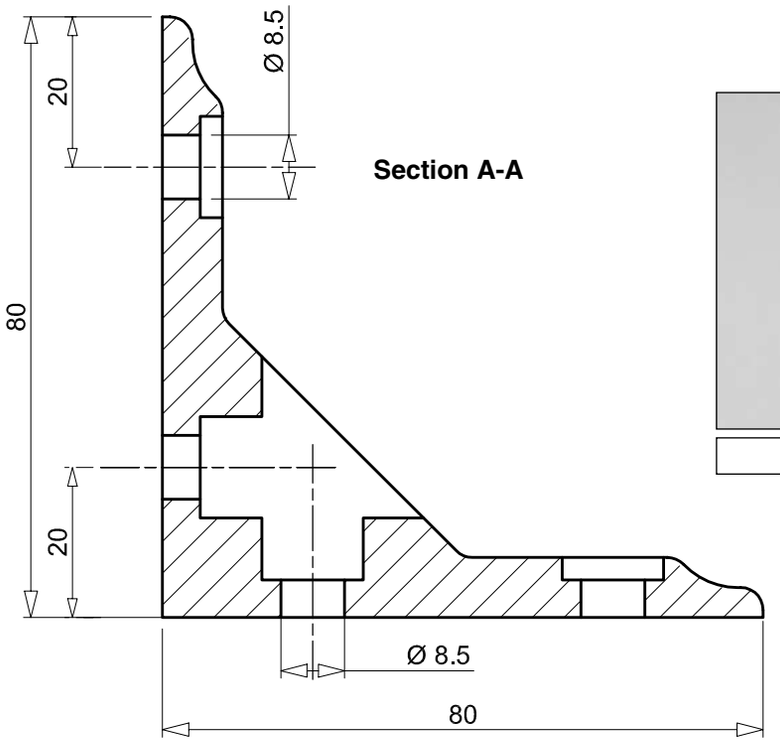




For fitting, see: GROUP E - TABLE 16

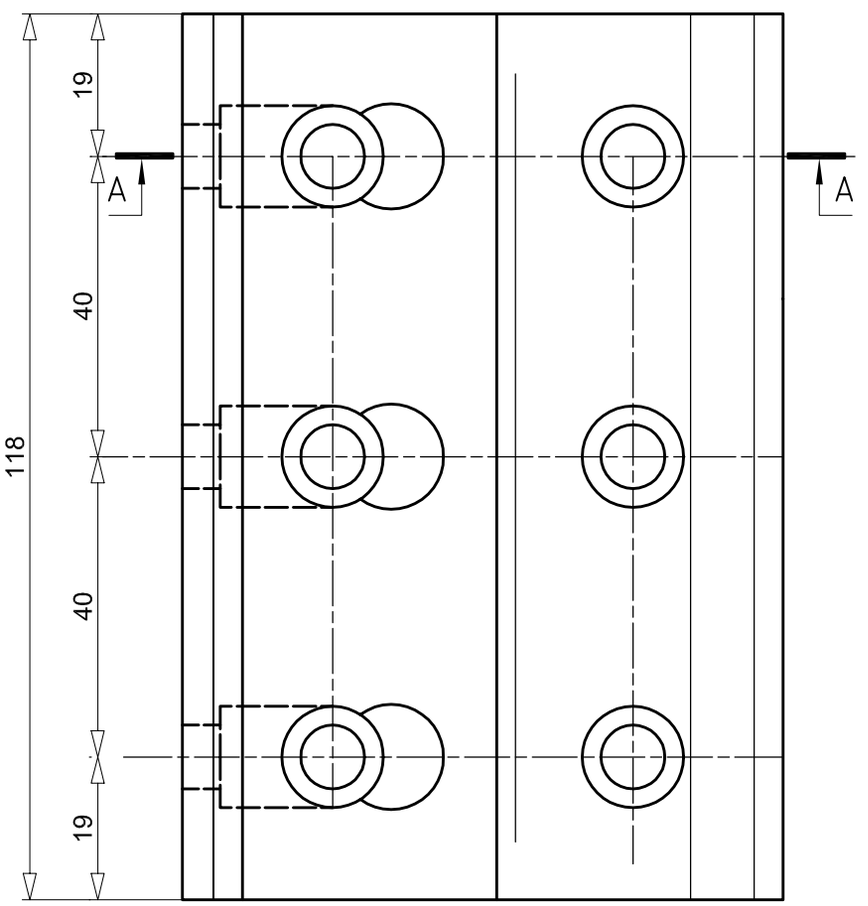


Ma 1422 Sieved
Ma 1422.A Anodised silver

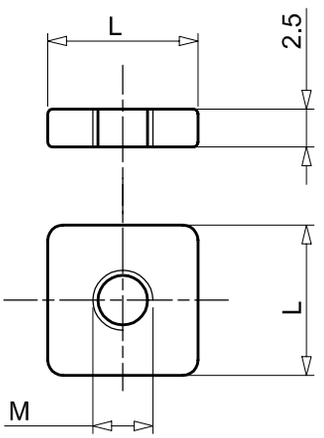


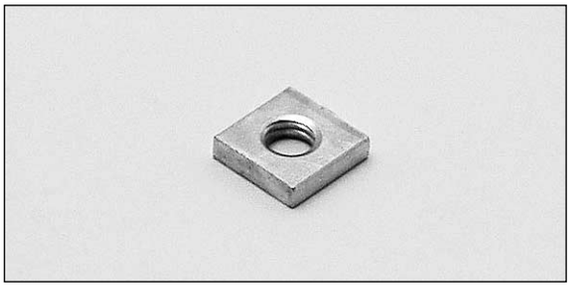
Section A-A

For fitting, see: GROUP E - TABLE 17

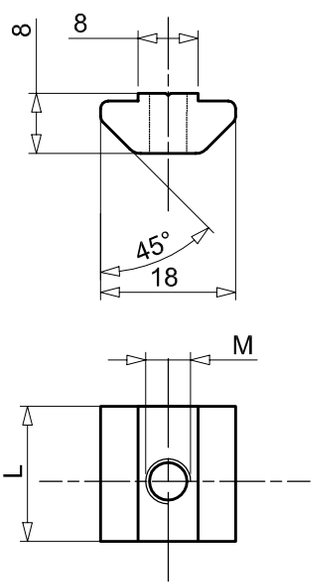


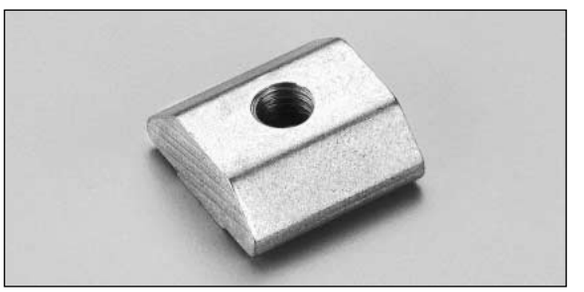
ONE HOLE SLIDES





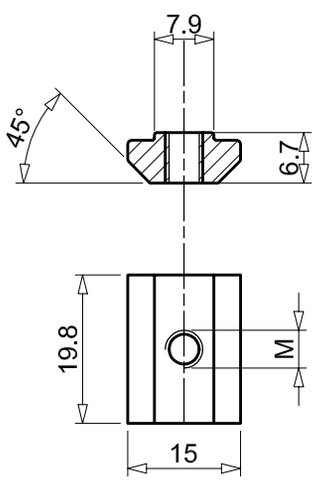
M	L	CODE
M4	10	Ma 1333
M5	10	Ma 1334





M	L	CODE
M4	18	Ma 1430
M5	18	Ma 1431
M6*	18	Ma 1335
M8*	18	Ma 1336

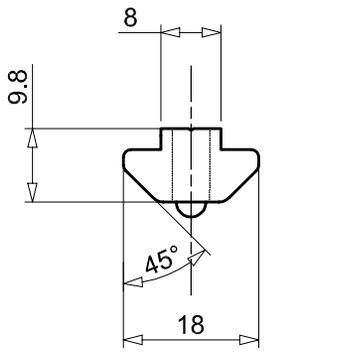
* ALLOY ZAMA

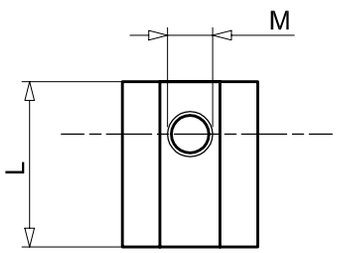


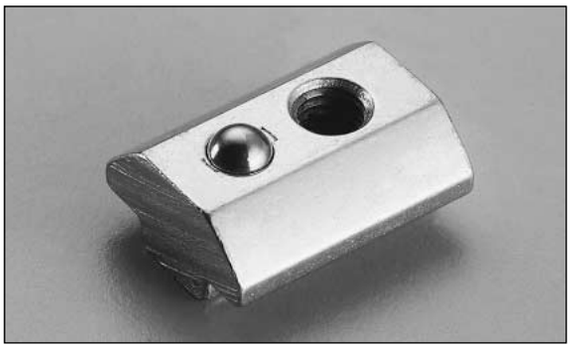
M	L	CODE
M4	19.8	Ma 1479
M5	19.8	Ma 1480

ALLOY ZAMA

ONE HOLE SLIDES WITH BALL

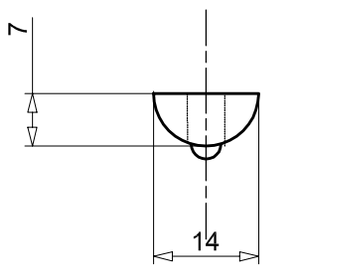


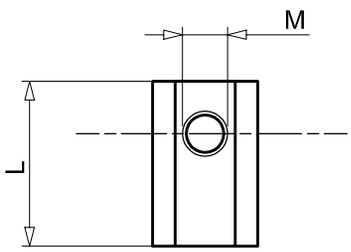




M	L	CODE
M6	22	Ma 1372
M8	22	Ma 1373
M6 *	22	Ma 1441
M8 *	22	Ma 1442

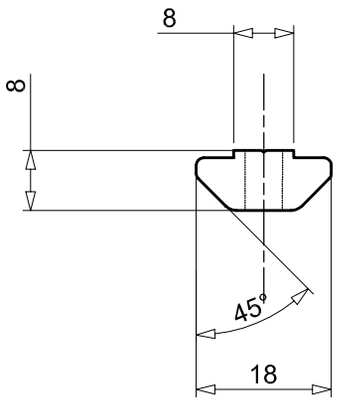
* ALLOY ZAMA

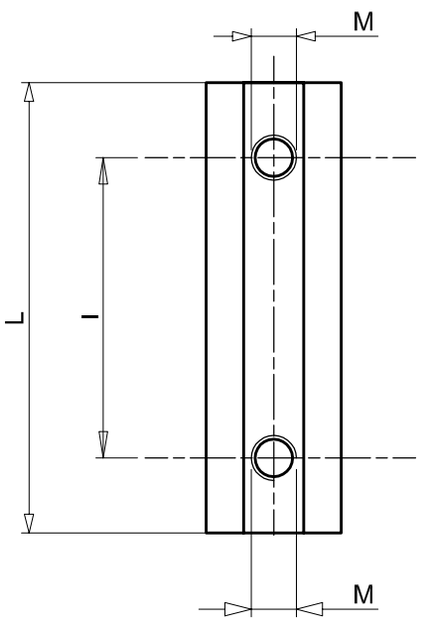




M	L	CODE
M6	22	Ma 1370
M8	22	Ma 1371

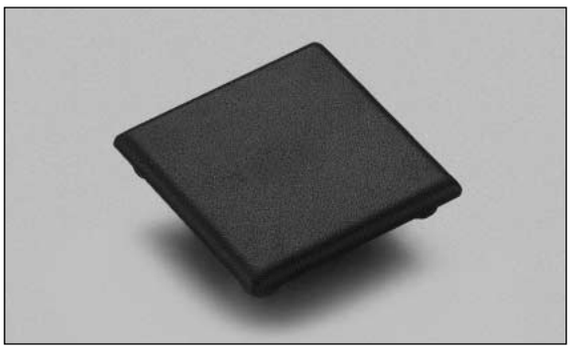
TWO HOLES SLIDES

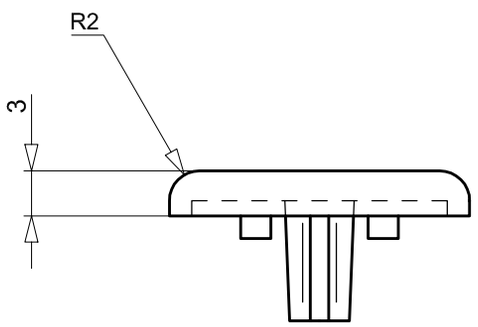


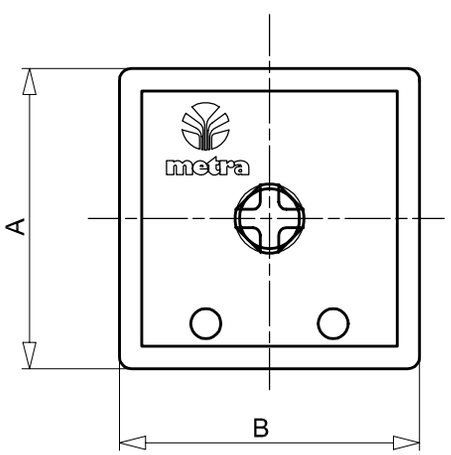


I	M	L	CODE
20	M6	40	Ma 1339
30	M6	50	Ma 1340
40	M6	60	Ma 1341
20	M6	38	Ma 1400
25	M8	40	Ma 1342
30	M8	50	Ma 1343
40	M8	60	Ma 1344

FINISHING CAP

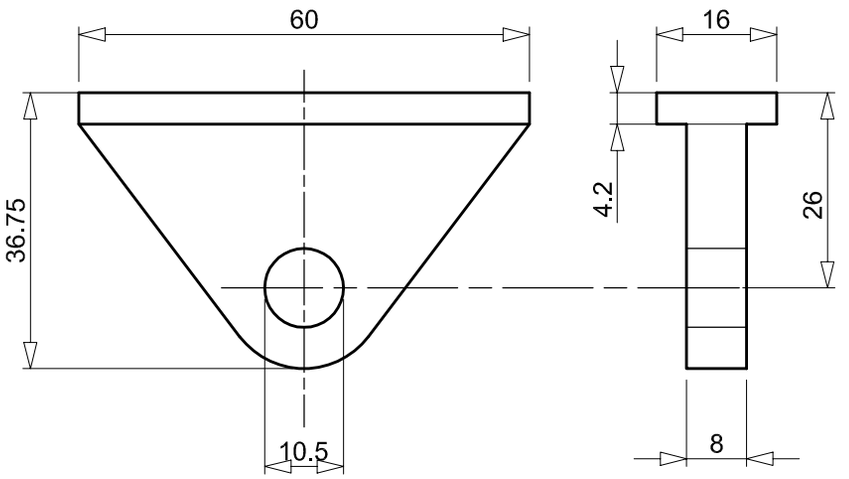




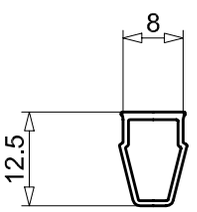


A	B	CODE
20	20	Ma 1361
20	32	Ma 1362
20	40	Ma 1407
30	30	Ma 1471
30	60	Ma 1478
30	70	Ma 1413
40x40x45°		Ma 1364
40	40	Ma 1363
40x40xr40		Ma 1436
40	80	Ma 1365
60	60	Ma 1417
80	80	Ma 1366

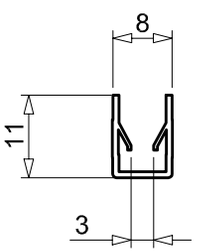
Ma 1397

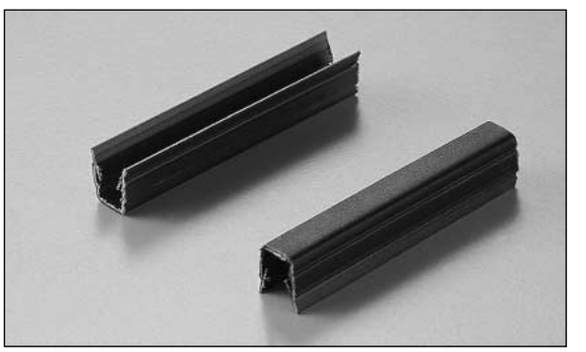


Ma 1323



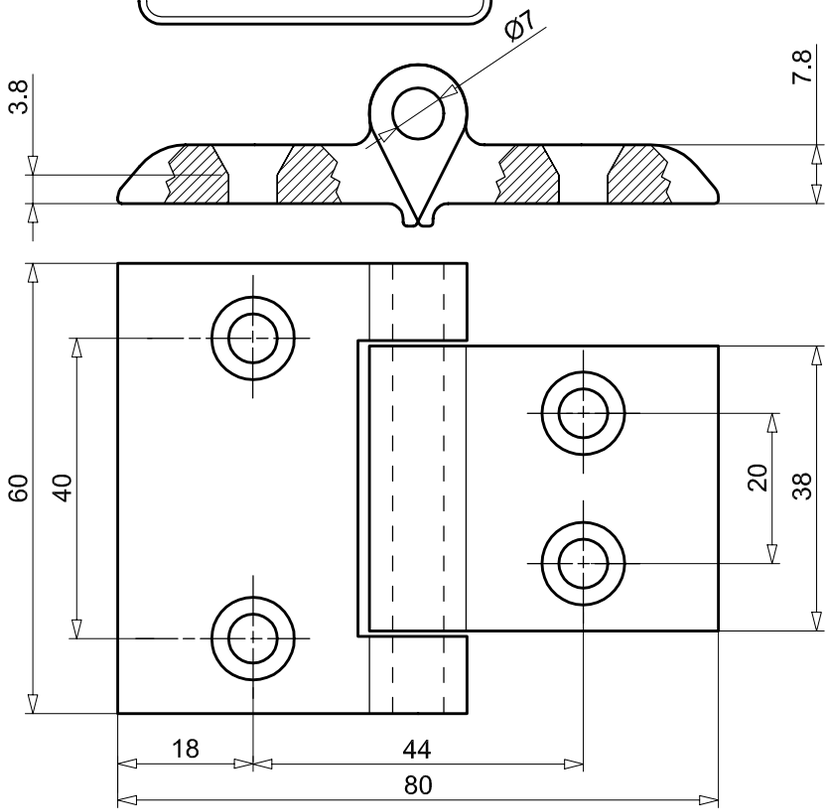
Ma 1377





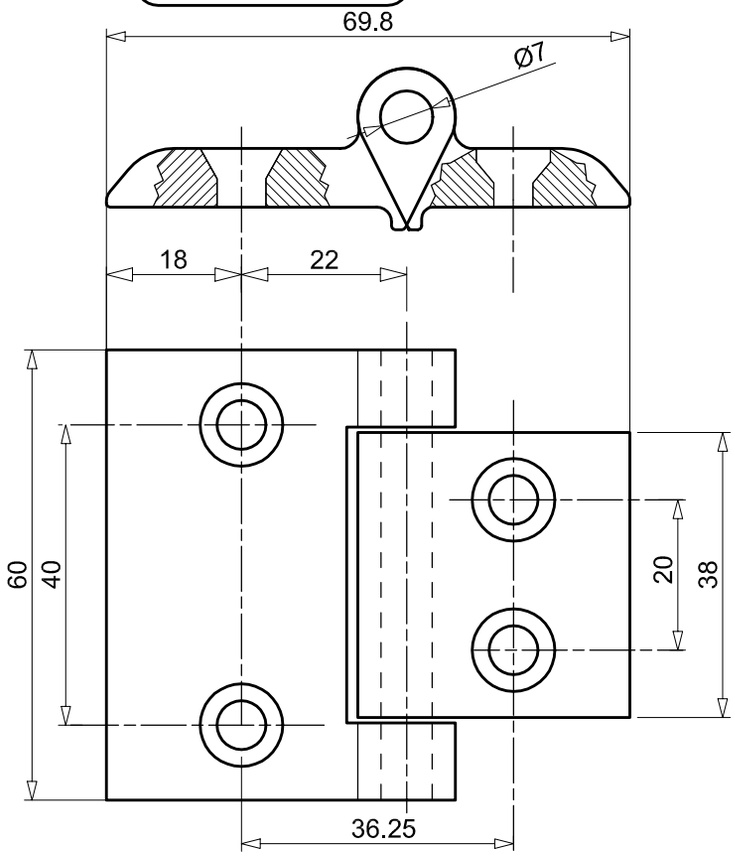
For fitting, see: GROUP E - TABLE 34

Ma 1411



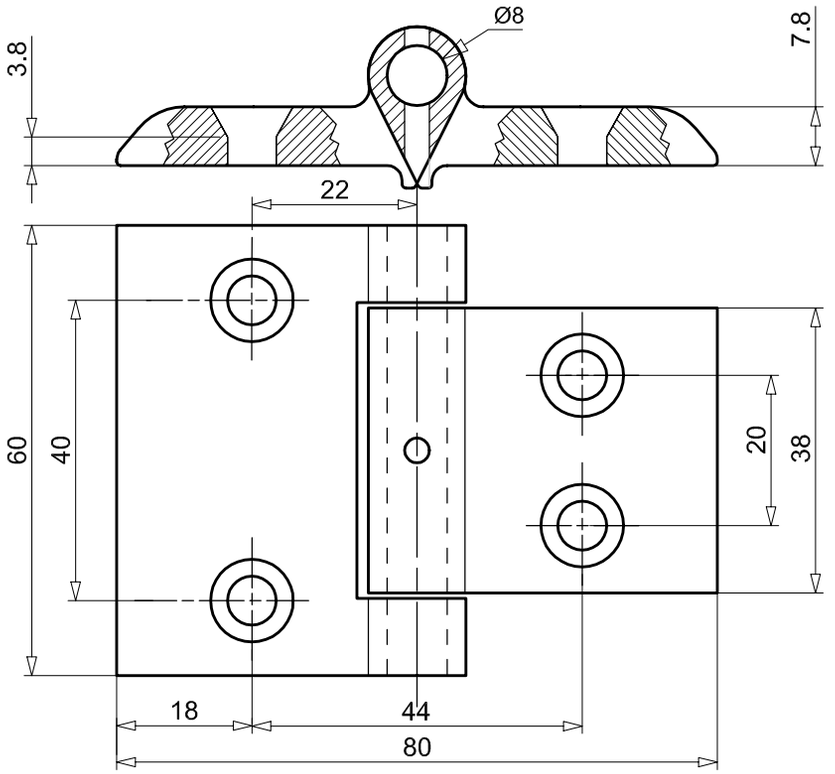
For fitting, see: GROUP E - TABLE 19

Ma 1419



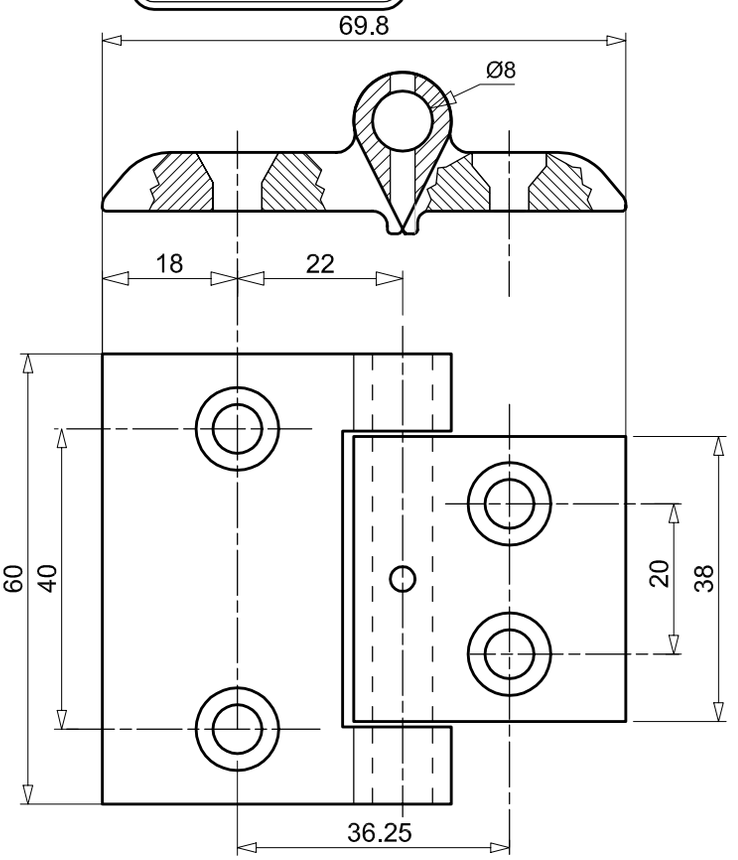
For fitting, see: GROUP E - TABLE 19

Ma 1412



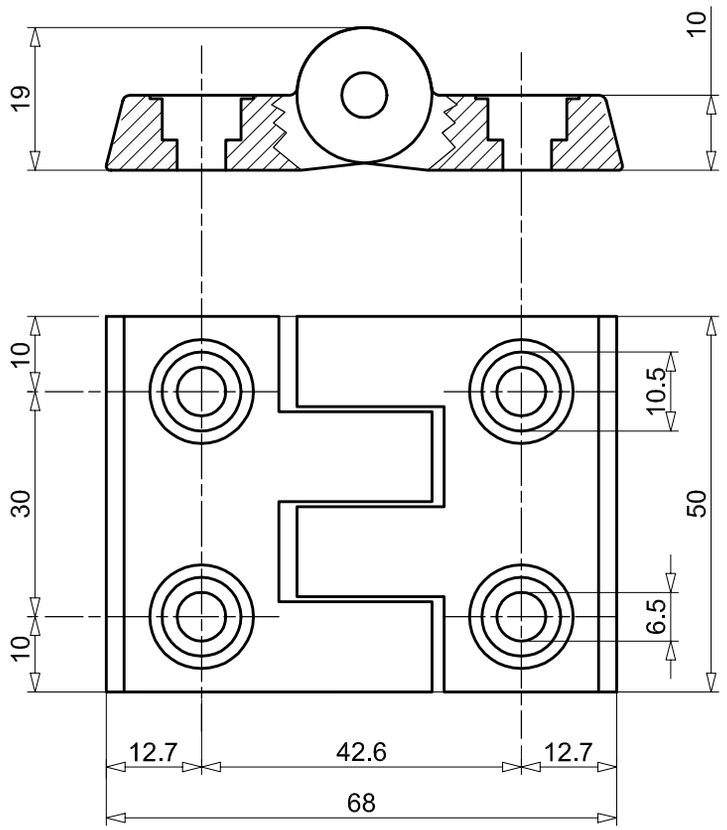
For fitting, see: GROUP E - TABLE 20

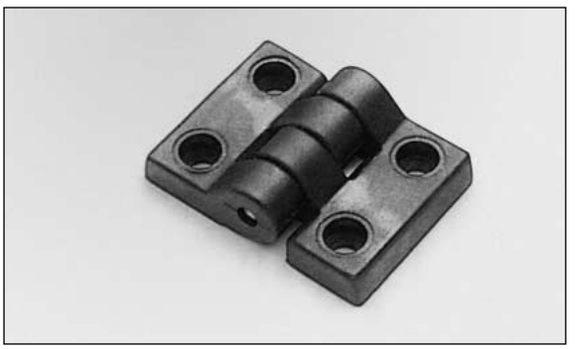
Ma 1420



For fitting, see: GROUP E - TABLE 20

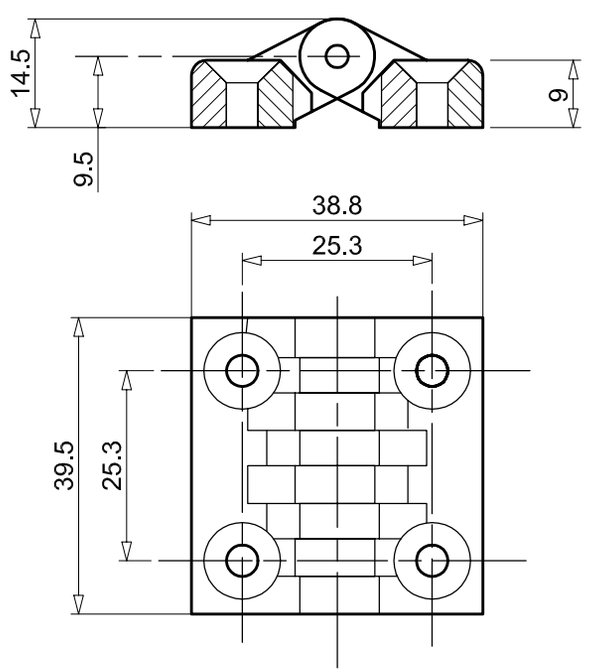
Ma 1310



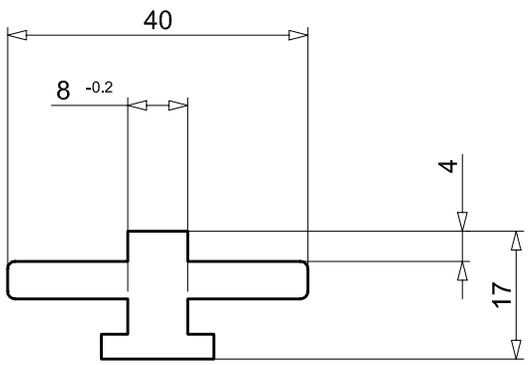


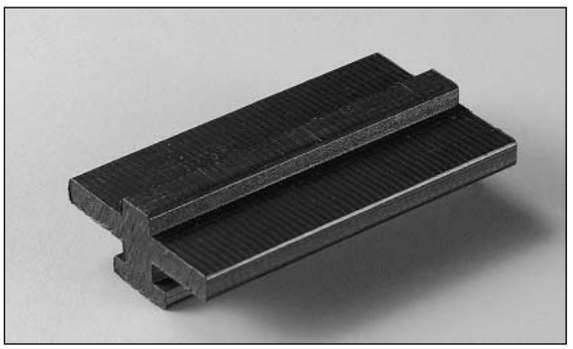
For fitting, see: GROUP E - TABLE 18

Ma 1360



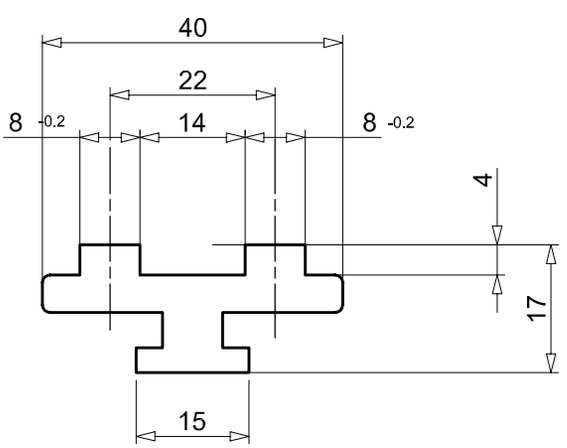
Ma 1369

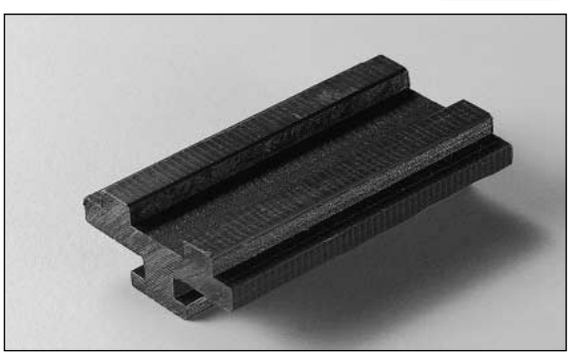




For fitting, see: GROUP E - TABLE 21

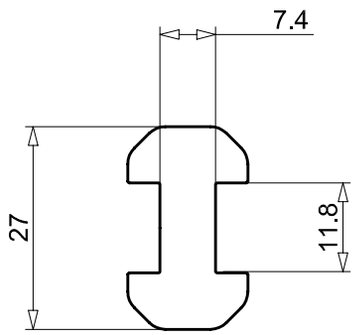
Ma 1368





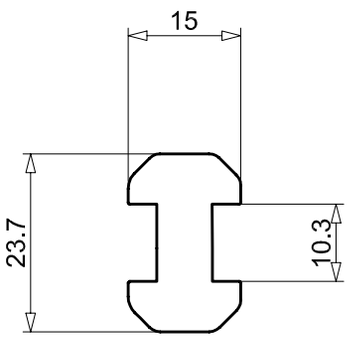
For fitting, see: GROUP E - TABLE 21

Ma 1428



For fitting, see: GROUP E - TABLE 22

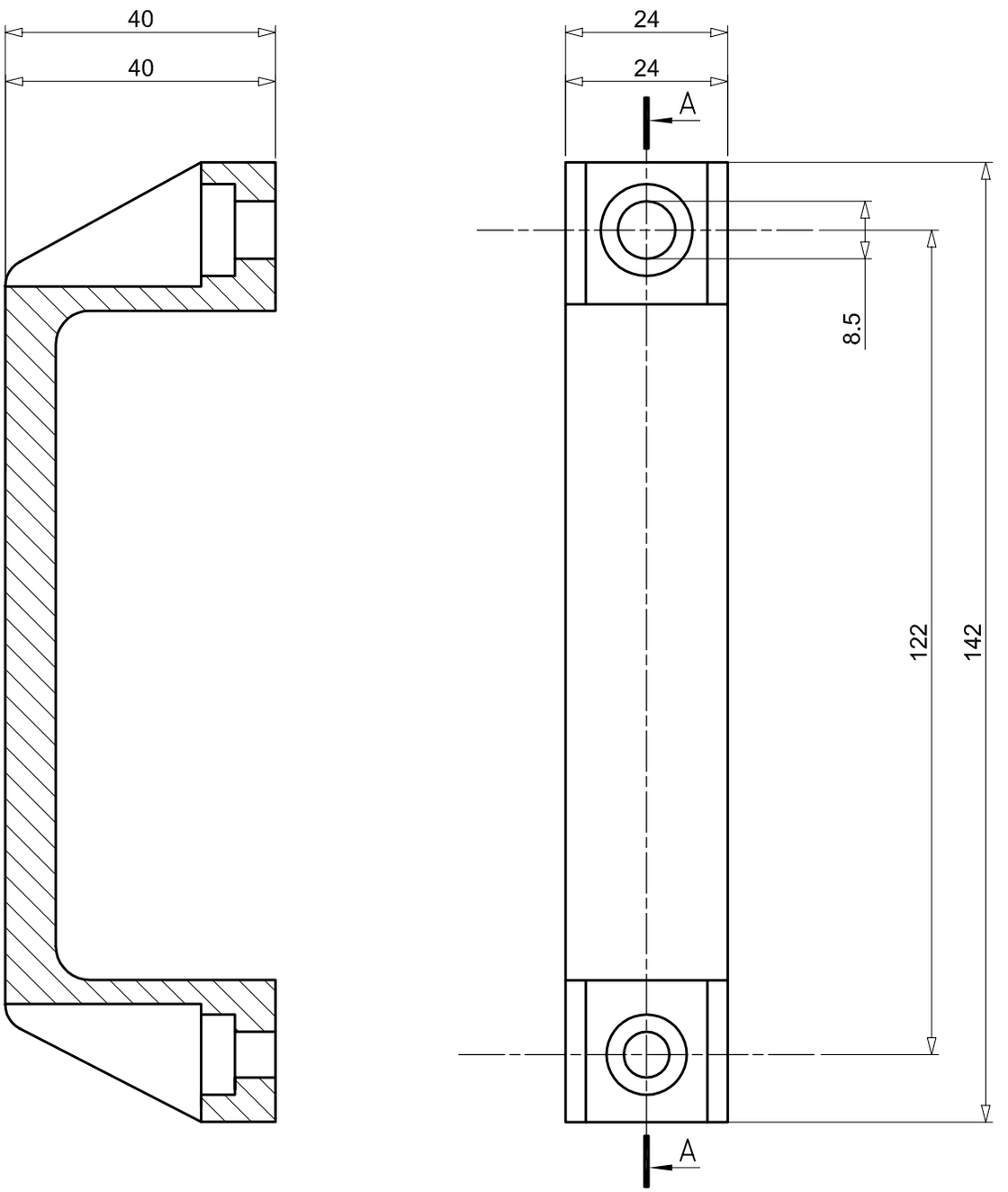
Ma 1429



For fitting, see: GROUP E - TABLE 22

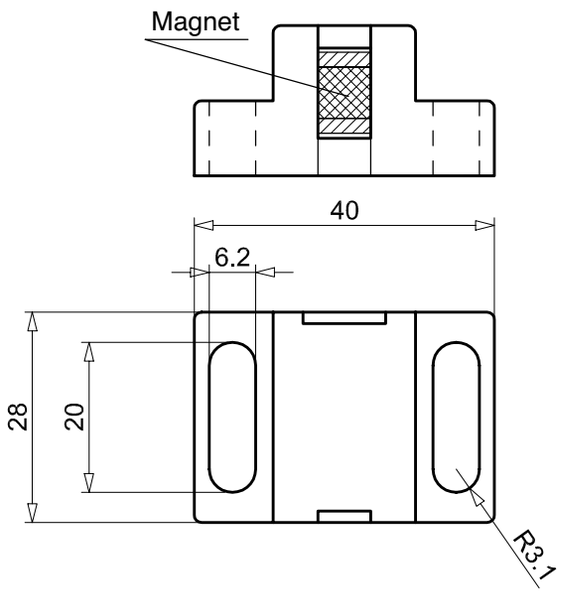
Ma 1311

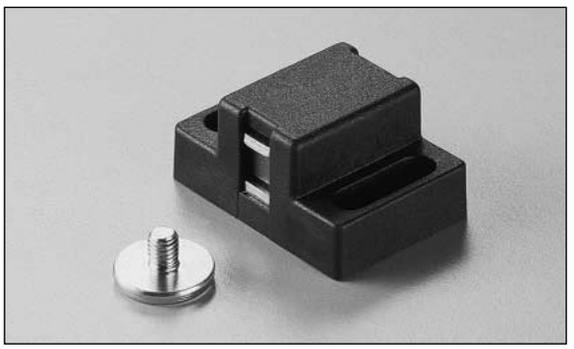
Section A-A



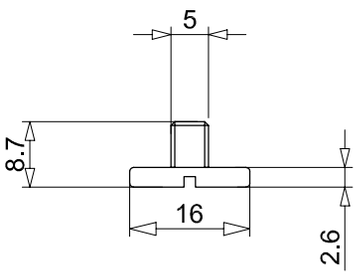
FIT WITH 2 pcs Ma 1336 + 2 pcs Mu 0643

Ma 1395

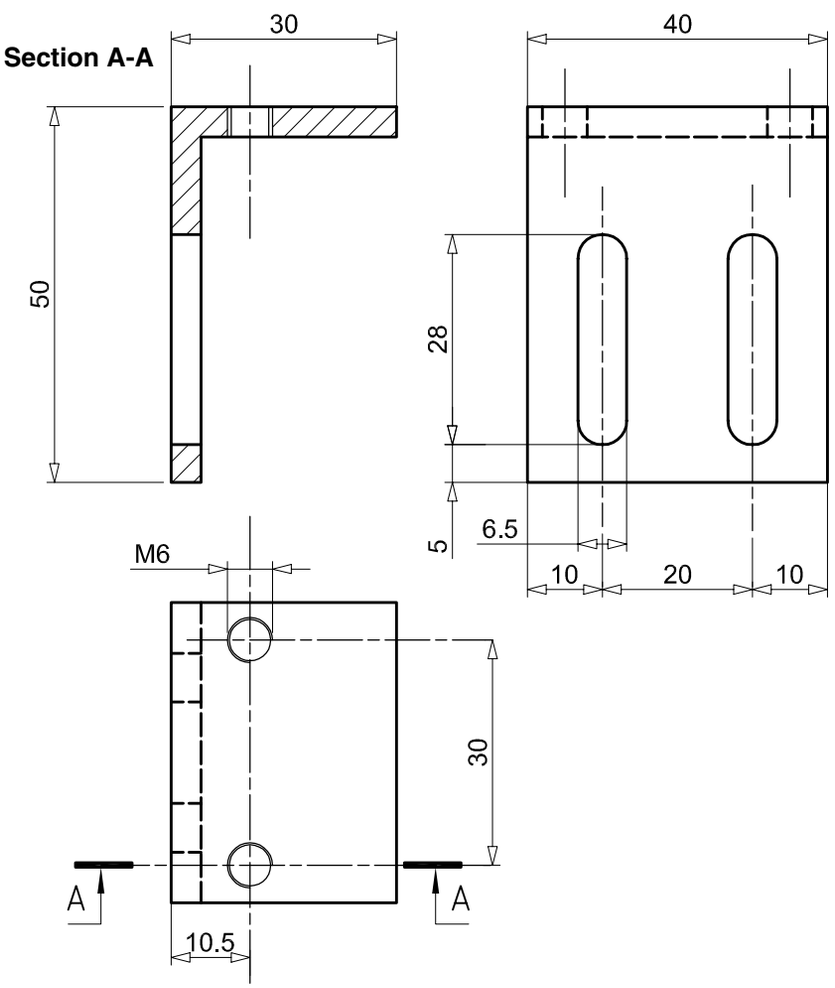


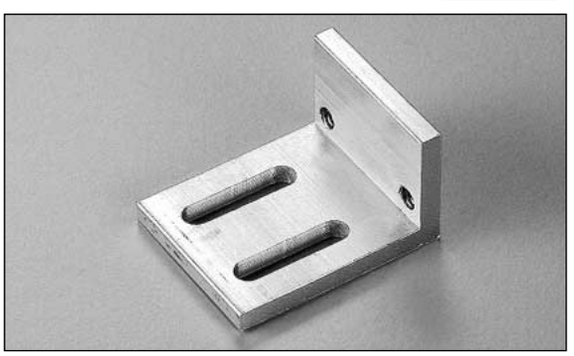


For fitting, see: GROUP E - TABLE 30



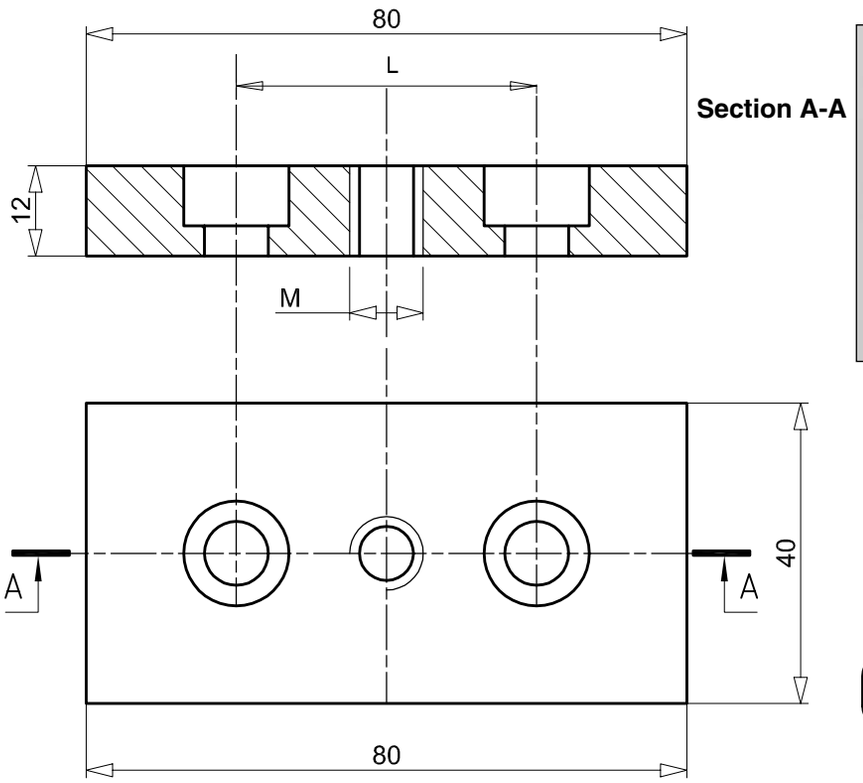
Ma 1396

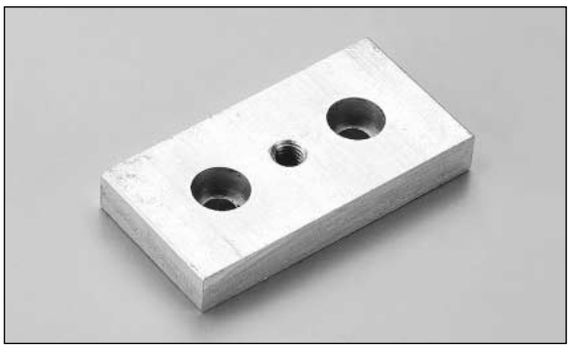




For fitting, see: GROUP E - TABLE 30

PLATE

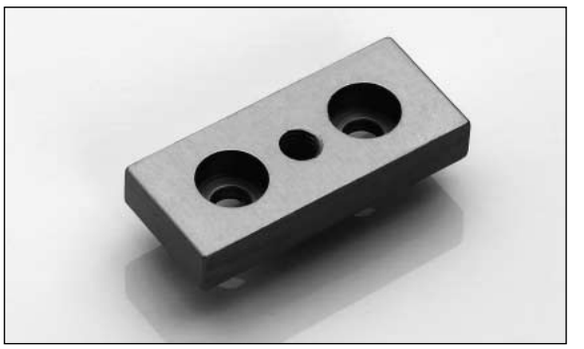


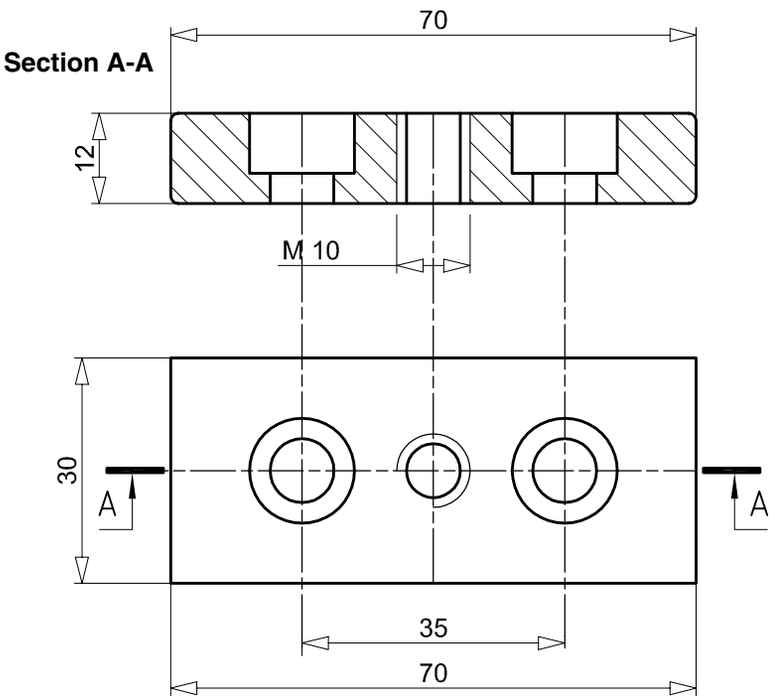


M	L	CODE SIEVED	CODE ANODIZED
M8	40	Ma 1353	Ma 1353.A
M10	40	Ma 1354	Ma 1354.A
M12	40	Ma 1355	Ma 1355.A

FIT WITH 2 pcs Mu 0512

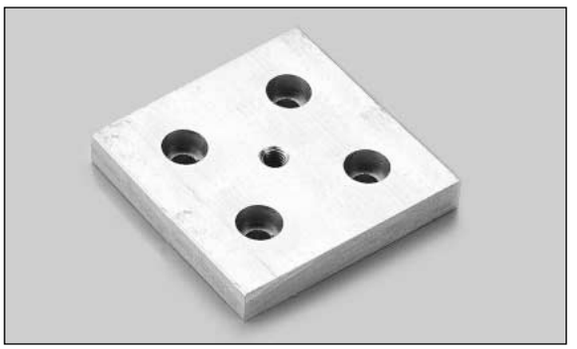
Ma 1415 Sieved
Ma 1415.A Anodised silver



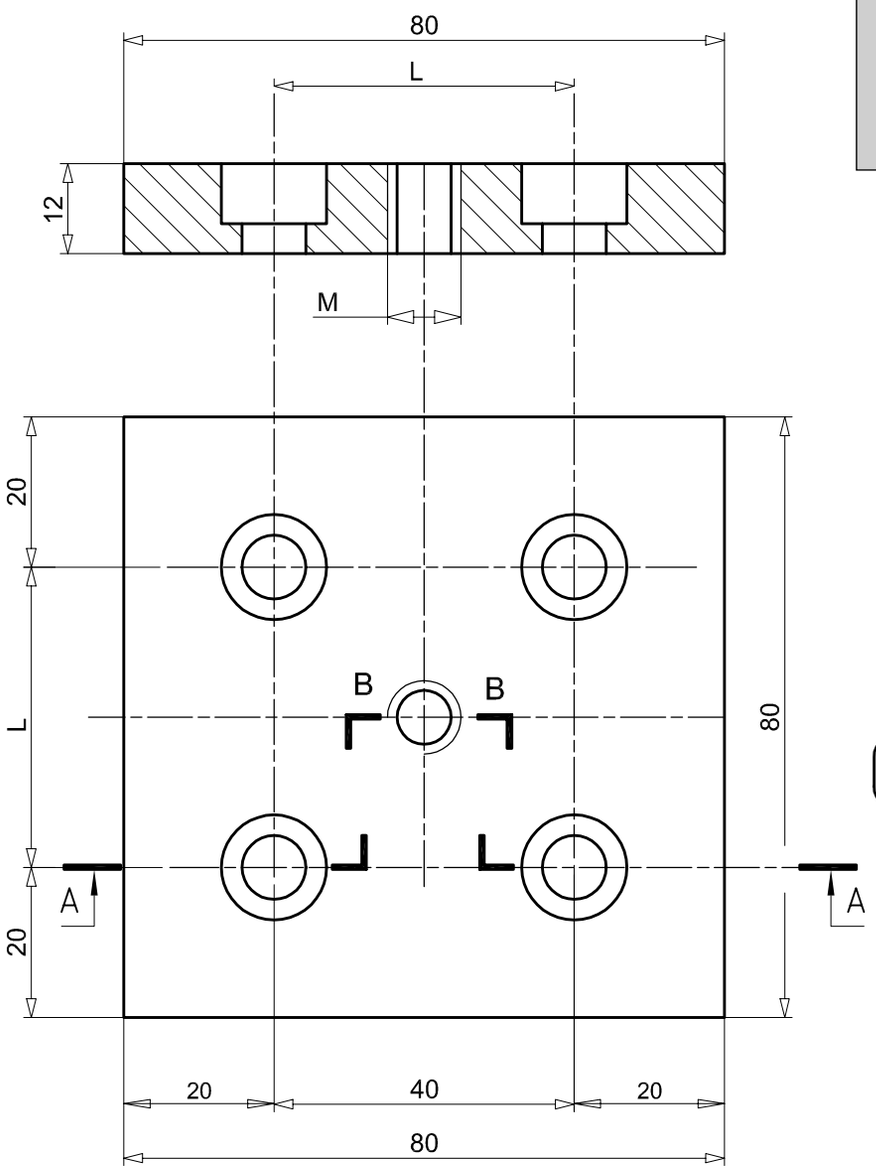


FIT WITH 2 pcs Mu 0643

PLATE



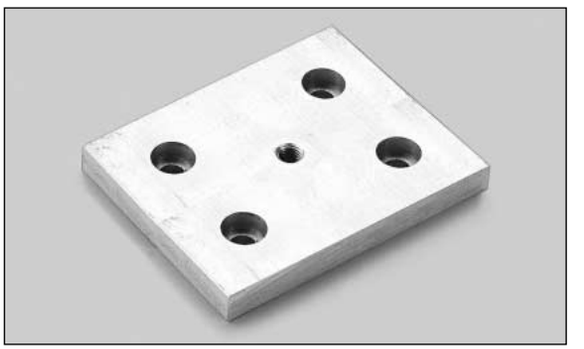
Section A-BB-A



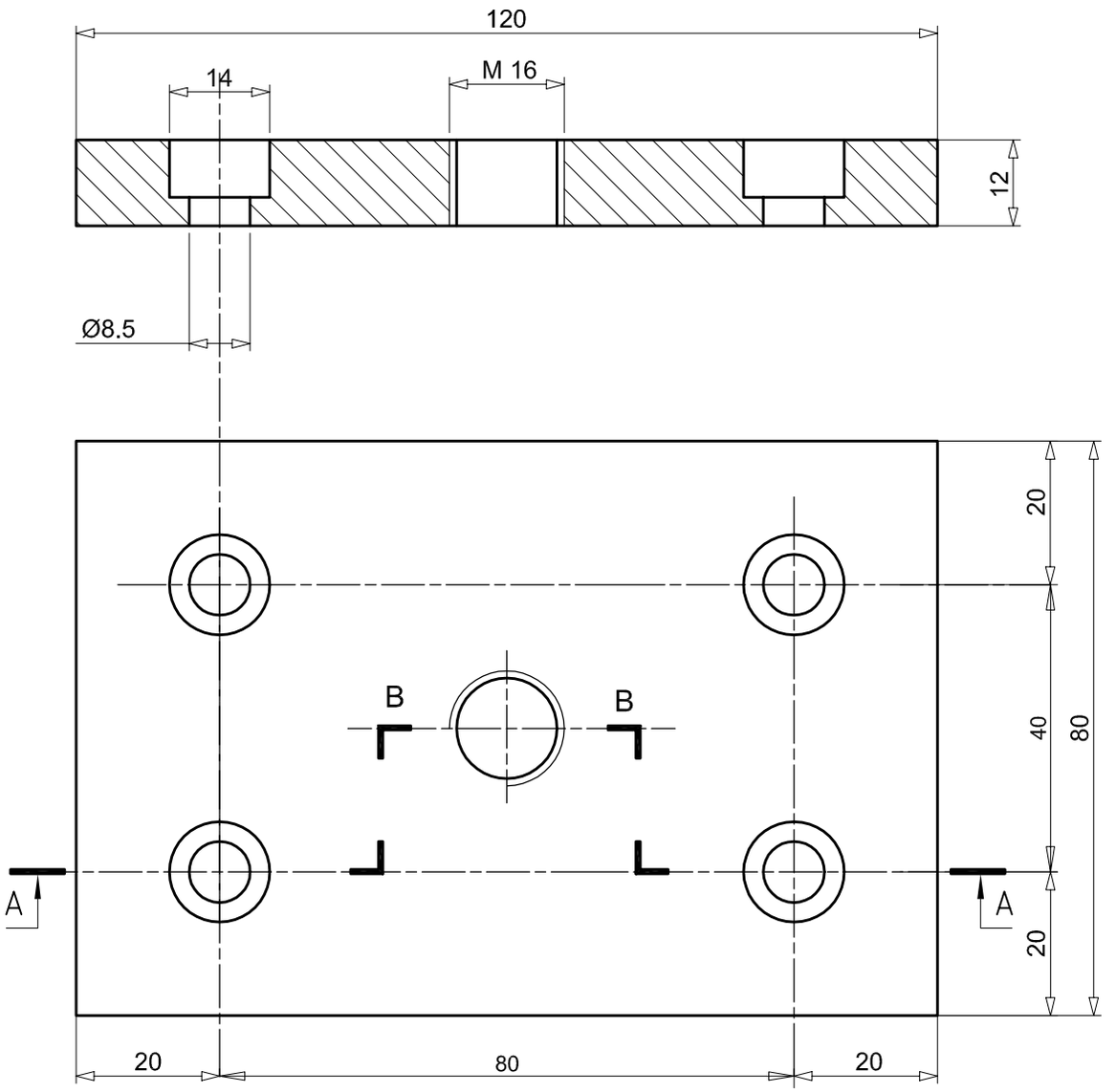
M	L	CODE SIEVED	CODE ANODIZED
M10	40	Ma 1418	Ma 1418.A
M12	40	Ma 1356	Ma 1356.A
M16	40	Ma 1357	Ma 1357.A

FIT WITH 4 pcs Mu 0512

Ma 1421 Sieved
Ma 1421.A Anodised silver

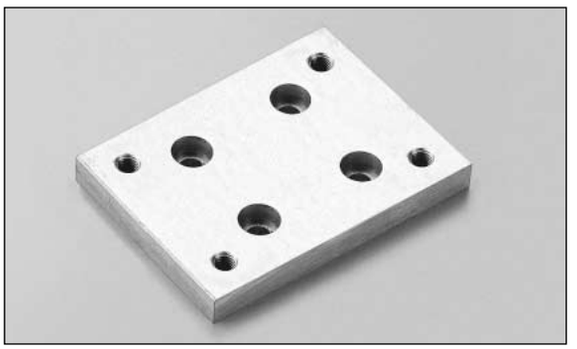


Section A-BB-A

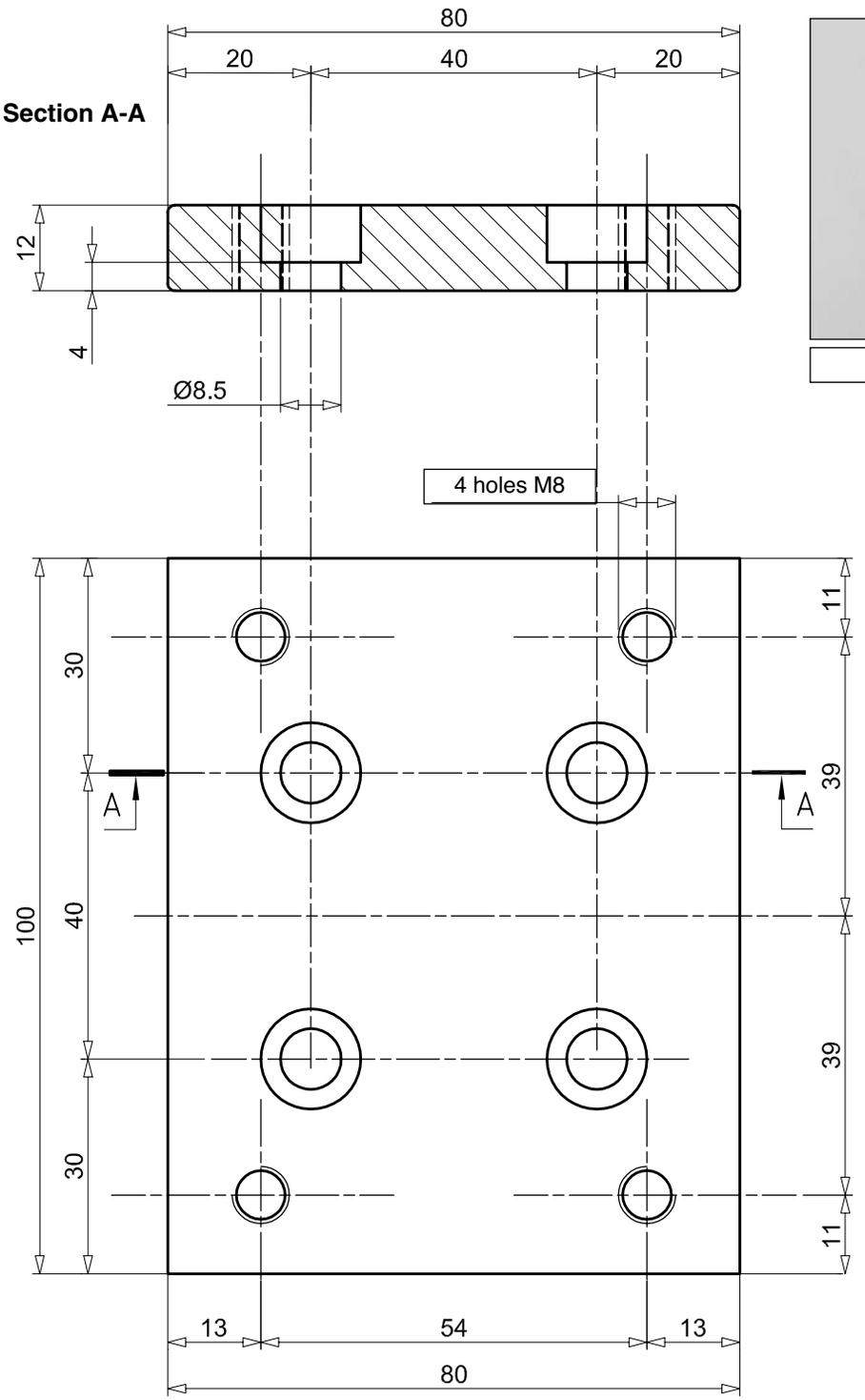


FIT WITH 4 pcs Mu 0643

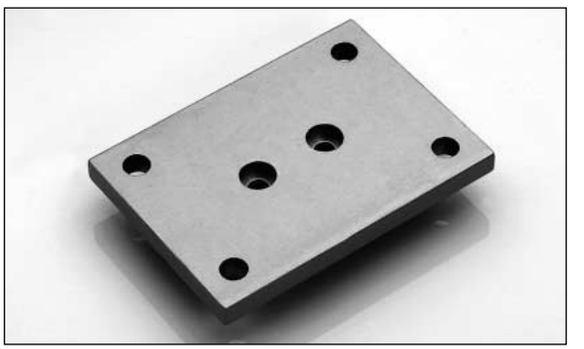
Ma 1358 Sieved
Ma 1358.A Anodised silver



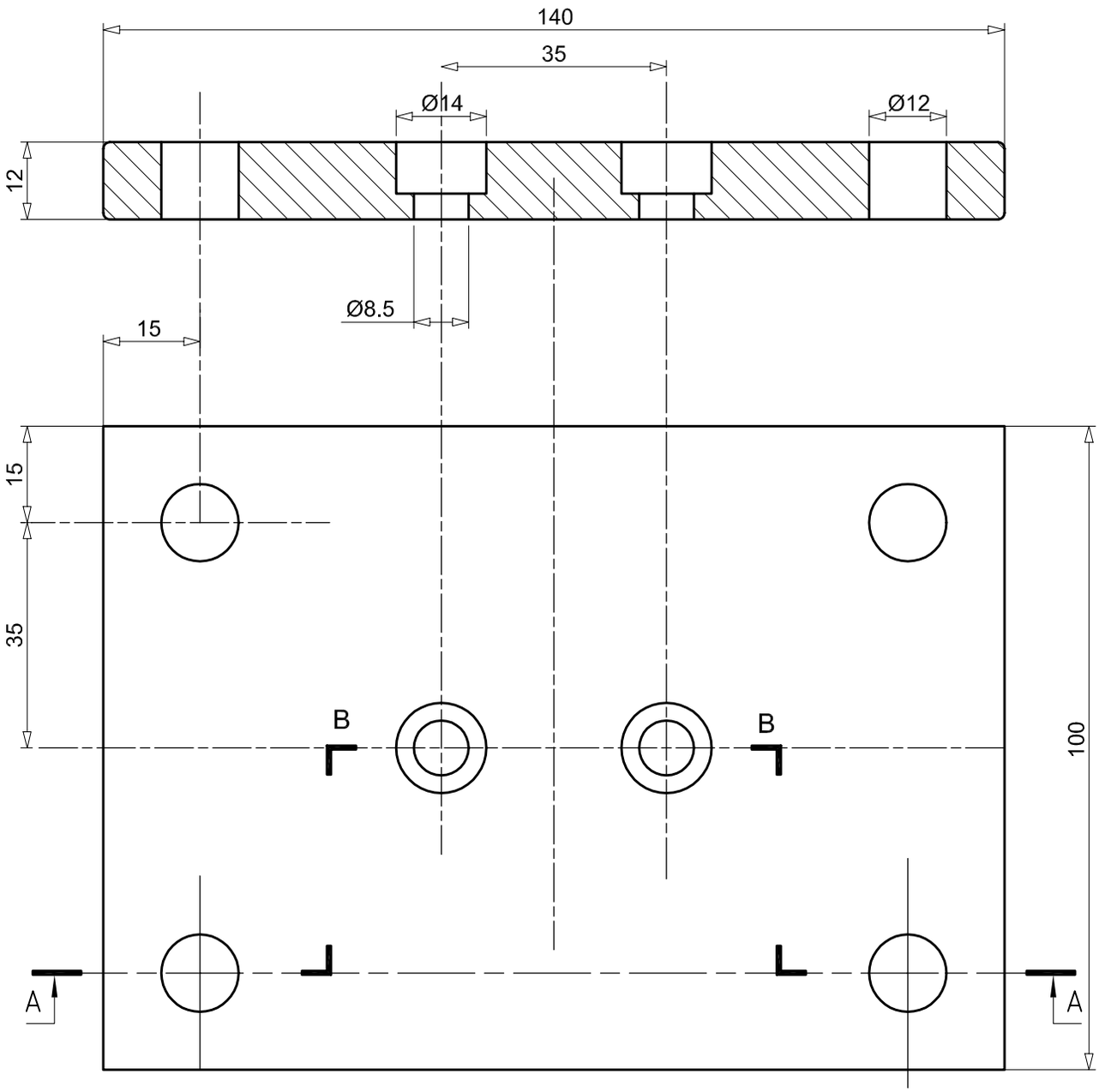
For fitting, see: GROUP E - TABLE 28



Ma 1414 **Sieved**
Ma 1414.A **Anodised silver**

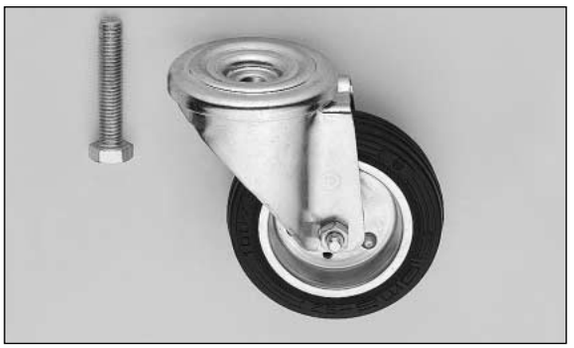


Section A-BB-A

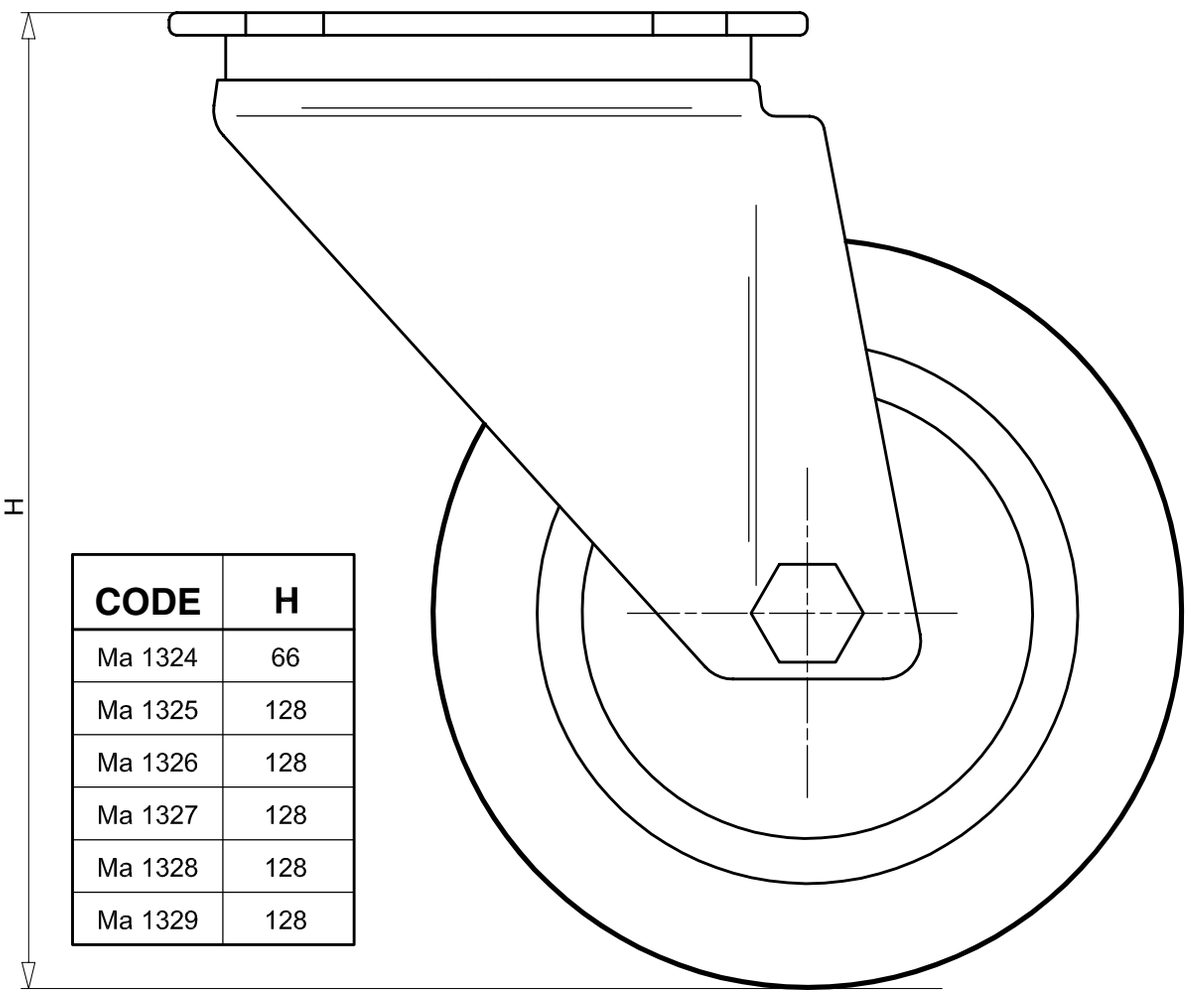


Fit with 2 pcs Mu 0643

WHEELS

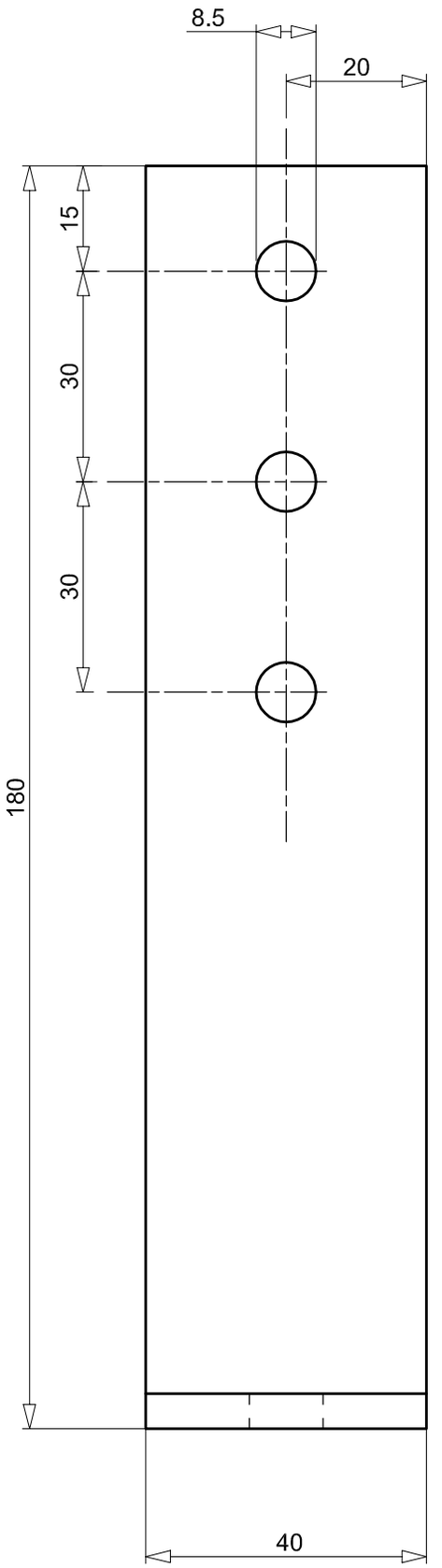


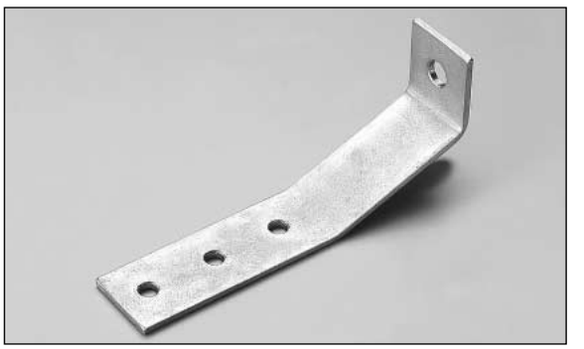
For fitting, see: GROUP E - TABLE 28



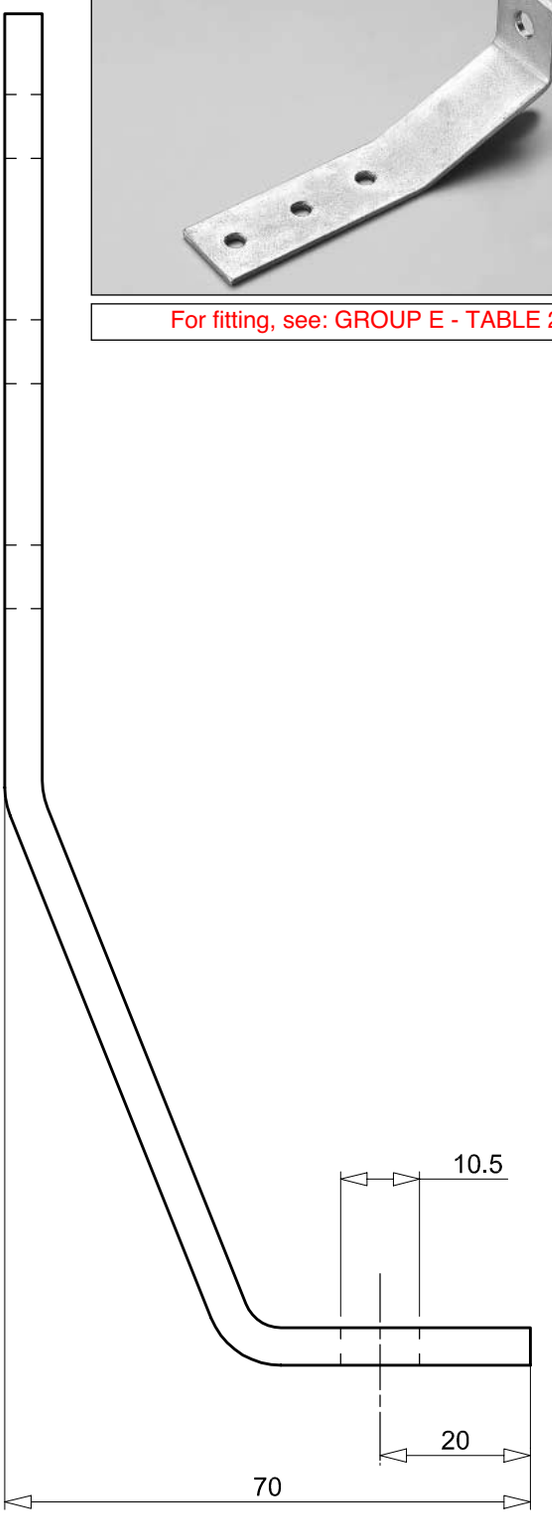
CODE	H
Ma 1324	66
Ma 1325	128
Ma 1326	128
Ma 1327	128
Ma 1328	128
Ma 1329	128

Ma 1352

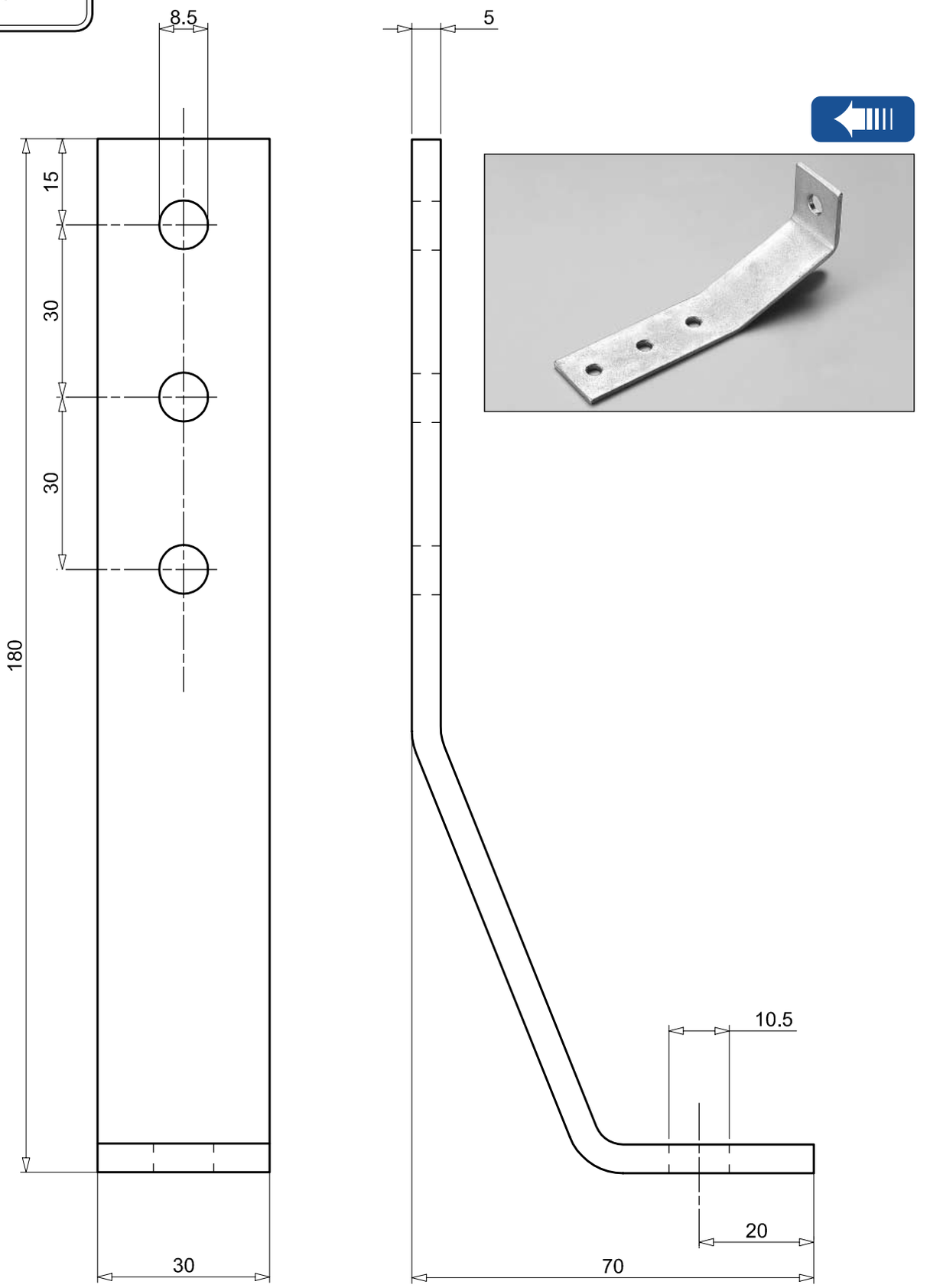




For fitting, see: GROUP E - TABLE 24



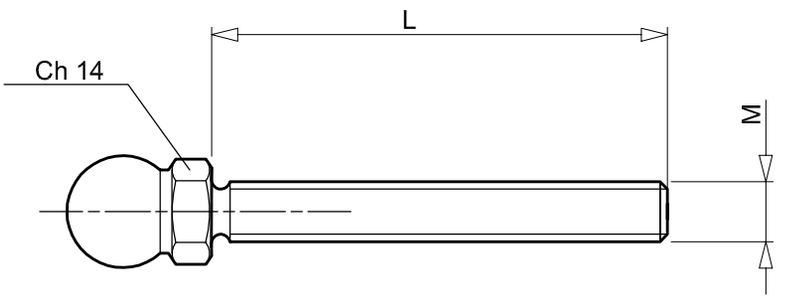
Ma 1416



Fit with 3 pcs Ma 1472 + 2 pcs Mu 0638

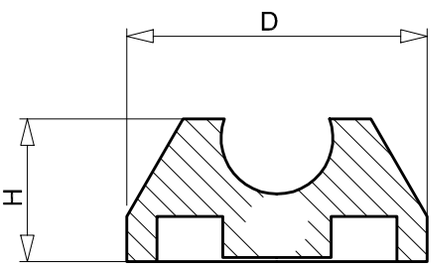
FOOT

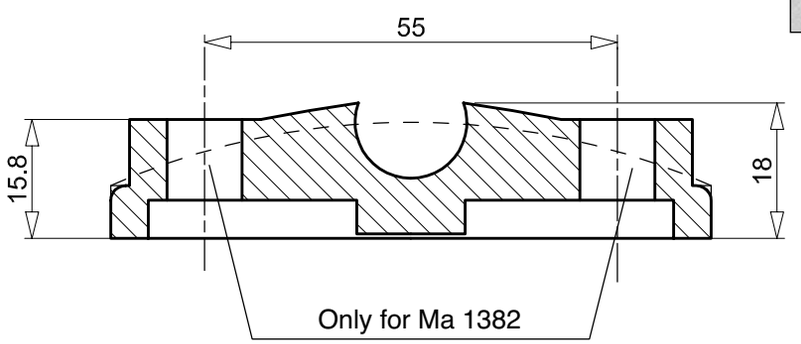
STEM



CODE	MxL
Ma 1384	M8x80
Ma 1385	M10x90
Ma 1386	M12x100
Ma 1387	M16x100

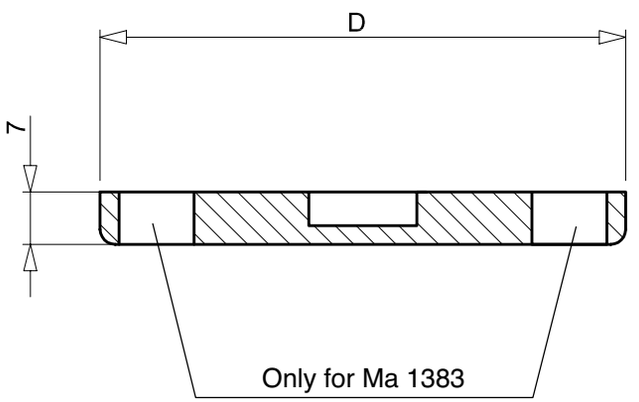
STEM BASE





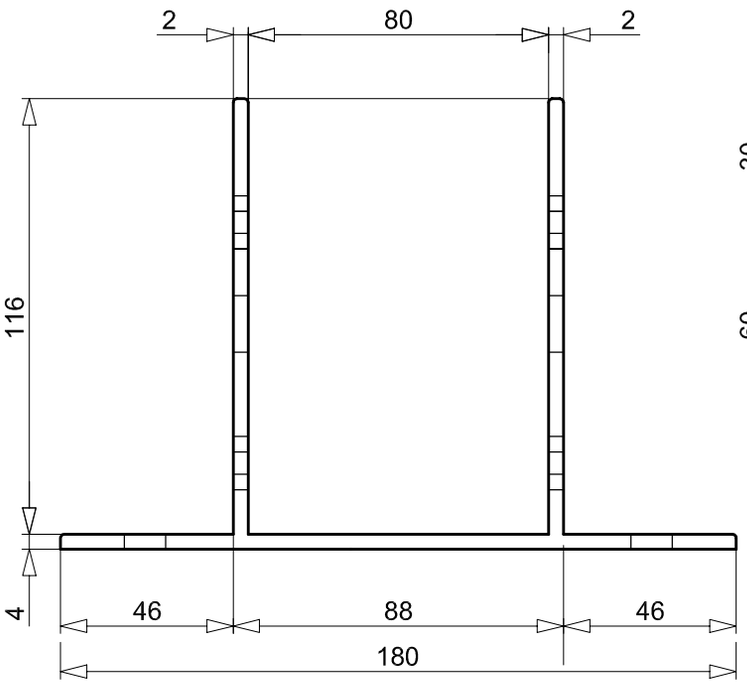
CODE	DxH	Load in N
Ma 1378	40x18	4000
Ma 1380	60x18	4500
Ma 1382	60x18	5000

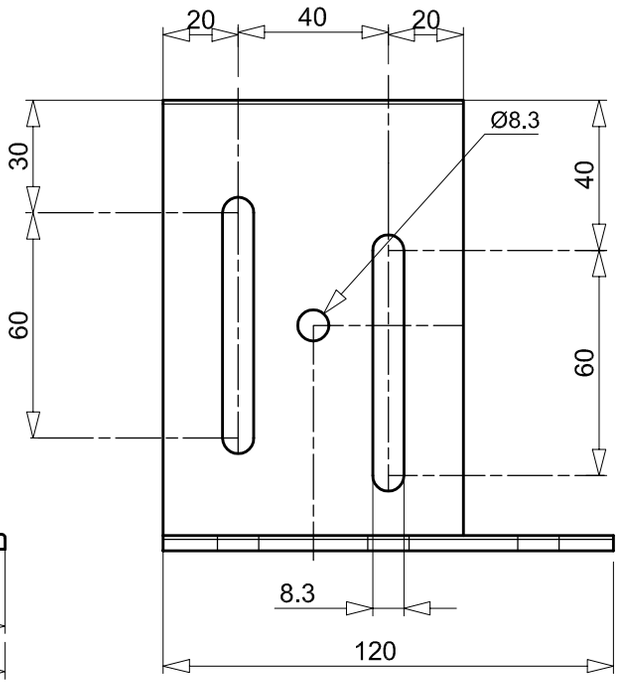
ANTI-SKID FOR STEM BASE

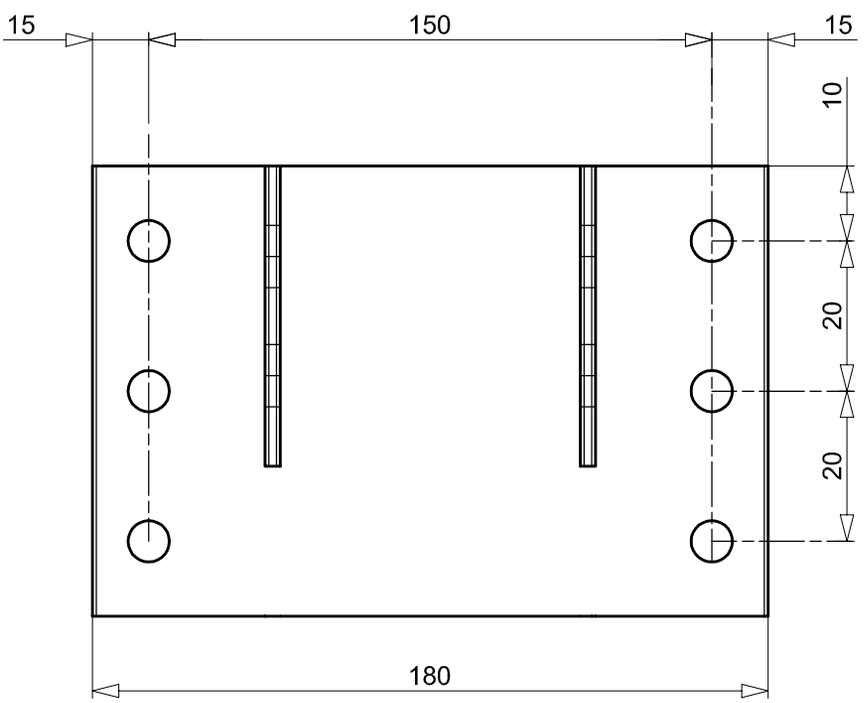


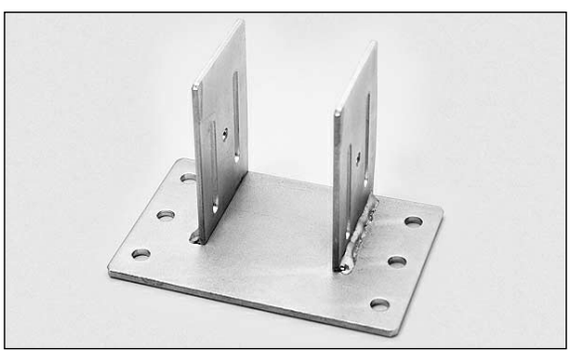
CODE	D
Ma 1379	40
Ma 1381	60
Ma 1383	80

Ma 1427



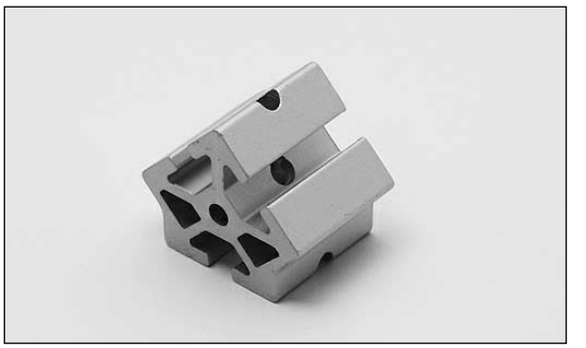




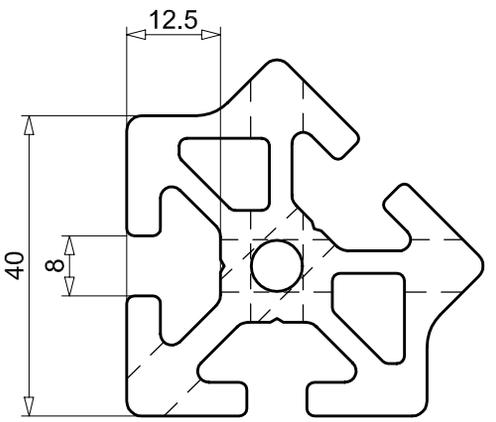


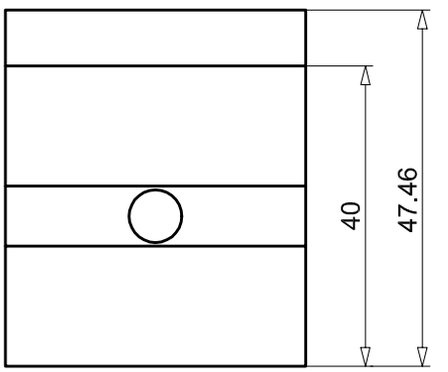
For fitting, see: GROUP E - TABLE 25

Ma 1398 Sieved
Ma 1398.A Anodised silver

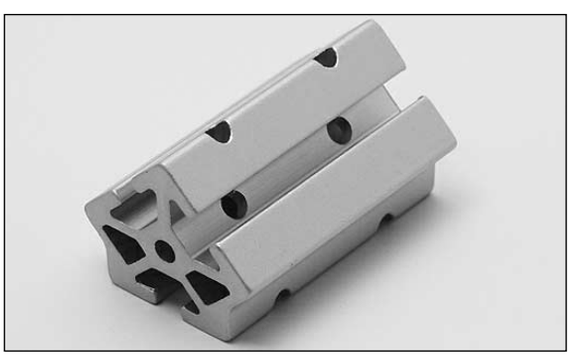


For fitting, see: GROUP E - TABLE 27

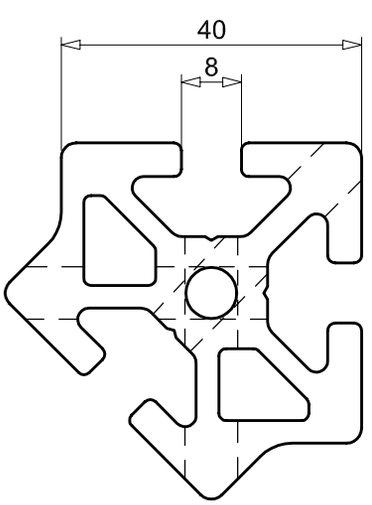


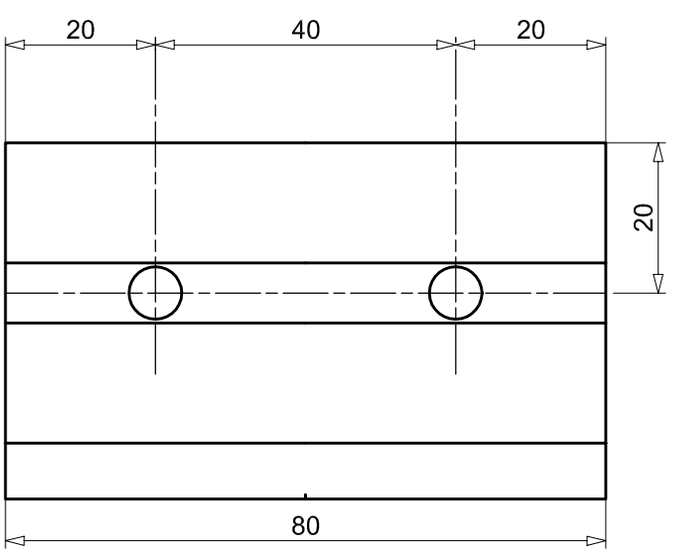


Ma 1399 Sieved
Ma 1399.A Anodised silver

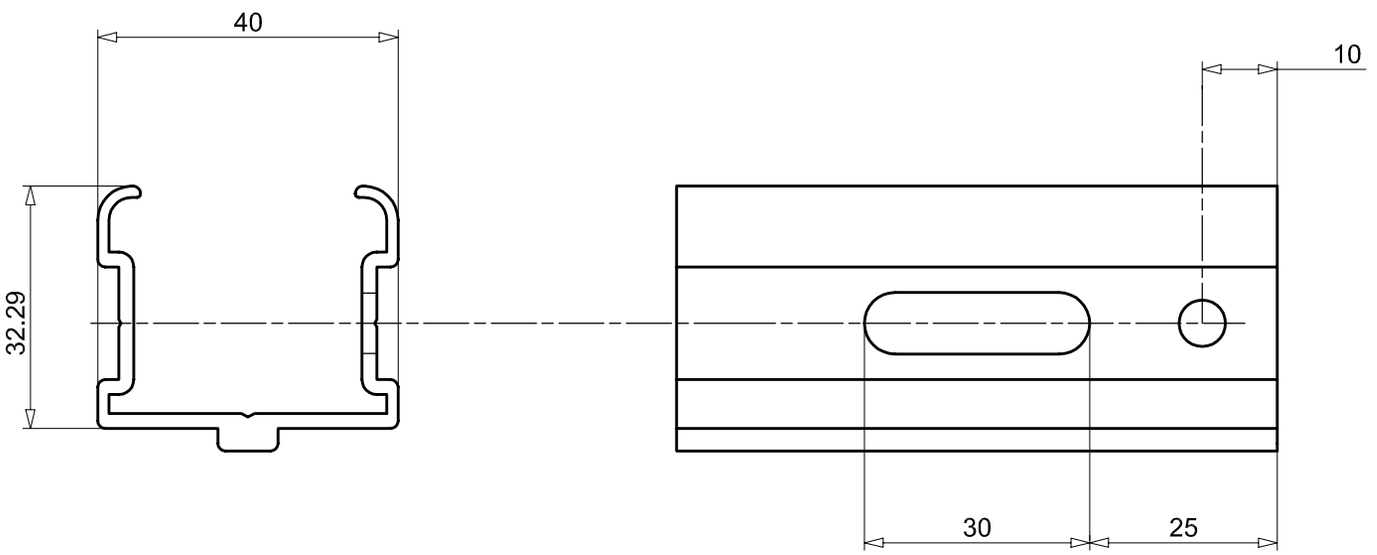


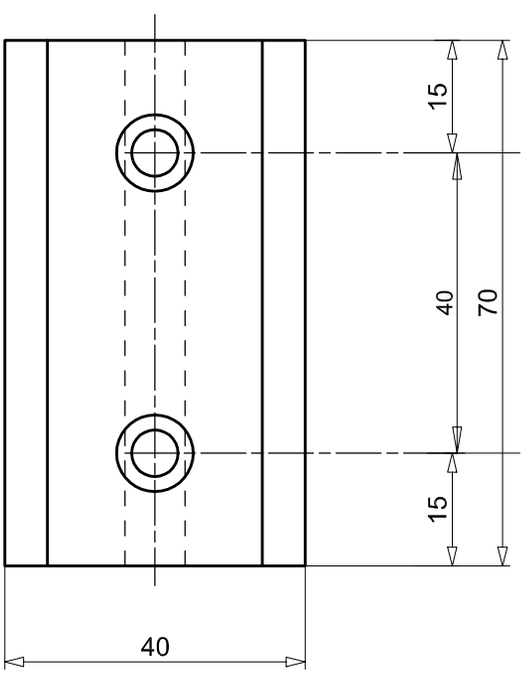
For fitting, see: GROUP E - TABLE 27



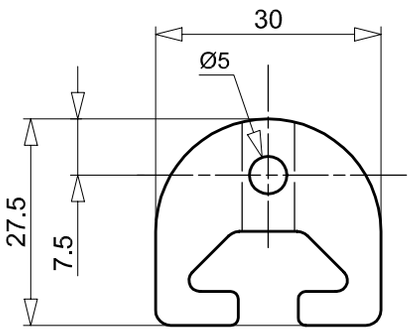


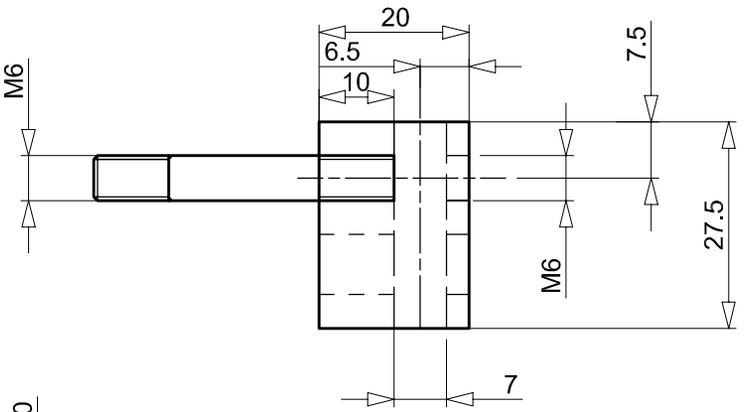
Ma 1242 Sieved
Ma 1242.A Anodised silver

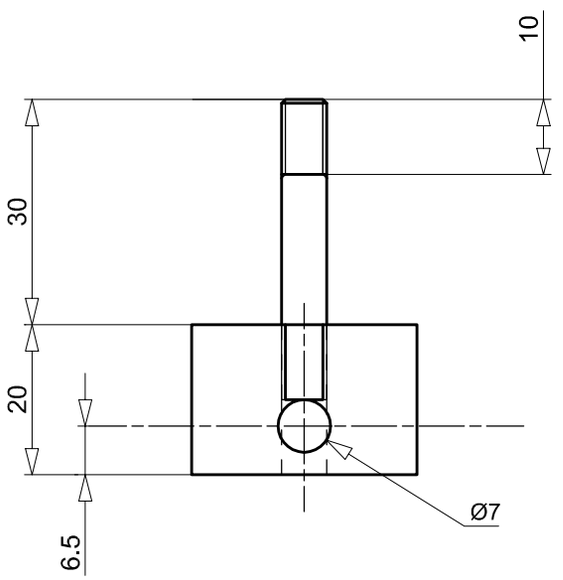


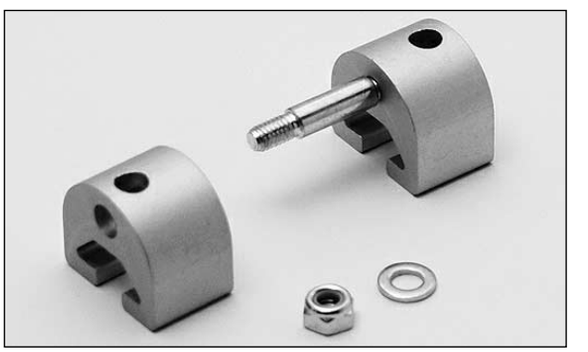


Ma 1424

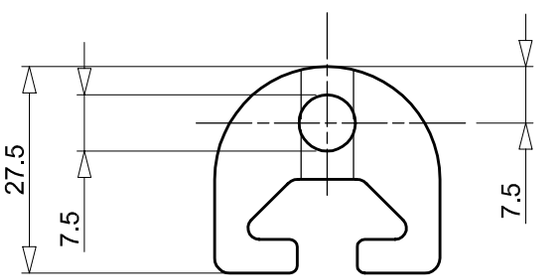


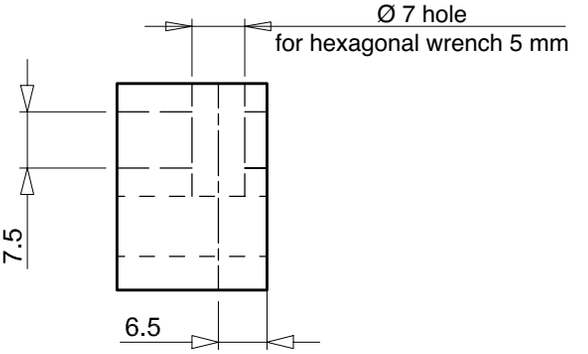


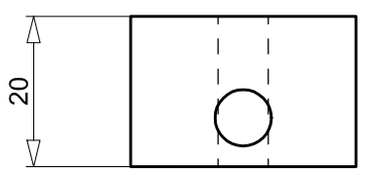




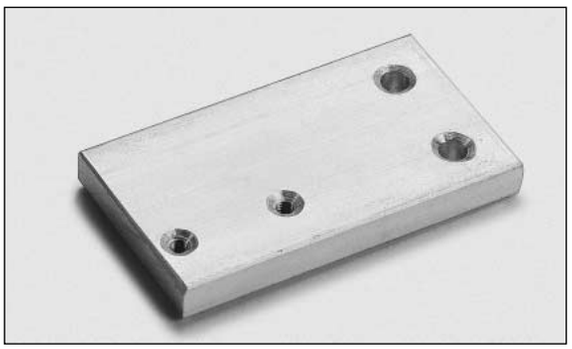
For fitting, see: GROUP E - TABLE 23

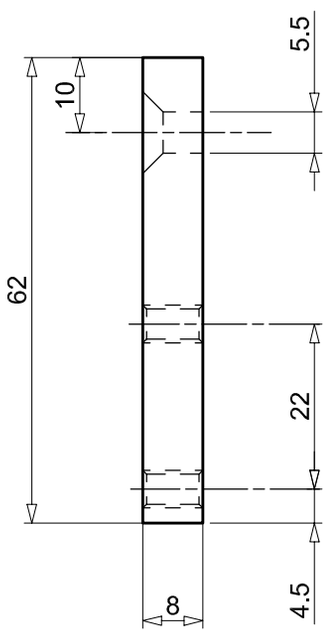


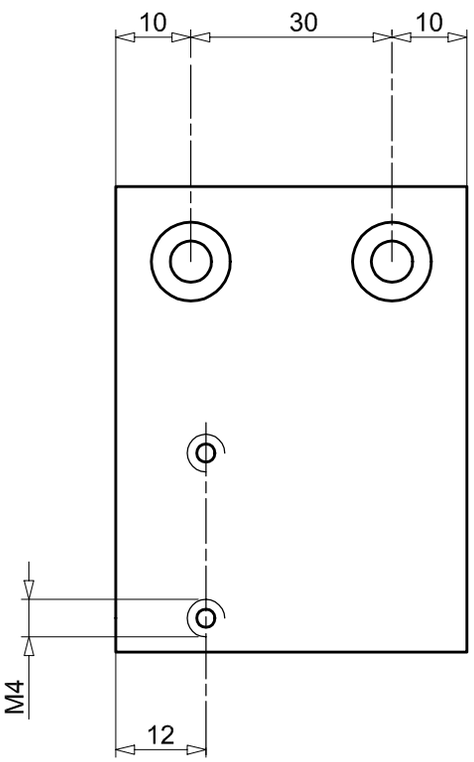




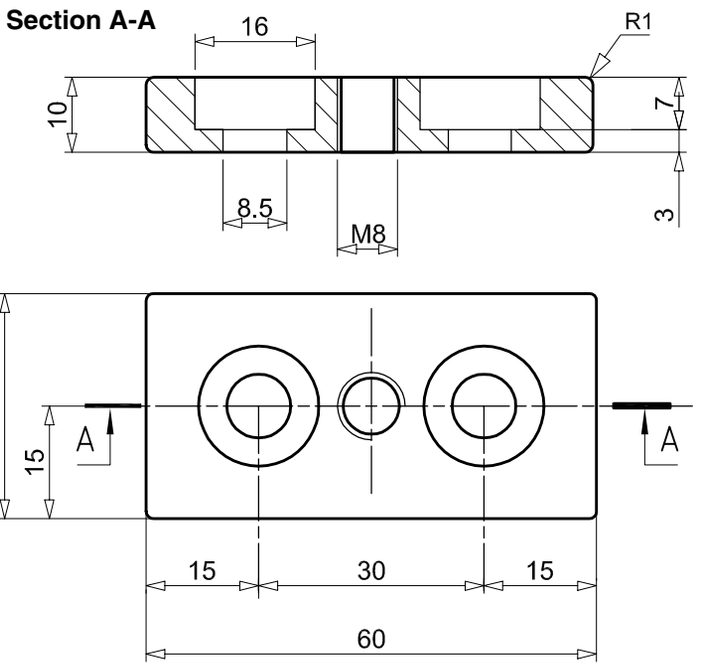
Ma 1233 Sieved
Ma 1233.A Anodised silver

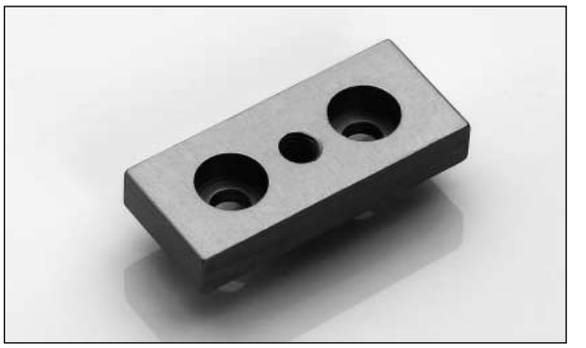






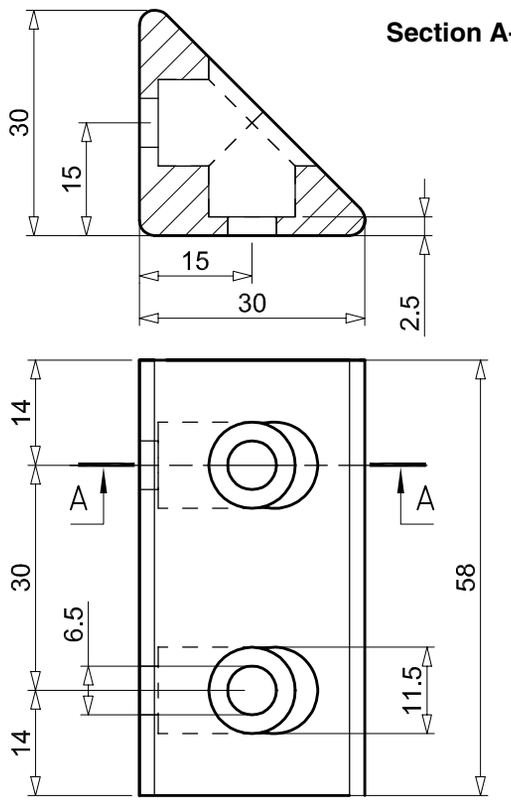
Ma 1476 **Sieved**
Ma 1476.A **Anodised silver**

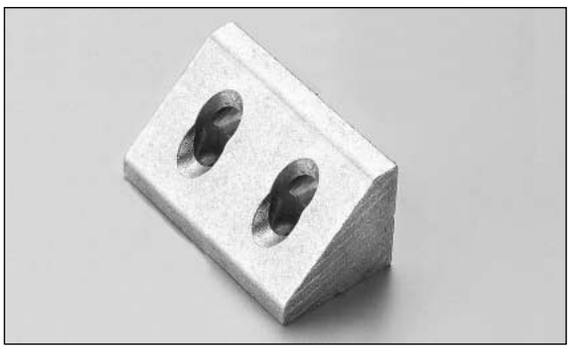




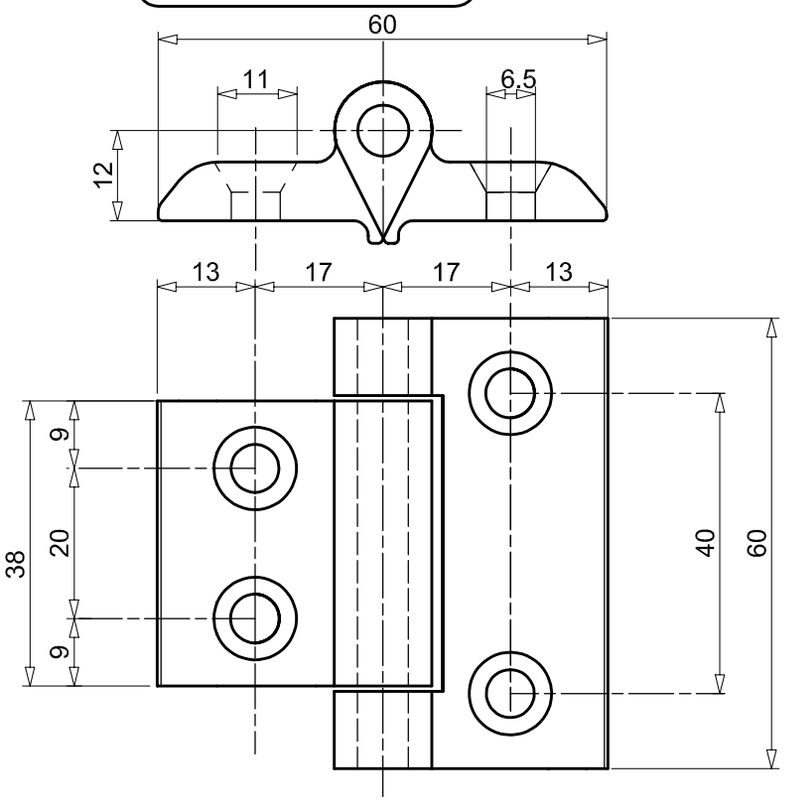
Fit with 2 pcs Mu 0512

Ma 1477 **Sieved**
Ma 1477.A **Anodised silver**



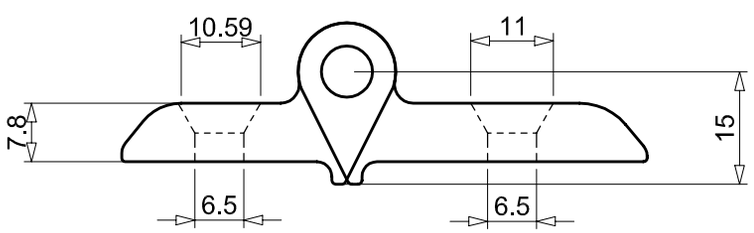


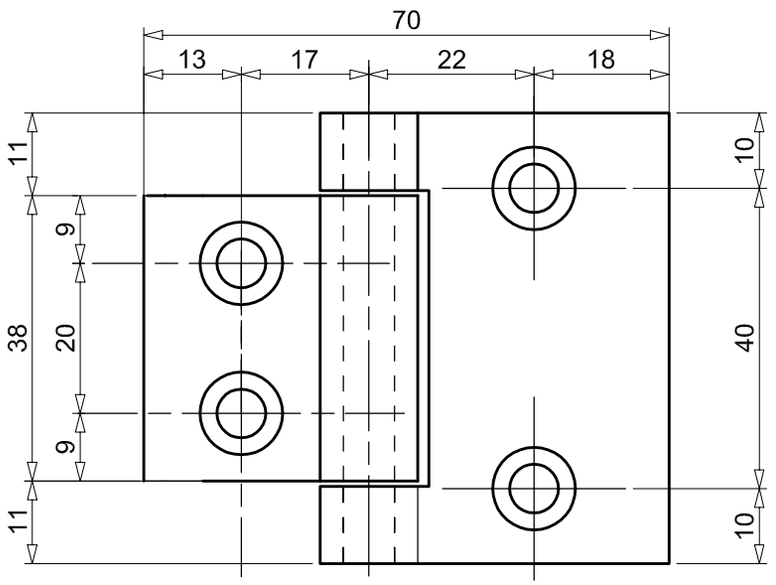
Ma 1337



For fitting, see: GROUP E - TABLE 35

Ma 1338

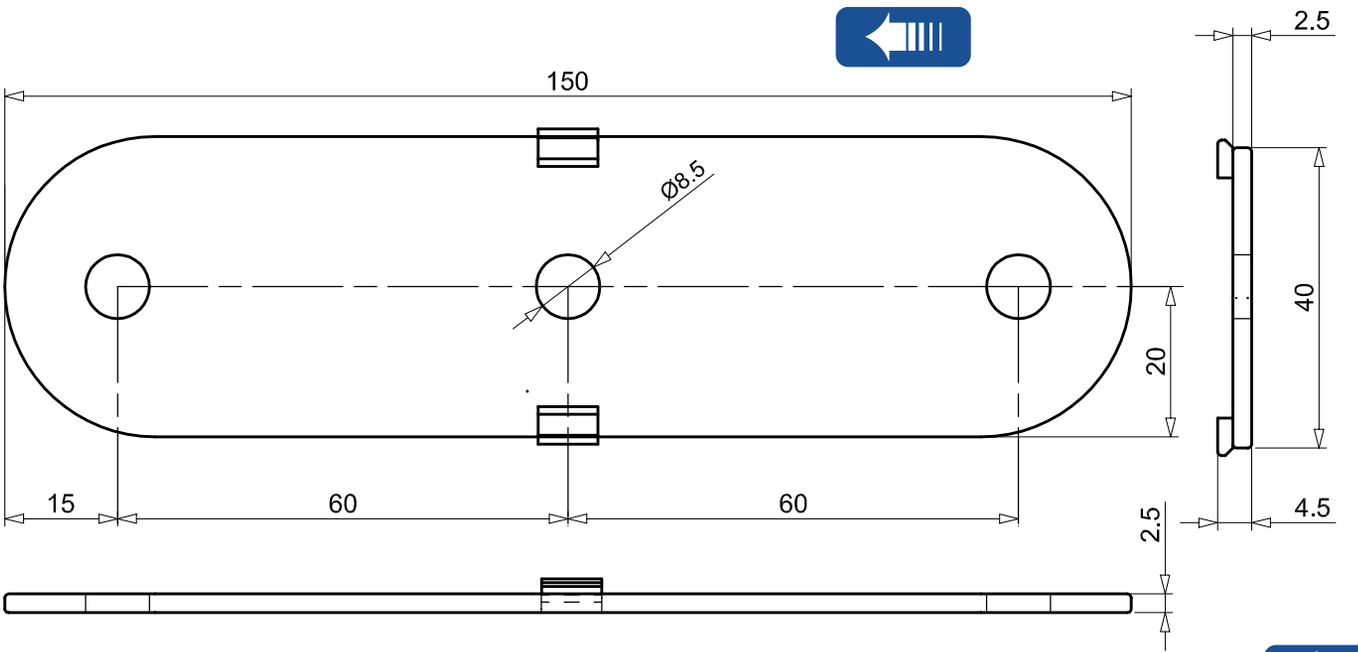




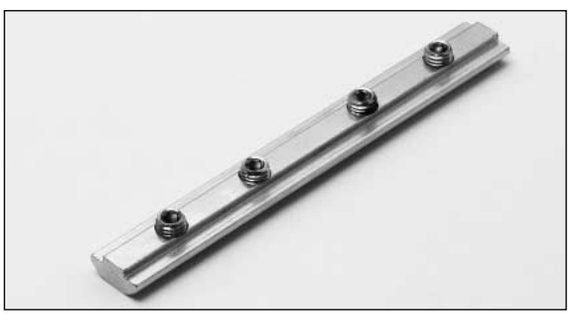
For fitting, see: GROUP E - TABLE 35

Ma 1432

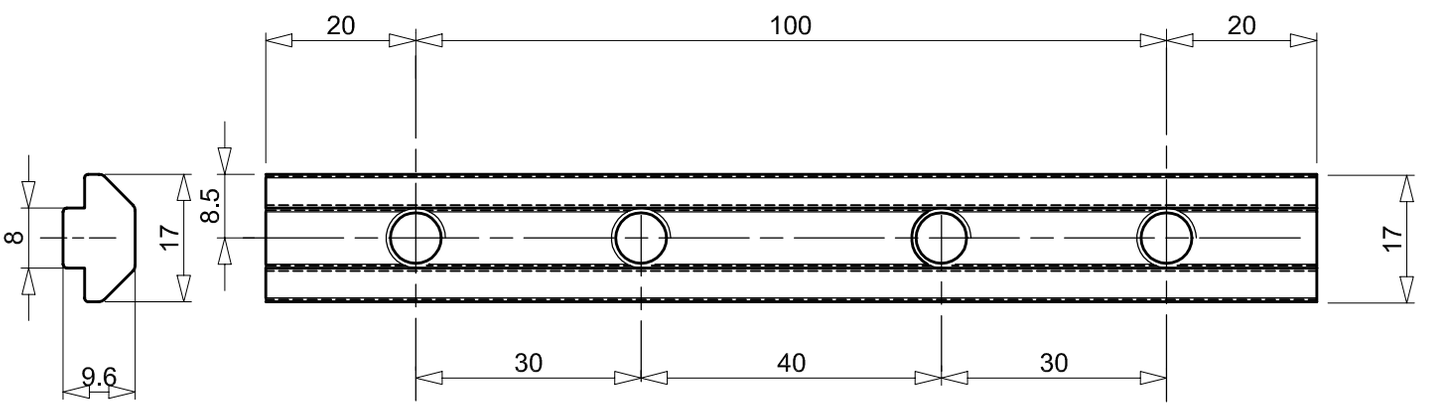
For fitting, see: GROUP E - TABLE 36



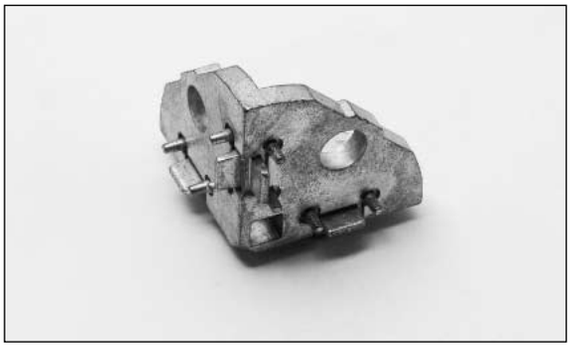
Ma 1435



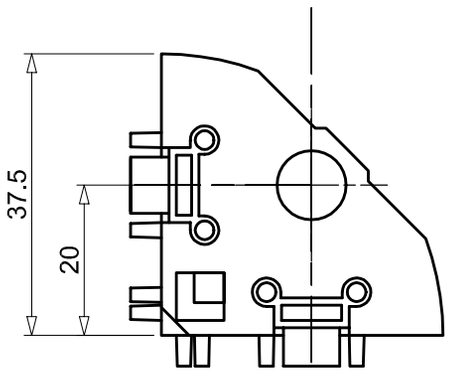
For fitting, see: GROUP E - TABLE 38

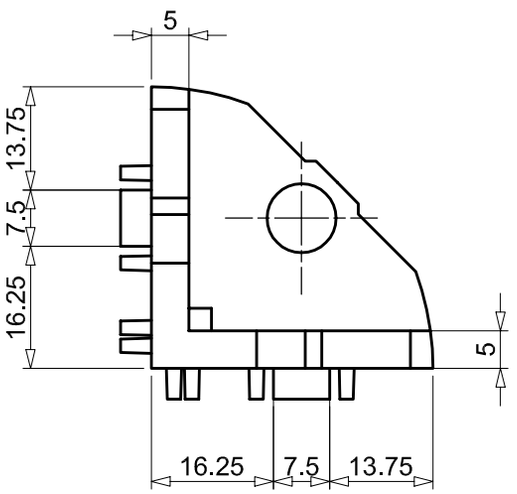


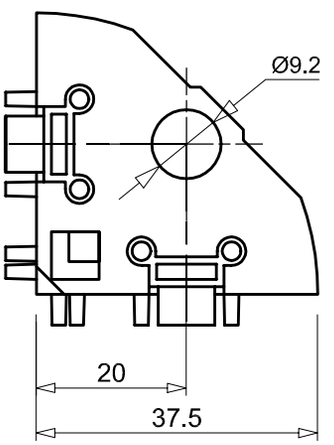
Ma 1433



For fitting, see: GROUP E - TABLE 36

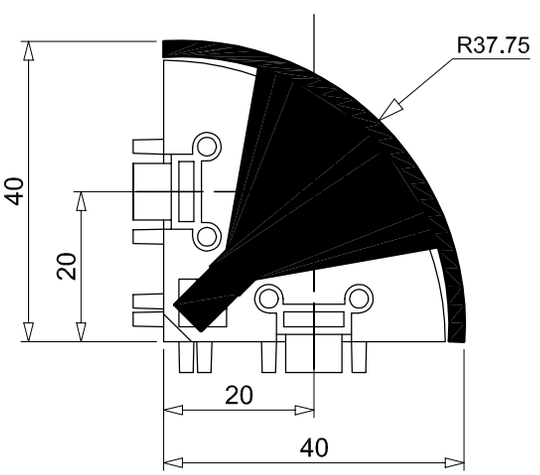




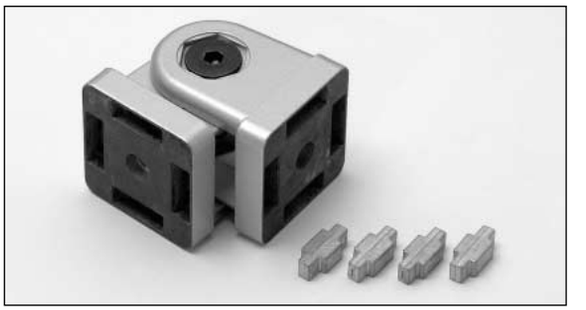


Ma 1434

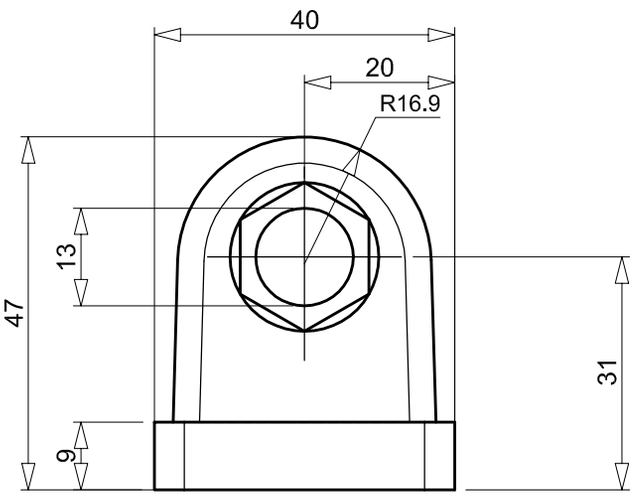
For fitting, see: GROUP E - TABLE 36

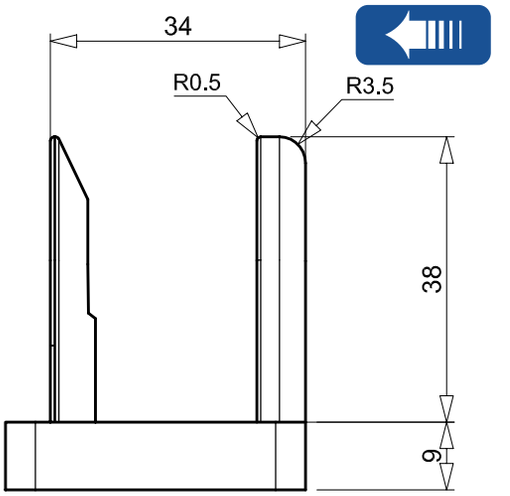


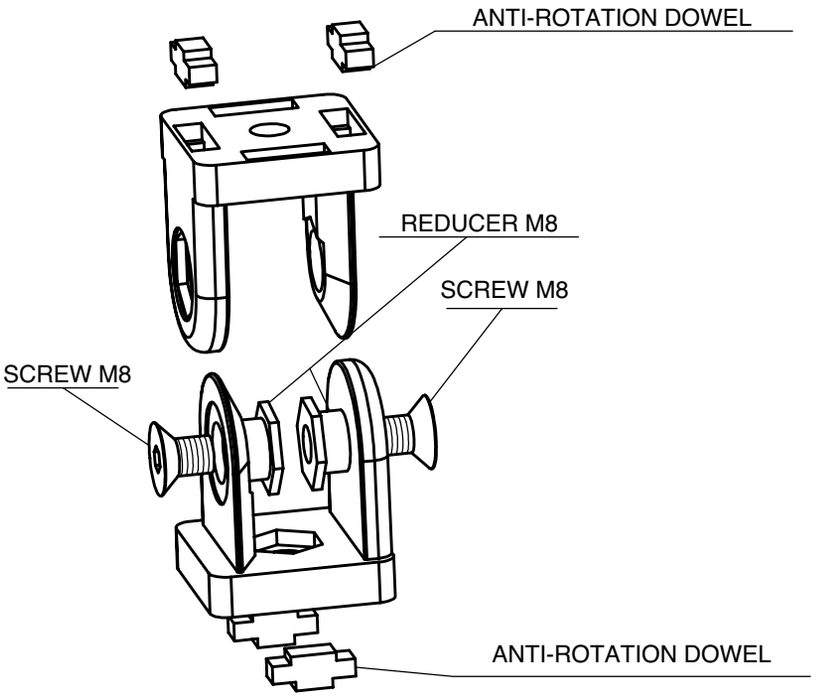
Ma 1437

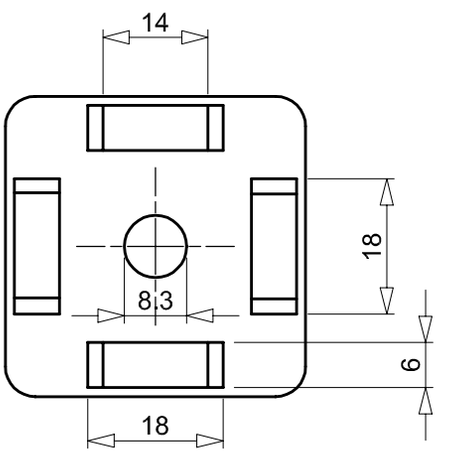


For fitting, see: GROUP E - TABLE 37



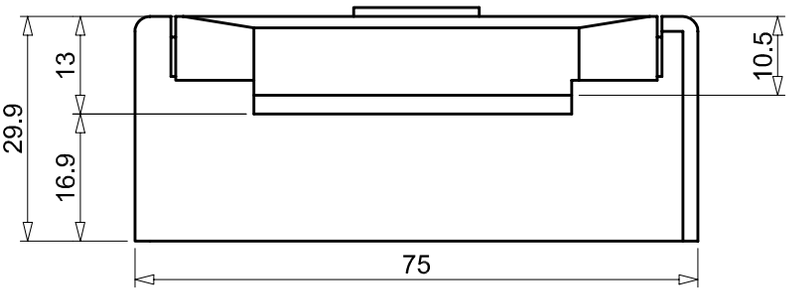


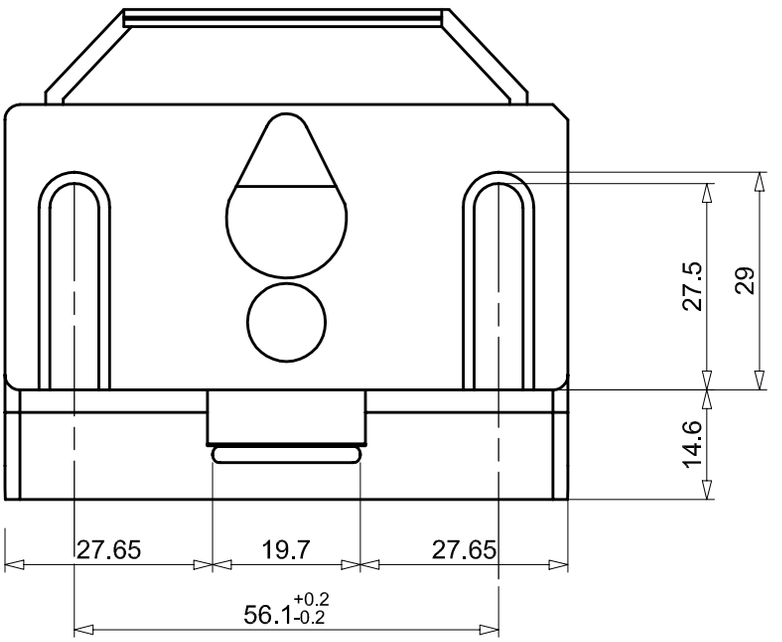


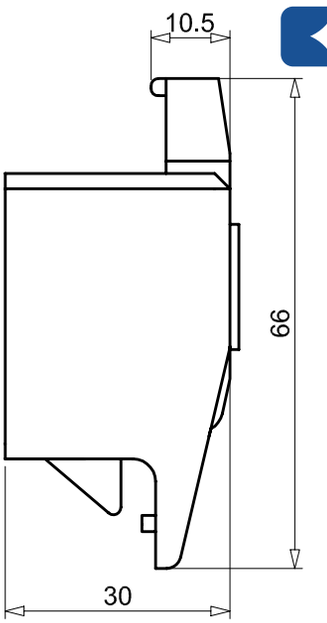


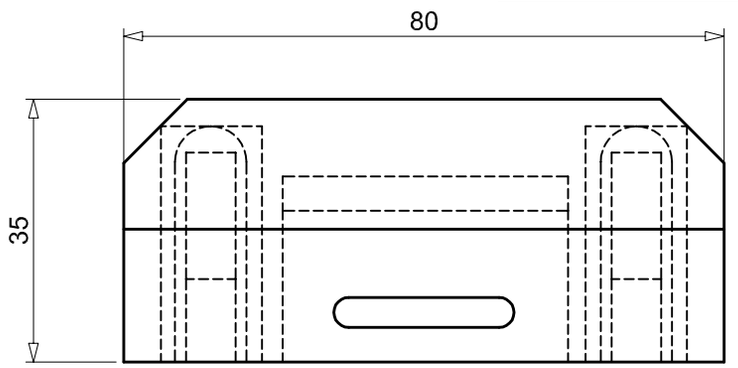
Ma 1438

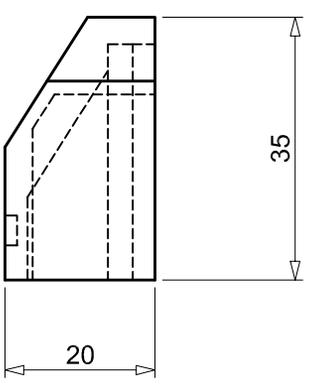
For fitting, see: GROUP E - TABLE 38

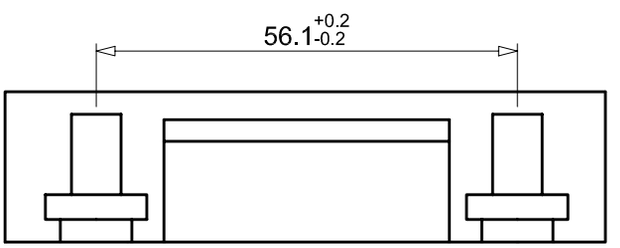




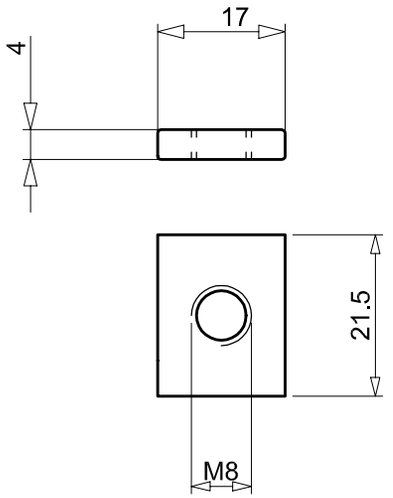




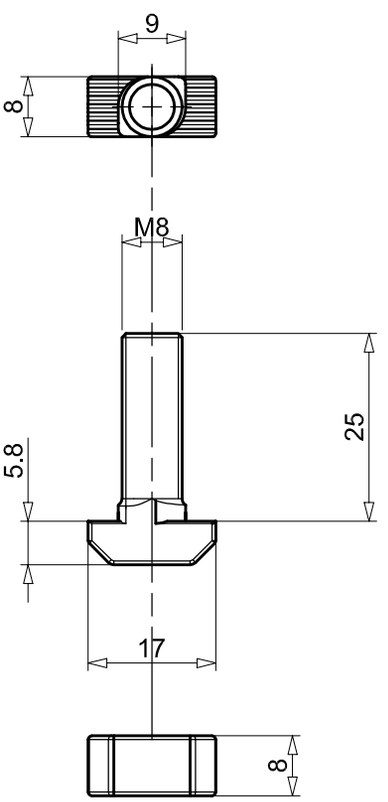




Ma 1802



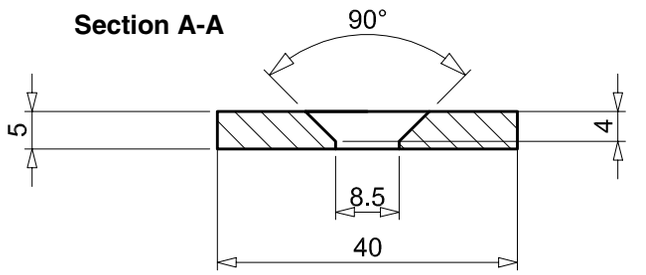
Ma 1439

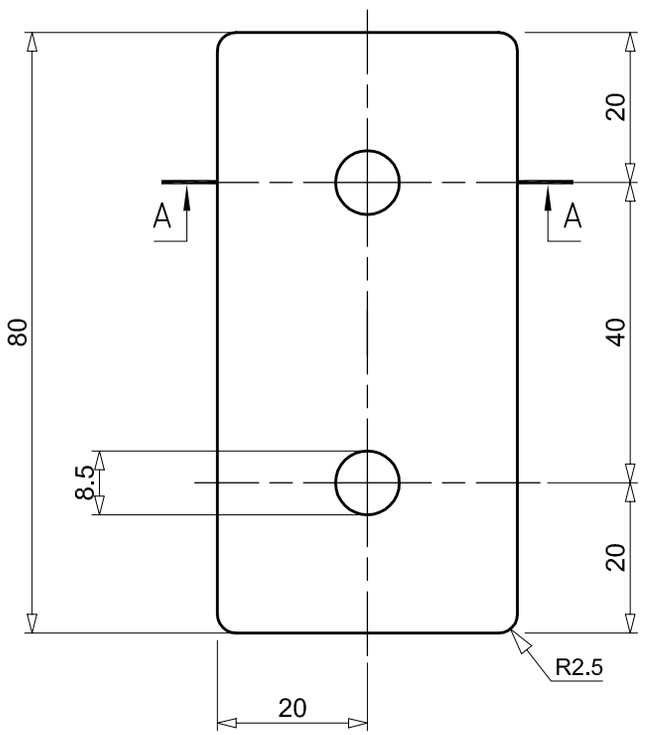


Ma 1440

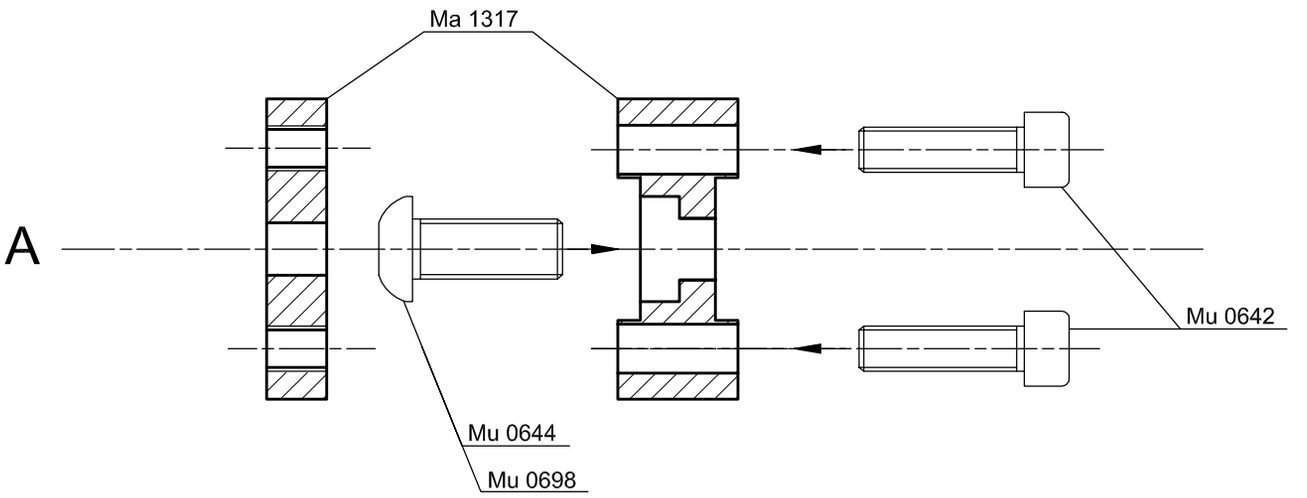
For fitting, see: GROUP E - TABLE 39

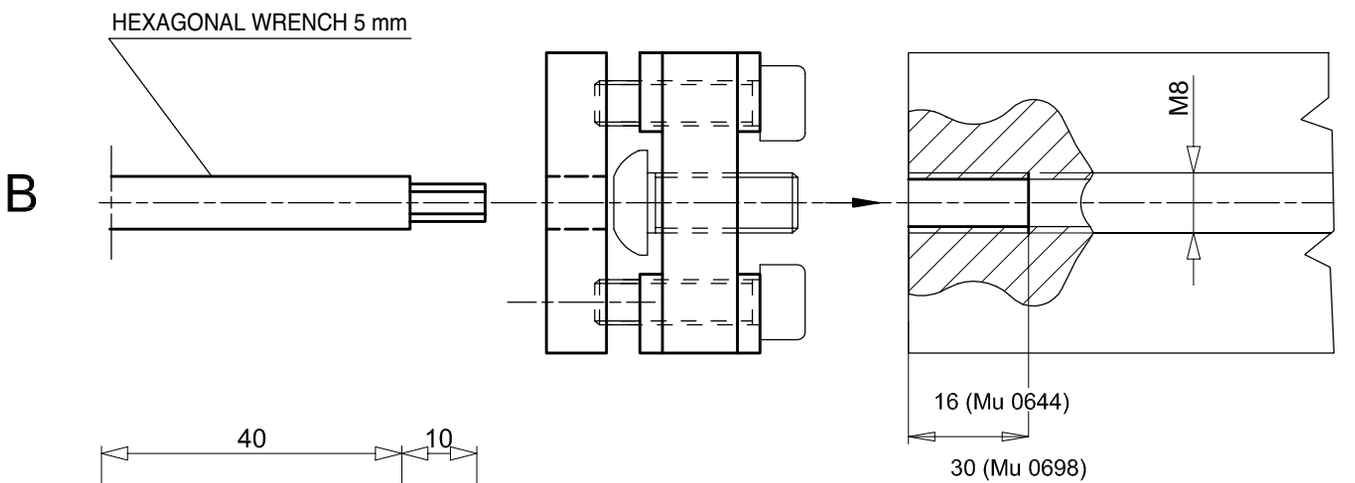
Section A-A

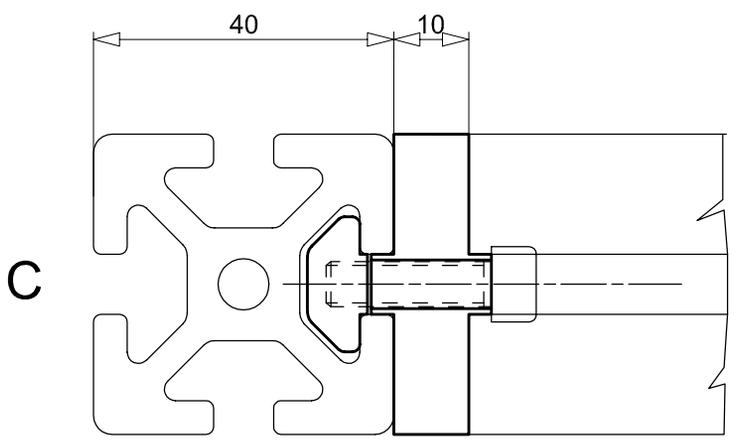




CONNECTION FOR SERIES 40 HEAVY AND LIGHT-WEIGHT





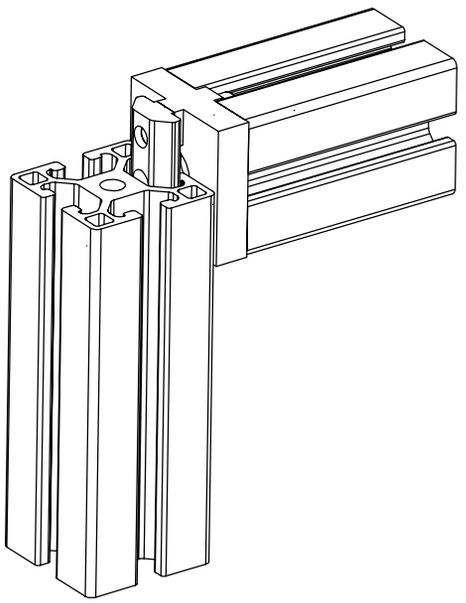


A – PRE-FITTING OF ACCESSORY WITH SCREWS

B – FITTING OF PRE-ASSEMBLED ACCESSORY ONTO THE HEAD OF THE PROFILE

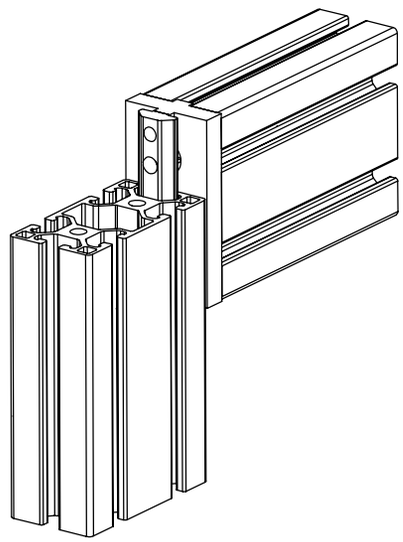
C – CONNECTION OF PROFILES (USE SCREW-DRIVER Mu 0647)

Ma 1317



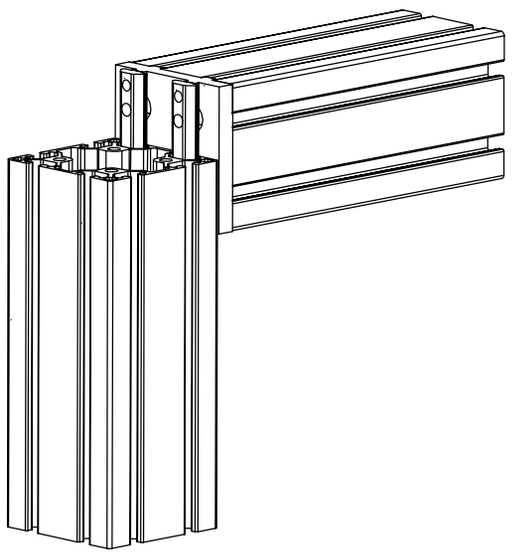
Fit with 1 pc Mu 0644 + 2 pcs Mu 0642

Ma 1318



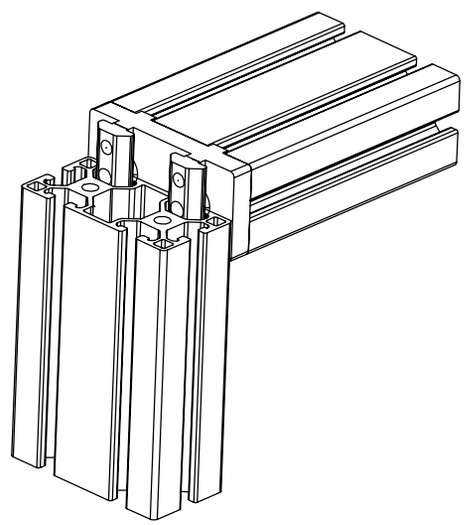
Fit with 2 pcs Mu 0644 + 2 pcs Mu 0642

Ma 1425



Fit with 4 pcs Mu 0644 + 4 pcs Mu 0642

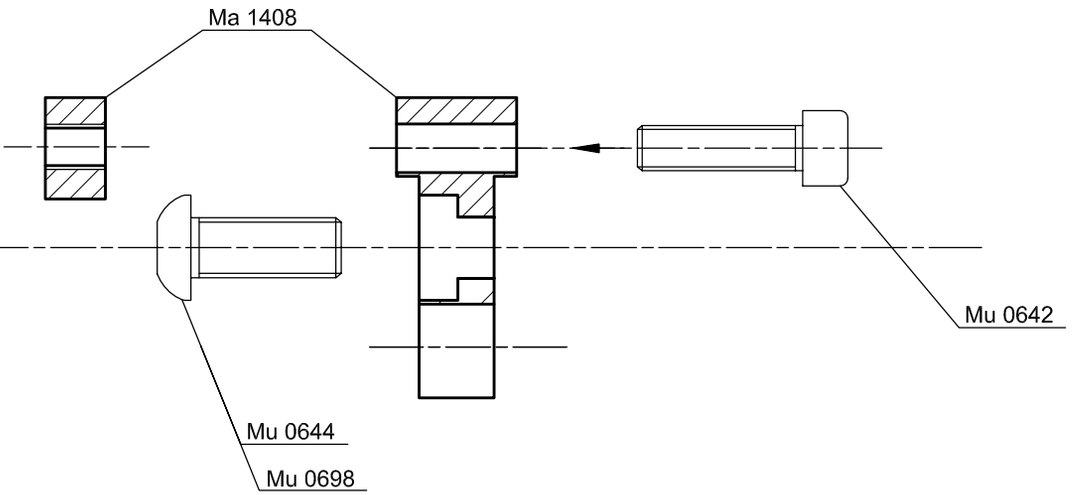
Ma 1426



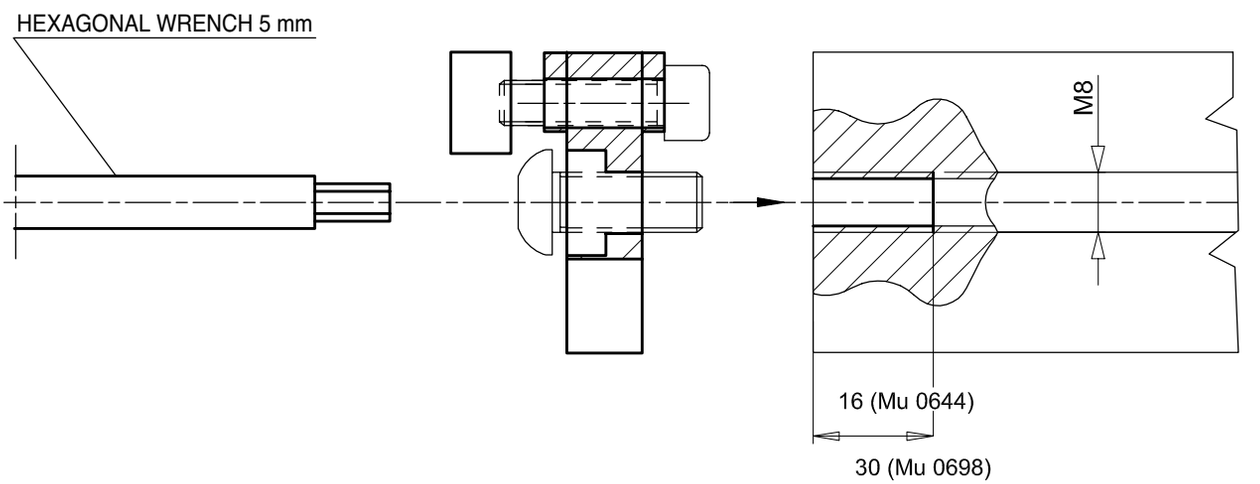
Fit with 24 pcs Mu 0644 + 4 pcs Mu 0642

CONNECTION FOR SERIES 40 HEAVY AND LIGHT-WEIGHT WITH CUT

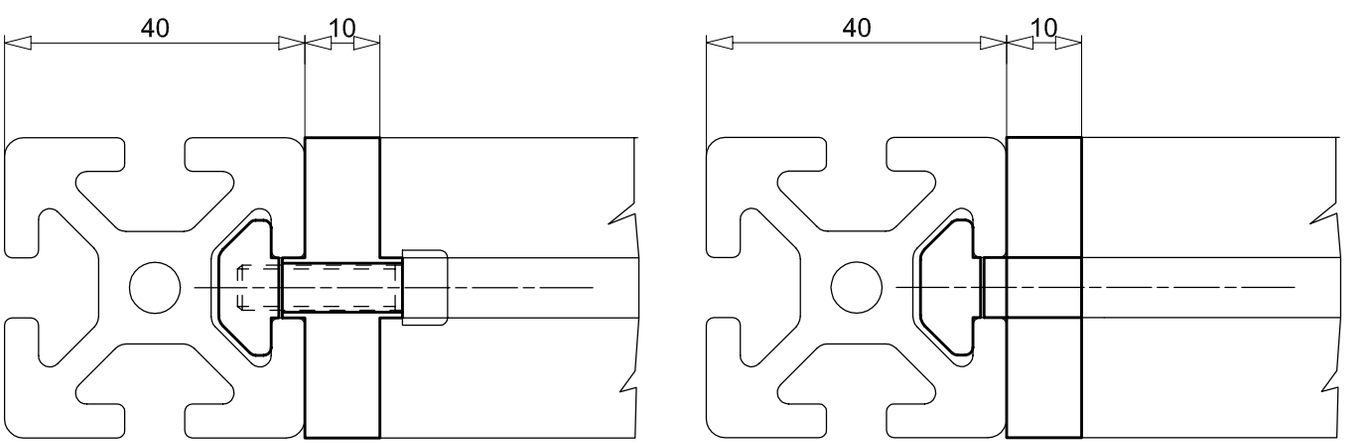
A



B



C

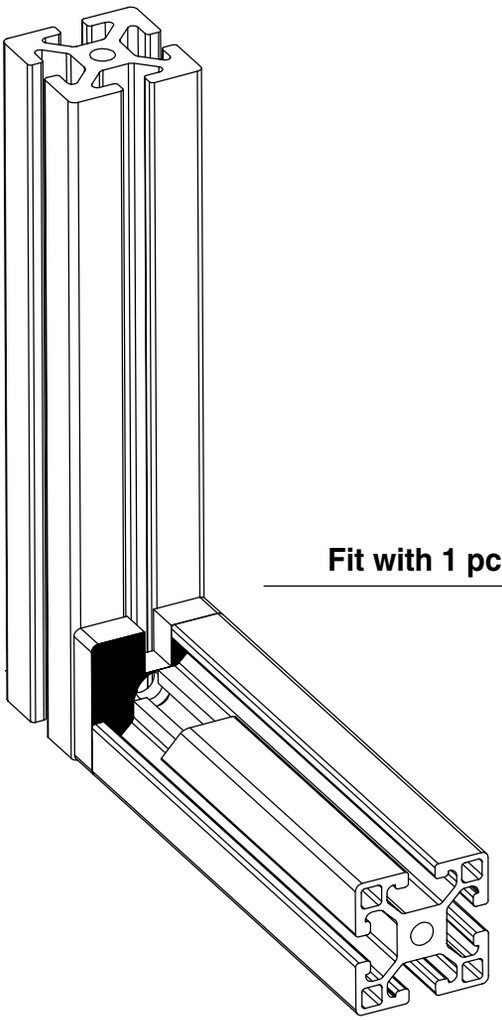


A – PRE-FITTING OF ACCESSORY WITH SCREWS

B – FITTING OF PRE-ASSEMBLED ACCESSORY ONTO THE HEAD OF THE PROFILE

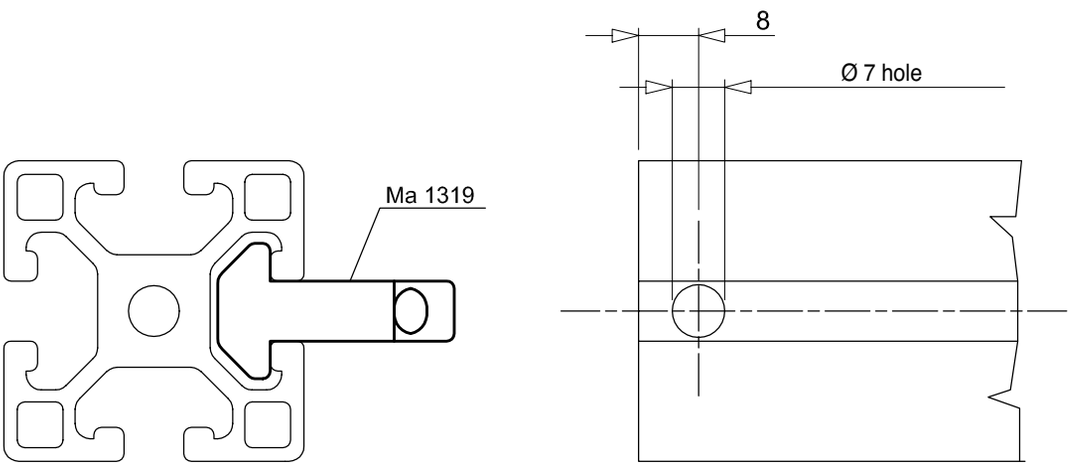
C – CONNECTION OF PROFILES (USE SCREW-DRIVER Mu 0647)

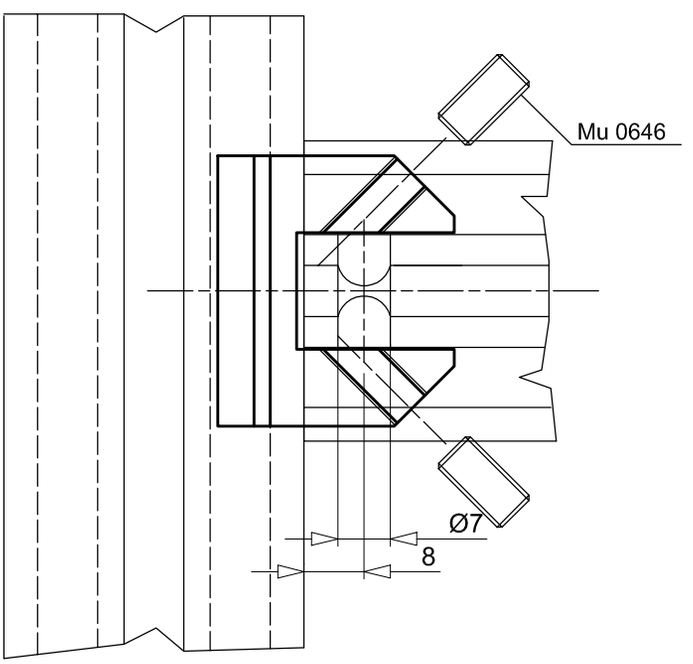
Ma 1408



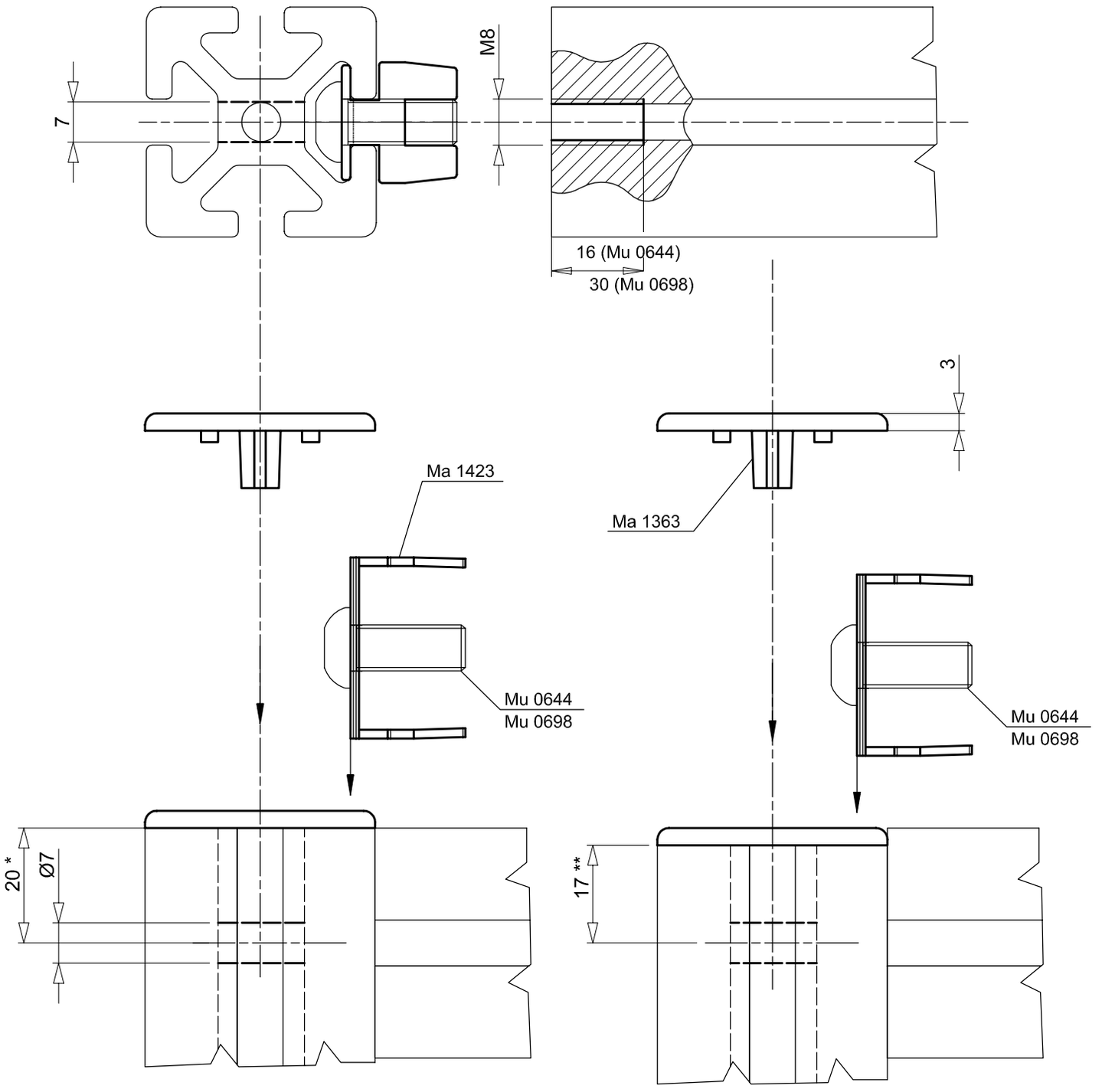
Fit with 1 pc Mu 0644 + 1 pc Mu 0642

CONNECTION WITH U-BOLT FOR LIGHT-WEIGHT SERIES





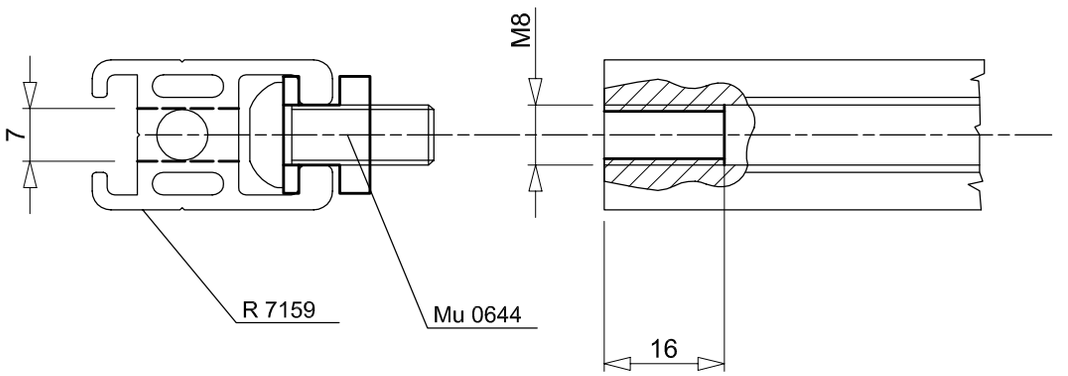
SIMPLE CONNECTION FOR SERIES 40

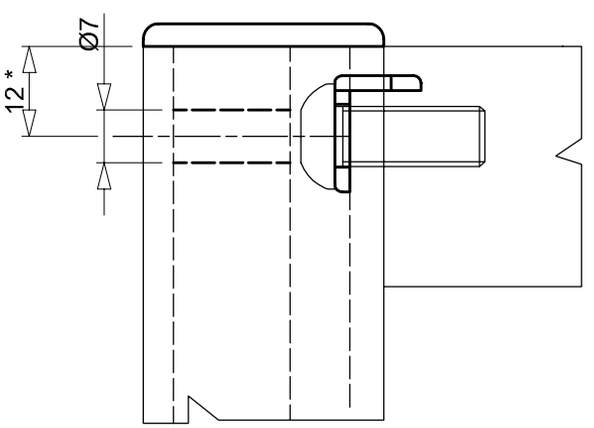


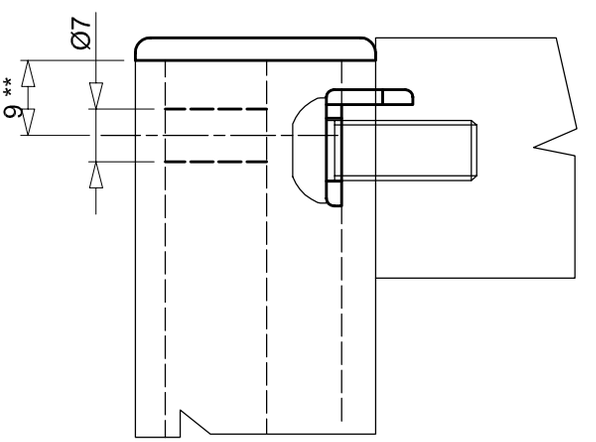
* DRILLING INTERAXIS FOR CONNECTION WITH EXTERNAL FINISHING CAP Ma 1363

** DRILLING INTERAXIS FOR CONNECTION WITH INTERNAL FINISHING CAP Ma 1363

CONNECTION FOR PANEL ASSEMBLY



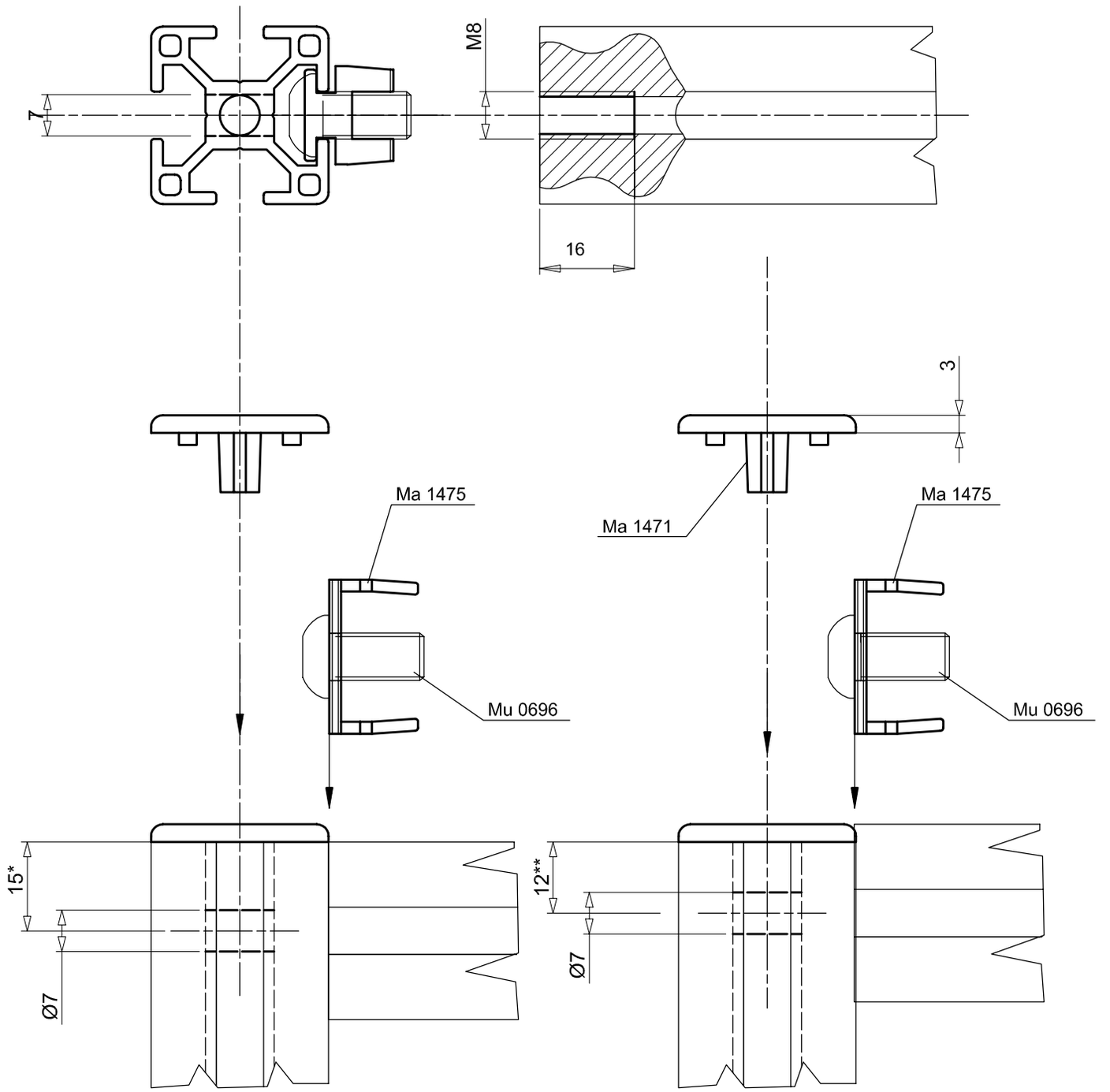




* DRILLING INTERAXIS FOR CONNECTION
WITH EXTERNAL FINISHING CAP Ma 1362

** DRILLING INTERAXIS FOR CONNECTION
WITH INTERNAL FINISHING CAP Ma 1362

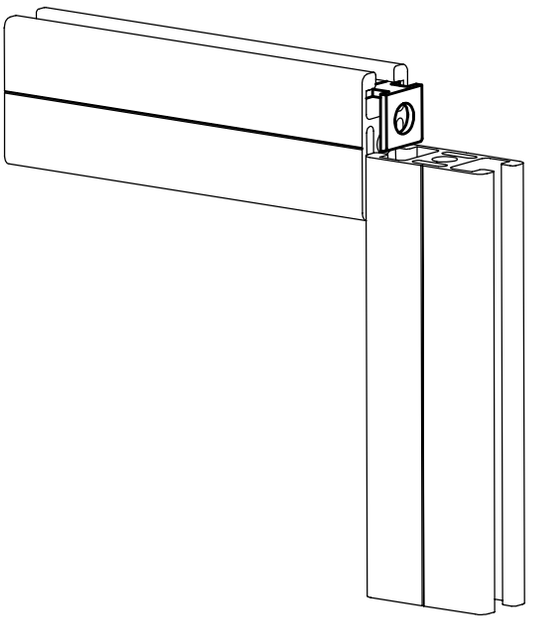
SIMPLE CONNECTION FOR SERIES 30



* DRILLING INTERAXIS FOR CONNECTION
WITH EXTERNAL FINISHING CAP Ma 1363

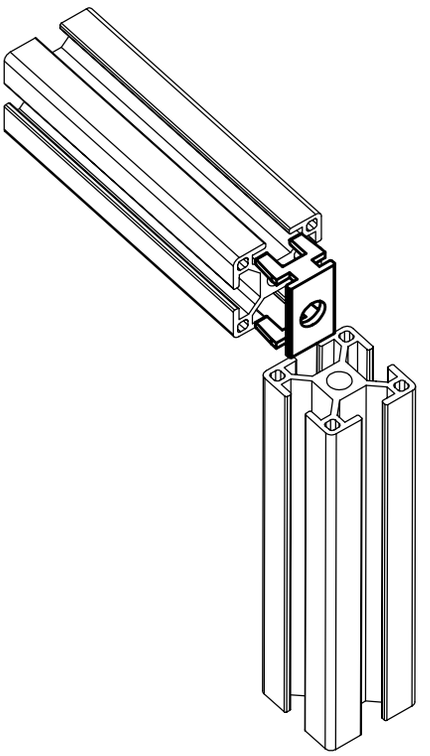
** DRILLING INTERAXIS FOR CONNECTION
WITH INTERNAL FINISHING CAP Ma 1363

Ma 1320



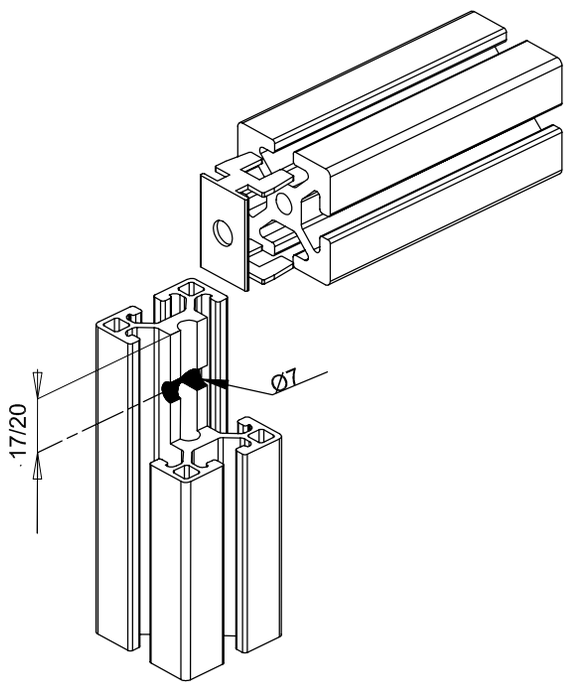
Fit Ma 1320 + Mu 0696 for screw thread L 16 mm

Ma 1475



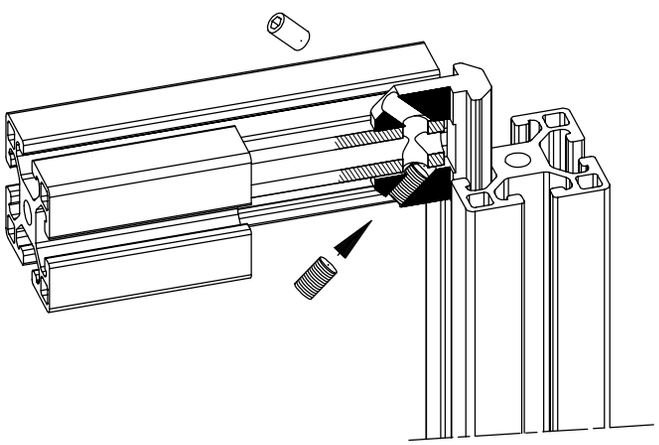
Fit Ma 1475 + Mu 0696 for screw thread L 12 mm

Ma 1423



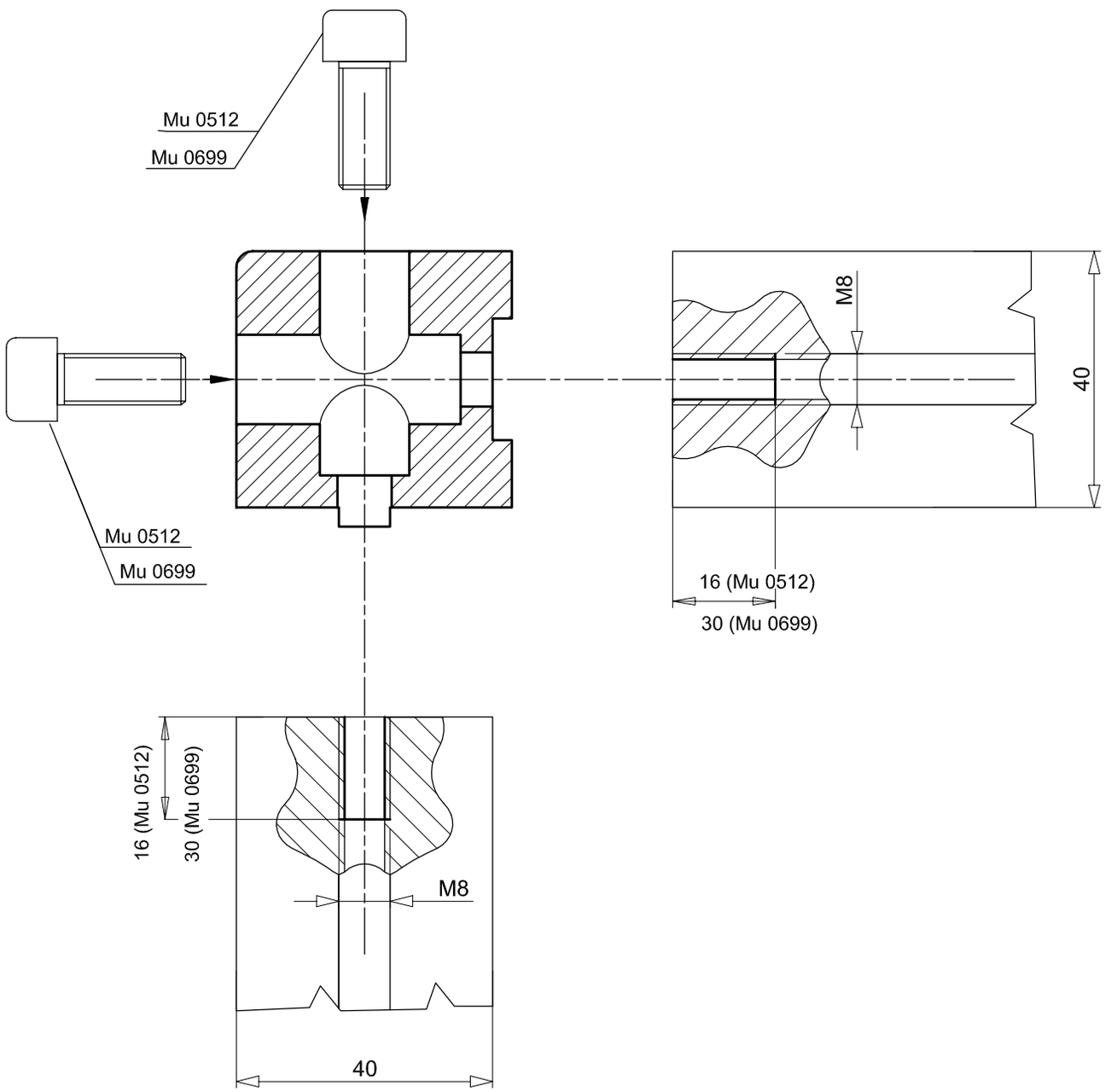
Fit Ma 1423 + Mu 0644 for screw thread L 16 mm
Fit Ma 1423 + Mu 0698 for screw thread L 30 mm

Ma 1319

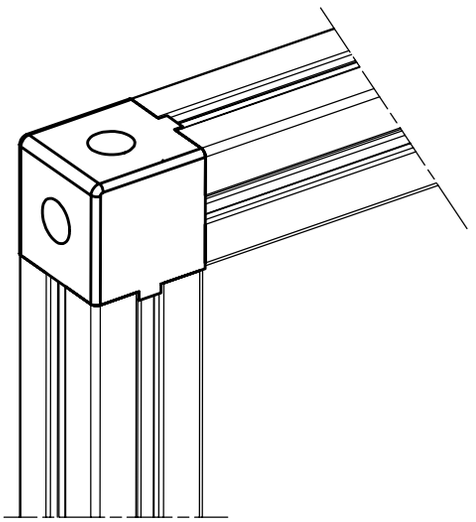


Fit Ma 1319 + 2 pcs Mu 0646

CONNECTION WITH JOINT FOR SERIES 40

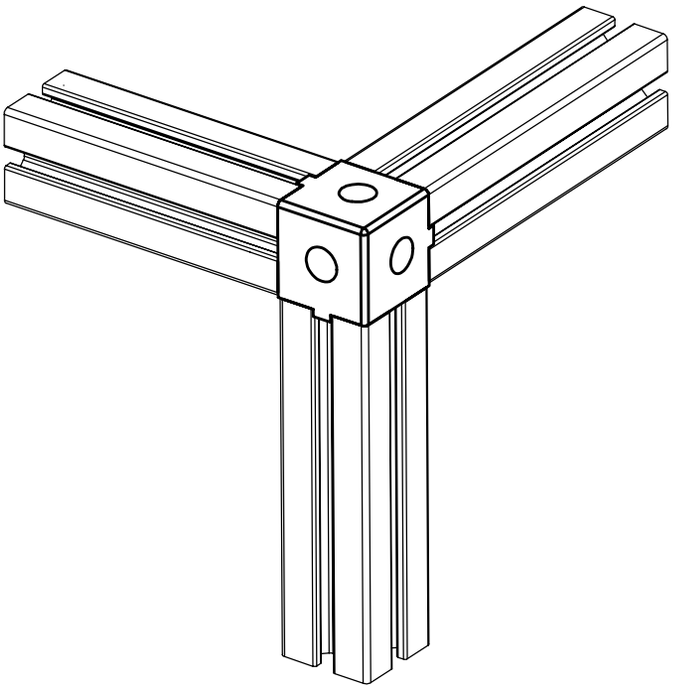


Ma 1321



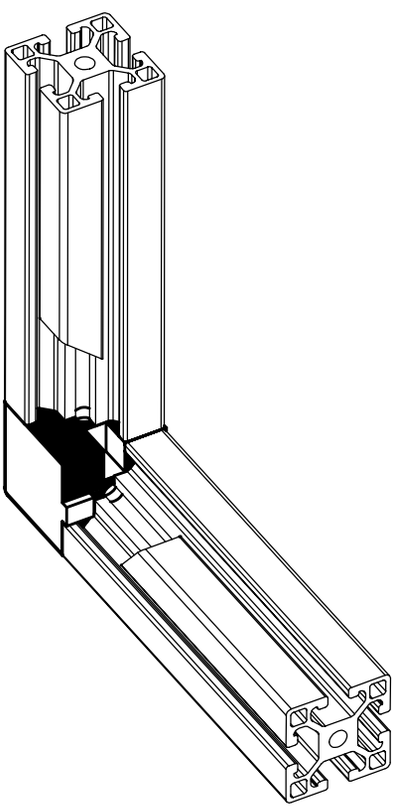
Fit with 2 pcs Mu 0512 for screw thread L 16 mm
Fit with 2 pcs Mu 0699 for screw thread L 30 mm

Ma 1322



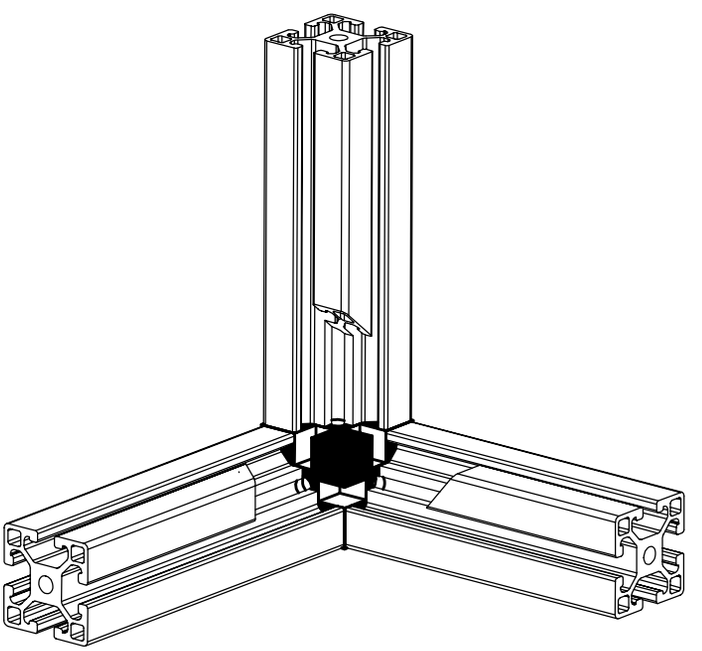
Fit with 3 pcs Mu 0512 for screw thread L 16 mm
Fit with 3 pcs Mu 0699 for screw thread L 30 mm

Ma 1409



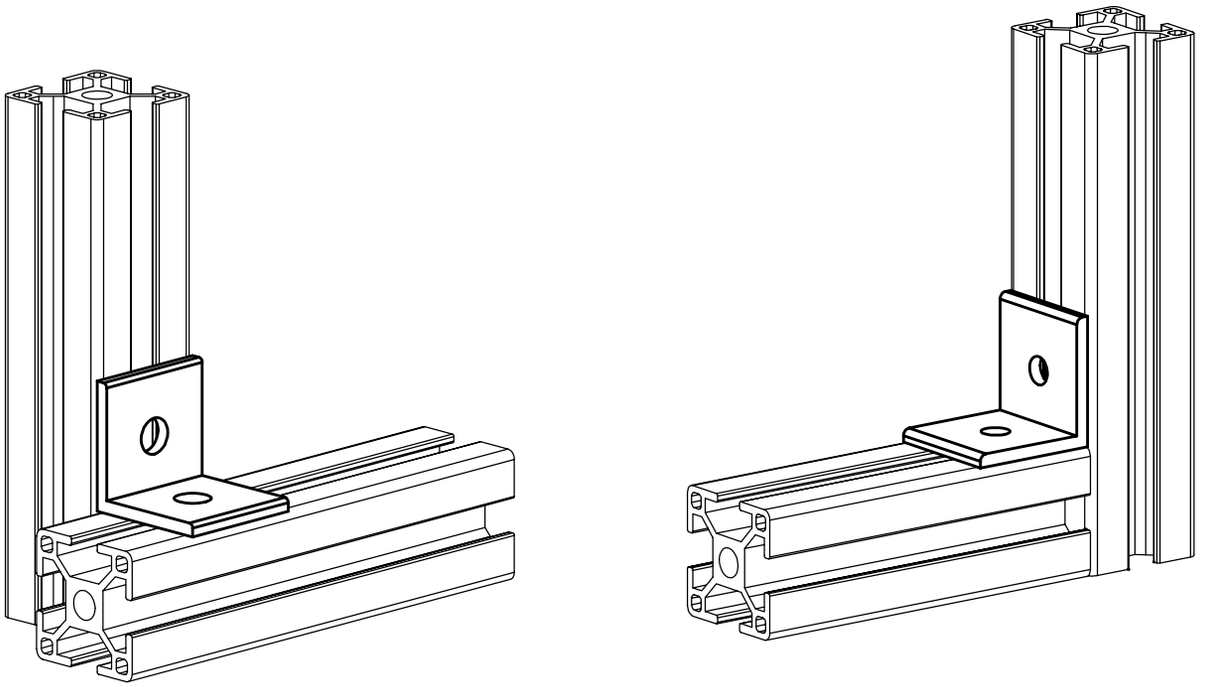
Fit with 2 pcs Mu 0512 for screw thread L 16 mm
Fit with 2 pcs Mu 0699 for screw thread L 30 mm

Ma 1426



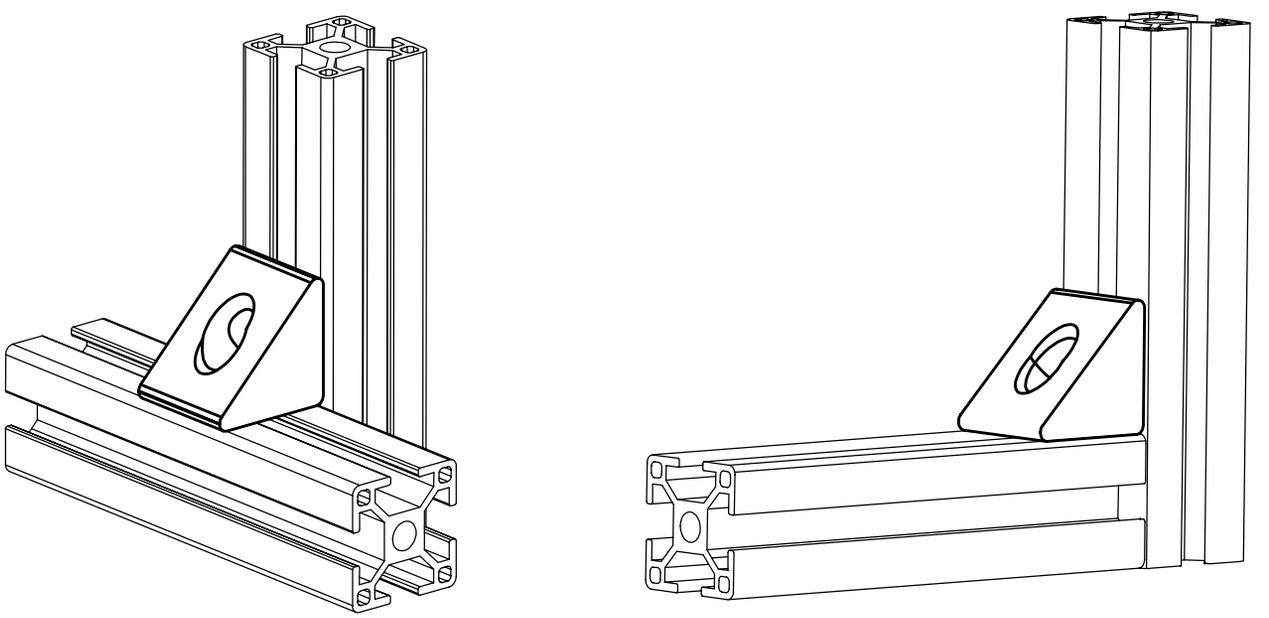
Fit with 3 pcs Mu 0512 for screw thread L 16 mm
Fit with 3 pcs Mu 0699 for screw thread L 30 mm

Ma 1473



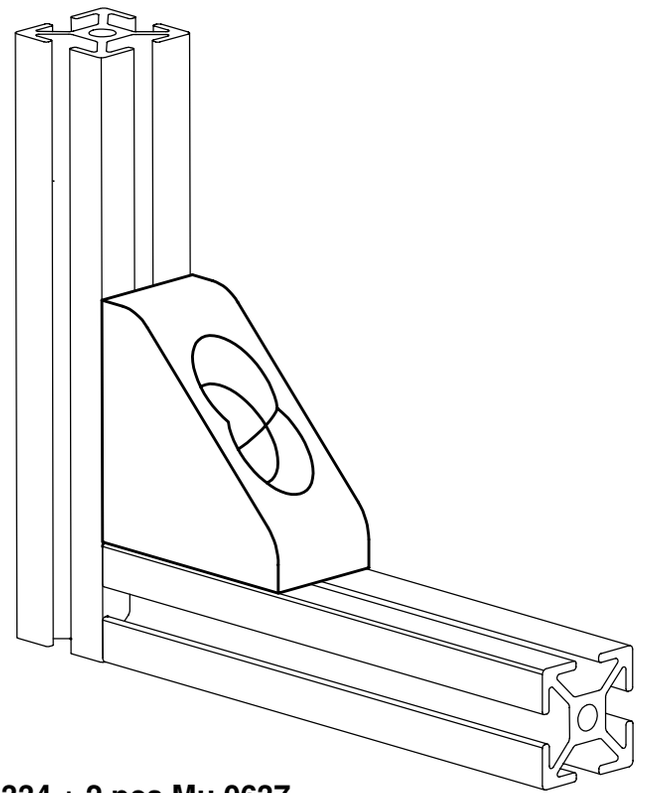
Fit with 2 pcs Ma 1472 + 2 pcs Mu 0605

Ma 1474



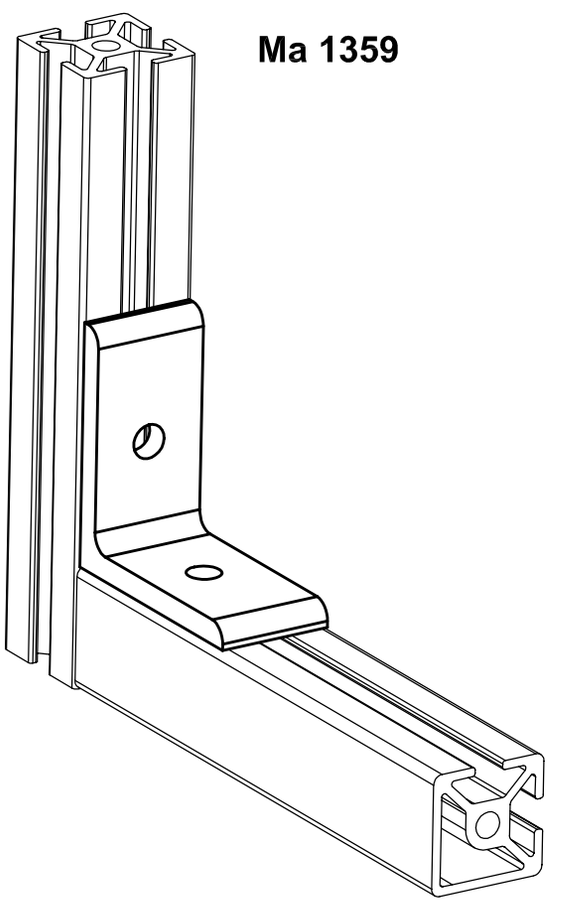
Fit with 2 pcs Ma 1472 + 2 pcs Mu 0605

Ma 1347



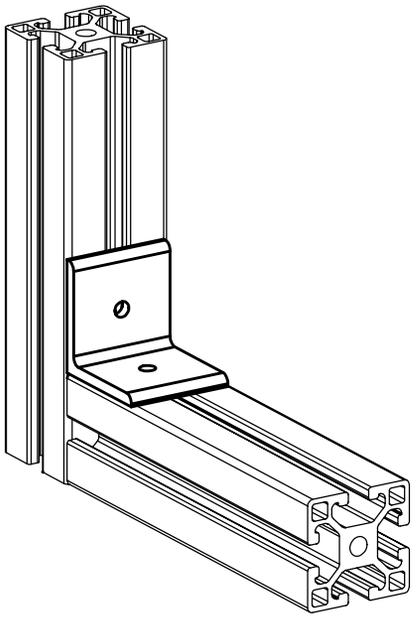
Fit with 2 pcs Ma 1334 + 2 pcs Mu 0637

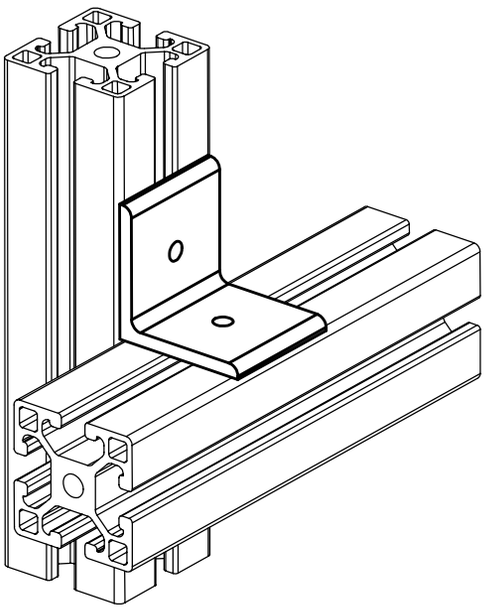
Ma 1359



Fit with 2 pcs Ma 1334 + 2 pcs Mu 0637

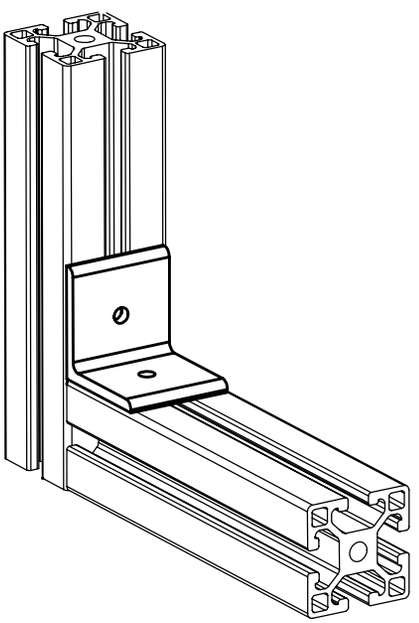
Ma 1345





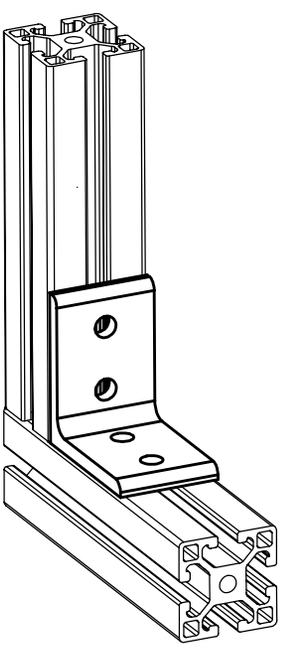
Fit with 2 pcs Ma 1336 + 2 pcs Mu 0643

Ma 1401



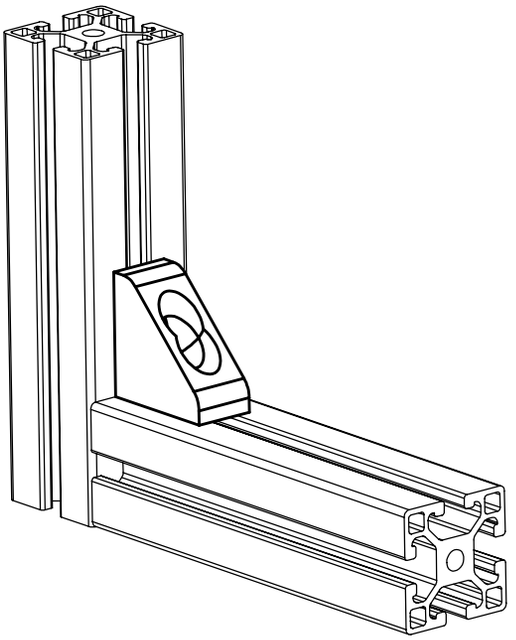
Fit with 2 pcs Ma 1336 + 2 pcs Mu 0643

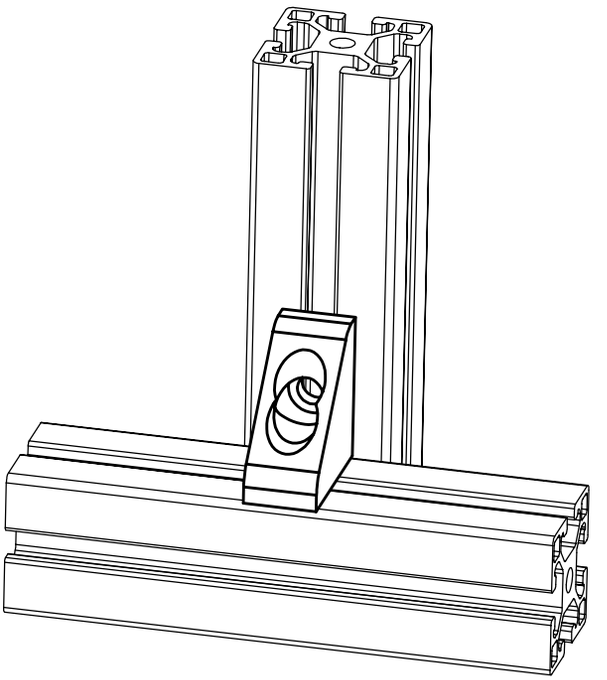
Ma 1346 - Ma 1402



Fit with 2 pcs Ma 1342 + 2 pcs Mu 0643

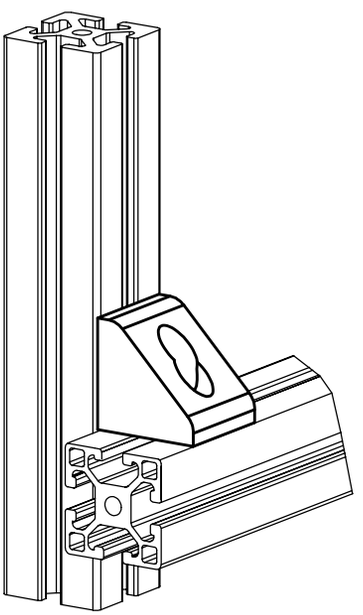
Ma 1347



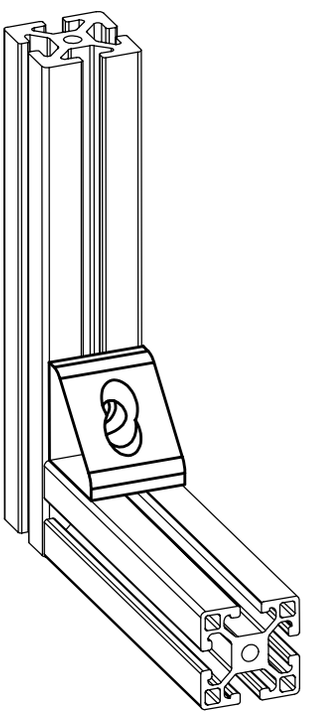


Fit with 2 pcs Ma 1336 + 2 pcs Mu 0643

Ma 1348

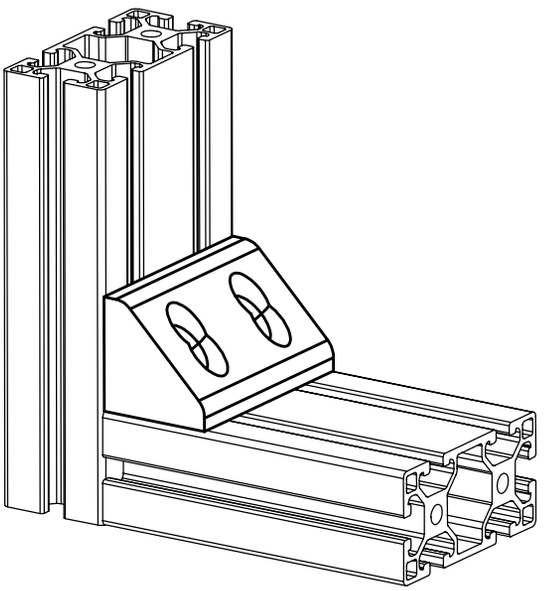


Ma 1348 - Ma 1403



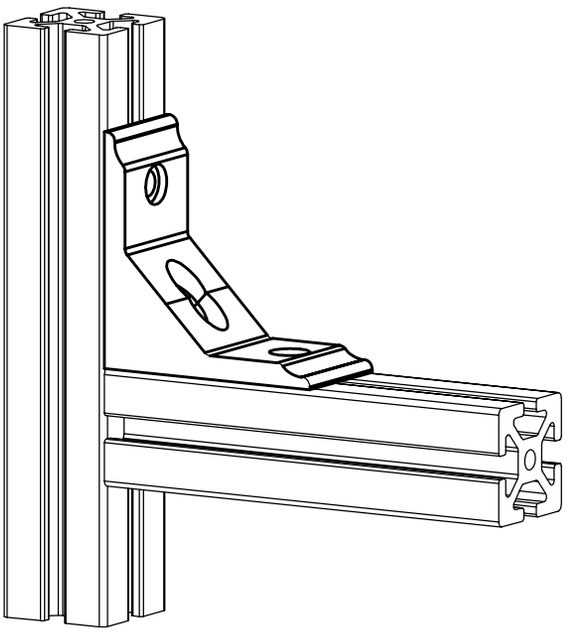
Fit with 2 pcs Ma 1336 + 2 pcs Mu 0643

Ma 1349 - Ma 1404



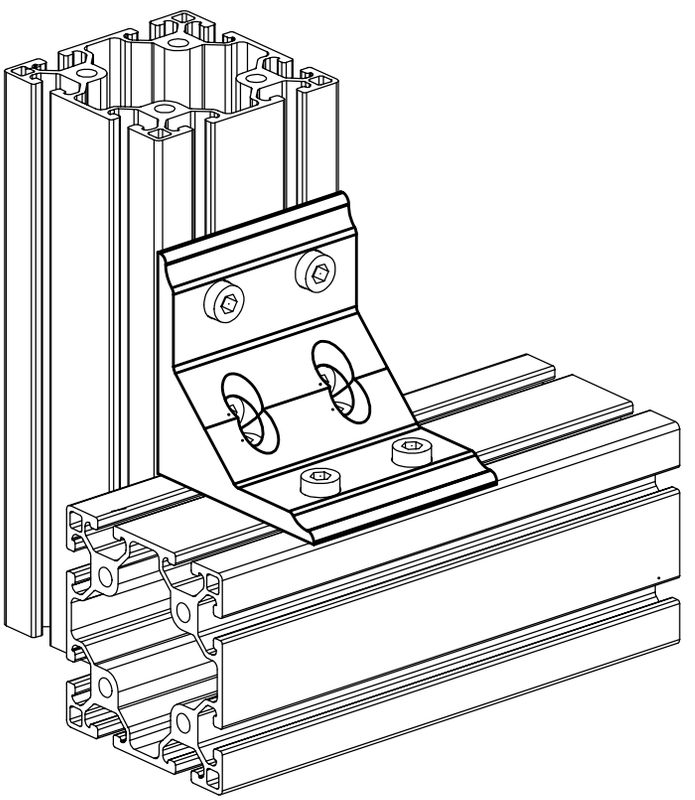
Fit with 4 pcs Ma 1336 + 4 pcs Mu 0643

Ma 1350 - Ma 1405

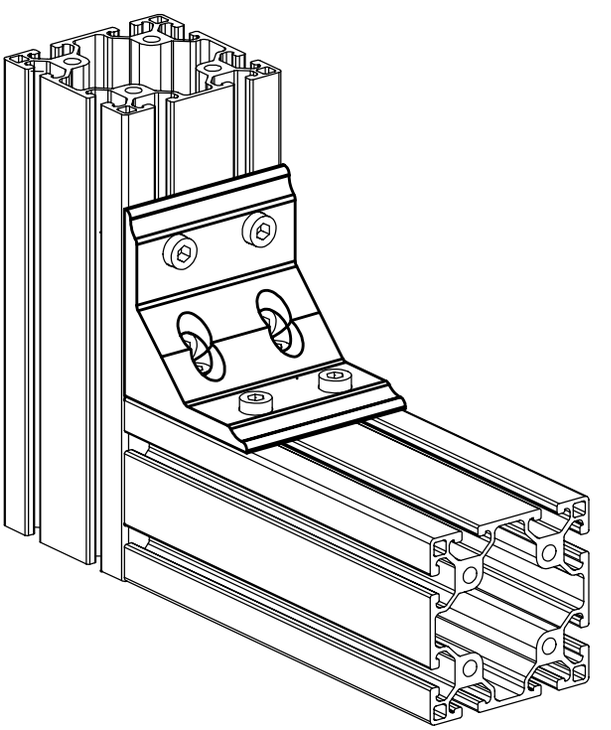


Fit with 4 pcs Ma 1334 + 4 pcs Mu 0643

Ma 1351

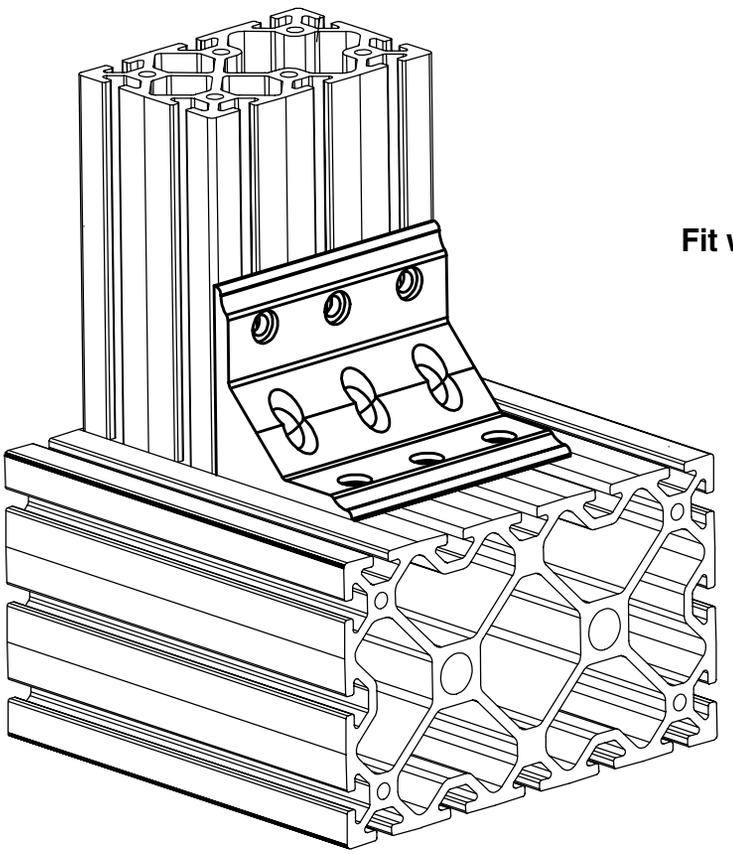


Ma 1351 - Ma 1406



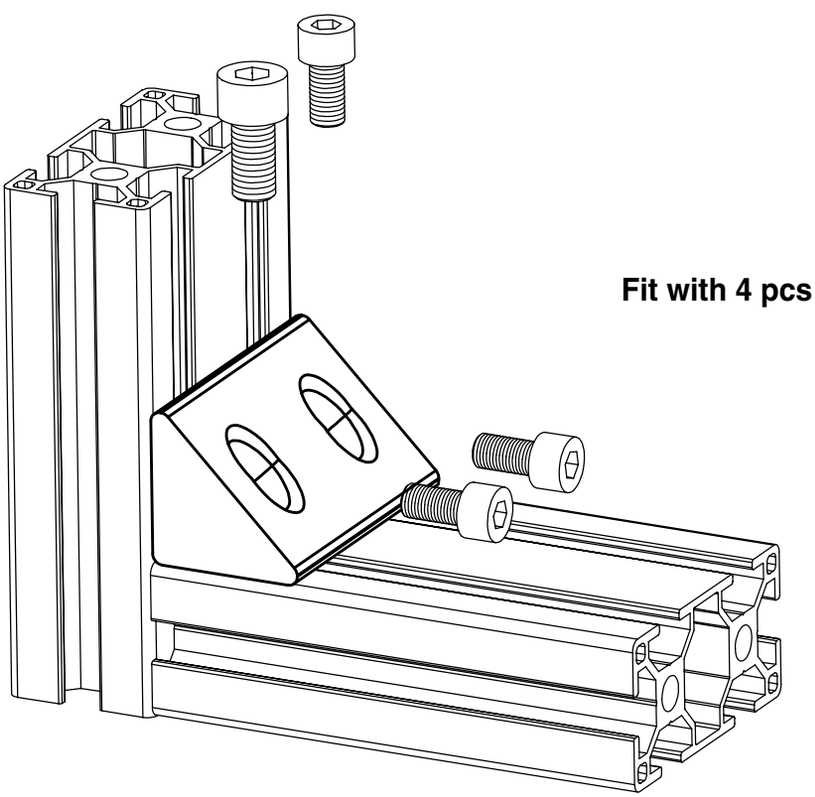
Fit with 4 pcs Ma 1334 + 8 pcs Mu 0643

Ma 1422



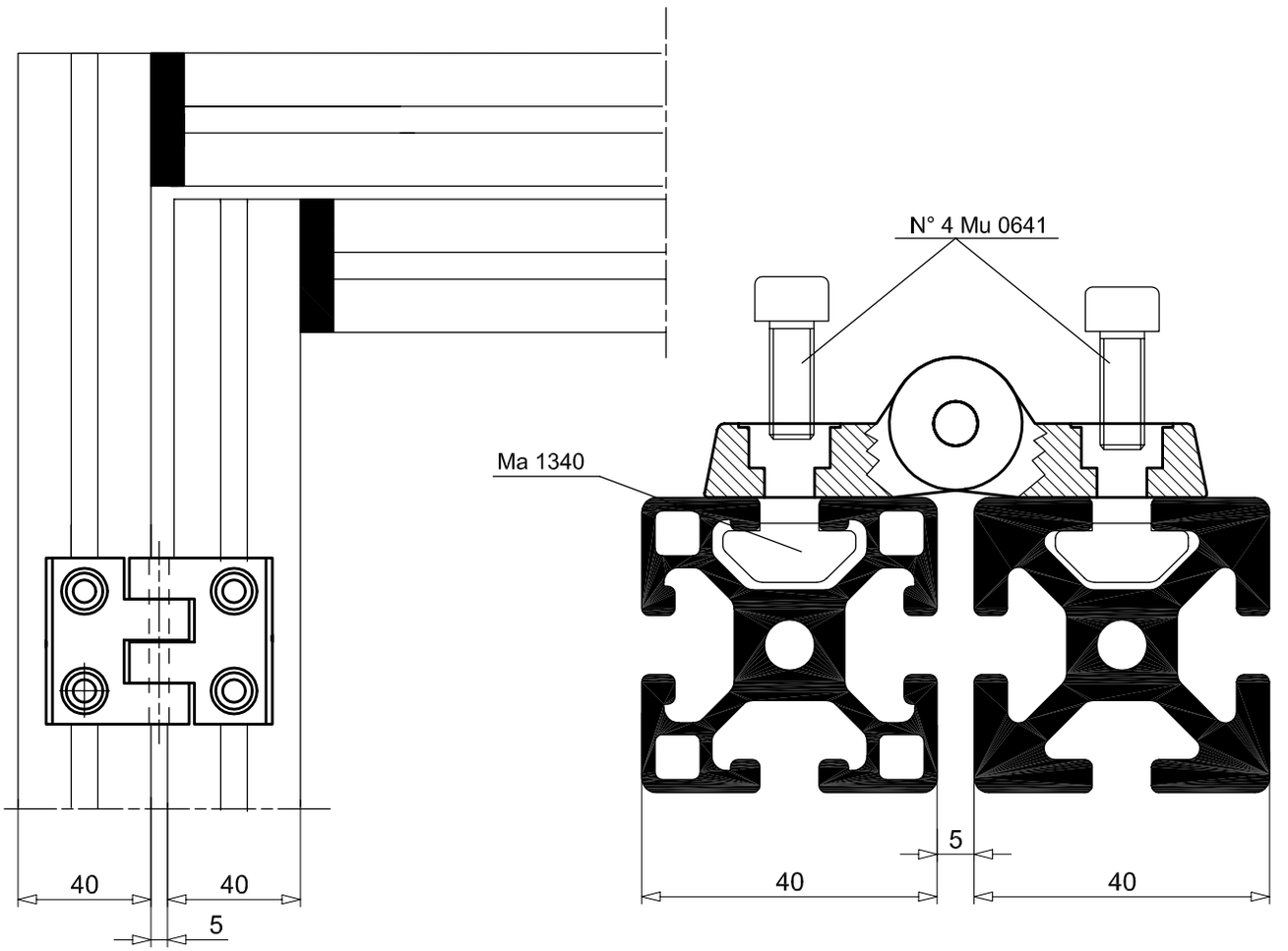
Fit with 6 pcs Ma 1334 + 12 pcs Mu 0643

Ma 1477



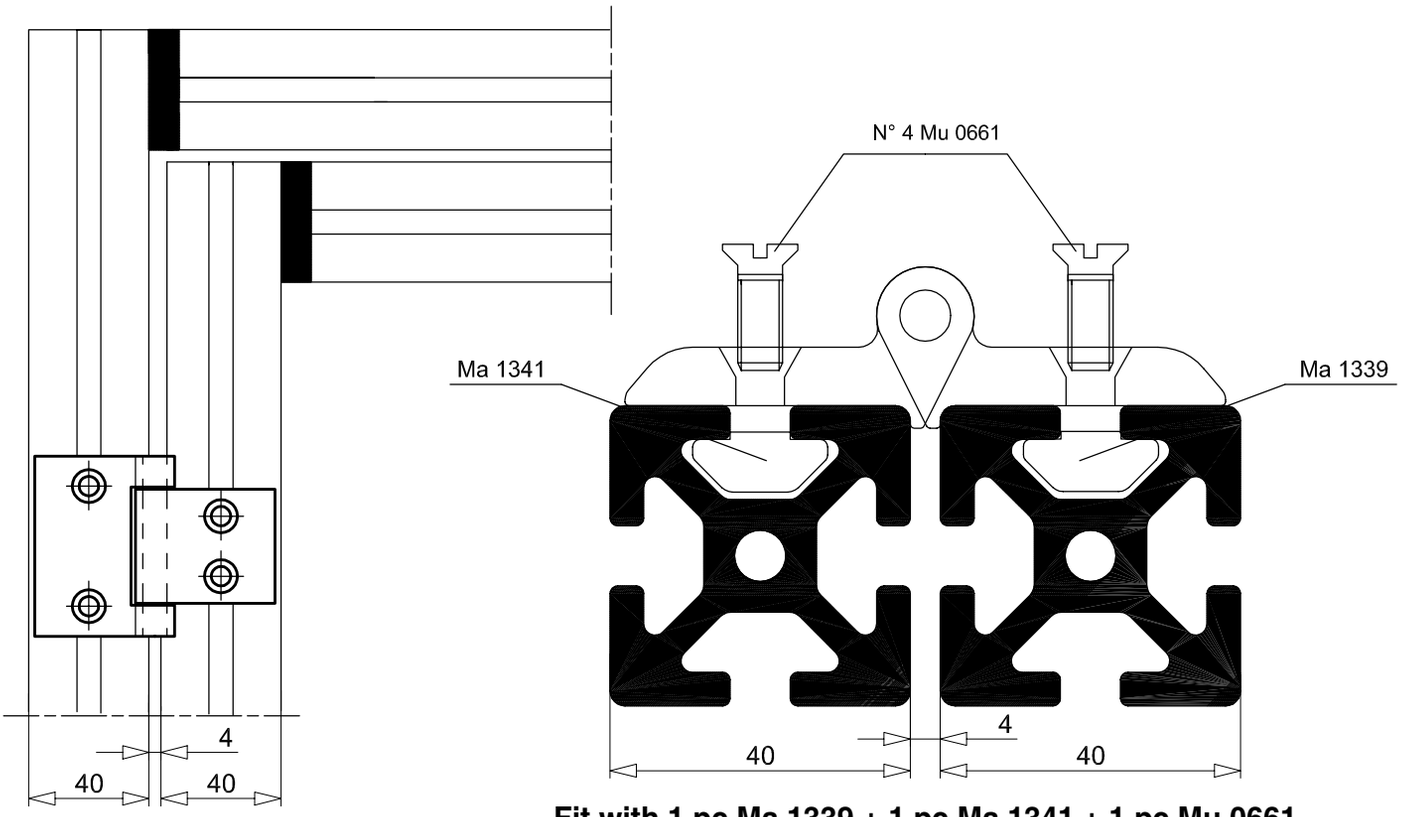
Fit with 4 pcs Ma 1472 + 4 pcs Mu 0605

FITTING OF HINGE Ma 1310



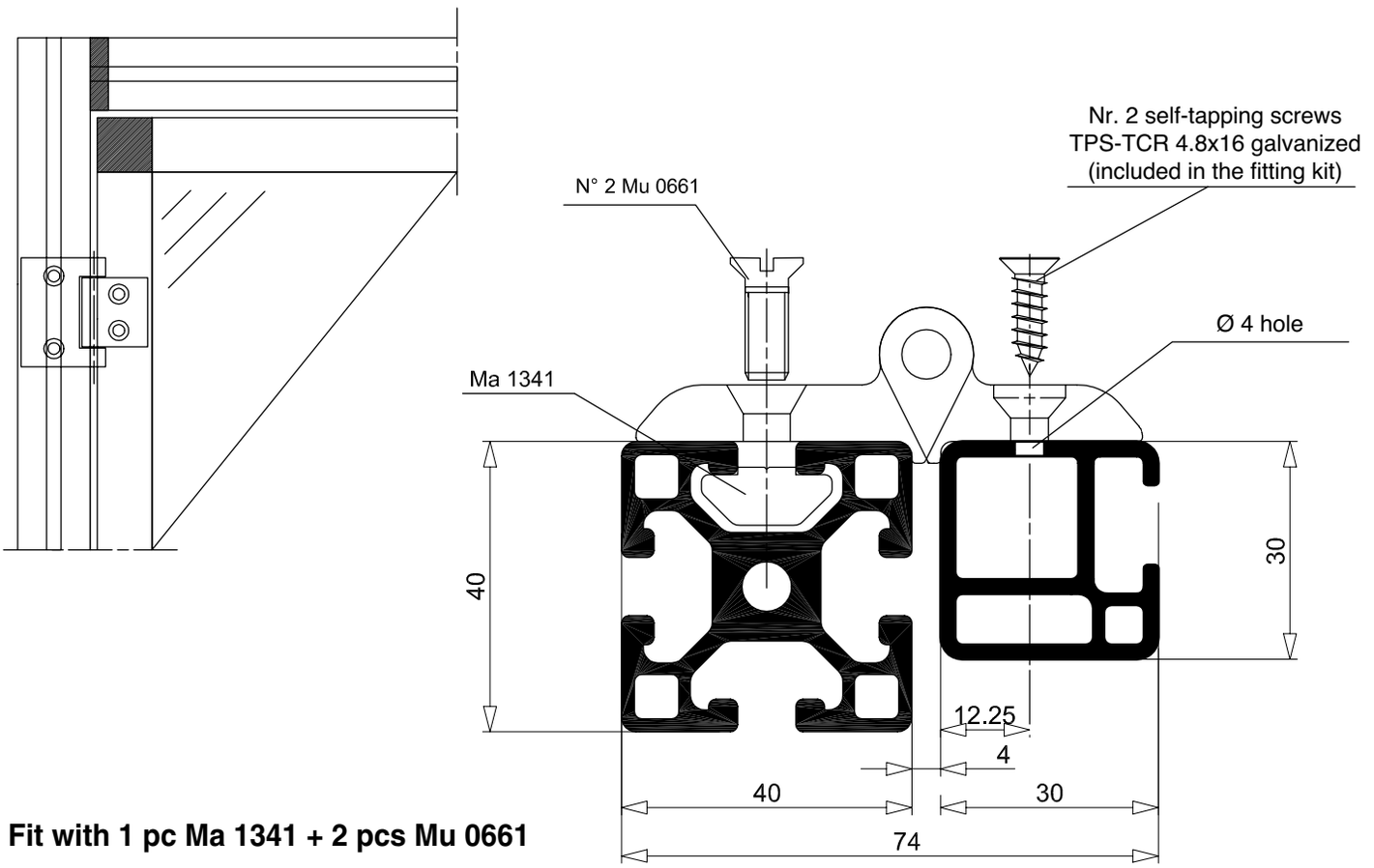
Fit with 2 pcs Ma 1340 + 4 pcs Mu 0641

FITTING OF HINGE Ma 1411



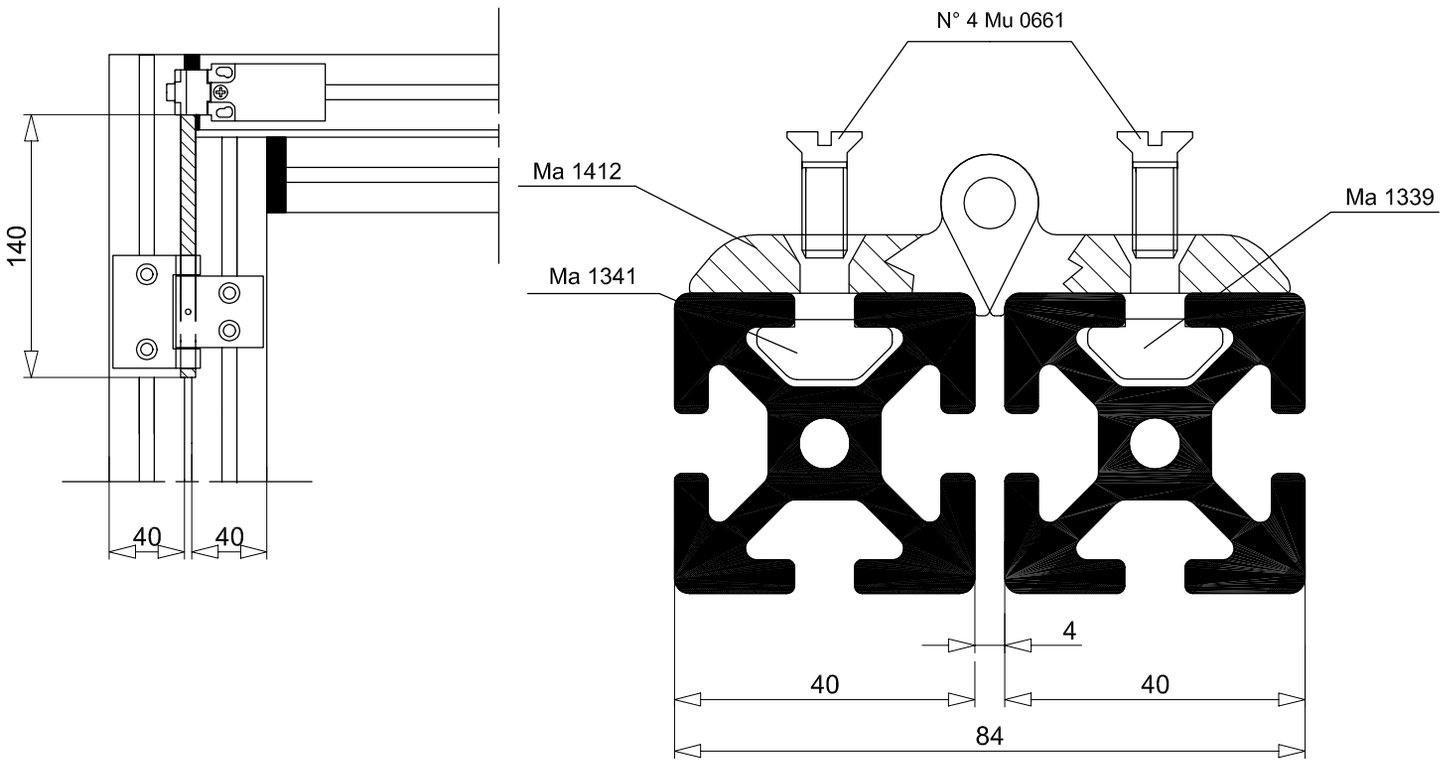
Fit with 1 pc Ma 1339 + 1 pc Ma 1341 + 1 pc Mu 0661

FITTING OF Ma 1419



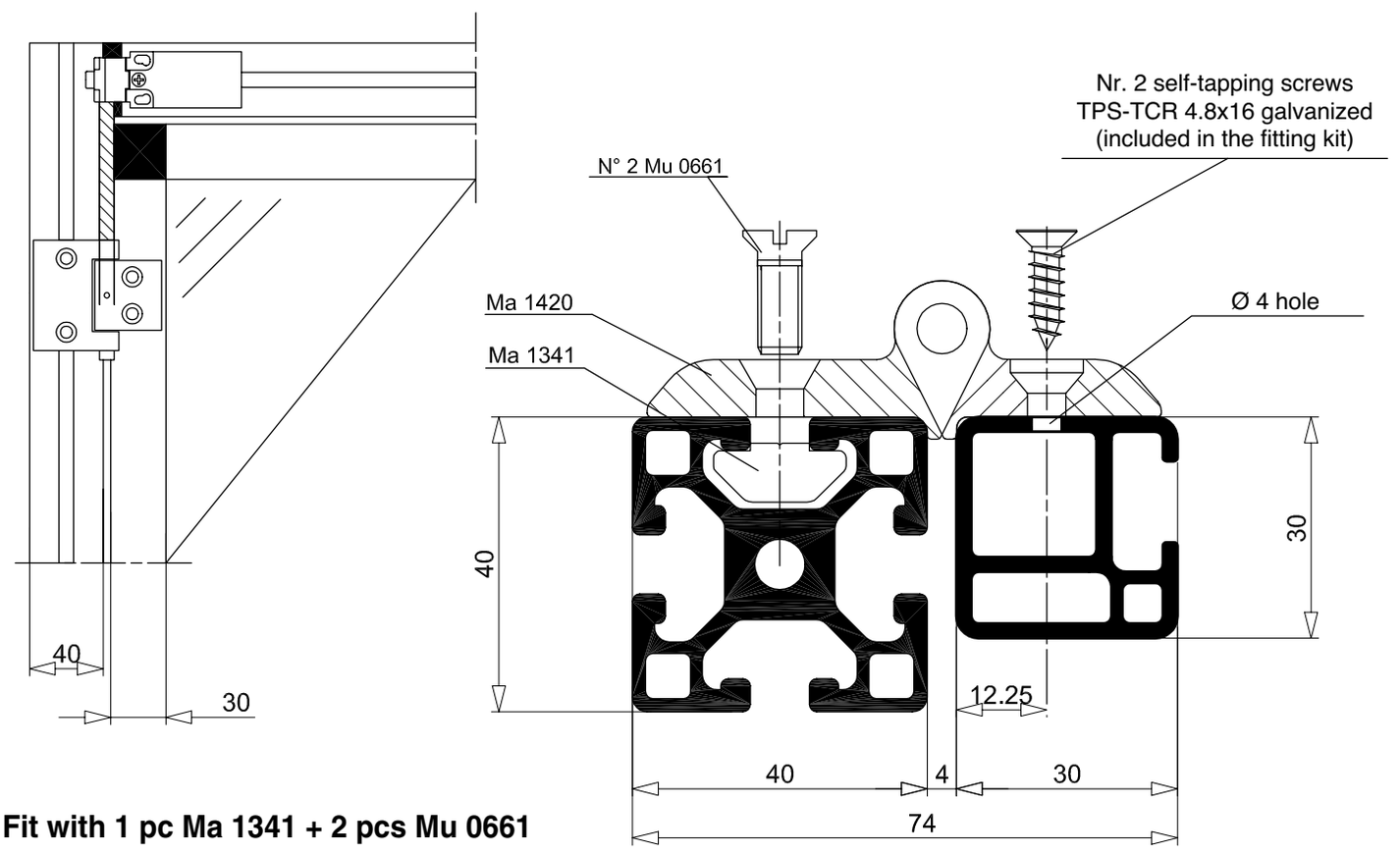
Fit with 1 pc Ma 1341 + 2 pcs Mu 0661

FITTING OF HINGE Ma 1412



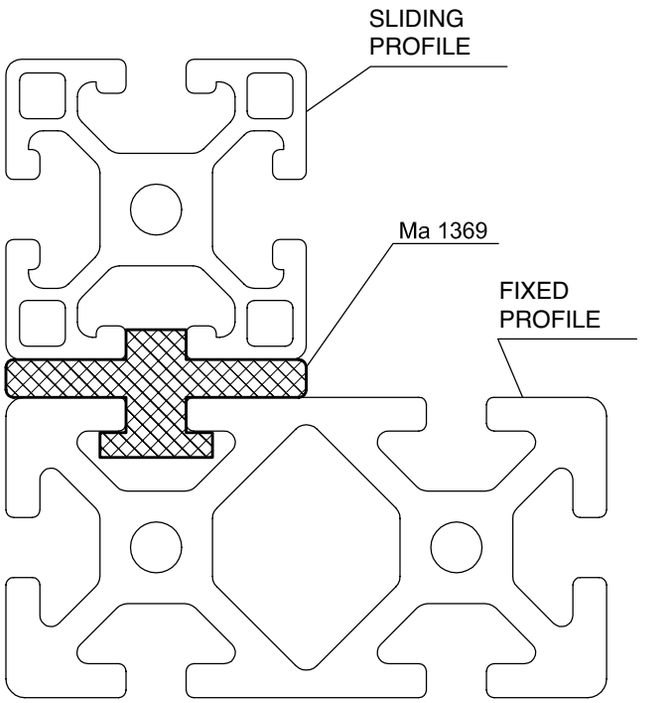
Fit with 1 pc Ma 1339 + 1 pc Ma 1341 + 1 pc Mu 0661

FITTING OF Ma 1420

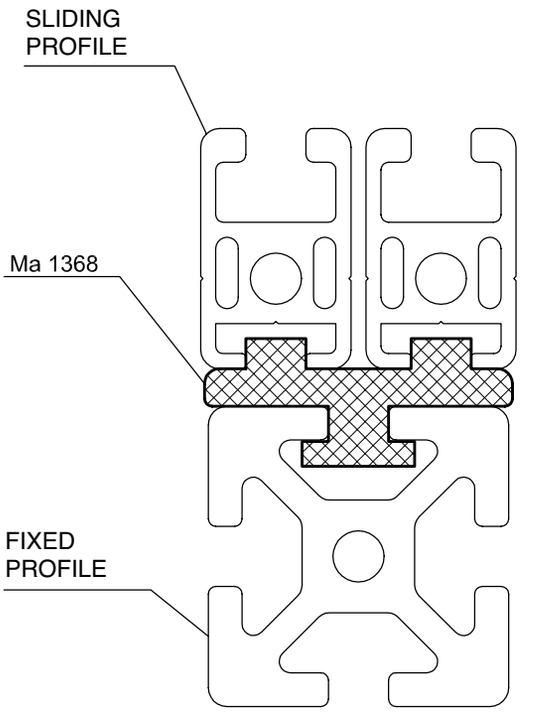


Fit with 1 pc Ma 1341 + 2 pcs Mu 0661

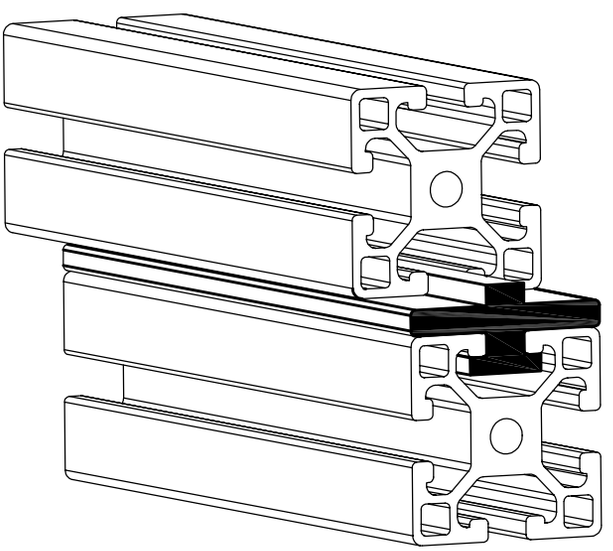
UTILISATION OF THE SLIDING GUIDES

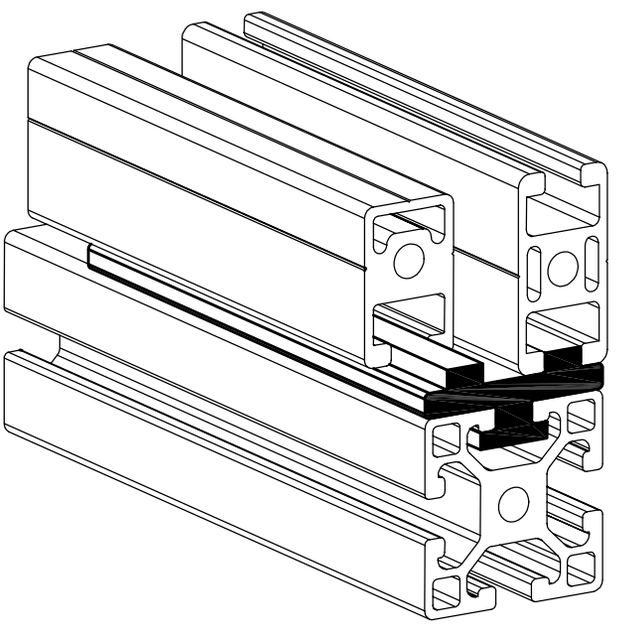


**SLIDING SYSTEM
FOR SERIES 40**



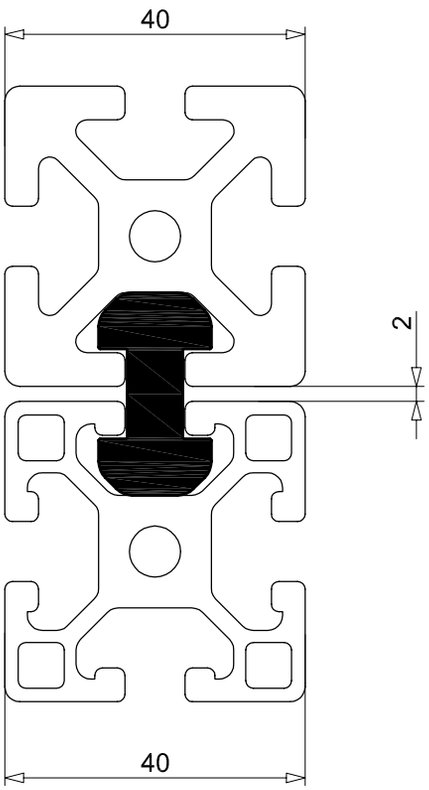
**SLIDING SYSTEM
WITH PROFILE R 7159**



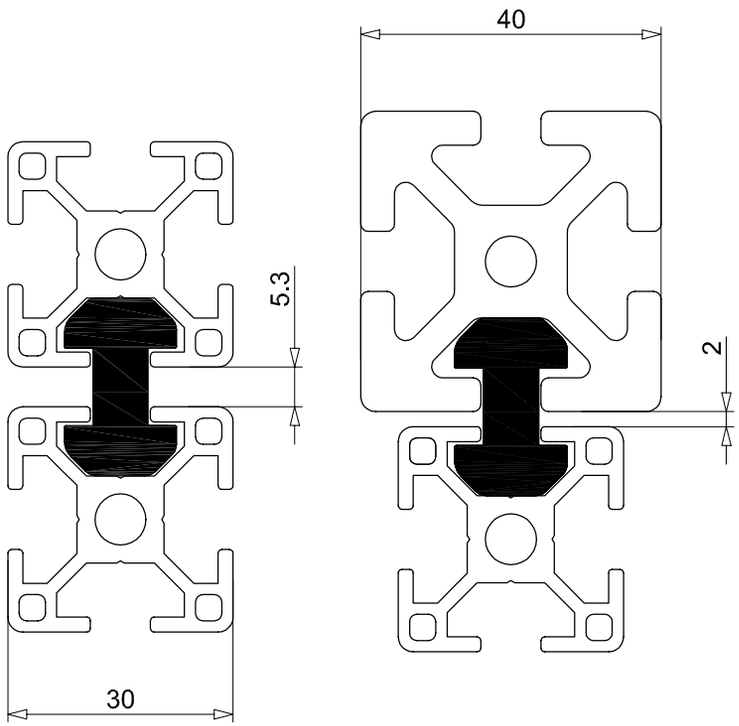


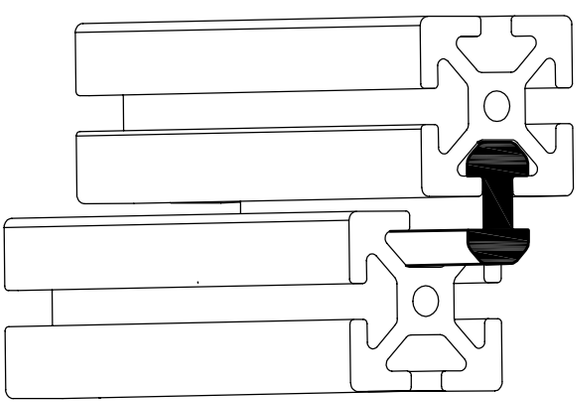
UTILISATION OF THE SLIDING GUIDES

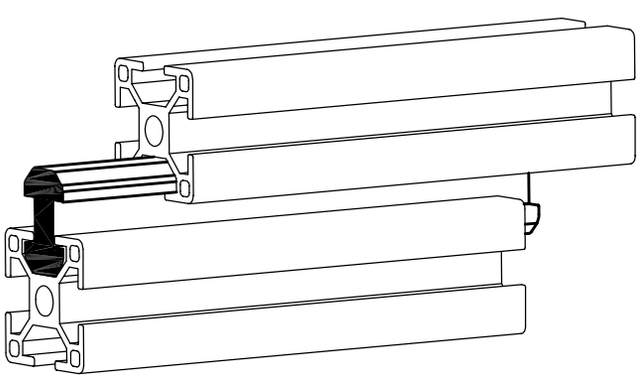
Ma 1428



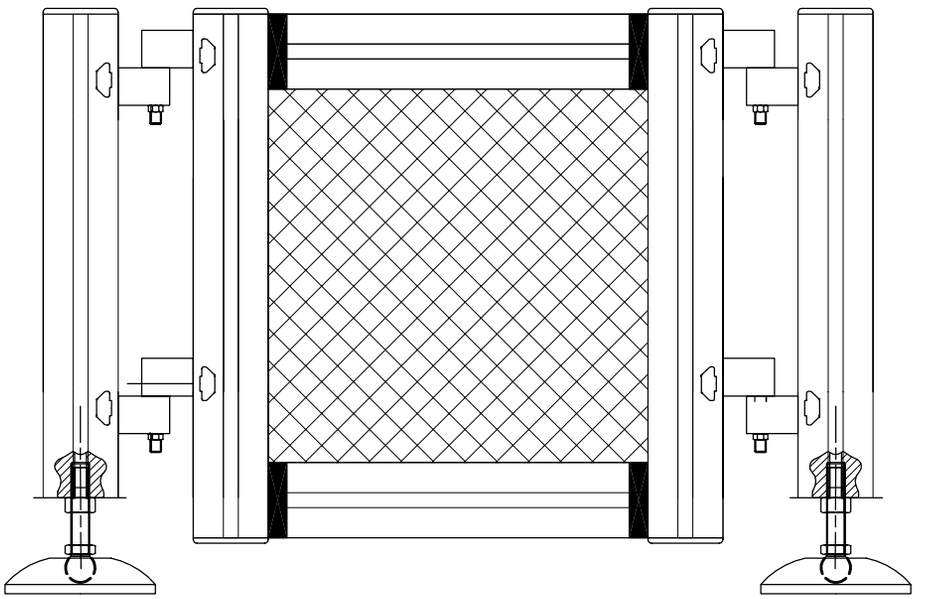
Ma 1429

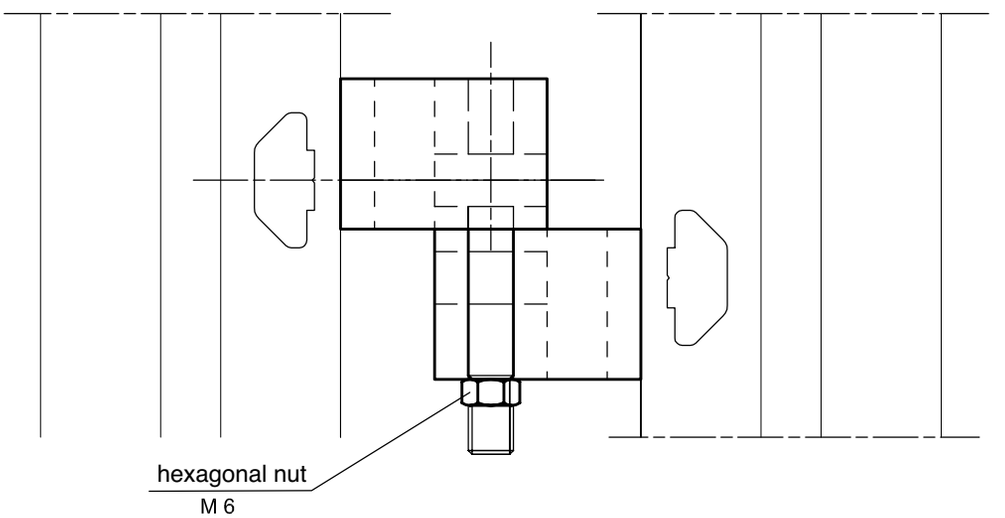


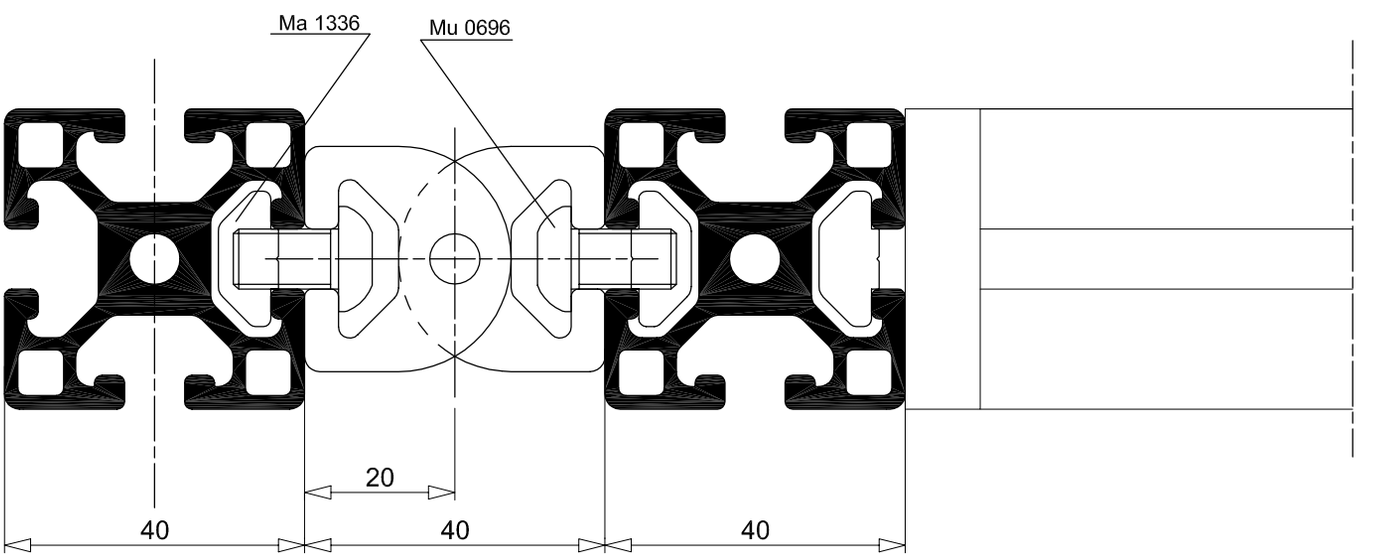




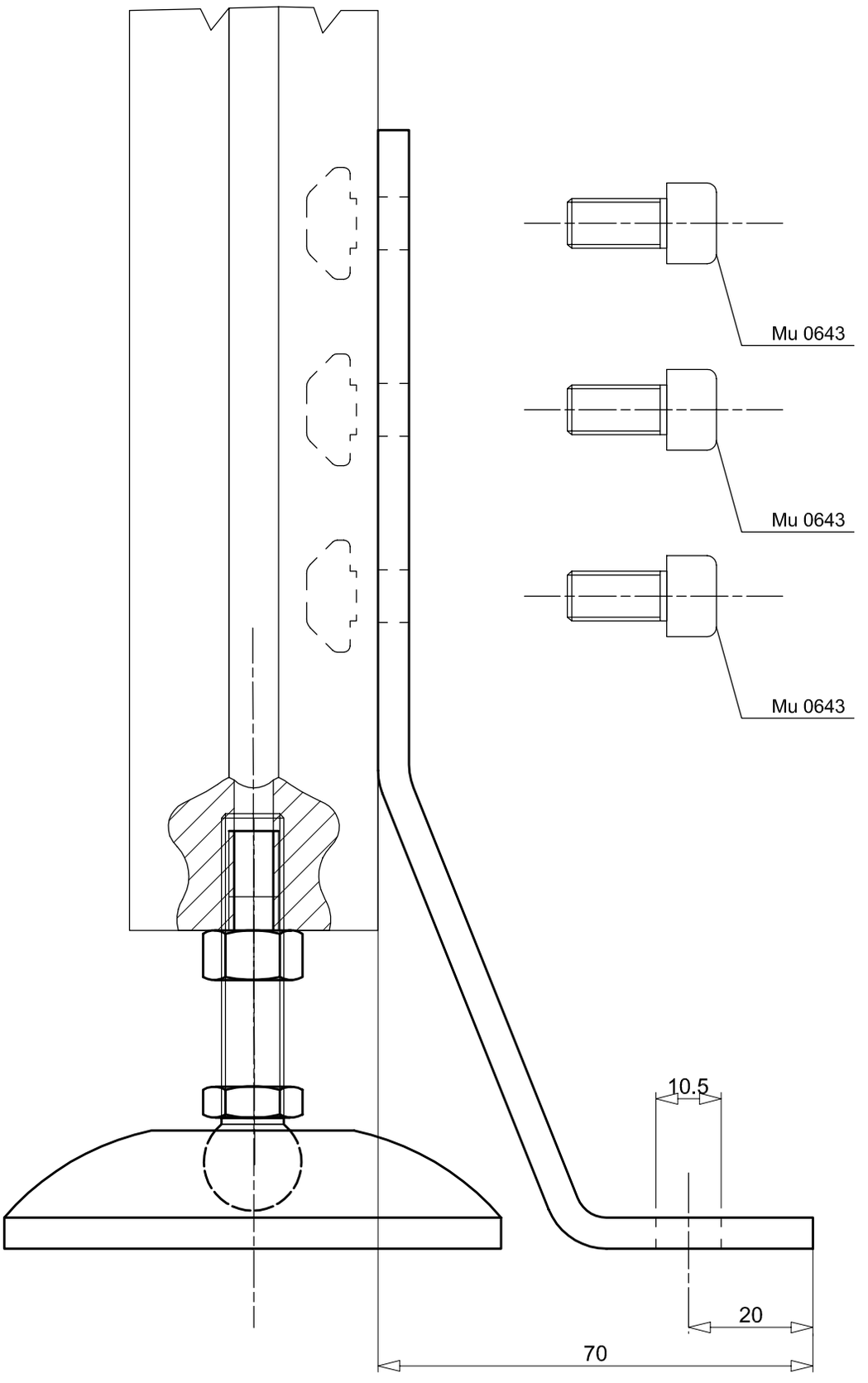
FITTING OF Ma 1424



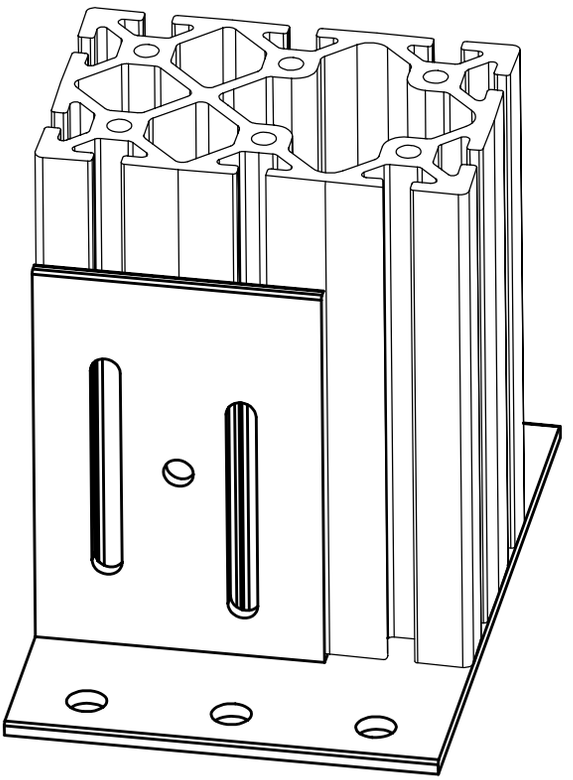




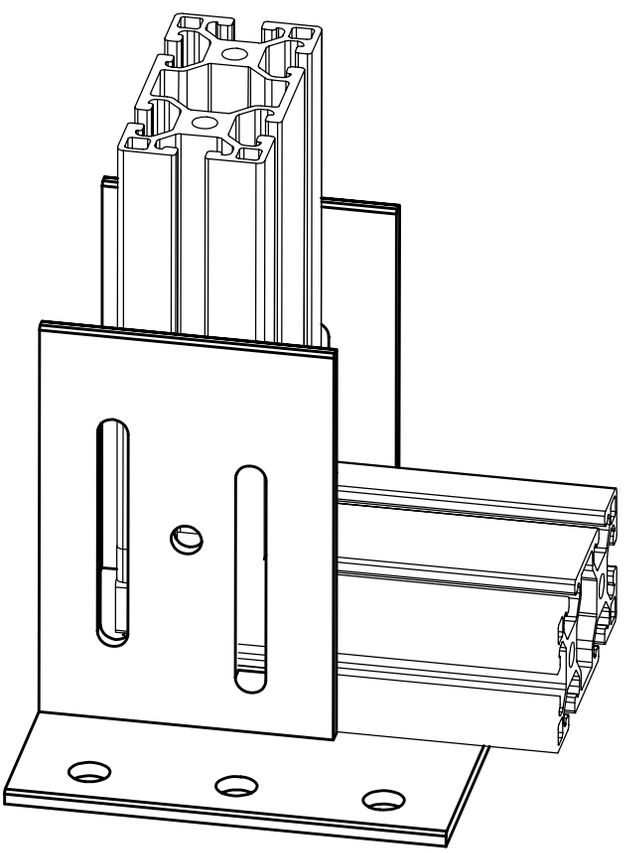
GROUND ANCHORING WITH BRACKET Ma 1352



GROUND ANCHORING WITH BRACKET Ma 1427

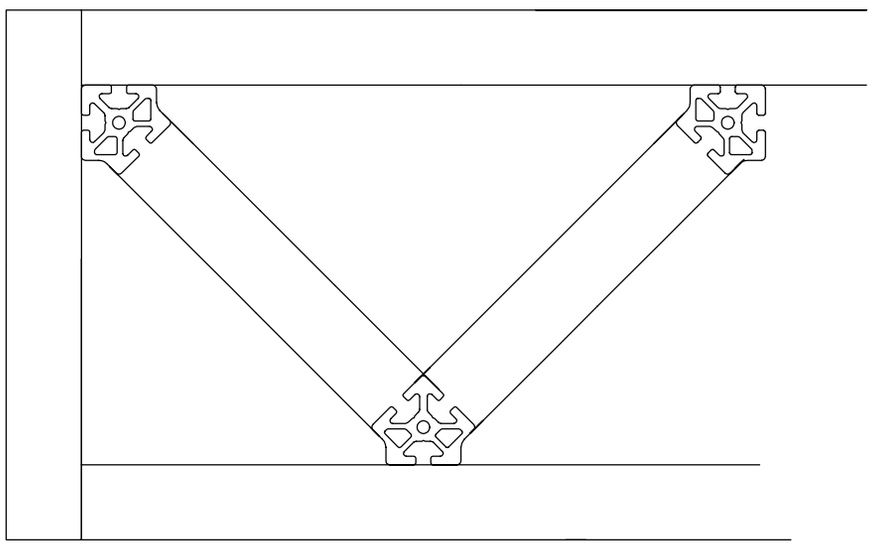


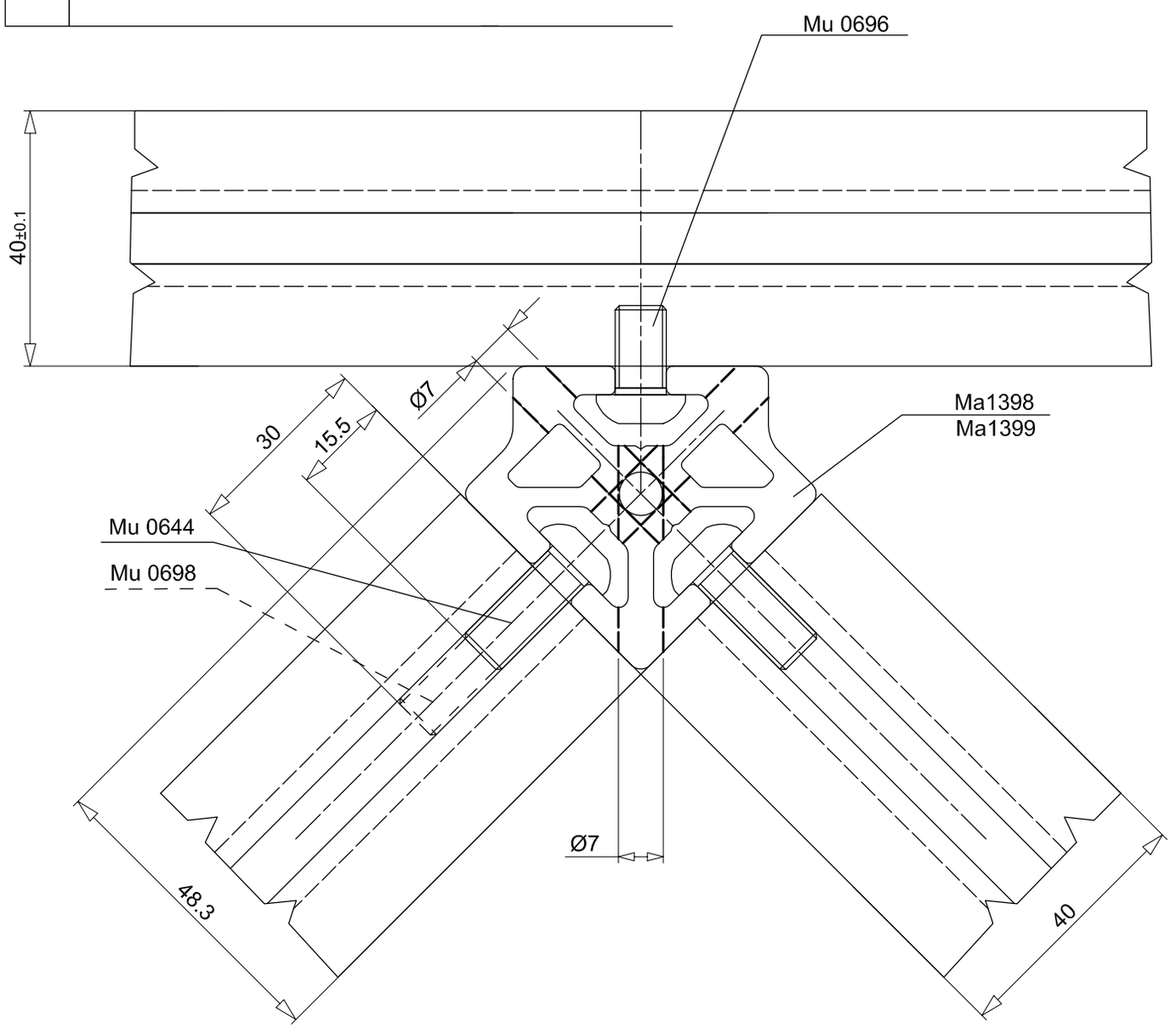
Fit with 4 pcs Ma 1343 + 8 pcs Mu 0638



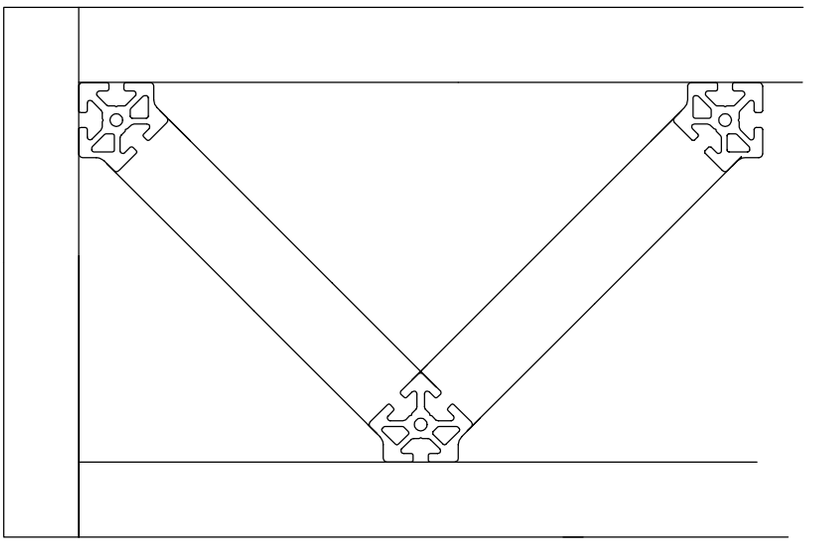
Fit with 2 pcs Ma 1343 + 4 pcs Mu 0638

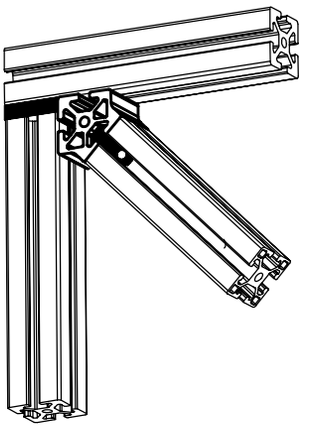
45° REINFORCEMENT WITH HEAD CONNECTION BY Mu 0644 - Mu 0698

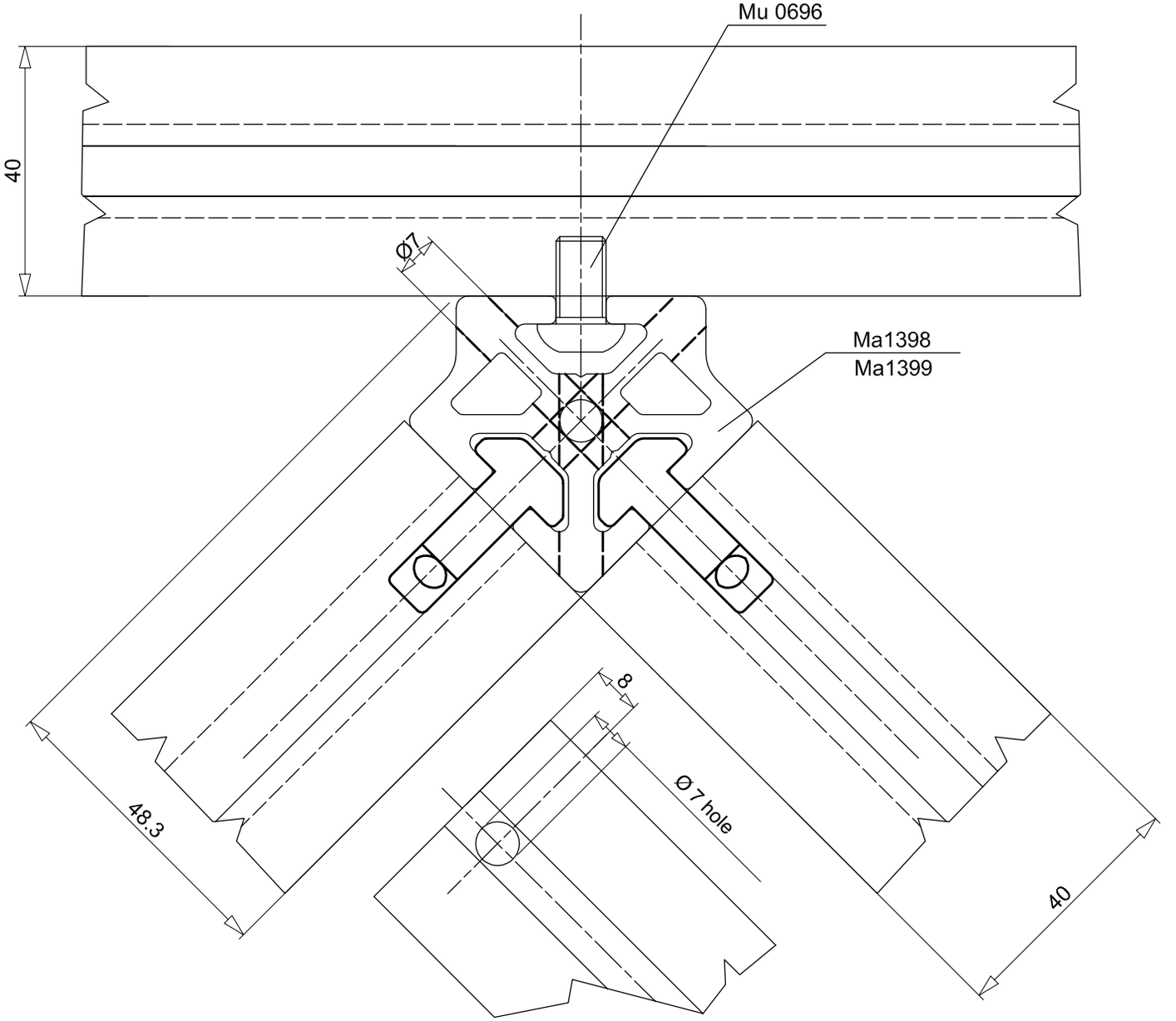




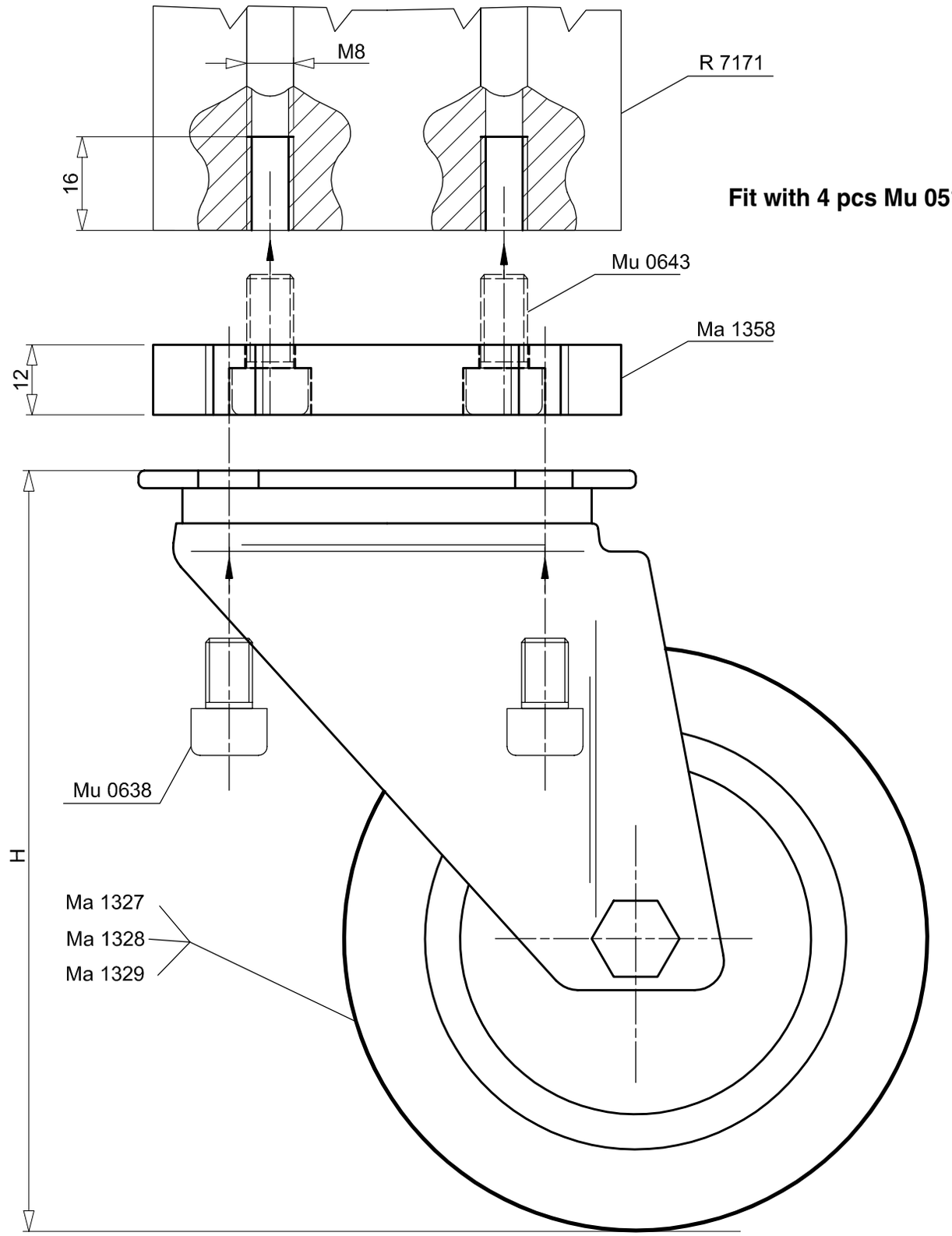
45° REINFORCEMENT WITH CONNECTION BY Mu 0644 - Mu 0698







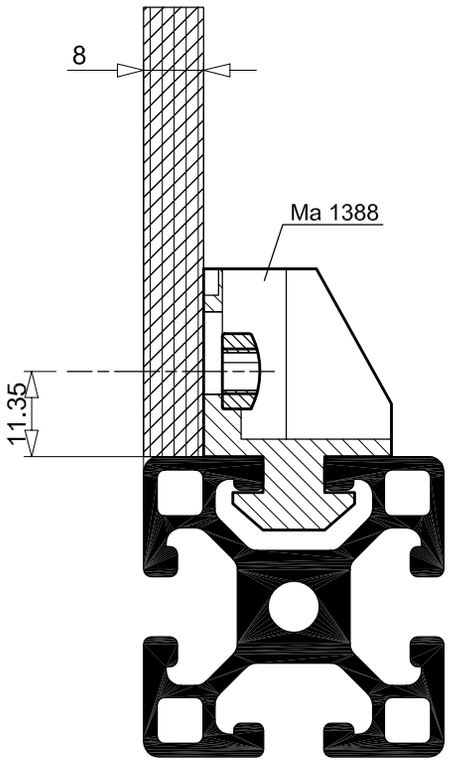
FITTING OF WHEELS

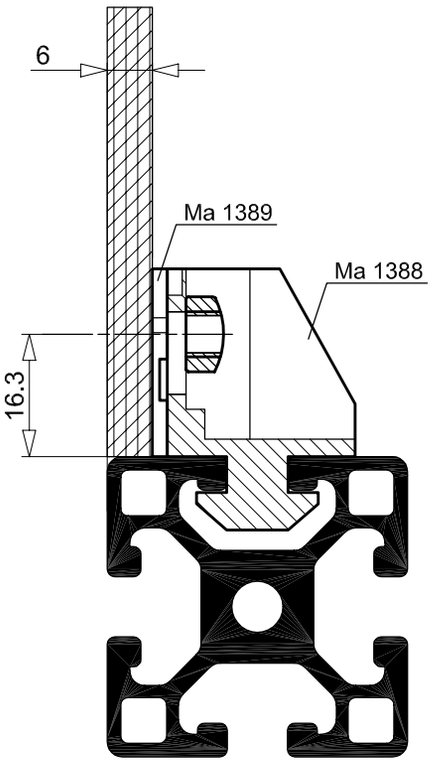


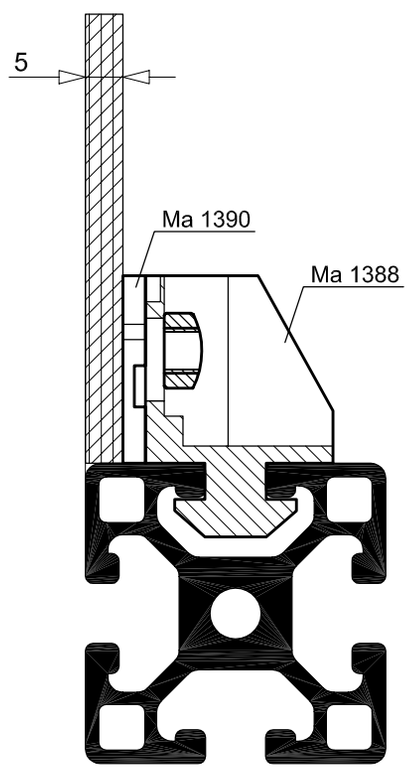
Fit with 4 pcs Mu 0512

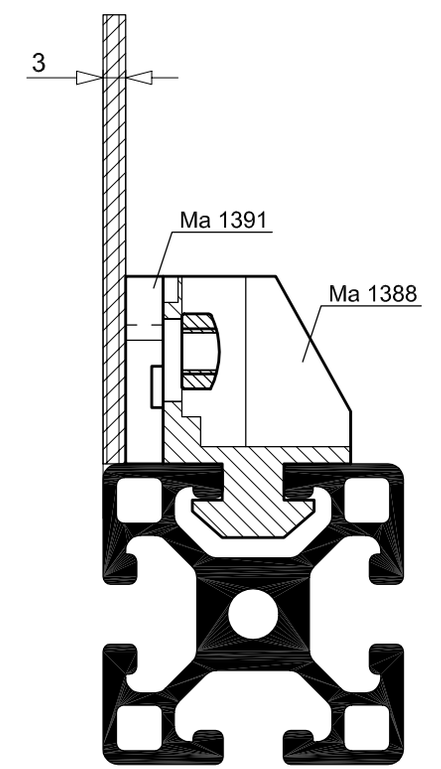
Fit with 1 pc Ma 1358 + 4 pcs Mu 0638

FITTING OF PANELS WITH Ma 1388 AND SPACERS

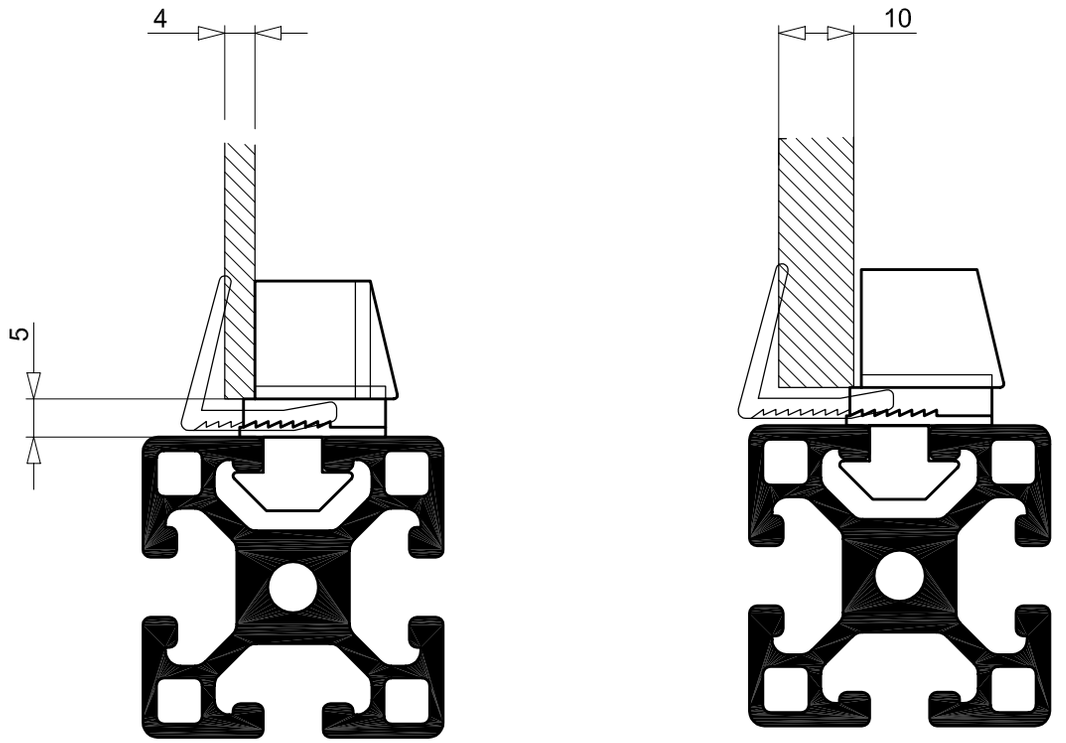




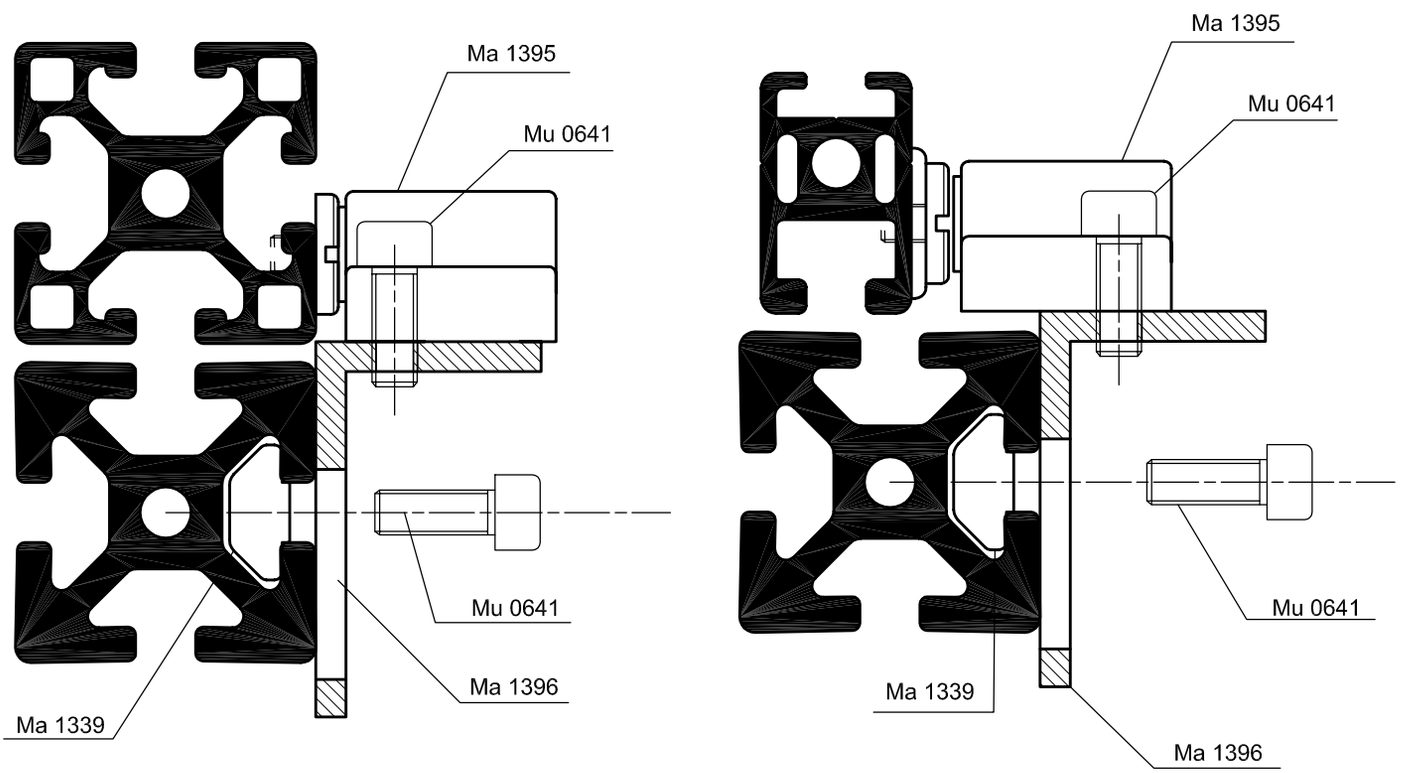




FITTING OF MA 1392

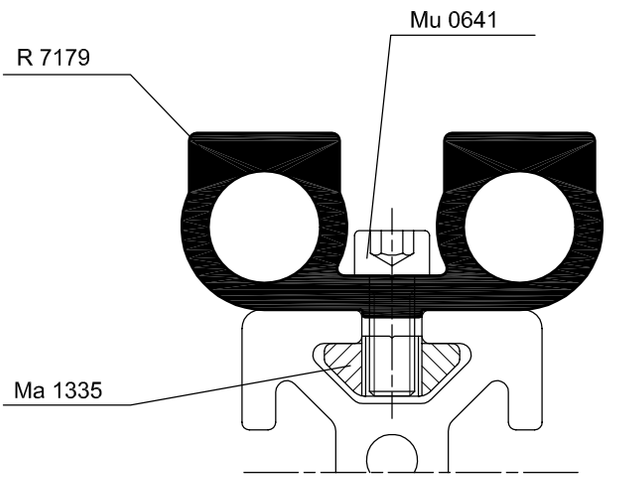


FITTING OF MA 1395



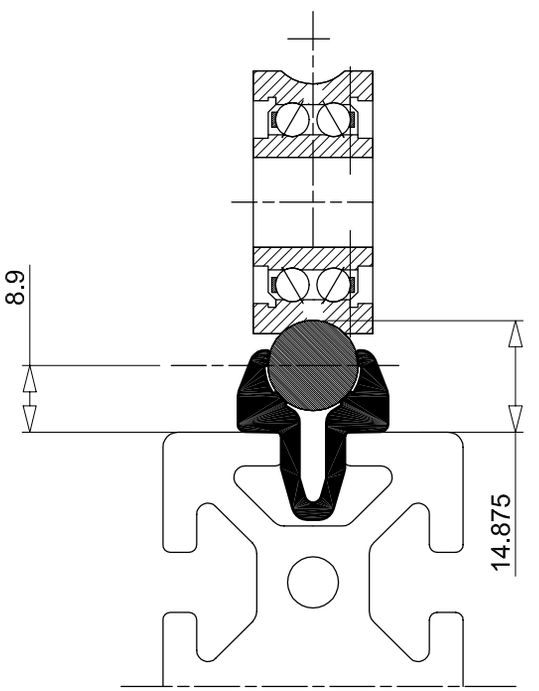
Fit with 1 pc Ma 1339 + 2 pcs Mu 0641

UTILISATION OF PROFILE FOR AIR CONVEYANCE

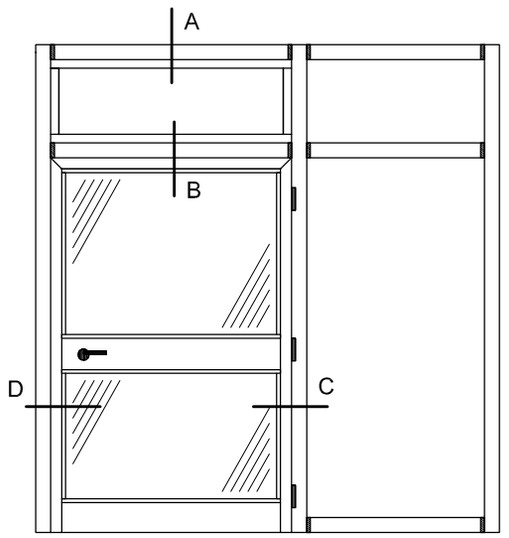


Fit with Ma 1335 + Mu 0661

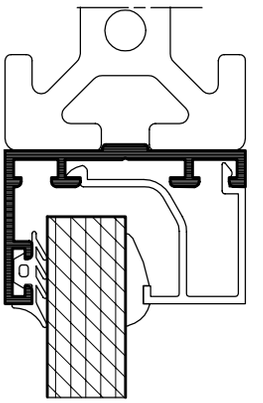
UTILISATION OF IRON ROD SLIDE Ø 12



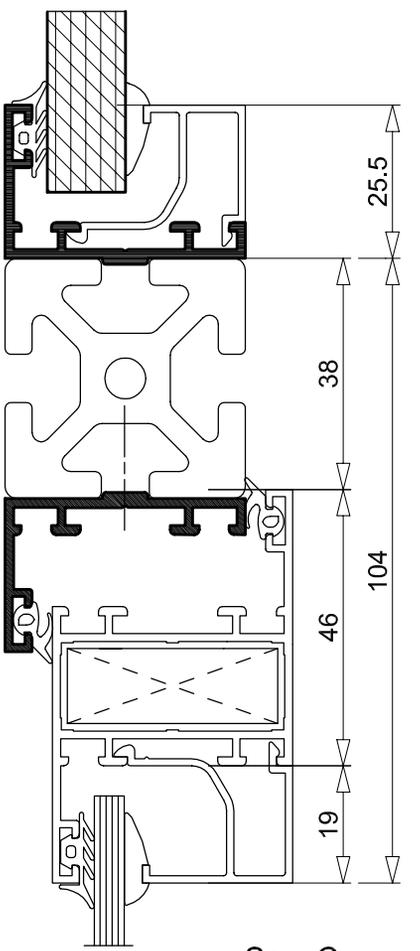
UTILISATION OF PROFILE CS 4606 WITH SERIES NC 40 S

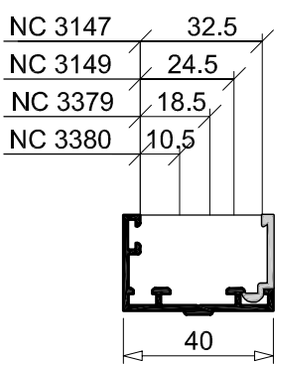


Sez. A



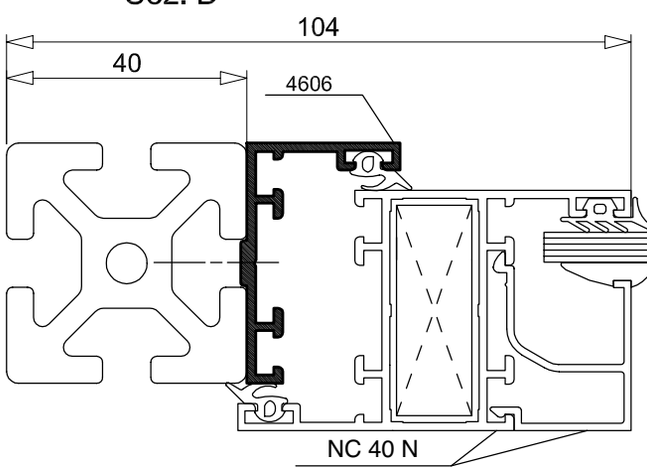
Sez. B





FITTING TABLE OF CS 4606 WITH GASKETS AND GLAZING BEADS SERIES METRA NC 40N			
GLASS	GLAZING BEAD	EXTERNAL GASKET	INTERNAL GASKET
4 mm	NC 3380	Mg 423D	Mg 440D
6 mm	NC 3380	Mg 423D	Mg 410D
10 mm	NC 3379	Mg 424D	Mg 411D
14 mm	NC 3379	Mg 423D	Mg 410D
18 mm	NC 3149	Mg 423D	Mg 440D
24 mm	NC 3147	Mg 424D	Mg 411D
28 mm	NC 3147	Mg 423D	Mg 410D

Sez. D



Sez. C

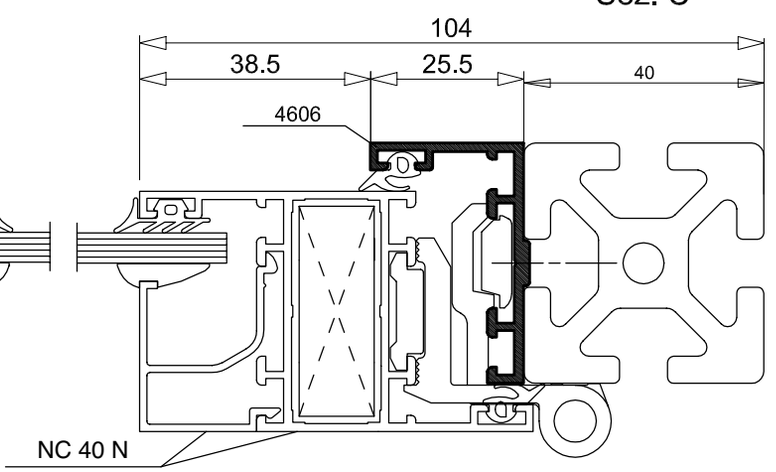
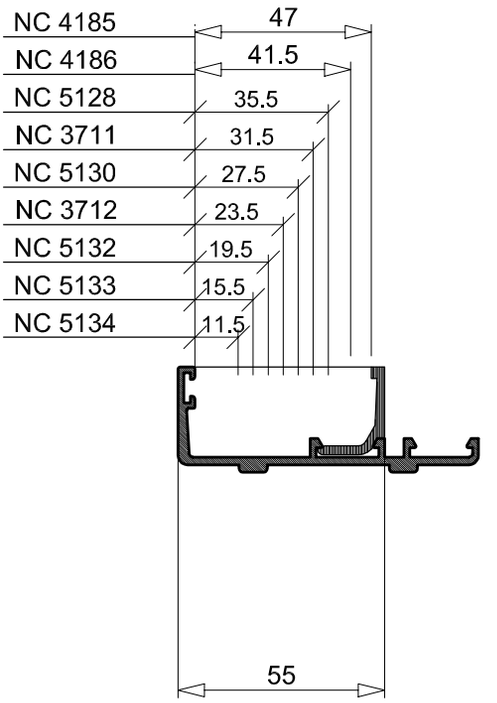
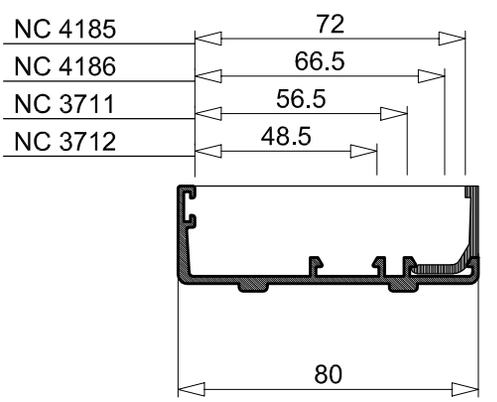


TABLE FOR FITTING CS 4732 WITH METRA GASKET AND GLAZING BEADS FOR GLAZING OR PANELS IN COMBINATION WITH SERIES “INDUSTRIAL DOORS”

GLASS	GLAZING BEAD	EXTERNAL GASKET	INTERNAL GASKET
6 mm	NC 5133	Mg 424D	Mg 468D
8 mm	NC 5133	Mg 424D	Mg 440D
14 mm	NC 3712	Mg 424D	Mg 468D
18 mm	NC 5130	Mg 424D	Mg 468D
20 mm	NC 5130	Mg 424D	Mg 440D
22 mm	NC 3711	Mg 424D	Mg 468D
24 mm	NC 3711	Mg 424D	Mg 440D
28 mm	NC 5128	Mg 424D	Mg 440D

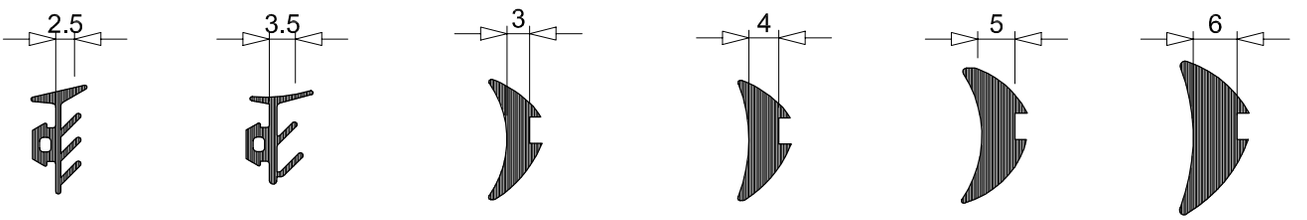


PANEL	PANEL BEAD	EXTERNAL SEALING	INTERNAL GASKET
40 mm	NC 3712	3.5 mm sealing mastic	Mg 411D
50 mm	NC 3711		Mg 410D
60 mm	NC 4186		Mg 410D



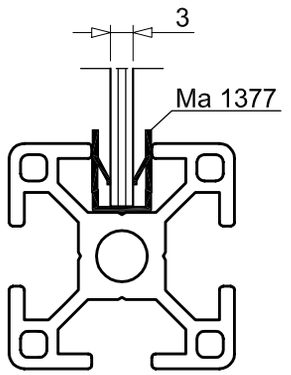
GASKETS FOR GLAZING

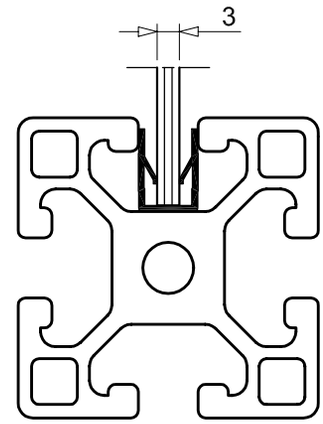
(DIMENSIONS WITH GASKETS FITTED)



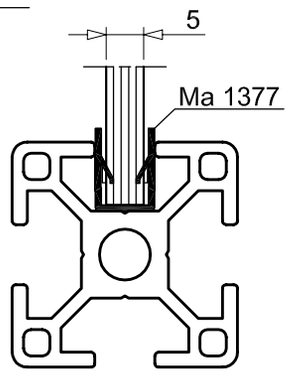
Mg 423D **Mg 424D** **Mg 410D** **Mg 440D** **Mg 411D** **Mg 468D**

FITTING OF Ma 1377

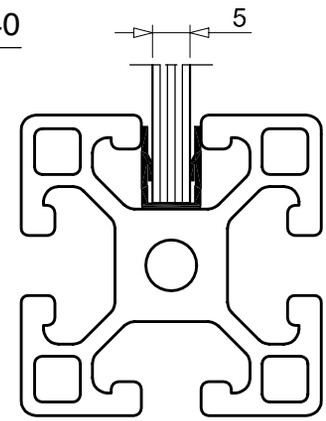




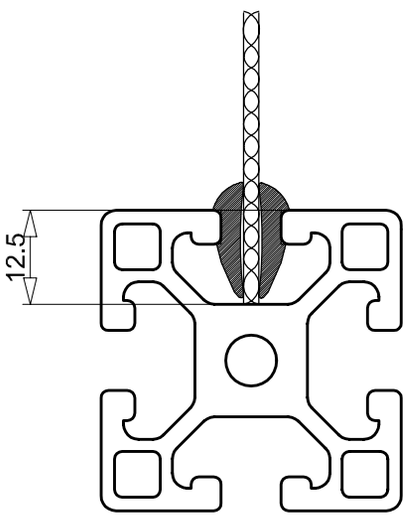
SERIES 30



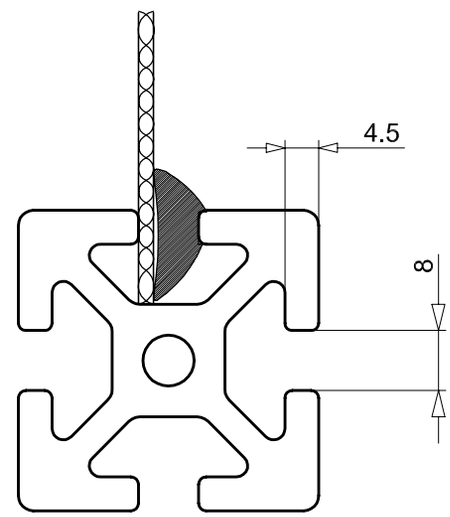
SERIES 40



FITTING OF WIRE NET OR PANEL WITH GASKETS

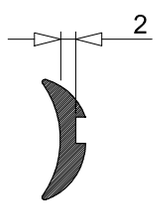


Wire net or panel thickness	Gasket
2	N°2 Mg410 or N°1 Mg468
4	N°2 Mg409 or N°1 Mg440
6	N°1 Mg409

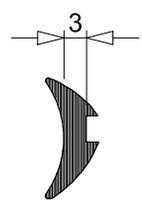


GASKETS

(DIMENSIONS WITH GASKETS FITTED)



Mg 409D



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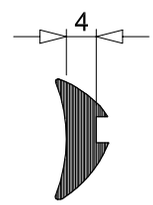
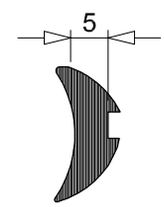
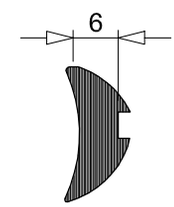


Mg 440D

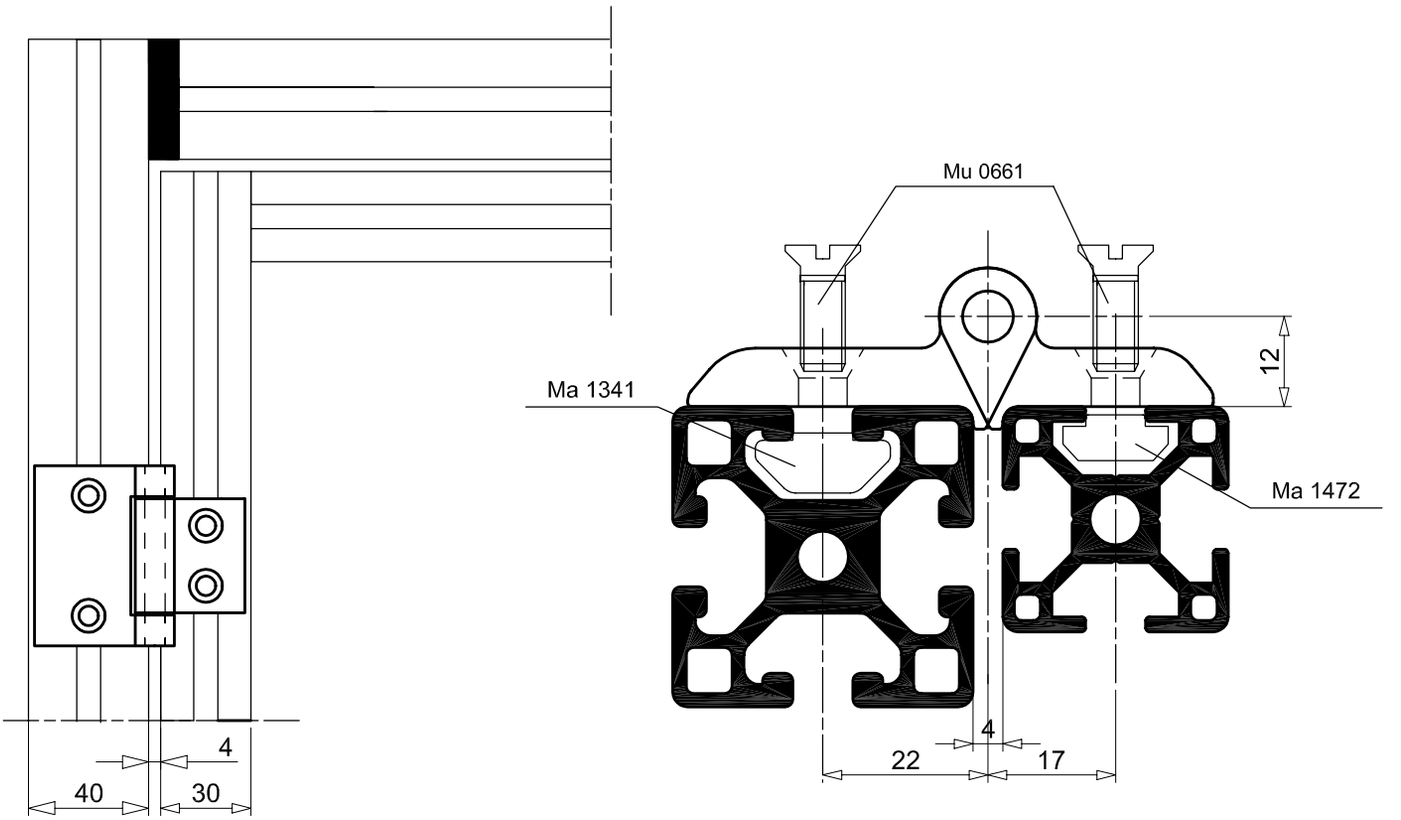


Mg 411D



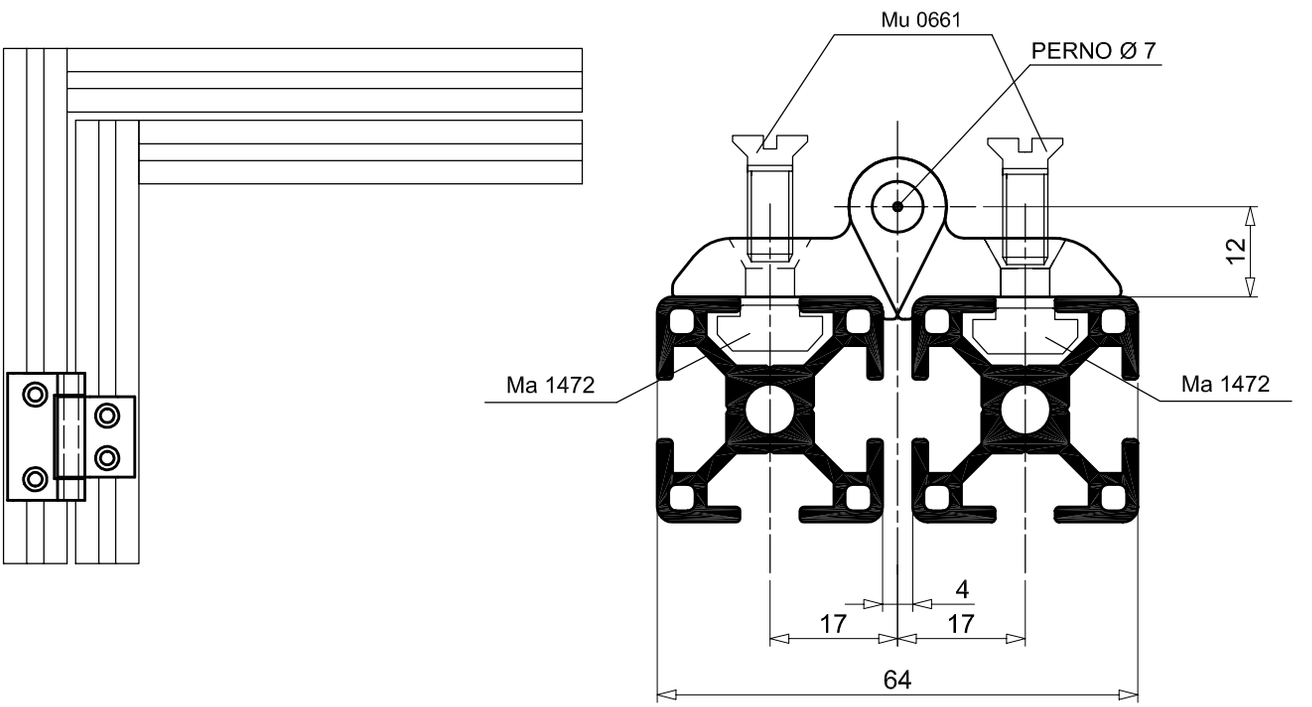
Mg 468D

FITTING OF HINGE Ma 1338



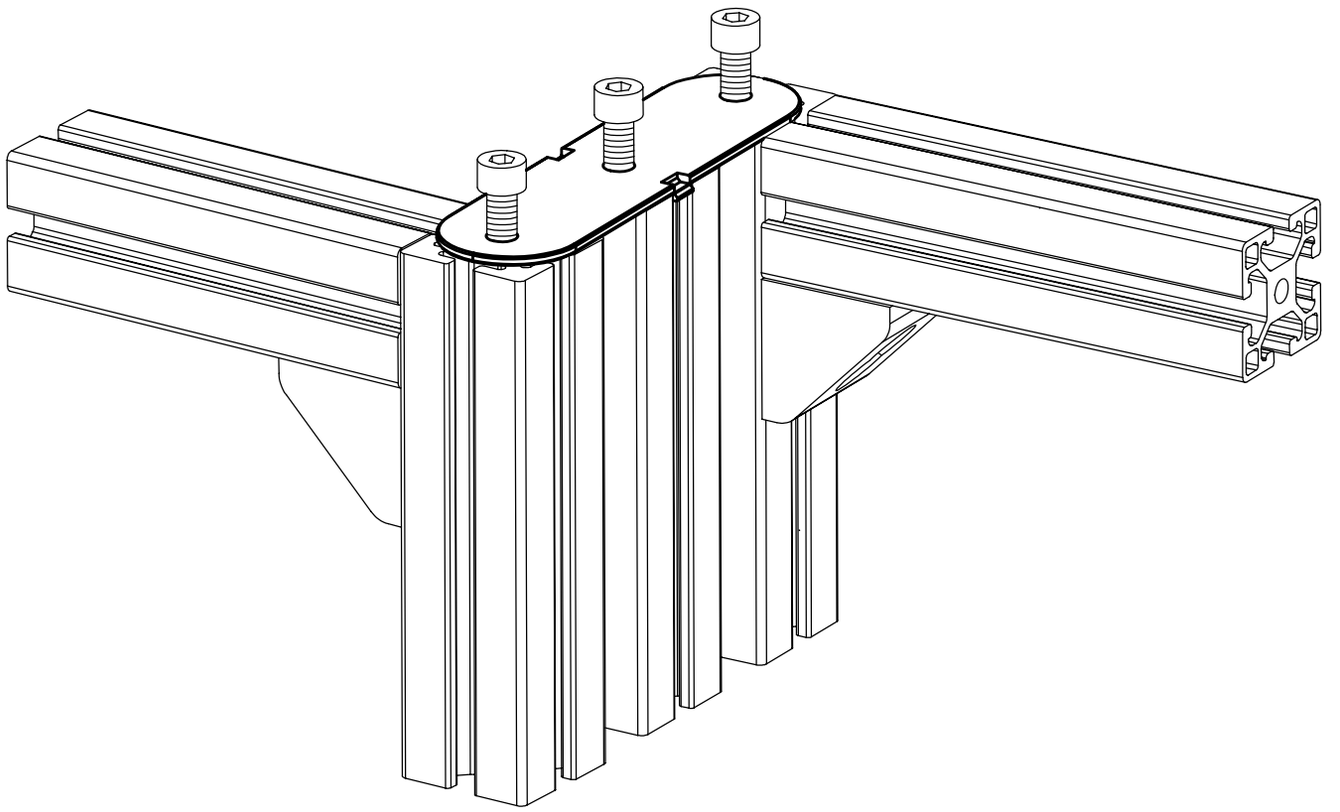
Fit with 2 pcs Ma 1341 + 2 pcs Ma 1472 + 4 pcs Mu 0661

FITTING OF HINGE Ma 1337



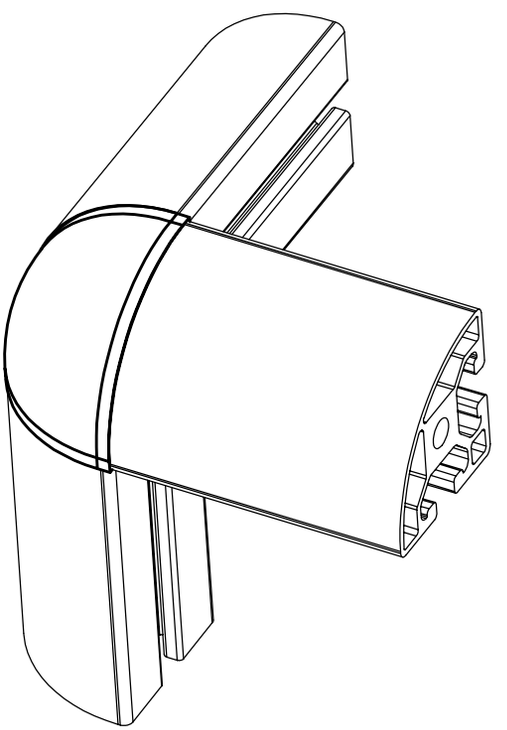
Fit with 4 pcs Ma 1472 + 4 pcs Mu 0661

FITTING OF Ma 1432

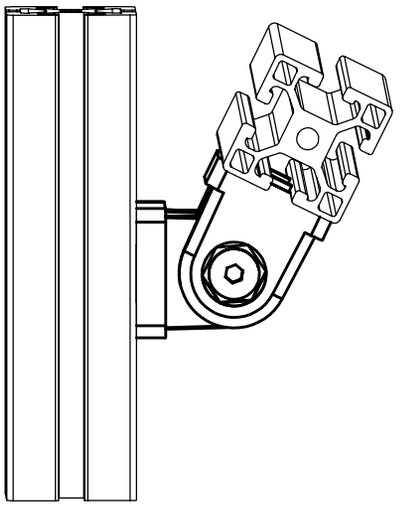


Fit with 3 pcs Mu 0643

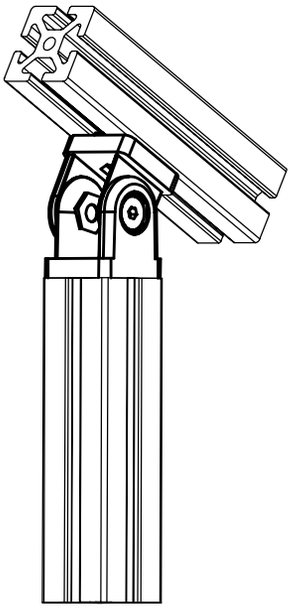
FITTING OF Ma 1433 - Ma 1434



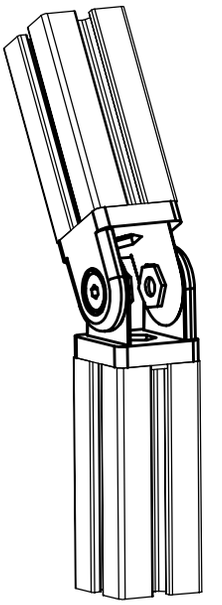
CONNECTION OF ARTICULATION Ma 1437



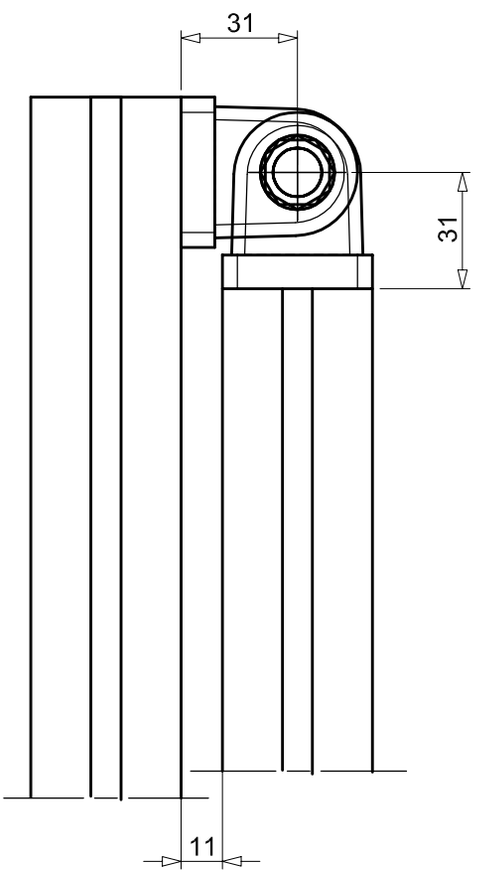
Fit with 2 pcs Ma 1336 + 2 pcs Mu 0696

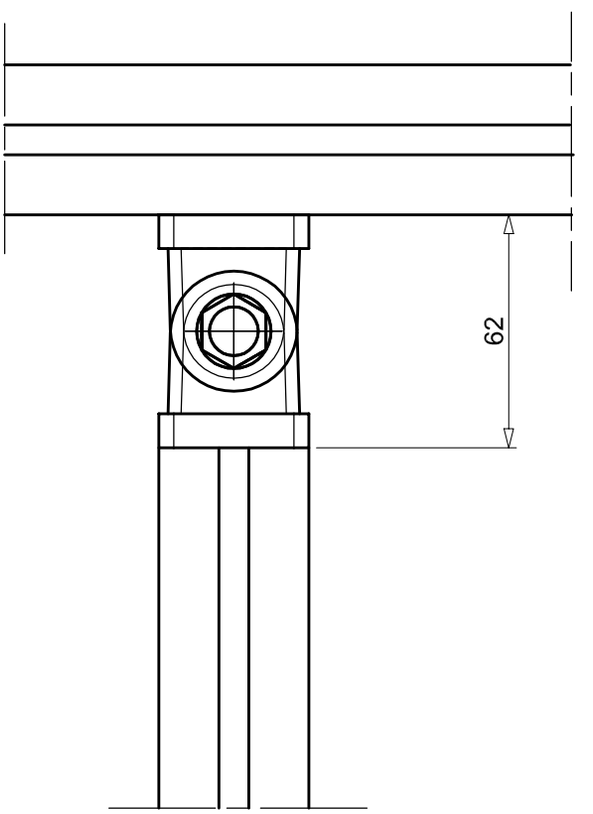


Fit with Ma 1336 + Mu 0696 + Mu 0644

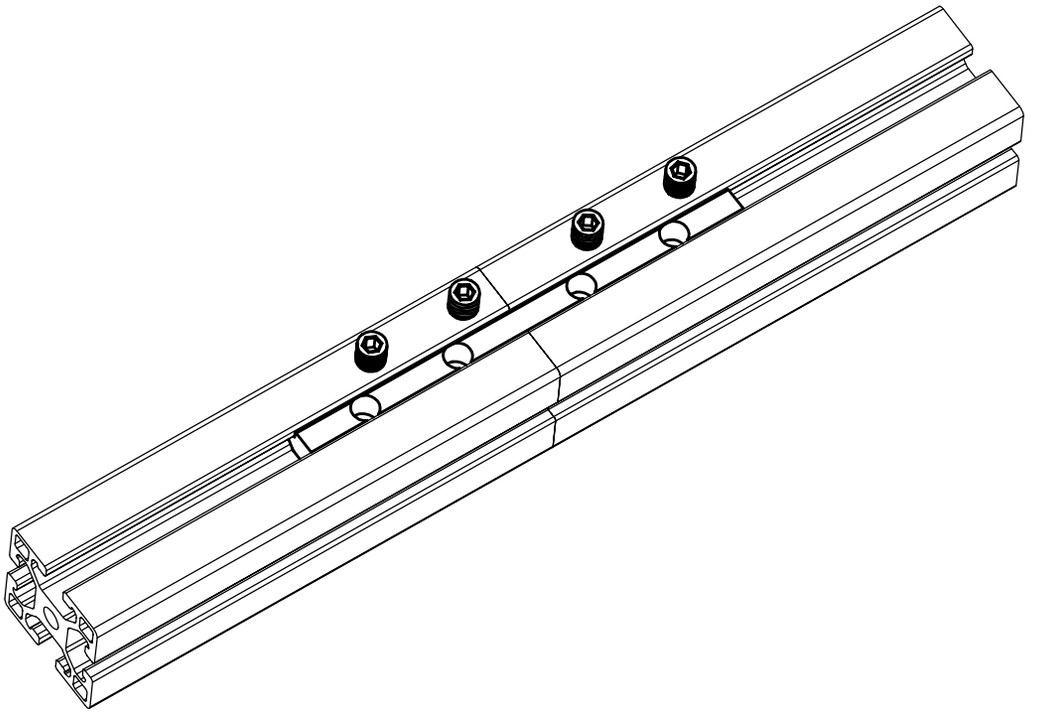


Fit with 2 pcs Mu 0644

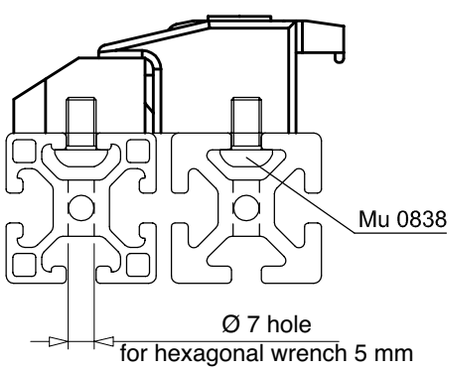


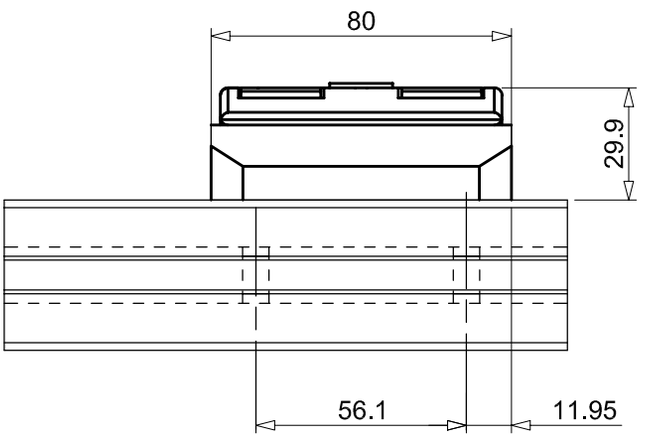


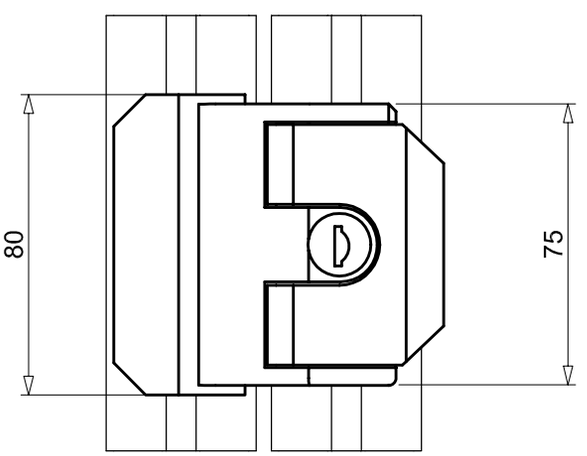
Ma 1435 HEAD CONNECTION

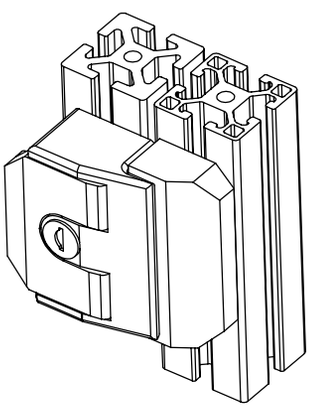


FITTING OF LOCK Ma 1438

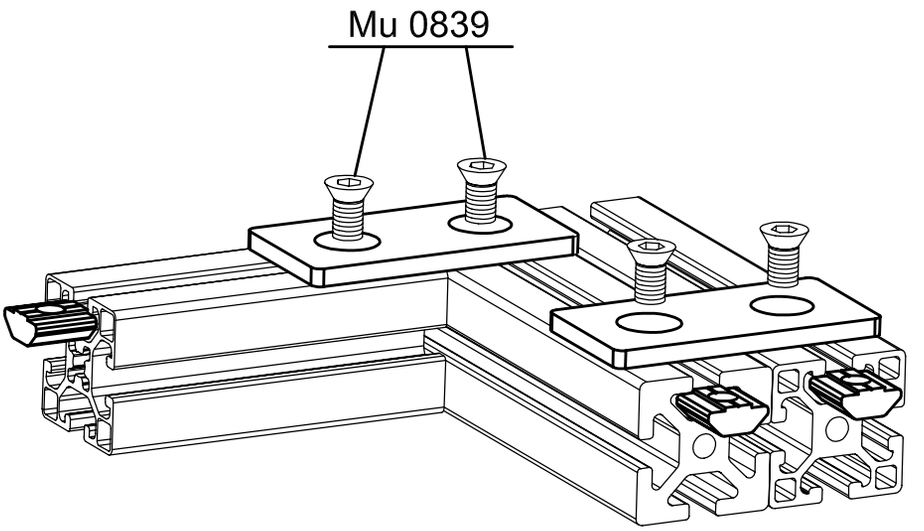






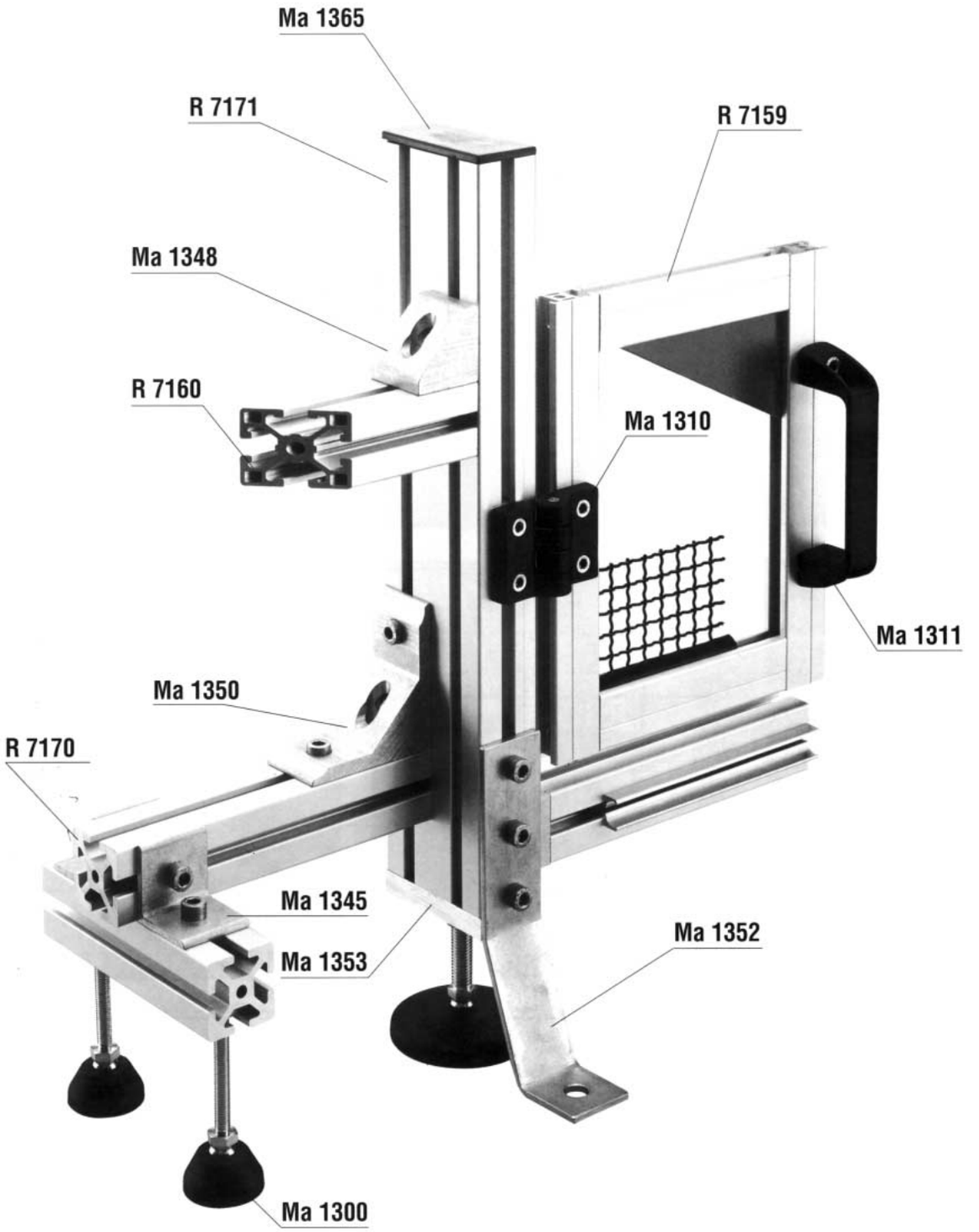


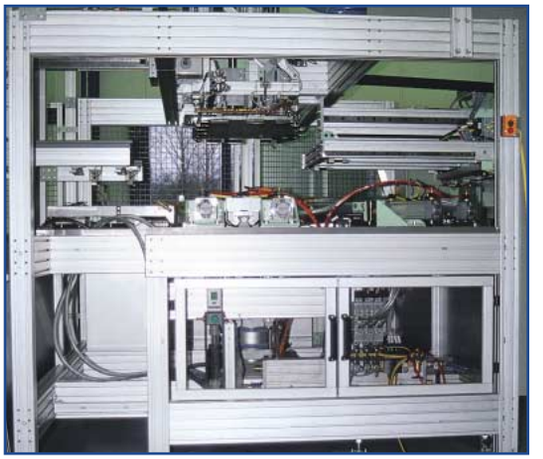
CONNECTION PLATE



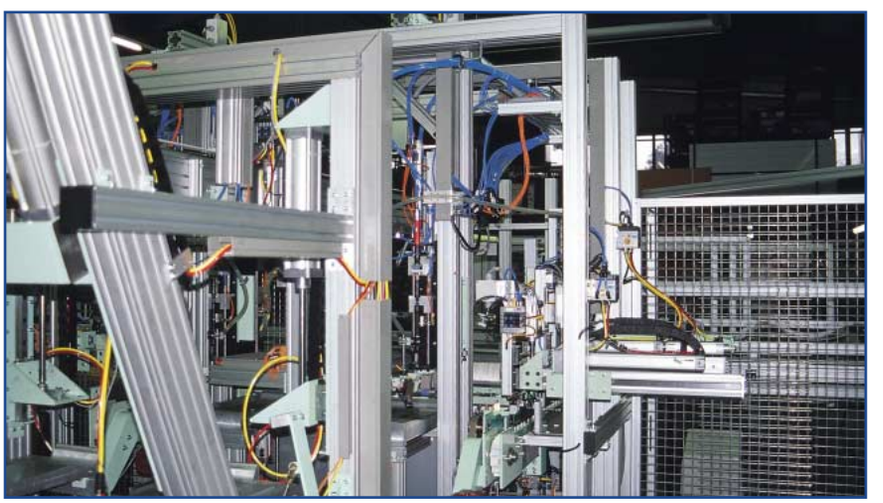
Fit with 2 pcs Mu 0839

UTILISATION OF VARIOUS ACCESSORIES





MODULSYSTEM 40



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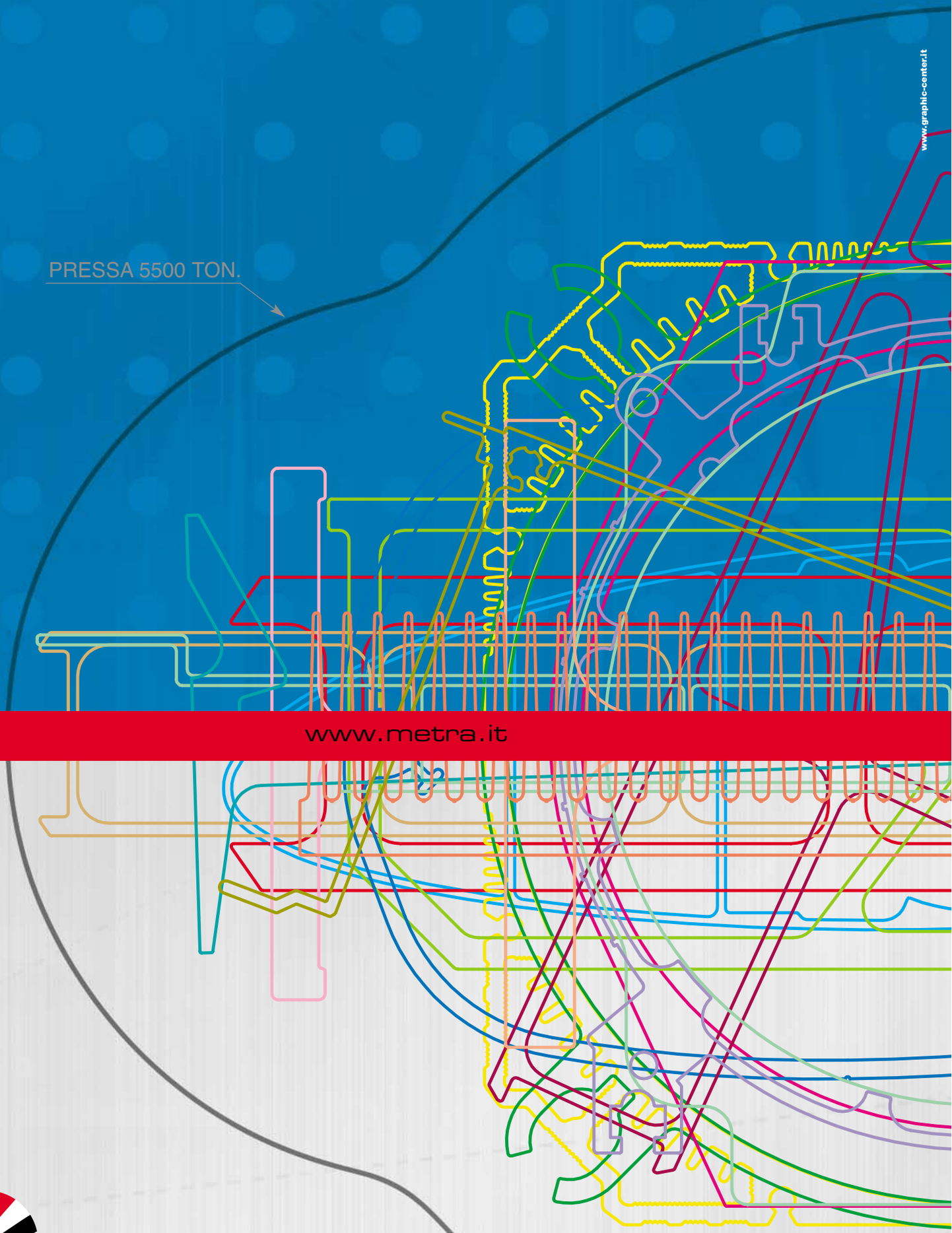

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