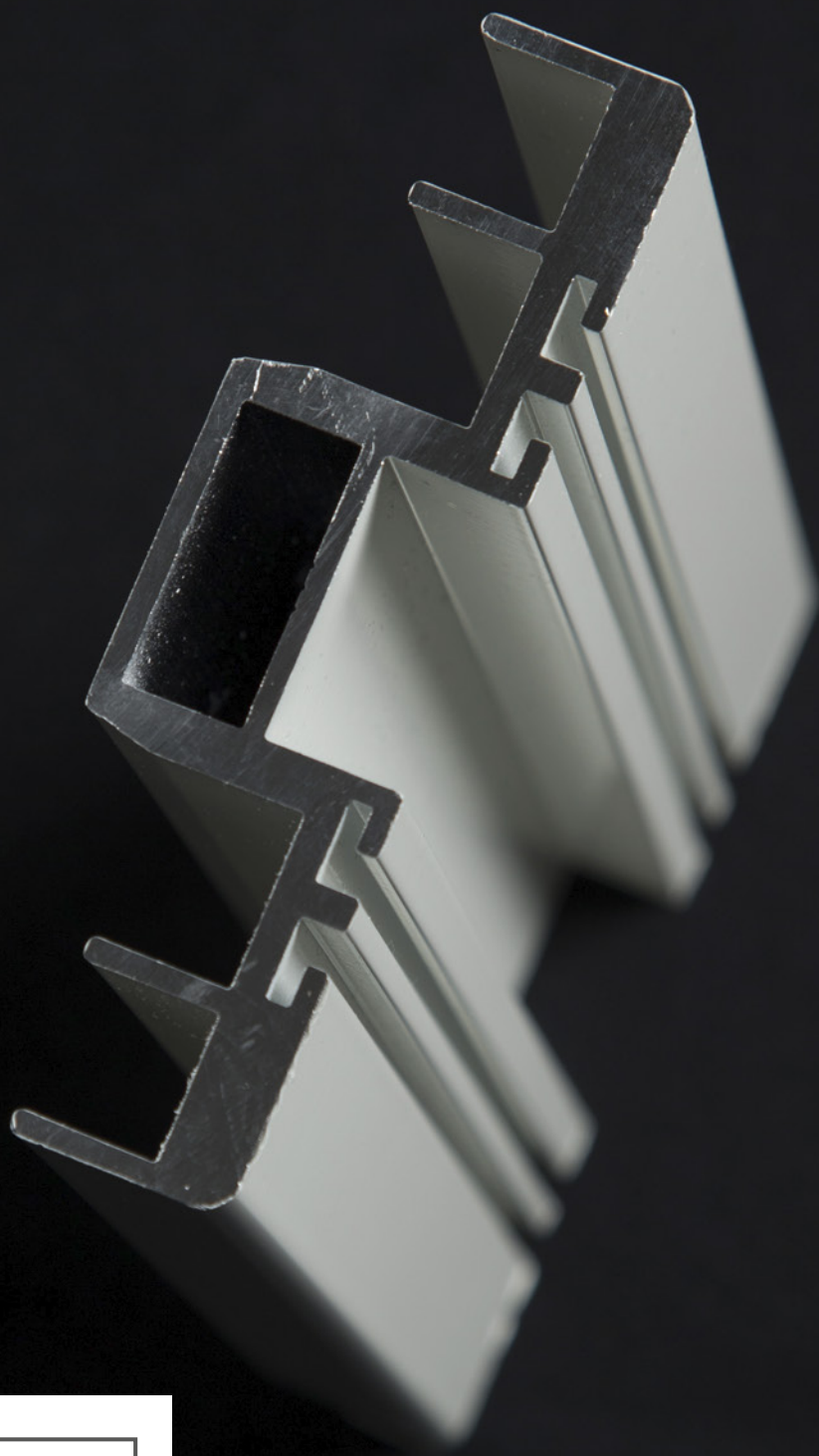


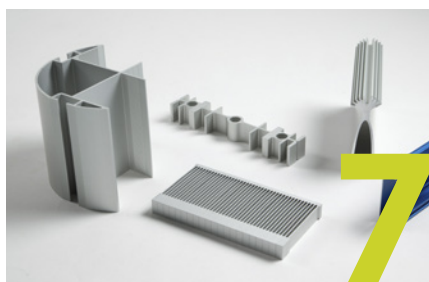


MÄKELÄ ALU

ALUMINIUM PROFILES



MÄKELÄ ALU



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For us, ensuring and maintaining high quality is a given point of departure and quality forms the cornerstone of all our operations. Quality is ensured at every phase of a project. We have been awarded ISO 9001, ISO 14001, OHSAS 18001 and GSB certificates, which all independently attest to our excellent quality production capabilities. All of our products bear the CE marking.



Our profiles are tailored to meet our customers' needs

Almost all of our production is focused on manufacturing aluminium profiles to meet our customers' needs. We also produce some standard profiles. Aluminium profiles are used in a number of different applications.

As a material, aluminium is well suited for extruding, and it can be used to manufacture light but durable structures for various purposes. Our company focuses on producing customer-specific aluminium profiles: approximately 90% of the profiles we make are tailored to meet the customers' specific needs.

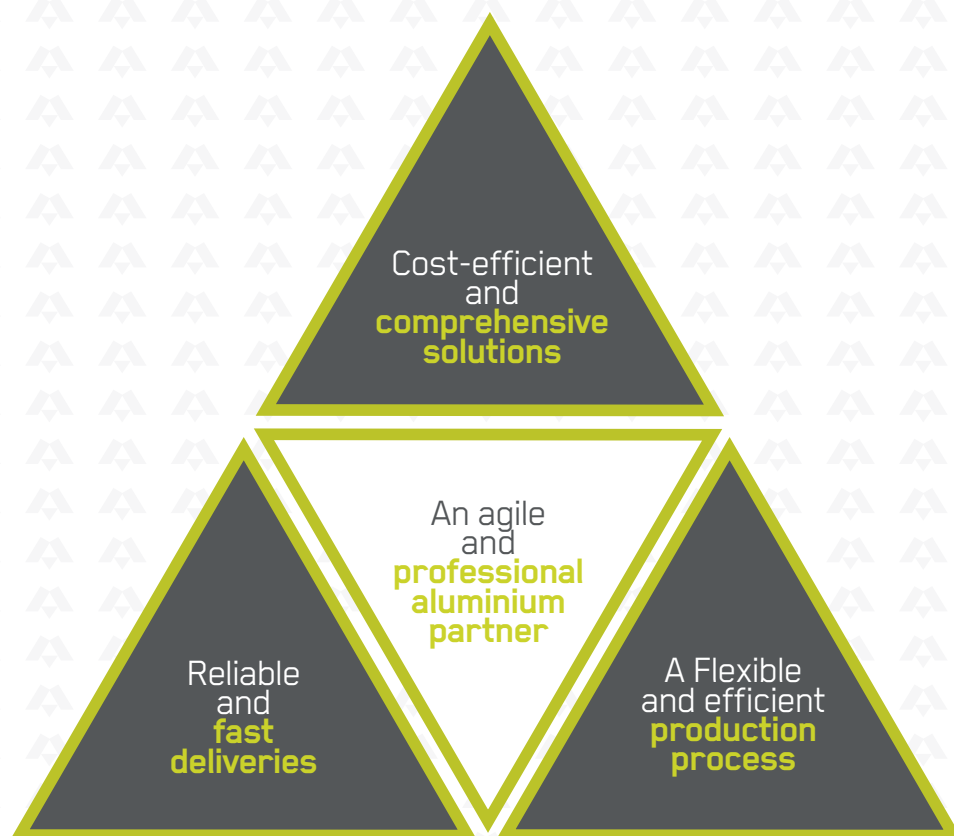
Let us know what your needs are, and we will offer you a whole range of options as a turnkey delivery – finished products based on your ideas. It is also worth noting that we have experience working with a wide variety of industries, so we can help you find the right products for almost any use. We do not sell any products of our own, which means we do not compete with our customers. We want to fit seamlessly into our customers' production chain.



PROFILES AND ADDED VALUE TO YOUR PRODUCTION

Our principle is to act as a "one-stop shop" for aluminium profile manufacturing. We will help you create your own profile that meet your needs. In practice, you only need to have an idea for a product and we'll help you make it a reality. Product design and manufacturing are just two parts of the process. If you wish, we can also store your profiles here in Luoma-aho, or provide a range of surface treatments and coatings. Thanks to our network of partners, the sky's the limit – with just a single purchase from us you can order ready-to-use machined pieces and have them delivered directly to the location of your choice. And combined with our storage model, we can form an extremely flexible value chain to suit precisely tailored to meet your needs. We call this all-inclusive partnership.

MÄKELÄ ALU'S ADDED VALUE TRIANGLE





OUR STANDARD PROFILES

Our standard profiles consist of common and well-known standard shapes in several hundred different dimensions. Our list of standard profiles is continuously updated, and the best place to find real-time information is our website.

The standard length of a profile is 6 metres, but you can also order profiles in special lengths. As a general rule, all alloys used by Mäkelä Alu are suitable for most products, but please contact our sales to ensure the suitability of an alloy for a specific product.

Standard profiles can also be surface treated by painting or anodizing, and then processed into a final product by our subcontractor network. Our list of standard products includes all standard profiles.

In our standard profile catalogue, beginning on page 12, you can find all the products in our range of standard profiles.

DID YOU KNOW?

IN OUR STANDARD PROFILE CATALOGUE, BEGINNING ON PAGE 12, YOU CAN FIND ALL THE PRODUCTS IN OUR RANGE OF STANDARD PROFILES.

WWW.MAKELAALU.FI > ALUMINIUM PROFILES > STANDARD PROFILES

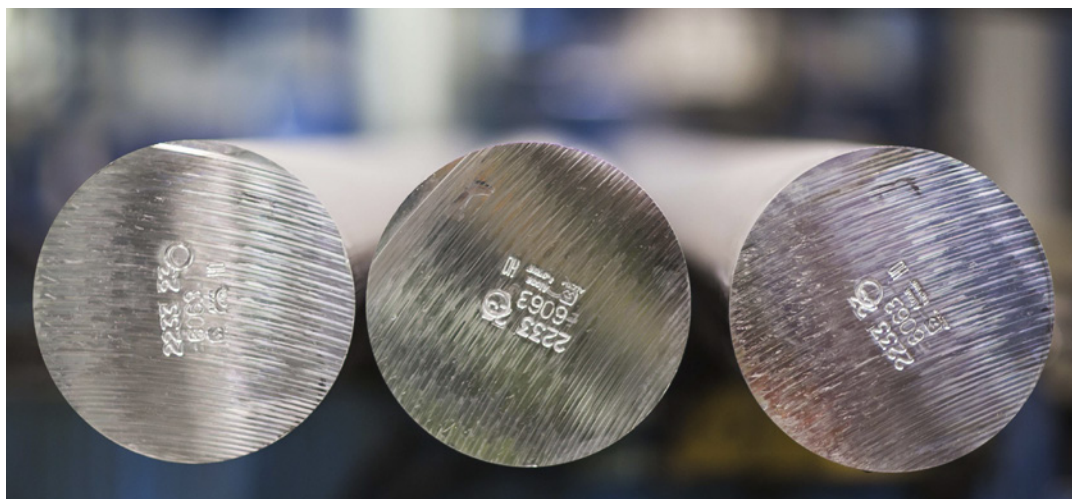
ALUMINIUM ALLOYS

The selection of a suitable alloy affects many of aluminium's properties, such as its malleability, strength properties, coatability, workability and conductivity. Selecting the correct alloy is a crucially important phase in a profile's manufacturing process. Our professional sales team and profile designers are skilled in helping you to find a suitable and competitive aluminium alloy.

The purity and evenness of the alloys are important when manufacturing high-quality or precisely dimensioned profiles. For this reason we only use billets made from primary aluminium. Nordic billets are some of the purest in the world when it comes to manufacturing technology. Process scrap is recovered and recycled as a raw material for new profiles in our foundry: this means we can ensure the purity of the raw material at every phase. The mechanical and chemical properties of manufactured profiles are specified in standards EN 573-3 and EN 755-2.

ALLOYS THAT ARE AVAILABLE IMMEDIATELY

EN AW-1070 Delivery status: Soft	Non-alloyed aluminium. Tensile properties not very good, excellent formability.
EN AW-6060 Delivery status T6,T4 or T64	General alloy. Good tensile properties, excellent for anodizing.
EN AW-6063 Delivery status: T6, T4 or T66	General alloy. Good tensile properties, well suited for anodizing.
EN AW-6005A Delivery status: T6 tai T4	This alloy is stronger than 6063. Medium extrudability and suitability for anodizing.
EN AW-6082 Delivery status: T6 or T4	The strongest alloy. Not very well suited for anodizing. Challenging to extrude.
EN AW-6101A Delivery status: T6 or T4	Good electrical conductivity. Has tensile properties similar to alloys 6060/6063.
EN AW-6101B Delivery status: T6 or T4	Excellent electrical conductivity, ≥ 32 MS/m. Has tensile properties similar to alloys 6060/6063.



The Aluminium profile design

ABC

When designing an aluminium profile, creativity is helpful and even necessary. These instructions are meant to give you a basic idea of the key factors that need to be considered in the design process.

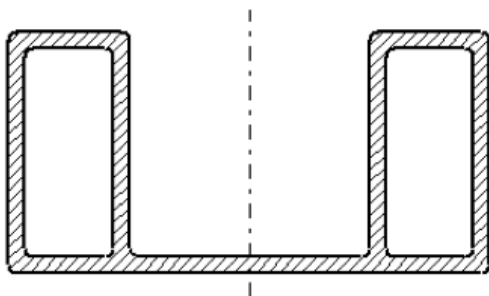
WHEN DESIGNING, it's important to focus on the properties the product needs in order to work as intended. In the design phase, adding new screw pockets, grooves and joints is still easy. Once the extrusion die is completed, changing its shape becomes more complicated and time consuming, and usually leads to the ordering of a new extrusion die.

The key to successful aluminium extrusion is an even flow of aluminium. Each die showcases its designer's understanding of flow control. Even though creativity is welcome and necessary when designing an aluminium profile, some things need to be considered to assure an even flow:

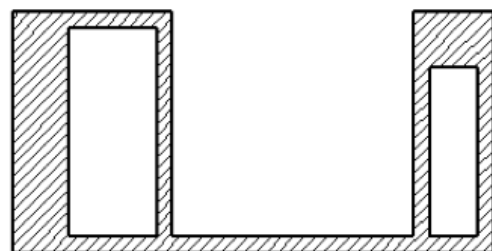
The shape of the profile should be as symmetrical as possible.

The profile's corners need to be rounded (ideally min. $R = 0.5 \text{ mm}$).

Wall thickness should not vary across the profile.

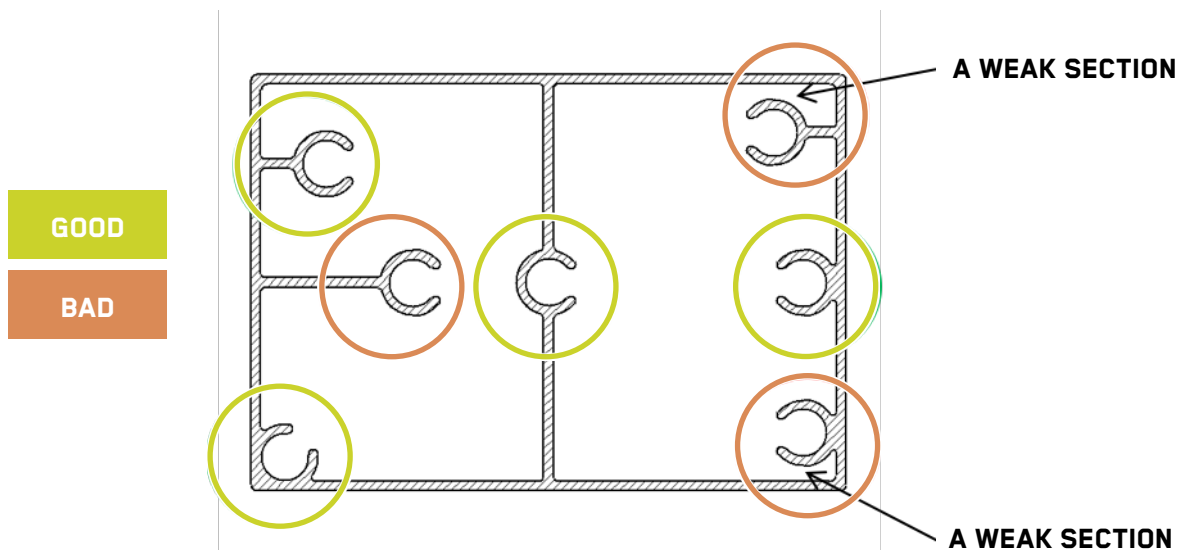


GOOD



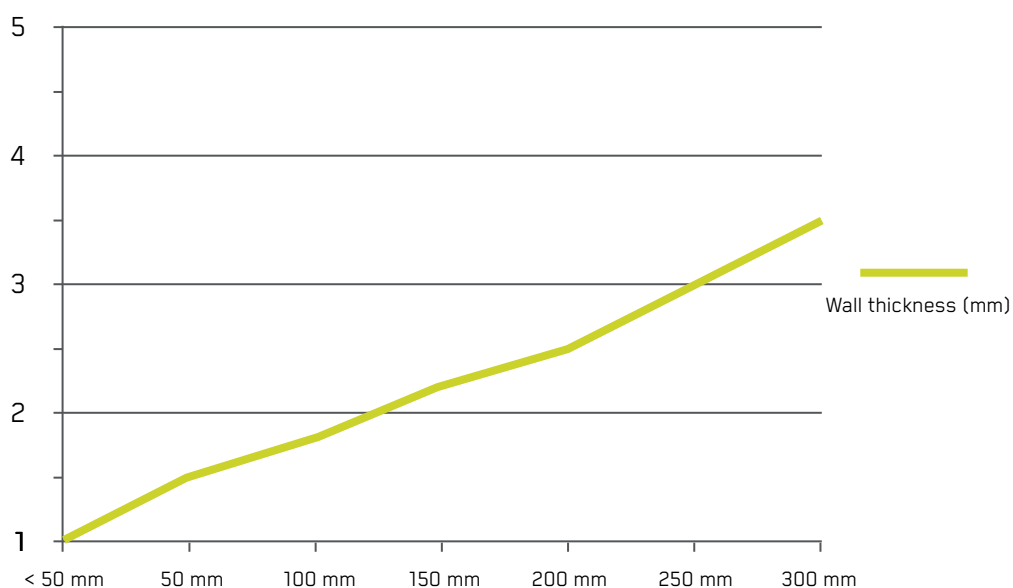
BAD

The best place for **A SCREW POCKET** is at the corner of the profile, where it will stay in place and won't cause flow disturbances. If this is not possible, the screw pocket should be placed right next to the wall of the profile. Placing a screw pocket at the end of a long "shaft" should be avoided, because this will cause problems with the flow. Narrow gaps should also be avoided, as they will result in weak, thin sections in the die. The picture below shows both well and poorly placed screw pockets.

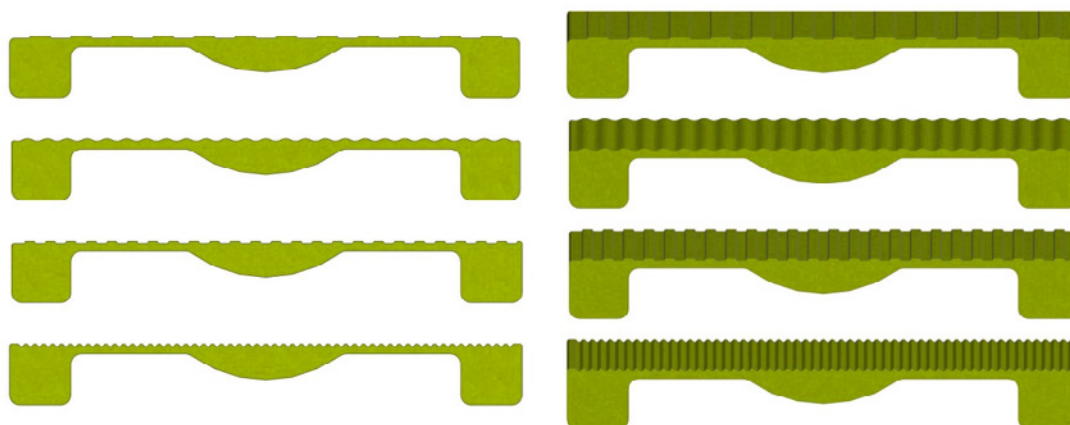


When deciding on **WALL THICKNESS**, the size and intended use of the profile should be considered. The profile should be as light as possible, but it also needs to withstand the stresses it will be exposed to and be easy to extrude. The table below includes some guidelines for the design process.

Wall thickness should increase as profile width increases.



In some cases, **SURFACE QUALITY** is the most important aspect of a profile. Large differences in wall thicknesses may cause heat line patterns, also called heat stripes, on its surface. If the requirements for surface quality are particularly high, it is a good idea to add, for example, waves or grooves to the profile's surface. This creates an optical illusion that hides any potential heat patterns. Some options are shown below.



THE MEASUREMENT AND SHAPE TOLERANCES are defined by the SFS-EN755-9 standard. They are affected by the alloy being used, as well the shape and size of the profile. It is possible to agree on special tolerances for dimensions that are critical to the product's function.

LIMIT VALUES FOR MÄKELÄ ALU'S PROFILES:

Maximum cross-section (depending on profile shape)	200 mm – 300 mm
Minimum wall thickness	1 mm
Maximum weight	10 kg/m
Minimum weight	100 g/m

ALWAYS THERE FOR YOU

THE BASIC INSTRUCTIONS PRESENTED IN THE GUIDE ARE MEANT FOR CUSTOMERS WHO WANT TO BEGIN DESIGNING THEIR OWN PROFILE. DURING ITS HISTORY, MÄKELÄ ALU HAS EXTRUDED APPROXIMATELY 15,000 DIFFERENT PROFILE SHAPES, MOST OF WHICH HAVE BEEN TAILOR-MADE FOR OUR CUSTOMERS. EACH PROFILE IS UNIQUE AND DESIGNED TO MEET THE CUSTOMER'S NEEDS AS PRECISELY AS POSSIBLE.

THE BEST RESULTS ARE ACHIEVED WHEN WE DESIGN THE PRODUCT IN CLOSE COLLABORATION WITH THE CUSTOMER. ON THE NEXT PAGES, YOU'LL FIND MORE INFORMATION ON OUR DESIGN SERVICES!

A Design service for aluminium profiles

If the design of your own profile becomes a struggle, you can always contact Mäkelä Alus designers.

The purpose of AluDesign® service is to design your profile(s) as cost-effectively as possible, in close collaboration.

A good design ensures the quantity of required material, product functionality, and production efficiency. We can produce an increasingly diverse range of aluminium profiles with our modern tool technology. The right design and innovative solutions are used to develop a cost-efficient end product.

Once the properties of a profile have been determined, the sketches and designs are transferred from paper to CAD. Our profile design is carried out using modern tools and the latest CAD software, which makes it possible to transfer the results in electronic format to the customer for use. If necessary, the visual look of the product can be simulated using 3D modelling to generate the most realistic possible image of the end product.

The customer can be involved in every stage of the design if desired. This keeps us on the same page throughout the entire process, and the result is a high-quality aluminium profile that meets the customer's requirements down to the last detail.





COMMON QUESTIONS AND ANSWERS

What do I need to do before ordering design services?

Think about what type of design work you need done (even if you only have a rough idea) and contact our design service or sales. You can also send a contact request via e-mail to our sales department: sales@makelaalu.fi.

What are the benefits of the design service?

You will receive a profile designed precisely to meet your needs. Our designers can e.g. determine what alloy and surface treatment are most suitable for the application.

How do I order the manufacturing of the aluminium profiles?

By contacting our sales department or sending an e-mail to sales@makelaalu.fi.

If I buy design services from Mäkelä Alu, do I also have to order the products from you?

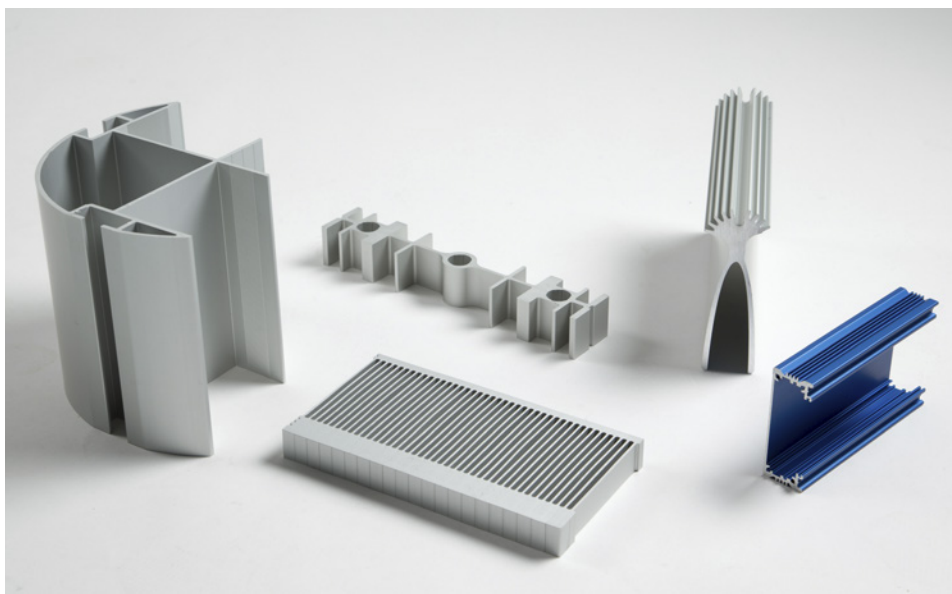
Not at all. After the design process, we will make an offer on the manufacturing of the profiles. The die and profiles will only be ordered after the order is accepted.

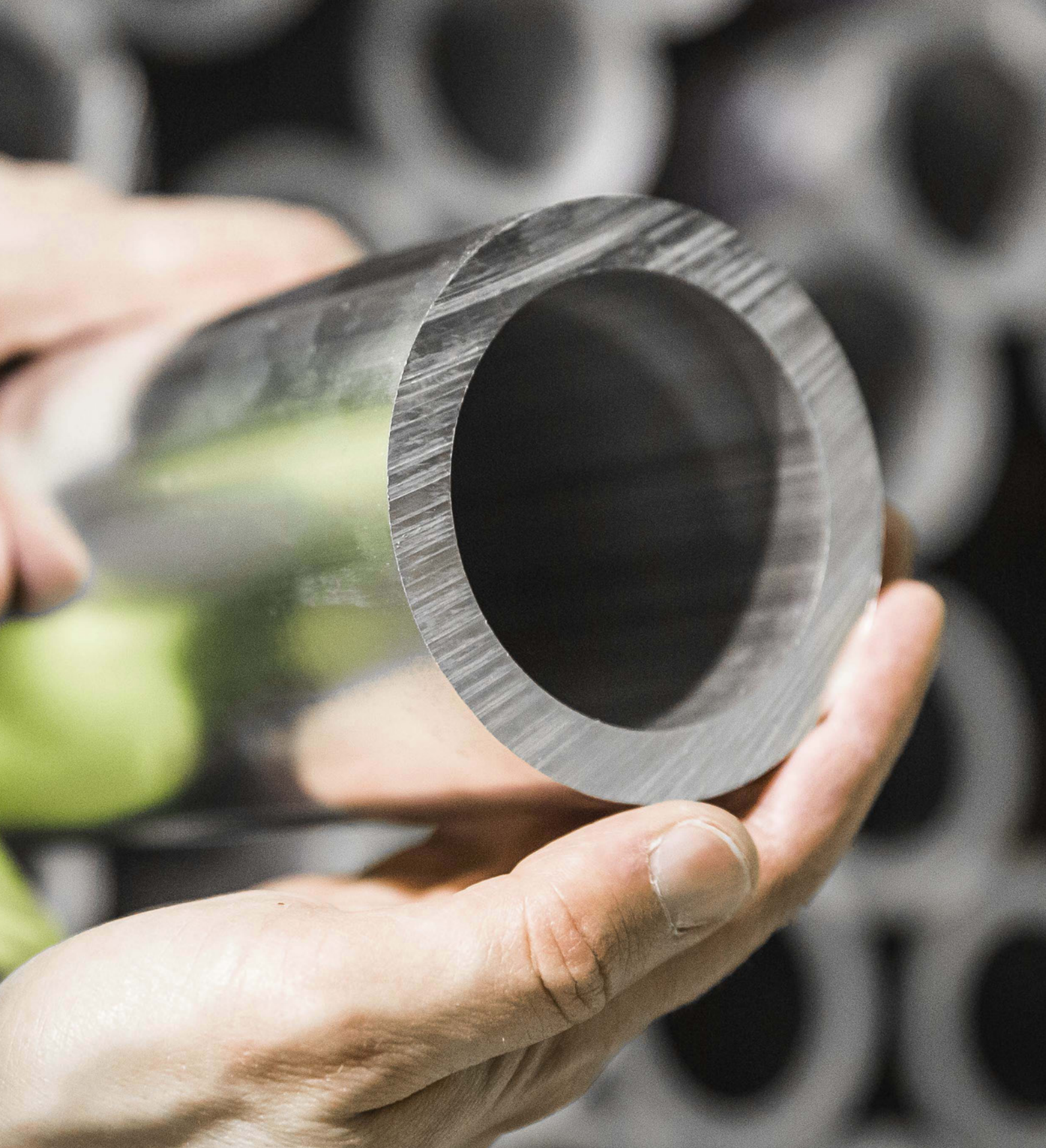
How are our design services priced?

Basic design work related to the profile shape, as well as other closely related design work, is free of charge. A separate price for the design work only needs to be agreed on in advance when working with large projects, systems or model pieces printed using PLA plastic.

IF YOU HAVE ANY QUESTIONS RELATED TO ALUMINIUM PROFILE DESIGN, PLEASE CONTACT OUR DESIGNERS! UP-TO-DATE CONTACT INFORMATION CAN BE FOUND ON OUR WEBSITE:

WWW.MAKELAALU.FI > CONTACT US > PROFILE DESIGN

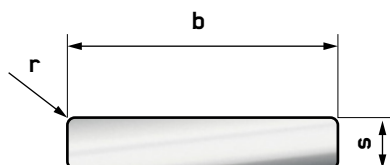




VAKIOPROFIILIT

Standard profiles

Lattatangot | Flat bars



Merkintätapa / Notation:

LT b x s

Esim. / E.g.:

LT 40 x 10

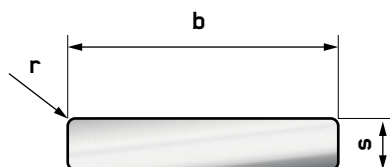
Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:

SFS-EN 755-5

b/mm	s/mm	r/mm	g/m	prof.nr.	
10	6	0,5	162	03049	
12	4	1,2	126	00302	
12	5	0,5	162	00287	
13	3	0,5	105	07119	
15	3	0,5	122	01076	
15	5	0,5	203	01014	
16	5	0,5	216	04586	
20	2	0,5	107	05812	
20	3	0,5	161	00204	
20	4	0,5	216	01020	
20	5	0,6	270	00325	
20	10	0,8	537	00119	
22,5	16	1,0	970	00223	
25	2,5	0,5	168	05814	
25	3	0,5	202	00451	
25	3	1,0	200	00536	
25	4	0,6	269	00218	
25	5	0,5	337	00234	
25	5	2,5	324	01036	
25	8	1,0	537	01044	
25	10	0,8	672	00541	
28	6	3,0	433	09645	
30	2	0,5	161	05051	
30	3	0,5	242	00235	
30	4	0,5	323	05993	
30	5	0,5	402	00238	
30	8	1,0	645	01077	
30	10	0,5	809	00100	
30	15	0,5	1214	07773	
30	20	0,5	1620	01067	
35	15	1,0	1415	00568	
35	20	1,0	1887	01078	
40	3	0,5	323	00329	
40	3,9	1,0	419	11583	
40	4	0,5	428	00237	
40	5	0,5	536	00236	
40	6	0,5	647	01023	
40	6	0,5	647	11770	Seokselle / For alloy 1070A
40	8	1,0	861	01030	
40	10	0,8	1079	00101	
40	10	5,0	1023	03091	
40	15	0,5	1620	01068	



Lattatangot | Flat bars



Merkintätapa / Notation:
LT b x s

Esim. / E.g.:
LT 40 x 10

Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:

SFS-EN 755-5

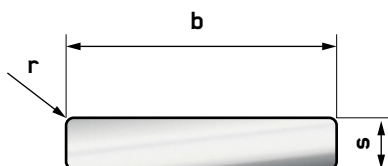
b/mm	s/mm	r/mm	g/m	prof.nr.	
40	20	0,5	2159	00239	
40	25	0,5	2700	03045	
40	30	1	3238	09983	
45	5	0,5	607	09968	
45	8	0,5	972	04011	
50	3	0,5	405	01058	
50	4	0,5	540	01032	
50	5	0,6	674	00219	
50	6	0,5	805	00406	
50	8	0,8	1077	00515	
50	10	0,8	1347	00121	
50	10	5,0	1293	03057	
50	15	1,0	2022	04397	
50	20	1,2	2697	00162	
50	25	1,5	3370	00133	
60	4	0,6	648	00558	
60	5	0,5	810	00551	
60	5,9	1,0	953	07104	
60	6	0,5	971	00488	
60	6	0,5	971	15023	Seokselle / For alloy 1070A
60	8	1,0	1294	01031	
60	8	1,0	1294	11771	Seokselle / For alloy 1070A
60	10	0,8	1619	00206	
60	10	0,8	1619	08917	Seokselle / For alloy 1070A
60	10	5,0	1563	00150	
60	12	1,0	1941	01079	
60	15	1,0	2427	01025	
60	20	1,2	3237	00163	
60	25	1,2	4047	00164	
60	36	1,0	5829	01045	
61	30	0,5	4941	04041	
65	32	1,0	5613	01069	
70	6	0,5	1134	00510	
70	15	1,0	2833	00207	
70	30	1,0	5668	10935	
70	40	1,0	7558	15286	
75	5,7	0,5	1154	07106	
75	10	5,0	1967	07442	
80	5	0,5	1080	01024	
80	6	1,0	1293	04015	
80	8	0,5	1727	01018	
80	8	0,5	1727	11772	Seokselle / For alloy 1070A
80	10	0,8	2159	00103	
80	10	0,8	2159	08918	Seokselle / For alloy 1070A
80	10	5,0	2102	07734	
80	15	1,0	3238	11457	
80	20	1,0	4317	01046	
80	30	1,0	6477	03098	
80	40	1,0	8637	04598	

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Lattatangot | Flat bars



Merkintätapa / Notation:

LT b x s

Esim. / E.g.:

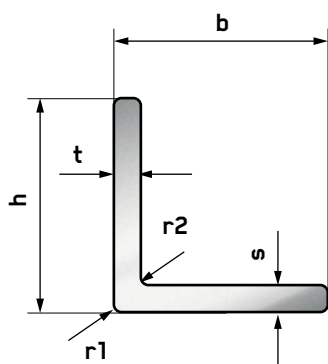
LT 40 x 10

Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:

SFS-EN 755-5

b/mm	s/mm	r/mm	g/m	prof.nr.	
100	6	0,5	1620	01071	
100	8	0,5	2159	10712	
100	10	0,8	2699	00102	
100	10	1	2698	10693	Seokselle / For alloy 1070A
100	12	0,8	3239	00473	
100	15	1,0	4047	02968	
100	20	1,2	5397	00165	
100	32	1,6	8634	00166	
115	12	0,5	3726	05029	
120	7	0,5	2268	04914	
120	10	1,0	3237	00318	
120	12	0,8	3885	04594	
120	15	0,5	4859	07475	
120	20	1,0	6477	00464	
125	15	1,0	5060	01047	
125	30	1,0	10123	09881	
140	6	1,0	2266	09750	
150	10	1,0	4047	01061	
150	12	1,0	4858	13982	
150	15	1,0	6073	15943	
150	20	1,0	8098	15944	
160	10	1,0	4318	00319	
160	20	1,0	8637	04910	
160	20	1,0	8638	05011	
200	10	1,0	5397	04253	
200	20	1,0	10798	15945	

Kulmatangot | L-profiles



Merkintätapa / Notation:
KT h x b x s x (t)

Esim. / E.g.:
KT 60 x 40 s 5

Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:

SFS-EN 755-9

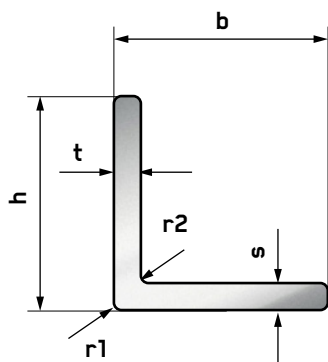
h/mm	b/mm	s/mm	t/mm	r1/mm	r2/mm	g/m	prof.nr.	
15	10	2	2	0,5	0,5	124	15793	
15	15	1,5	1,5	0,5	0,5	116	00514	
15	15	2,0	2,0	0,5	0,5	151	00535	
20	10	2,0	2,0	0,5	0,5	151	15794	
20	15	2,0	2,0	0,5	0,5	178	01000	
20	20	1,5	1,5	0,5	0,5	155	05815	
20	20	2,0	2,0	0,5	0,5	205	07531	
20	20	2,0	2,0	0,5	2,0	207	00157	
20	20	3,0	3,0	0,5	0,5	300	00508	
25	10	2,0	2,0	0,5	0,5	178	08759	
25	25	2,0	2,0	0,5	0,5	259	00123	
25	25	3,0	3,0	0,5	0,5	380	00428	
30	20	2,0	2,0	0,5	0,5	259	03092	
30	20	3,0	3,0	0,5	0,5	381	04179	
30	20	4,0	4,0	0,5	0,5	496	00407	
30	30	2,0	2,0	0,5	2,0	315	00158	
30	30	2,5	2,5	0,5	0,5	0,5	05816	
30	30	3,0	3,0	0,5	2,5	465	00104	
30	30	4,0	4,0	0,5	0,5	604	11685	
35	35	3,0	3,0	0,5	2,5	546	00183	
40	20	2,0	2,0	0,5	0,5	313	00240	
40	20	4,0	4,0	0,5	0,5	605	03093	
40	25	2,0	2,0	0,5	0,5	340	01089	
40	25	3,0	3,0	0,5	0,5	502	04265	
40	40	2,0	2,0	0,5	2,0	423	00184	
40	40	3,0	3,0	0,5	0,5	623	05817	
40	40	3,9	3,9	0,5	0,5	801	07603	
40	40	4,0	4,0	0,5	4,0	829	01080	
40	40	4,0	4,0	0,6	0,6	820	00122	
45	45	3,0	3,0	0,5	0,5	705	05843	
50	20	2,0	2,0	0,5	0,5	367	07981	
50	20	4,0	4,0	0,5	0,5	712	07957	
50	25	2,0	2,0	0,5	0,5	394	10971	
50	25	3,0	3,0	0,5	0,5	583	04098	
50	30	4,0	4,0	0,5	0,5	821	00411	
50	40	5,0	5,0	1,0	1,0	1145	01040	
50	50	4,0	4,0	0,6	2,5	1039	00159	
50	50	5,0	5,0	1,0	0,5	1280	05971	
50	50	5,0	5,0	0,6	4,0	1291	00105	



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Kulmatangot | L-profiles



Merkintätapa / Notation:

KT h x b x s x (t)

Esim. / E.g.:

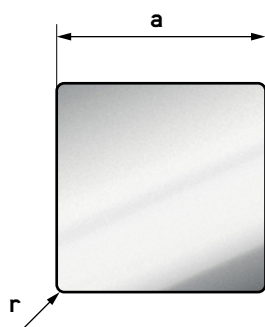
KT 60 x 40 s 5

Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:

SFS-EN 755-9

h/mm	b/mm	s/mm	t/mm	r1/mm	r2/mm	g/m	prof.nr.	
60	25	2,0	2,0	0,5	0,5	448	04099	
60	30	2,0	2,0	0,5	0,5	475	11632	
60	30	5,0	5,0	0,5	1,0	1147	09601	
60	40	4,0	4,0	0,6	2,5	1039	00160	
60	40	5,0	5,0	0,6	4,0	1291	00193	
60	40	6,0	6,0	0,5	0,5	1523	00410	
60	60	2,0	2,0	0,5	0,5	637	10972	
60	60	6,0	6,0	4,0	4,0	1846	00161	
60	60	6,0	6,0	0,6	4,0	1855	00106	
68	25	3,0	3,0	0,5	2,5	732	00355	
75	25	3,0	3,0	0,5	0,5	785	08627	
75	50	6,0	6,0	0,5	0,5	1928	00408	
75	50	10,0	10,0	0,5	0,5	3105	00409	
80	50	6,0	6,0	0,5	0,5	2006	01081	
80	50	10,0	10,0	0,5	0,5	3237	07510	
80	80	8,0	8,0	0,5	8,0	3318	01019	
100	50	5,0	5,0	0,5	0,5	1957	00465	
100	75	8,0	8,0	0,5	0,5	3607	15421	
100	100	4,0	4,0	0,5	1,0	2117	13738	
100	100	10,0	10,0	1,0	1,0	5128	05049	
120	30	8,0	8,0	1,0	1,0	3064	04522	
120	60	8,0	8,0	1,0	4,0	3723	04014	
130	65	10,0	10,0	0,5	4,0	5003	04016	
130	110	10,0	10,0	0,2	1,0	6207	00569	
200	55	6,0	6,0	1	4,0	4040	07999	

Neliötangot | Square bars



a/mm	r/mm	g/m	prof.nr.	
10	0,5	270	01072	
12	0,5	388	07886	
15	0,5	608	01063	
20	0,5	1080	01026	
25	0,5	1688	01064	
30	0,5	2430	04347	
30	2,5	2416	00131	
36	0,5	3499	01065	
41	1,0	4536	04168	
41	5,0	4481	00132	
45	1,0	5465	07598	
50	1,0	6748	00233	
60	1,0	9717	04017	

Merkintätapa / Notation:
NT

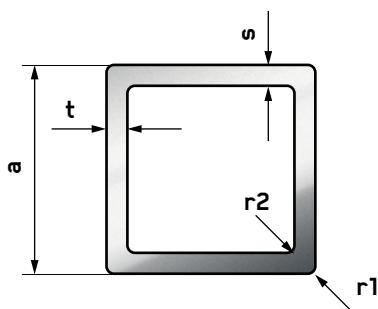
Esim. / E.g.:
NT 30

Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:
SFS-EN 755-4

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Neliöputket | Square tubes



Merkintätapa / Notation:

NP a x s x (t)

Esim. / E.g.:

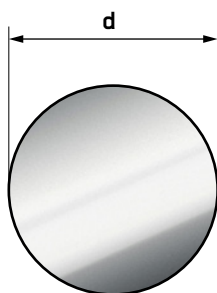
NP 30 x 2

Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:

SFS-EN 755-8

a/mm	s/mm	t/mm	r1/mm	r2/mm	g/m	prof.nr.	
15	1,0	1,0	0,5	0,5	151	00567	
15	1,2	1,2	0,5	0,5	178	00556	
17,2	1,0	1,0	0,5	0,5	175	07991	
20	1,0	1,0	0,5	0,5	205	01013	
20	1,5	1,5	0,5	0,5	300	05818	
20	1,5	1,5	1,5	0,5	295	00246	
20	2,0	2,0	0,5	0,5	389	04592	
25	1,5	1,5	0,5	0,5	381	05819	
25	2,0	2,0	0,5	2,0	505	00113	
25	2,0	2,0	1,5	2,0	501	00513	
25	2,25	2,25	0,5	0,0	553	01022	
25	3,0	3,0	0,5	0,5	713	01053	
30	2,0	2,0	0,5	2,0	613	00185	
30	2,0	2,0	1,5	0,5	600	00247	
30	2,0	2,0	1,5	1,5	605	07829	
30	3,0	3,0	3,0	0,5	853	00537	
35	2,0	2,0	0,5	0,5	713	04334	
40	1,5	1,5	0,5	0,5	624	03039	
40	2,0	2,0	0,5	0,5	821	00126	
40	2,5	2,5	0,5	0,5	1013	07619	
40	3,0	3,0	0,5	0,5	1199	07830	
40	3,0	3,0	0,5	2,5	1213	00149	
40	4,0	4,0	0,5	2,5	1555	11140	
41	4,5	4,5	8,0	3,0	1647	00588	
45	2,0	2,0	0,5	0,5	929	07881	
50	2,0	2,0	2,0	0,5	1028	08990	
50	3,0	3,0	0,5	0,5	1523	07831	
50	3,0	3,0	0,5	2,5	1537	00114	
50	4,0	4,0	0,5	0,5	1987	07832	
50	4,0	4,0	0,6	2,5	2001	00145	
60	3,8	3,8	3,0	2,0	2295	00583	
70	4,0	4,0	1,0	0,5	2849	10974	
70	5,0	5,0	1,0	1,0	3510	11384	
80	4,0	4,0	1,0	0,5	3280	01054	
80	8,0	8,0	1,0	0,5	6218	05844	
100	2,0	2,0	2,0	0,5	2108	15130	
100	4,0	4,0	2,0	2,0	4147	01073	

Pyörötangot | Round bars



Merkintätapa / Notation:

PT d

Esim. / E.g.:

PT 30

Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:

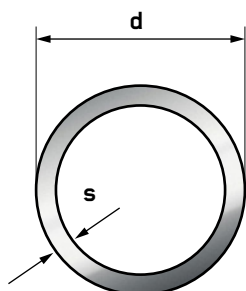
SFS-EN 755-3

d/mm	g/m	prof.nr.	
8	135	00527	
9,7	200	11650	
10	212	00127	
12	305	00528	
14,5	446	00306	
15	477	04919	
16	543	01075	
18	687	00226	
20	848	00227	
22	1026	00128	
25	1325	00228	
28	1663	00129	
30	1909	00545	
32	2171	00543	
35	2597	01066	
36	2748	05970	
38	3062	00229	
40	3393	00130	
45	4294	00230	
50	5301	00231	
57	6890	01048	
60	7634	00232	

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Pyöröputket | Round tubes



Merkintätapa / Notation:

PP d x s

Esim. / E.g.:

PP 30 x 3

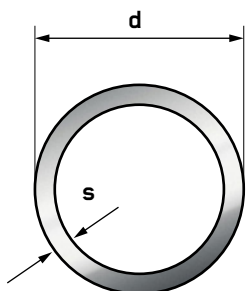
Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:

SFS-EN 755-9

d/mm		s/mm	g/m	prof.nr.	
12		1,5	134	10631	
15		1,0	119	00524	
16		1,0	127	00607	
16	-0,4/+0	1,0	127	01027	
16		1,5	184	00523	
18		1,5	211	00529	
18		2,5	329	07297	
18		3,0	381	04323	
19		1,0	154	00526	
19		1,4	208	05734	
19		1,5	221	00125	
19		2,0	289	03099	
20		1,0	162	00586	
20	-0,3/+0	1,0	162	01021	
20		2,0	305	11601	
22		1,5	261	00152	
22		1,75	300	00561	
25		1,2	243	00603	
25		1,5	300	00110	
25		2,0	392	04557	
25		2,5	478	00153	
25	Qual. 4	2,5	478	07937	
28		1,5	338	00248	
30		1,5	362	00146	
30		3,0	688	00249	
31,2		1,5	378	07652	
32		2,0	508	00544	
34		3,0	788	04013	
35		1,5	427	00111	
35		2,0	559	03077	
35		3,0	815	01056	
38		1,5	464	00550	
38		2,0	611	00250	
40		2,0	645	00124	
40		3,0	942	00251	
40		5,0	1485	01082	



Pyöröputket | Round tubes



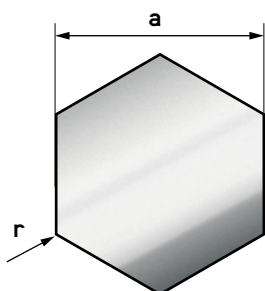
Merkintätapa / Notation:
PP d x s

Esim. / E.g.:
PP 30 x 3

Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:
SFS-EN 755-9

d/mm		s/mm		g/m	prof.nr.	
45		2,0		729	01005	
45		3,0		1069	00112	
45		5,0		1696	00466	
45,25	+/-0,25	2,5	+/-0,25	907	00467	
47,5		2,75		1045	02584	
48,3		4,0		1504	04587	
48,3		6,5		2305	07980	
50		1,5		618	00525	
50		2,0		815	00186	
50		3,0		1196	07115	
50		4,0		1561	07509	
50		5,0		1909	00532	
60		2,0		984	00154	
60		2,5		1220	00155	
60		3,5		1667	01004	
60		5,0		2333	00156	
70		2,0		1154	15146	
70		3,0		1704	00533	
75		1,5		935	07118	
75		3,0		1833	00252	
80		2,0		1323	00534	
90		2,5		1855	01017	
100		2,5		2068	00521	
100		6,0		4784	00522	
100		10,0		7684	04554	
106		2,5		2195	01038	
110		3,5		3162	01052	
120		3,0		2978	01062	

Kuusiotangot | Hexagonal bars



a/mm	r/mm	g/m	prof.nr.	
14	0,5	458	00274	
22	0,5	1131	04055	

Merkintätapa / Notation:

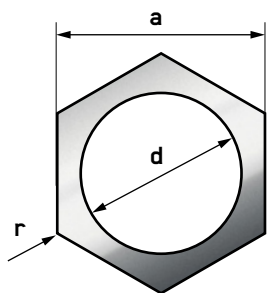
KUT a

Esim. / E.g.:

KUT 14

Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:

SFS-EN 755-6



Kuusioputket | Hexagonal tubes

a/mm	d/mm	r/mm	g/m	prof.nr.	
17	10,3	0,5	451	00275	

Merkintätapa / Notation:

KUP a

Esim. / E.g.:

KUP 17

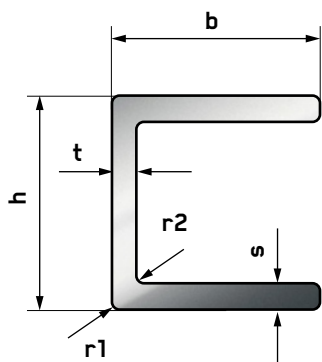
Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:

SFS-EN 755-8

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U-tangot | U-profiles



Merkintätapa / Notation:
UT h x b t x (s)

Esim. / E.g.:
UT 35 x 35 x 3

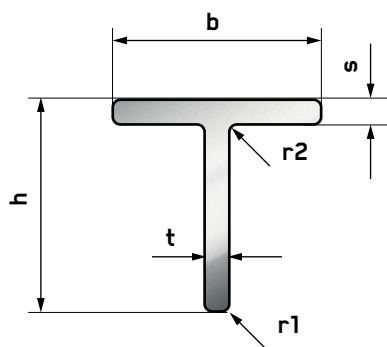
Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:
SFS-EN 755-9

h/mm	b/mm	t/mm	s/mm	r1/mm	r2/mm	g/m	prof.nr.	
15	15	2,0	2,0	0,5	0,5	221	00562	
20	15	2,0	2,0	2,5	0,5	240	04534	
20	20	2,0	2,0	0,5	2,0	306	00180	
25	15	2,0	2,0	0,5	2,0	278	01088	
25	15	2,0	2,0	2,5	0,5	267	04486	
25	20	3,0	3,0	0,5	0,5	477	15627	
30	20	2,0	2,0	0,5	2,0	359	01087	
30	20	3,0	3,0	0,5	3,0	529	00546	
30	30	2,0	2,0	0,5	2,0	467	01086	
30	30	3,0	3,0	0,5	2,5	687	00181	
30	33	1,5	1,5	0,5	0,5	376	08628	
33	30	1,5	1,5	0,5	0,5	364	08760	
34	47	12,0	12,0	6,0	0,5	3245	07599	
35	35	3,0	3,0	0,5	2,5	808	00182	
40	20	4,0	4,0	0,5	2,5	783	03054	
40	25	3,0	3,0	0,5	2,5	687	00107	
40	40	4,0	4,0	0,6	2,5	1216	00148	
45	15	3,0	5,0	1,5	1,5	686	01007	
50	30	2,0	2,0	1	1	571	02805	
50	30	4,0	4,0	0,6	2,5	1108	00108	
50	50	5,0	5,0	0,5	2,5	1895	00520	
54	40	2,0	2,0	0,5	0,5	702	01006	
60	40	3,0	3,0	0,5	2,5	1091	01070	
60	40	4,0	4,0	1,0	1,0	1423	01041	
60	40	5,0	5,0	1,0	1,0	1752	03025	
80	40	3,0	3,0	0,5	0,5	1247	01039	
80	80	5,0	5,0	0,5	0,5	3104	15637	
80	40	5,0	5,0	0,5	2,5	2030	01050	
100	40	3,0	3,0	0,5	2,5	1416	00109	
100	50	5,0	5,0	0,5	2,5	2570	00519	
100	50	6,0	9,0	0,5	6,0	3799	01051	
120	55	7,0	9,0	0,6	6,0	4641	00538	

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T-tangot | T-profiles



h/mm	b/mm	s/mm	t/mm	r1/mm	r2/mm	g/m	prof.nr.	
30	30	3,0	3,0	0,5	2,5	468	00118	
50	50	5,0	5,0	0,5	1,5	1284	00376	
40	40	4,0	4,0	0,5	0,5	821	00531	
20	20	2,0	2,0	0,5	1,5	208	00555	
60	60	6,0	6,0	0,5	0,5	1847	01049	
76	61	2,0	2,0	0,5	1,0	889	09634	
100	76	2,0	3,0	0,5	1,0	1204	09835	
30	30	1,5	1,5	0,3	0,3	237	10783	

Merkintätapa / Notation:

TT h x b t x (s)

Esim. / E.g.:

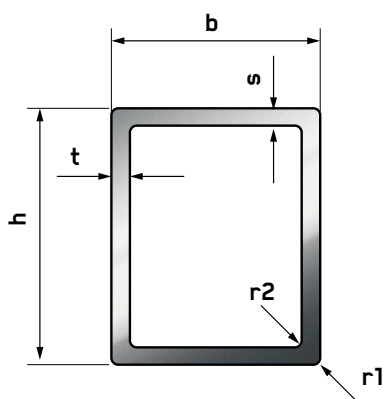
TT 30 x 30 x 3

Mitta- ja muototoleranssit /

Tolerances on dimensions and shape:

SFS-EN 755-9

Suorakaideputket | Rectangular tubes



Merkintätapa / Notation:
SP h x b x s x (t)

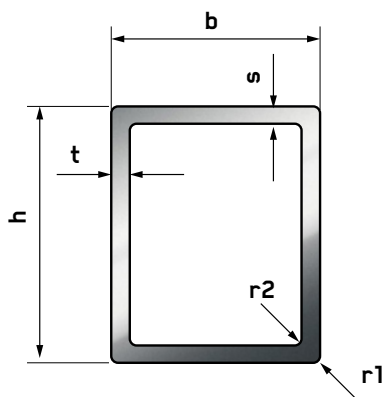
Esim. / E.g.:
SP 40 x 20 x 2

Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:
SFS-EN 755-8

h/mm	b/mm	s/mm	t/mm	r1/mm	r2/mm	g/m	prof.nr.	
20	15	1,5	1,5	0,5	0,5	259	00512	
20	15	1,5	1,5	0,5	0,5	259	08857	Pintalaatu 3
25	15	1,5	1,5	0,5	0,5	300	01008	
25	15	2,0	2,0	2,0	0,5	381	00547	
30	15	1,5	1,5	1,0	0,5	338	11446	
30	20	1,5	1,5	0,5	0,5	381	00439	
30	20	2,0	2,0	0,5	0,5	497	00530	
35	20	1,5	1,5	0,5	0,5	421	00279	
40	20	1,3	1,3	2,0	0,7	394	00517	
40	20	1,5	1,5	2,5	0,5	448	04194	
40	20	1,5	1,5	0,5	2,0	470	00115	
40	20	2,0	2,0	0,5	0,5	604	00280	
40	20	2,0	2,0	0,5	0,5	604	16512	Kova seos 6082
40	20	2,0	2,0	2,0	1,0	598	07073	
40	20	2,0	2,0	3,0	1,0	586	07471	
40	20	2,5	2,5	1,0	0,5	741	09539	
40	25	2,0	2,0	2,5	0,5	645	05006	
40	25	2,0	2,0	3,0	0,5	639	15415	
40	25	2,5	2,5	0,5	0,5	810	07903	
40	25	2,5	2,5	2,5	0,5	796	00281	
40	30	1,5	1,5	0,5	0,5	543	04261	
40	30	1,5	1,5	1,5	0,5	538	08516	
50	25	3,0	3,0	1,5	0,5	1113	08826	
50	30	2,0	2,0	0,5	0,5	821	10973	
50	30	2,5	2,5	1,0	1,0	1013	00167	
50	30	3,0	3,0	5,0	5,0	1199	01034	
60	25	2,5	2,5	0,5	0,5	1080	15814	
60	35	4,0	4,0	0,5	1,5	1884	09964	
60	40	2,5	2,5	0,5	0,5	1283	09624	
60	40	3,0	3,0	0,5	0,5	1523	07833	
60	40	3,0	3,0	0,5	2,5	1537	00116	
60	40	4,0	4,0	0,5	1,5	1993	00579	
60	50	3,0	3,0	0,5	0,5	1685	11478	
70	20	2,5	2,5	0,5	0,5	1148	09568	
75	25	3,0	3,0	1,5	0,5	1518	08825	
80	40	3,0	3,0	2,0	1,0	1839	01057	
80	40	3,0	3,0	0,5	2,5	1861	00117	
80	40	4,0	4,0	2,0	1,0	2411	01055	
80	40	6,0	6,0	6,0	1,0	3491	04333	
80	50	4,0	4,0	3,0	1,0	2617	07094	
80	60	4,0	4,0	1,0	1,0	2843	00168	



Suorakaideputket | Rectangular tubes



Merkintätapa / Notation:
SP h x b x s x (t)

Esim. / E.g.:
SP 40 x 20 x 2

Mitta- ja muototoleranssit /
Tolerances on dimensions and
shape:
SFS-EN 755-8

h/mm	b/mm	s/mm	t/mm	r1/mm	r2/mm	g/m	prof.nr.	
100	15	2,0	2,0	0,5	0,5	1199	05017	
100	20	1,2	1,2	1,0	1,0	866	08505	
100	20	2,0	2,0	0,5	0,5	1253	00487	
100	30	2,0	2,0	1,0	1,0	1361	07875	
100	35	2,0	2,0	1,0	1,0	1415	04489	
100	40	2,0	2,0	0,5	0,5	1469	10104	
100	50	2,0	2,0	1,0	0,5	1575	04945	
100	50	2,5	2,5	3,0	0,5	1936	00566	
100	50	3,0	3,0	1,0	1,0	2333	04071	
100	50	4,0	4,0	1,0	1,0	3067	01074	
100	60	3,0	3,0	1,0	1,0	2495	01016	
100	60	5,0	5,0	0,6	4,0	4086	00151	
120	50	5,0	5,0	1,0	1,0	4320	01097	
130	50	4,0	4,0	0,5	0,5	3715	15755	
150	50	4,0	4,0	1,0	0,5	4145	11072	



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