



**MORE THAN
HALF A CENTURY
OF EXPERIENCE**

ERSAS ALUMINUM CUSTOM PROFILE GUIDELINE

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Building on its strong foundation and moving towards the future, Ersaş Aluminum operates in a modern facility with a 20.000-square-meter indoor area, offering high production and storage capacity. With 4 extrusion lines, 5,000 tons of anodized surface treatment capacity, and 9.000 tons of electrostatic powder coating capacity, Ersaş Aluminum provides services with a total production capacity of 24.000 tons of aluminum profiles.

Leveraging the knowledge and experience gained from serving many industries, Ersaş Aluminum offers custom mold solutions to its clients in line with its principle of superior quality. The company aims to strengthen its integrated production process from raw materials to the consumer.

Services Offered:

- Standard Profiles
- Aluminium Architectural Systems
- Insulated/Non-Insulated Window and Door Systems
- Facade Systems
- Railing and Glass Balcony Systems
- Pergola and Veranda Profiles
- Awning Profiles
- Garden Systems
- Lighting Profiles
- Aluminum Furniture Profiles
- Machinery, Sigma, and Industrial Profiles
- Solar System Profiles

Additional Processing Services:

- Precision Cutting
- CNC Machining Centers
- Drilling
- Welding
- Surface Treatments (Anodizing and Electrostatic Powder Coating Applications)
- Assembly
- Packaging

As Ersas Alüminyum, we operate with the goal of complying with international and national standards in quality management, customer satisfaction, and product safety. In line with this goal, we document our objectives with the certifications we hold.



TSE TS EN 755-1



TSE TS EN 12020-1



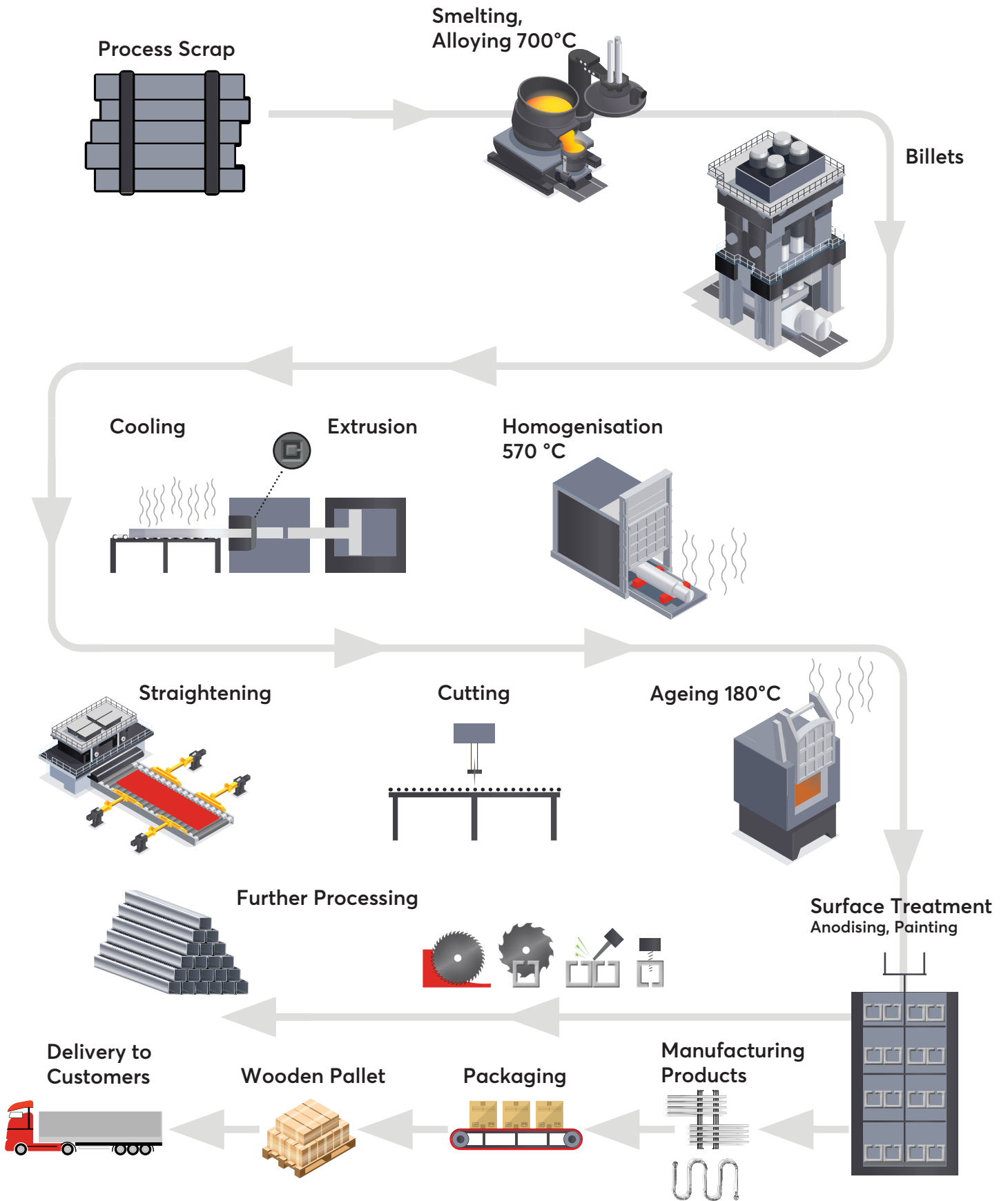
CE EN-15088

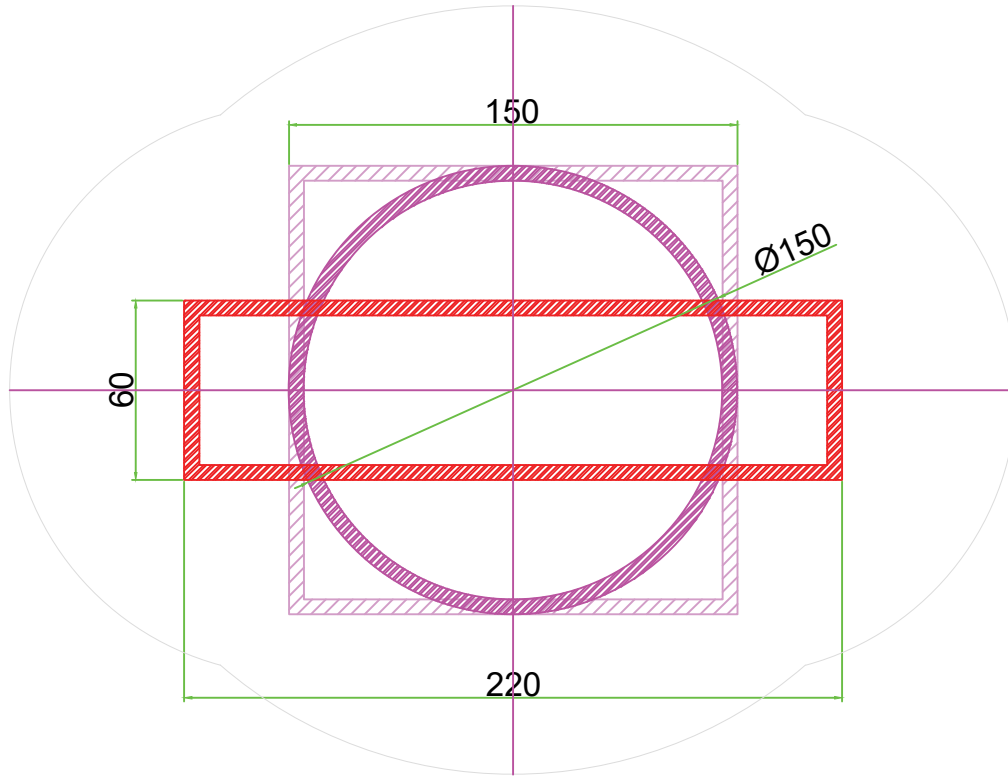


ISO 10002



ISO 9001





- Maximum profile width: 270 mm (height-width may vary depending on profile type)
- Minimum wall thickness: 1 mm
- Maximum weight per meter: 16 kg/m
- Minimum weight per meter: 0.100 kg/m
- Minimum order quantity: 500 kg for alloy 6063, 1000 kg for alloy 6082, etc.
- Maximum length: 7.8 m
- Maximum length after anodizing (anodized coating) process: 6.8 m
- Maximum length after powder coating: 7 m
- Maximum total weight of the profile: 60 kg

Tolerances: Compliance with SFS-EN 755-3...9/SFS-EN 12020-1...2 standards is maintained.

Identifier	EN AW-6060	EN AW-6060	EN AW-6060	EN AW-6082
Chemical identifier	Al MgSi	Al Mg0,7Si	Al Mg1SiCu	Al Si1MgMn
Temper designations	T4, T5, T6, T66	T4, T5, T6, T66	T4, T6	T4, T5, T6
Tensile strength Rm (min) MPa (N/mm ²)	120, 140, 170, 195	130, 160, 195, 225	180, 260	205, 270, 290
Yield strength Rp0.2 (min) MPa (N/mm ²)	160, 180, 200	65, 175, 215, 245	110, 240	110, 230, 250
*Elongation A50mm (%)	14, 6, 6, 6, 6	12, 6, 6, 6	13, 7	12, 6, 6
Typical Brinell hardness (HBW)	50, 60, 70, 75	50, 65, 75, 80	65, 95	70, 90, 95
Main alloying elements %	Si 0,30-0,6, Mg 0,35-0,6	Si 0,20-0,6, Mg 0,45-0,9	Si 0,40-0,8, Cu 0,15-0,40, Mg 0,8-1,2	Si 0,70-1,3, Mn 0,40-1, Mg 0,6-1,2
Characteristics	Alloyed, hardenable and extrudable alloy with good tensile properties and good surface quality. Very well suited for anodising.	Alloyed, hardenable and extrudable alloy with good tensile properties and good surface quality. Very well suited for anodising.	Alloyed, hardenable and extrudable alloy with good tensile properties and high hardness.	Alloyed, hardenable and extrudable alloy with good tensile properties and high hardness.
General characteristics	Electrical conductivity:30-32 Y2 MS/m	Electrical conductivity:20°C: 49-55 IACS	-	-

EN AW-6063: One of the most commonly used alloys. It is frequently preferred in window and door systems due to its good tensile strength and suitability for anodizing.

EN AW-6060: Similar properties to 6063 but somewhat softer. Therefore, it is easier to process and bend.

EN AW-6005: A harder alloy compared to 6063, and it can be anodized. It is primarily used in structural applications.

EN AW-6082: A hard alloy, but not very suitable for anodizing. It is mainly used in structural applications and the automotive industry.

EN AW-1070: Pure aluminum that cannot be hardened. It is used in the production of electrical cables and foil due to its high electrical conductivity and good formability.;

Additional Information

EN AW: A standard set by the European Aluminium Association for aluminum alloys.

Other Properties of Alloys: Other properties not mentioned in the table include density, melting point, and corrosion resistance.

Application Areas: These alloys are used in construction, automotive, aerospace, electrical, packaging, and many other industries.

Symmetrical Shape: The profile shape should be as symmetrical as possible.

Consistent Wall Thickness: The wall thickness must be uniform at every point of the profile.

Radius Standards: Radii must be a minimum of 0.5 mm; extrusion is not possible with smaller radii.

Maximum Size: The maximum size of the profile is determined by its shape and wall thickness.

Customized Design: Profiles are designed according to the specific requirements of each application.



Uniform Wall
Thickness



Rounded
Shapes

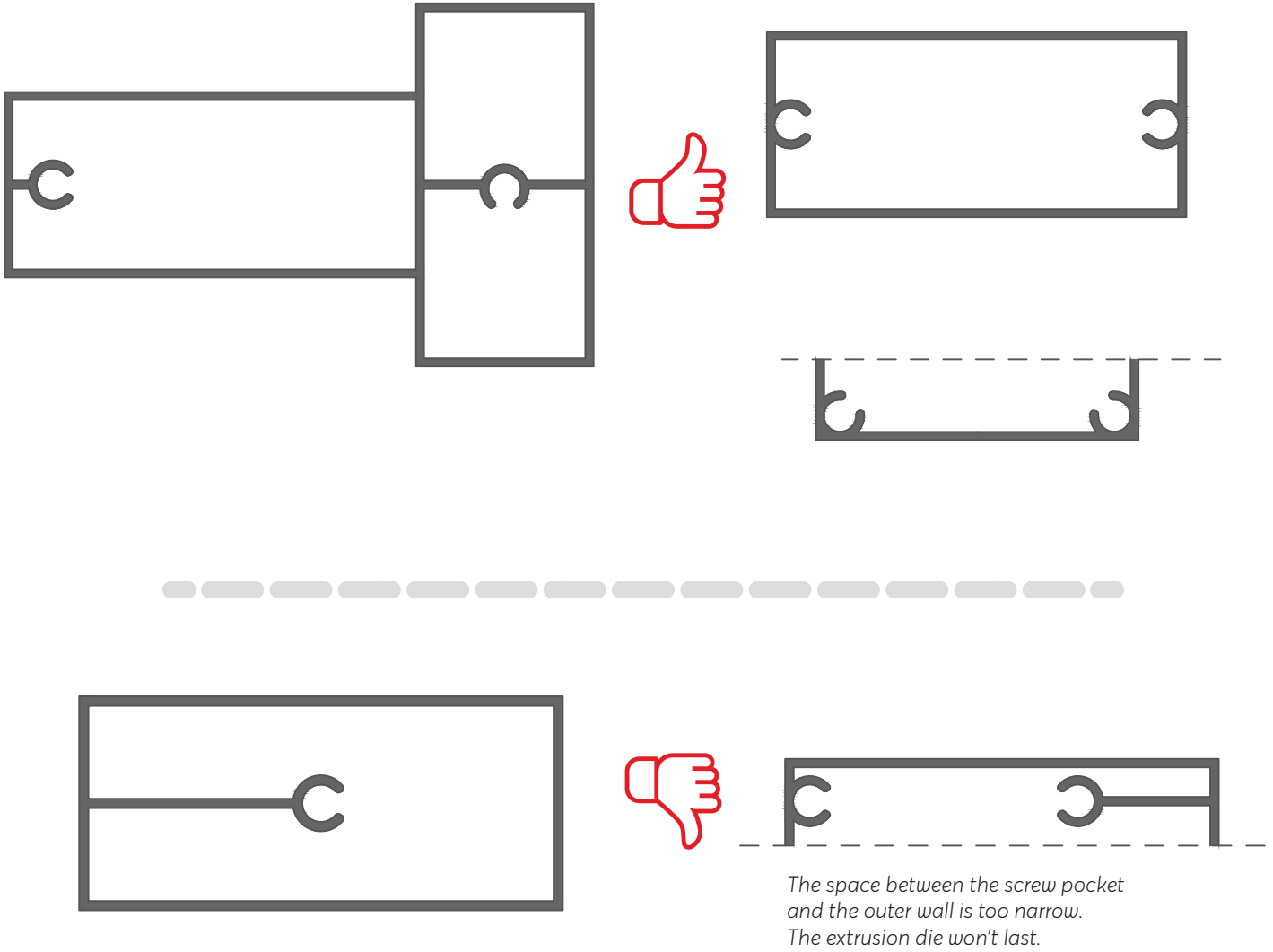


Symmetric

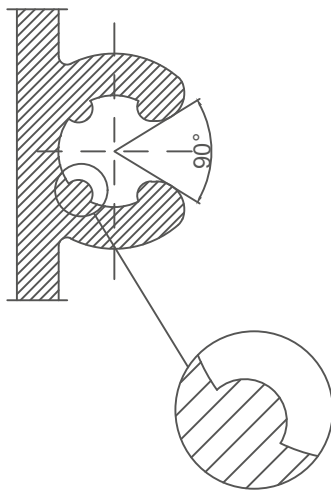
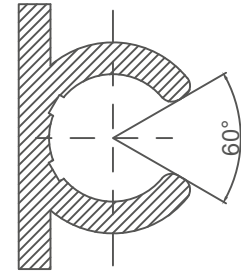
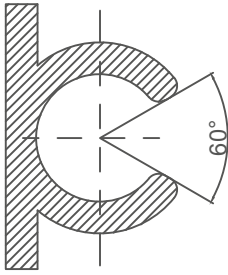
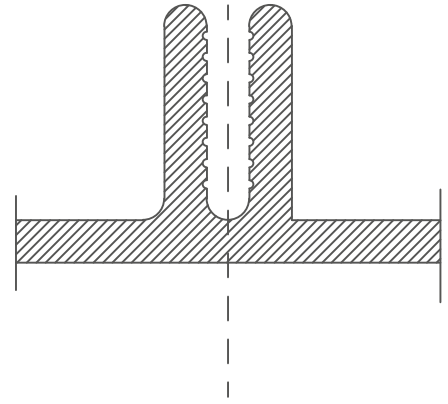
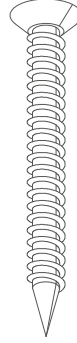
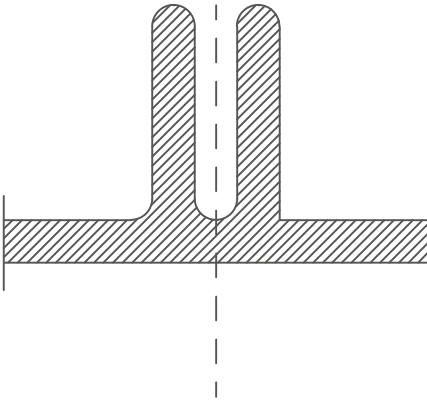


- The profile shape should be as symmetric as possible.
- The wall thickness should be consistent at every point Radiuses min. 0,5mm: RO, is not possible to extrude.
- The maximum size of the profile is determined according to the shape and the wall thickness.

The profiles are tailored according to the application.



A very narrow gap between the screw socket and the outer wall can shorten the lifespan of the extrusion mold. The protrusions in the screw socket can help balance the natural variations in the profile and enhance functionality. If the screw channel is too far from the wall, it may cause breakage in the mold.



Nubs located in the screw pocket can improve functionality and compensate the natural variation occurring in the profile.

Changes in the mass of the profile can cause lines on the opposite side of the wall. In anodized profiles, this may appear as thermal lines or marks, while in powder-coated profiles, it can manifest as reflections. These visual effects can occur even if the surface is smooth. To reduce the visibility of mass changes on the opposite surface, methods such as segmenting the surface with grooves can be used. Additionally, thermal marks and other visual or physical defects that may arise due to the extrusion process can be indicated in profile drawings.

Factors Affecting the Performance of Connected Profiles

Factors to Consider When Designing Clip Connections:

Surface treatments affect the connection function.

Powder-coated and anodized profiles may require different sizes/tolerances.

Length of the profiles to be joined: accuracy and torsional tolerances.

Tolerances must maintain functionality.

Information about the counterpart and its tolerances (e.g., if a different material or existing object is involved).

Corner Connections

Corner connections can be applied using the following methods:

Riveted corner pieces

Glued corner pieces

Welding

Screws

TABLE 1 - ALLOY GROUPS

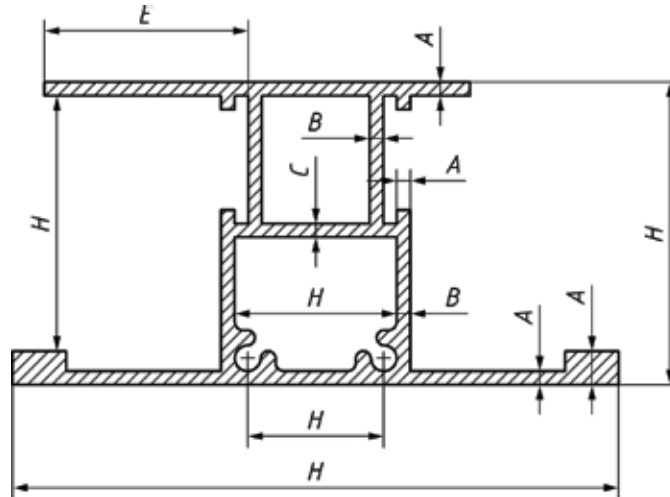
Group 1	EN AW-6005, EN AW 6005A, EN AW-6063, 3N AW-6060
Group 2	EN AW-6061, EN AW- 6082

Cross-sectional dimensions

General

Tables 2 to 9.

- A: wall thicknesses except those enclosing the hollow spaces in hollow profiles;
- B: wall thicknesses enclosing the hollow spaces in hollow profiles except those between two hollow spaces;
- C: wall thicknesses between two hollow spaces in hollow profiles;
- E: the length of the shorter leg of profiles with open ends;
- H: all dimensions (except wall thickness) between points on the cross section of the profile or the centres of open screw holes. Between points on the outer contour to points inside a hollow chamber so long as they are not identical to wall thickness B. Alternatively from the inside of a hollow chamber to the inside of another hollow chamber so long as they are not identical to wall thickness C and are not within the definition of dimension H. Such dimensions shall be replaced by dimension H plus wall thickness B or C or shall be subject to agreement between supplier and purchaser.



Definition of dimensions A,B, C, E, H

Tolerances on dimensions other than wall thickness

The tolerances on dimensions shall be as specified in Tables 2 and 3. For profiles with open ends (see Figures 3, 4 and the relevant examples) the tolerances specified in Table 4 shall be added to those of Tables 2 and 3 for dimension H across open ended legs in order to obtain the tolerances on the gap between any opposite points on these ends.

Table 2 - Tolerances on cross - sectional dimensions of solid and hallow profiles - Alloy group 1

Dimensions in millimetres

Dimension H		Tolarence on H for circumscribing circle CD ^{a,b}				
Over	Up to and including	CD ≤ 100	100 < CD ≤ 200	200 < CD ≤ 300	300 < CD ≤ 500	500 < CD ≤ 800
-	10	±0,25	±0,30	±0,35	±0,40	±0,50
10	25	±0,30	±0,40	±0,50	±0,60	±0,70
25	50	±0,50	±0,60	±0,80	±0,90	±1,0
50	100	±0,70	±0,90	±1,1	±1,3	±1,5
100	150	-	±1,1	±1,3	±1,5	±1,7
150	200	-	±1,3	±1,5	±1,8	±2,0
200	300	-	-	±1,7	±2,1	±2,4
300	450	-	-	-	±2,8	±3,0
450	600	-	-	-	±3,8	±4,2
600	800	-	-	-	-	±5,0

^a These tolerances do not apply to tempers O and Tx510. For these tempers, the tolerances shall be subject to agreement between supplier and purchaser.

^b For profiles with open ends, see Figures 3 and 4, the tolerances for H in the area of the open ends shall be increased by the values specified in Table 4.

Table 3 - Tolerances on cross - sectional dimensions of solid and hallow profiles - Alloy group 2

Dimensions in millimetres

Dimension H		Tolarence on H for circumscribing circle CD ^{a,b}				
Over	Up to and including	CD ≤ 100	100 < CD ≤ 200	200 < CD ≤ 300	300 < CD ≤ 500	500 < CD ≤ 800
-	10	±0,40	±0,50	±0,85	±0,60	±0,70
10	25	±0,50	±0,70	±0,80	±0,90	±1,1
25	50	±0,80	±0,90	±1,0	±1,2	±1,3
50	100	±1,0	±1,2	±1,3	±1,6	±1,8
100	150	-	±1,5	±1,7	±1,8	±2,0
150	200	-	±1,9	±2,2	±2,4	±2,7
200	300	-	-	±2,5	±2,18	±3,1
300	450	-	-	-	±3,5	±3,8
450	600	-	-	-	±4,5	±5,0
600	800	-	-	-	-	±6,0

^a These tolerances do not apply to tempers O and Tx510. For these tempers, the tolerances shall be subject to agreement between supplier and purchaser.

^b For profiles with open ends, see Figures 3 and 4, the tolerances for H in the area of the open ends shall be increased by the values specified in Table 4.

Table 4 - Additions to the tolerance on cross - sectional dimension H of solid and hallow profiles with open ends - Alloy group 1 and 2

Dimensions in millimetres

Dimension E		Additions to the tolerances on H in Tables 2 and 3 for dimensions across the ends of open ended profiles
Over	Up to and including	
-	20	-
20	30	±0,15
30	40	±0,25
40	60	±0,40
60	80	±0,50
80	100	±0,60
100	125	±0,80
125	150	±1,0
150	180	±1,2
180	210	±1,4
210	250	±1,6
250	-	±1,8

Figures 3 and 4 below show open ends on hollow and solid profiles. The determination of tolerances on cross-sectional dimensions H is shown in the following calculation examples 1 and 2.

Examples of tolerance calculations across open ended profiles.

EXAMPLE 1

Dimension H: 20 mm

Dimension E: 100 mm Circumscribing circle CD 100 mm to 200 mm

Alloy Group I.

The tolerance on H according to Table 2 is $\pm 0,40$ mm; plus the additional tolerance according to Table 4 which is $\pm 0,60$ mm; total tolerance on H is $\pm 1,0$ mm.

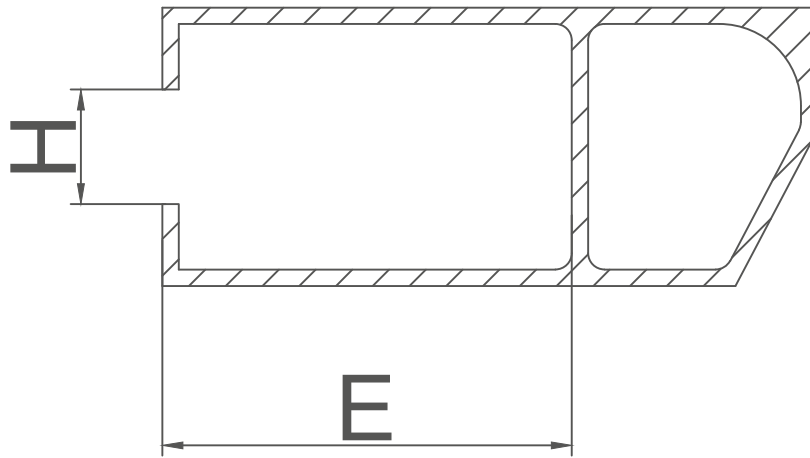


Figure 3 - Hollow profile with open end

EXAMPLE 2

Dimension H: 40 mm

Dimension E: 50 mm Circumscribing circle CD 100 mm to 200 mm Alloy group II.

The tolerance on H according to Table 3 is $\pm 0,90$ mm; plus the additional tolerance according to Table 4 which is $\pm 0,40$ mm; total tolerance on H is $\pm 1,3$ mm.

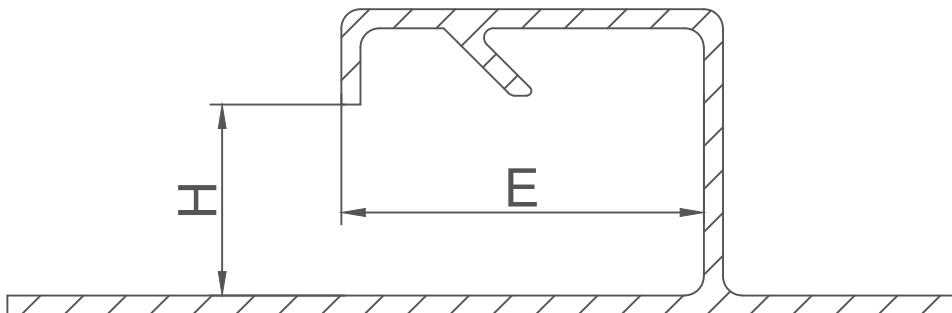


Figure 4 - Solid profile with open end

The tolerances on wall thickness of solid and hollow profiles shall be as specified in Tables 5, 6, 7 and 8.

Table 5 - Tolerances on wall thickness for profiles with a circumscribing circle up to and including 300 mm - Alloy group 1

Dimensions in millimetres

Nominal wall thickness A, B or C		Tolarence on wall thickness					
		Wall thickness A Circumscribing circle		Wall thickness B Circumscribing circle		Wall thickness C Circumscribing circle	
Over	Up to and including	CD ≤ 100	100 < CD ≤ 300	CD ≤ 100	100 < CD ≤ 300	CD ≤ 100	100 < CD ≤ 300
-	1,5	±0,15	±0,20	±0,20	±0,30	±0,25	±0,35
1,5	3	±0,15	±0,25	±0,25	±0,40	±0,30	±0,50
3	6	±0,20	±0,30	±0,40	±0,60	±0,50	±0,75
6	10	±0,25	±0,35	±0,60	±0,80	±0,75	±1,0
10	15	±0,30	±0,40	±0,80	±1,0	±1,0	±1,2
15	20	±0,35	±0,45	±1,2	±1,5	±1,5	±1,9
20	30	±0,40	±0,50	±1,5	±1,8	±1,9	±2,2
30	40	±0,45	±0,60	-	±2,0	-	±2,5
40	50	-	±0,70	-	-	-	-

° For seamless hollow profiles the tolerances given for wall thickness C shall apply.

Table 7 - Tolerances on wall thickness for profiles with a circumscribing circle up to and including 300 mm - Alloy group 2

Dimensions in millimetres

Nominal wall thickness A, B or C		Tolarence on wall thickness					
		Wall thickness A Circumscribing circle		Wall thickness B Circumscribing circle		Wall thickness C Circumscribing circle	
Over	Up to and including	CD ≤ 100	100 < CD ≤ 300	CD ≤ 100	100 < CD ≤ 300	CD ≤ 100	100 < CD ≤ 300
-	1,5	±0,20	±0,25	±0,30	±0,40	±0,35	±0,50
1,5	3	±0,25	±0,30	±0,35	±0,50	±0,45	±0,65
3	6	±0,30	±0,35	±0,55	±0,70	±0,60	±0,90
6	10	±0,35	±0,45	±0,75	±1,0	±1,0	±1,3
10	15	±0,40	±0,50	±1,0	±1,3	±1,3	±1,7
15	20	±0,45	±0,55	±1,5	±1,8	±1,9	±2,2
20	30	±0,50	±0,60	±1,8	±2,2	±2,2	±2,7
30	40	±0,60	±0,70	-	±2,5	-	-
40	50	-	±0,80	-	-	-	-

° For seamless hollow profiles the tolerances given for wall thickness C shall apply.

Length

If fixed lengths are to be supplied, this shall be stated in the order document. The tolerances on fixed length shall be as specified in Table 9.

Table 9 - Tolerances on fixed length

		Dimensions in millimetres				
Circumscribing circle diameter CD		Tolarence on fixed length L				
Over	Up to and including	$L \leq 2000$	$2.000 < L \leq 5.000$	$5.000 < L \leq 10.000$	$10.000 < L \leq 15.000$	$15.000 < L \leq 25.000$
-	100	+5 0	+7 0	+10 0	+16 0	+22 0
100	200	+7 0	+9 0	+12 0	+18 0	+24 0
200	450	+8 0	+11 0	+14 0	+20 0	+28 0
450	800	+9 0	+14 0	+16 0	+22 0	+30 0

If no fixed length is specified in the order document, profiles may be delivered in random lengths.

The length range and the tolerances on the random length shall be subject to agreement between supplier and purchaser.

Squareness of cut ends

The squareness of cut ends shall be within half of the fixed length tolerance range specified in Table 9 for both fixed and random length (e.g. for a fixed length tolerance of +10 0 mm, the squareness of cut ends shall be within 5 mm).

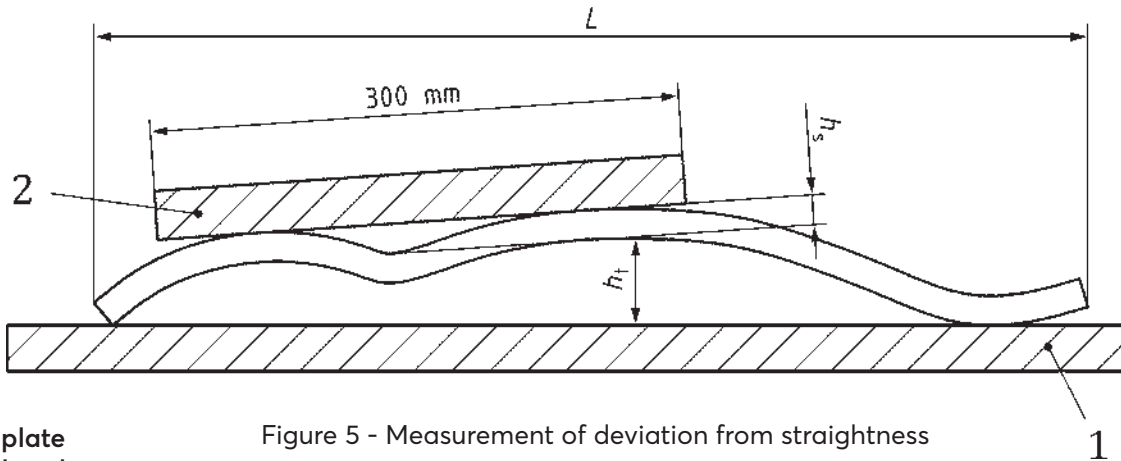
General

Tolerances on form for O and Tx510 tempers shall be subject to agreement between supplier and purchaser.

Straightness

Deviations from straightness, h_s and h_t , shall be measured as shown in Figure 5 with the profile placed on a horizontal base plate so that its own mass decreases the deviation.

The straightness tolerance h_t shall not exceed $1,5 \text{ mm/m} \times L$ where L is the length of the profile (e.g. Nine mm maximum deviation for a 6 m length L). Local deviations h_s from straightness shall not exceed $0,6 \text{ mm/300 mm}$ length.

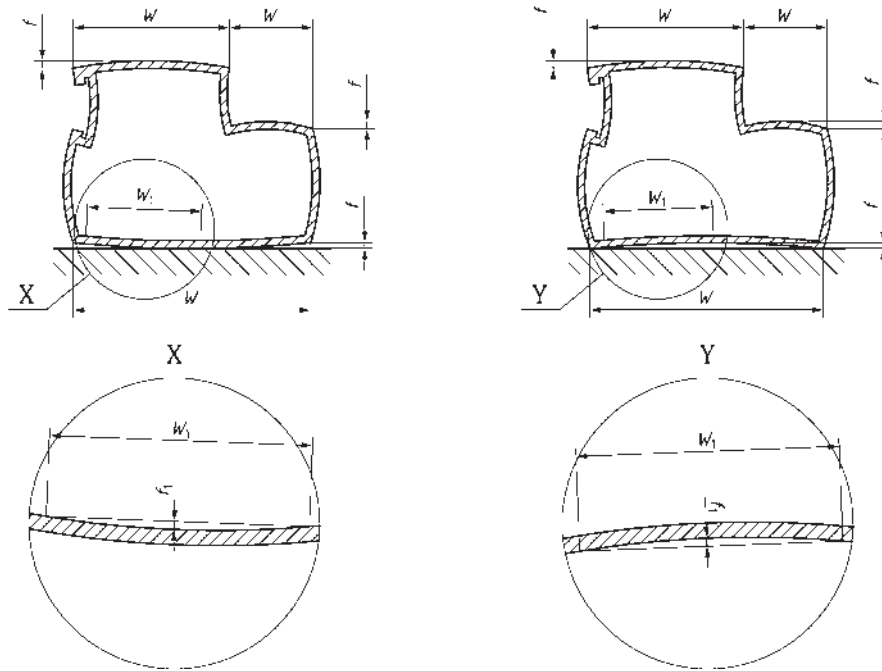


Key
1 base plate
2 straight edge

Figure 5 - Measurement of deviation from straightness

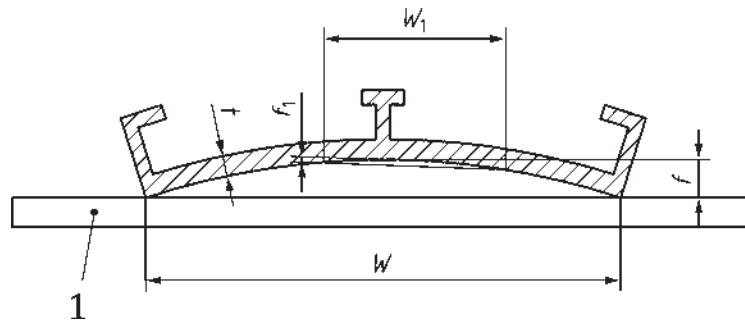
Convexity-Concavity

The convexity-concavity shall be measured as shown in Figures 6 and 7. For Alloy Group I the maximum allowable deviation on convexity-concavity for solid and hollow profiles shall be as specified in Table 10 as a function of profile width W and thickness t . For alloys in Alloy Group II, the tolerances given in Table 10 shall be multiplied by a factor of 1,4.



Key	
W	width
f	deviation
W_1	100 mm
f_1	local deviation per any 100 mm

Figure 6 - Measurement of convexity-concavity for hollow section



Key	
1	base plate
W	width
f	deviation
W_1	100 mm
f_1	local deviation per any 100 mm

Figure 7 - Measurement of convexity-concavity for hollow section

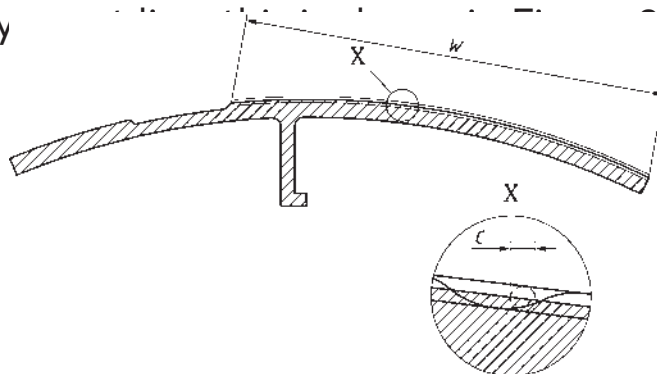
Table 10 - Convexity - concavity tolerances

Dimensions in millimetres				
Width W		Deviation f		
		Hallow Profiles ^a		Solid Profiles
Over	Up to and including	Wall thickkness $t \leq 5$	Wall thickkness $t > 5$	
-	30	0,30	0,20	0,20
30	60	0,40	0,30	0,30
60	100	0,60	0,40	0,40
100	150	0,90	0,60	0,60
150	200	1,2	0,60	0,60
200	300	1,8	0,80	0,80
300	400	2,4	1,6	1,6
400	500	3,0	1,8	1,8
500	600	3,6	2,4	2,4
600	800	4,0	3,0	3,0
For alloys in Group 2, the specified tolerances shall be multiplied by a factor of 1,4.				
^a If the profile has varying wall thicknesses in the measurement range, the thinnest wall thickness shall be used.				

In the case of solid and hollow profiles with a width W of at least 150 mm, the local deviation f_1 , shall not exceed 0,7 mm for any 100 mm of width W1.

Contour

For profiles in Alloy Group I with curved cross sections, the deviation at any point of the curve from the theoretically exact line as defined by the drawing shall not be greater than the appropriate tolerance C specified in Table 11. Considering all points on the curve, a tolerance zone shall be defined as the zone between two envelopes running tangentially to all circles of diameter C which can be drawn with their centres lying along the theoretically



For alloys in Alloy Group II the specified tolerances shall be multiplied by a factor of 1,4.21

Table 11 - Contour tolerances for alloys in Alloy Group 1

Dimensions in millimetres		
Width W of the contour		Contour tolerance = diameter C of the tolerance circle
Over	Up to and including	
-	30	0,30
30	60	0,50
60	90	0,70
90	120	1,0
120	150	1,2
150	200	1,5
200	250	2,0
250	300	2,5
300	400	3,0
400	500	3,5
500	800	4,0

NOTE Contour tolerances can be checked by the use of suitable gauges (min./max.).

Twist

Twist T shall be measured as shown in Figure 9 by placing the profile on a flat baseplate, the profile resting under its own mass. As shown in Figure 9, twist is determined by measuring the maximum distance between the bottom surface of the profile and the surface of the base plate.

Twist tolerances are specified in Table 12 as a function of the width W and the length L of the profile.

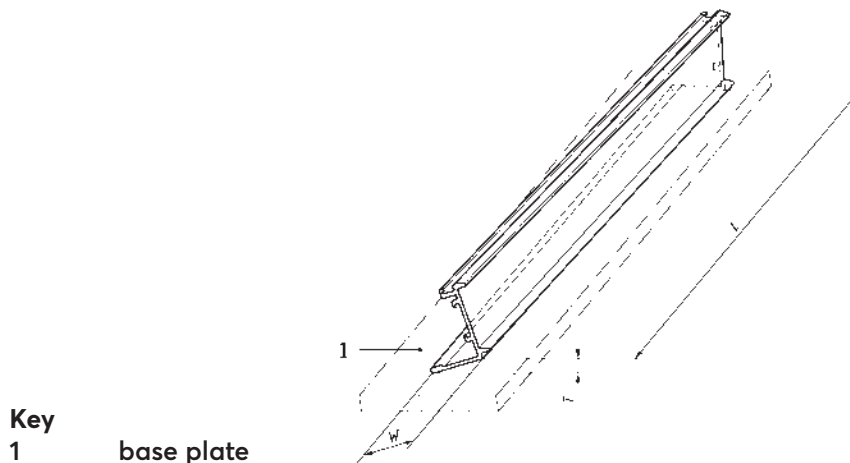


Figure 9 - Measurement of twist

Figure 9 shows an example of a simple case of twist. There are other possibilities where the twist shall be identified differently. Some examples are given below:

-  Differing positioning of the profile on the baseplate such that the maximum twist shall be calculated as the sum of two separate measurements on the diagonal end positions.
-  Discontinuous twist over the profile length such that the maximum twist is the difference between specific points along the length. The maximum twist in this case is not necessarily equal to the maximum distance to the base plate and should not be confused with planarity of the surfaces (combination of twist and straightness).
-  In the case of such difficult interpretation of twist, the specific requirements and methods of measurement shall be subject to agreement between supplier and purchaser.

Table 12 - Twist tolerances

Dimensions in millimetres

Width W		Twist toleranc T for lenght L		
Over	Up to and including	Per 1.000 of lenght ^a	On total profile lenght L	
			Over 1.000 and including 6.000	Over 6.000
-	30	1,2	2,5	3,0
30	50	1,5	3,0	4,0
50	100	2,0	3,5	5,0
100	200	2,5	5,0	8,0
200	300	3,0	6,0	1,5 x L (L in metres)
300	450	3,5	8,0	
450	600	4,0	9,5	
600	800	4,5	10,0	

^a Twist tolerances for lenghts less than 1.000 mm shall be subject to agreements between supplier and purchaser.

Angularity

The deviation from a specified angle shall be measured as shown in Figures 10 and 11.

The angularity tolerances for right angles shall be as specified in Table 13 as a function of profile width W.

The maximum allowable deviation α in an angle other than a right angle shall be $\pm 1^\circ$.

In the case of unequal side lengths the tolerance on angularity shall apply to the shorter side of the angle, i.e. it is measured starting from the longer side.

Table 13 - Angularity tolerances for rights angles

Wid		Dimensions in millimetres
Over	Up to and including	Maximum allowable deviation, Z from a right angle
-	30	0,4
30	60	0,7
50	80	1,0
80	120	1,4
120	180	2,0
180	240	2,6
240	300	3,1
300	400	3,5

For profiles with W which exceeds 400 mm, the tolerances shall be subject to agreement between the supplier and purchaser.

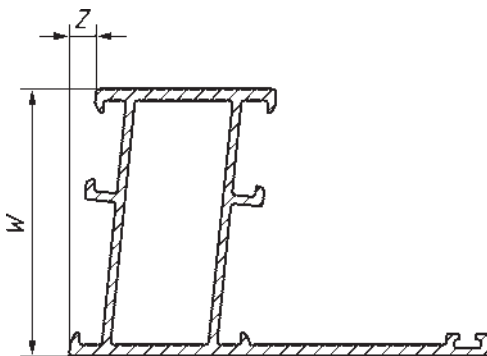


Figure 10 - Measurement of angularity in a right angle

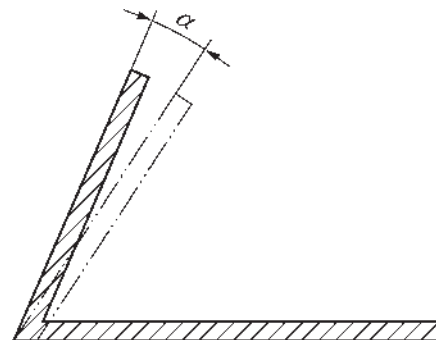


Figure 11 - Measurement of angularity in an angle other than a right angle

Corner and fillet radii

Sharp corners and fillets may be slightly rounded unless otherwise indicated on the drawing. The maximum allowable corner and fillet radii shall be as specified in Table 14.

When a corner or fillet radius is specified, the maximum allowable deviation from this radius shall be as specified in Table 15.

Table 14 - Maximum allowable radius

Dimensions in millimetres

Wall thickness A,B or C ^a	Maximum allowable radius	
	Alloy group 1	Alloy group 2 ^b
≤ 5	0,6	0,8
≥ 5	1,0	1,5
^a Where varying wall thicknesses are involved, the maximum allowable radius in the transition zone is a function of the greater wall thickness. ^b These tolerances only apply to 6xxx series alloys in group II. The maximum allowable radii for the other alloys in group II shall be subject to agreement between supplier and purchaser.		

Table 15 - Maximum allowable deviation from specified corner and fillet radii

Specified radius mm	Maximum allowable deviation from specified radius
≤ 5	± 0,5 mm
≥ 5	± 10 %
^a Where varying wall thicknesses are involved, the maximum allowable radius in the transition zone is a function of the greater wall thickness. ^b These tolerances only apply to 6xxx series alloys in group II. The maximum allowable radii for the other alloys in group II shall be subject to agreement between supplier and purchaser.	



Tel: 0212 674 84 84 (pbx) Fax: 0212 501 95 76
E-mail: ersas@ersasaluminyum.com.tr
Web: www.ersasaluminyum.com.tr

Customer:

Mold Cod

ER-0000

Drawing Cod

GÇ-00000

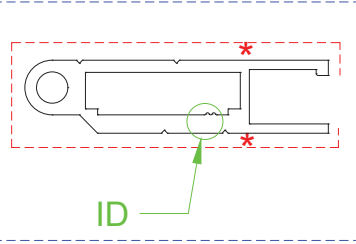
Customer No:

Date

X.X.X

Visible Surface

* Yapısal iz oluşabilecek bölgeler
Possible Thermal Track



Guide to Ersas Aluminum profile drawings

Both the customer and Ersas Aluminum Oy to approve the profile drawing before ordering the extrusion die.

- Order quantity/batch size
- Alloys
- Temper (T4/T5/T6/T66)
- ID-mark location
- Delivery length
- Surface requirements
- Visible surfaces
- Further processing
- Product application (e.g., weight bearing structures, decorative elements or possible joint with another element/profile)

Drawings to be sent in .dwg / .dxf format. We recommend not to use spines.

I_x = vertical surface moment of inertia
W_x = vertical bending resistance
I_y = horizontal surface moment of inertia
W_y = horizontal bending resistance
f = Full rad = fully rounded
r = radius of rounding marked in the profile drawing
r₊ = radius of rounding marked in the profile drawing
SB = profile difficulty level
(the first letter indicates the profile classification:
A = open profile, **S** = closed profile,
P = semi-hollow profile; the second letter indicates the difficulty class: A, B, C, D)
Ref. = the customer's own identifier (no.), if necessary
Øc.a.s. = diameter of a circle drawn around the profile
P.m = perimeter, length of the profile's outer surface
S.a = profile surface area
Surf. Categ. = surface quality category
Kg/m = weight of the profile per metre
Alloy = the aluminium alloy to be used; T5 = temper

Toler. = the tolerances to be used (EN 755-9, EN 12020-2)

Anod. = to be anodised: YES, not anodised: NO

Identif. = identifier: YES; NO

Primary surface = primary visible surface

Secondary surface = secondary visible surface, mild roughness and extrusion tracks allowed

Visib. Surf. YES = visible surface, NO = no visible surface

Gen. thckn. = wall thickness

Gen. Rad. = general radii

Straightn. = straightness and the tolerances used

Flatness = flatness and the tolerances used

Torsion = distortion and the tolerances used

Customer no. = customer number

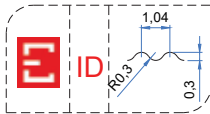
Drawn = creator of the drawing and the date of the drawing

Insp. = inspector

T-no. = profile tender number for the customer

No. = profile number

ID = location of the identifier (area, in which the identifier can be placed)



PLEASE MARK THE APPARENT SURFACE, APPROVE THE DRAWING AND SEND US BY E-MAIL OR FAX TO START THE EXTRUSION DIE PRODUCTION.

İMALATA BAŞLAYABİLMEMİZ İÇİN GÖRÜNEN YÜZEYLERİN İŞARETLENİP PROFİL RESMİNİN ONAYLANIP FİRMAMIZA E-MAIL VEYA FAXLAMANIZ GEREKMEKTEDİR

Bolster İhtiyacı

Var

Yok

Scope

1/1

Alloy

6063-T6

Press Type

-

Performance

B

Risk Fac.

A

Draw By

-

Perimeter

0

Du Ø

0

Controlled By

-

Area mm²

0

Eks. Ratio

###

Unspecified Radius: 0,3

Weight

0.000 kg/m

Tolerance

TS EN 755-9

Mechanical Process Tolerance

EN 22768 mk

The design is offered by the customer. Ersas Aluminum A.S. is not responsible for using this design or adapt to another system by the customer

Anodizing provides a hard and durable surface by placing a protective oxide layer on the profile's surface. This surface is resistant to mechanical wear and offers excellent protection against weather conditions. Our standard profile length is 7.8 m. The acid etching applied during the anodizing process removes a small layer of aluminum from the profile surface; this should be taken into account in functional surface designs. The most common anodizing color is silver/natural. Additionally, we offer a wide range of colors from brown tones to black. It is not recommended to use anodized profiles in welding processes; if welded structures need to be anodized, it is advised to perform anodizing after welding.

Surface Treatments: Powder Coating

In the powder coating process, powder accumulates at the corners and ends of the profile. The most challenging areas to coat are the inside corners and U-shaped sections.

Design affects the smoothness of the powder-coated surface, so it should be considered as much as possible during the design phase.

When designing joints, hinges, and other precise functional points, the powder coating layer should be taken into account.

The minimum thickness of the powder coating layer is 60 µm.

Cutting and Processing

Cutting to Specific Lengths

Mitre Cutting

Drilling, Milling, Tapping, and Boring

3-4 Axis CNC Machines

Processing Lengths up to 7.5 Meters

Assembly

Laser Cutting

Processing and Profile Design

Planned operations should be considered during the design phase:

Interface Between Profile and Processing Standards:

When planning machining, the effect of profile tolerances on measurements should be taken into account. If necessary, extra material should be added to the profile to meet measurement and tolerance requirements.

Profile and processing tolerances can sometimes be contradictory:

Even if the profile is within the agreed dimensions but below the tolerances, it may not be possible to produce a machined product with tighter tolerances.

Extra material for machined surfaces:

The sizes of screw sockets and functional areas should be planned considering profile tolerances.

Surface treatments: before/after

(For example, small threads should be protected before anodizing.)

The dimensions of bent components may not fully comply with the most common processing standards.

1. Alloys

Unless otherwise stated, the alloy used is EN AW-6063 T6 and is in accordance with EN 573-3:2019 standards. Mechanical properties are determined according to EN 755-2:2016. If an anodized surface is required, it should clearly be stated in the order.

2. Tolerances

Profile tolerances are determined according to customer demands and areas of usage, according to EN 755-9 or 12020-2. The radius value for the edges will be 0.3.

3. Orders

Profile and component orders should be sent by e mail to:
sales@ersasaluminyum.com.tr.

ERSAŞ Systems Profile and component orders to: sales@ersassystems.com.tr .

The order must include the profile code, order quantity, delivery request, delivery and invoice address, customer order number and contact person. The order is deemed to be accepted by Ersas Alüminyum upon written confirmation to the orderer.

4. Order Changes and Cancellation

A confirmed order is always binding. In case of a change or cancellation agreed between the parties, Ersas Alüminyum reserves the right to invoice 10% of the original order value. Changes should always be made in writing and applied on a case-by-case basis. In case of an order change not agreed between the parties, the orders and conditions sent to Ersas Alüminyum will be valid. No change or cancellation may be requested after the commencement of production. Otherwise, Ersas Alüminyum has the right to request the payment of the entire value of to the order.

5. Delivery Lengths

The standard delivery length of the profiles is between 2.0-7.8 m, and the tolerance is determined according to EN 755-1. Different lengths can be delivered according to a separate agreement.

6. Prices

Unless otherwise stated, the prices given are in USD - Euro (EUR) and are determined with the assumption with a minimum order of 500 kg for 5 inches and 1000 kg for 7 inches per profile. Taxes, duties, financial obligations and similar payments are not included in the prices. The prices given are valid for 15 days from the date of the offer, excluding London metal exchange prices.

7. Payment Terms

Each delivery payment must be made in exchange for Ersas Alüminyum's invoice and before delivery. Term and other conditions must be agreed separately. Interest on overdue payments will be collected at the rate specified on each invoice.

8. Validity of Offers

Unless otherwise stated, the prices and conditions given are valid for 15 days from the date of the offer.

9. Execution of Orders

Orders for the delivery of goods must be submitted in writing. No order without written approval is binding.

10. Minimum Quantities

The minimum order quantity for standard or special profile orders is 500 kg. Smaller quantities will be charged additionally.

11. Terms of Delivery

Unless otherwise agreed, the prices given are determined according to EXW trading conditions and INCOTERMS 2020.

12. Property Rights

The ownership of the delivered goods shall remain with Ersas Alüminyum until the customer has fulfilled all its obligations under the business relationship. Unpaid goods must be stored separately by the customer. The extended property right is effective in countries where it is legally valid and is valid in Turkey.

13. Packaging

The prices quoted include standard export packaging, i.e. cardboard box, wooden rings, packaging with nylon strips.

14. Quantity Deviations

Ordered quantities are approximate quantities and delivered quantities may differ by +/- 10% from the ordered quantity. Invoicing will be made according to the delivered quantity.

15. Statements and Claims

Claims of defects regarding the delivered goods shall be made in writing within 14 days from the date of delivery and for transportation damages within 7 days from the date of delivery. Shall no claims of defects are made within this period, the delivered goods will be considered in accordance with the order in terms of quality and quantity.

16. Drawings

All drawings and models made by Ersas Alüminyum are the property of Ersas Alüminyum and shall not be copied or disclosed to third parties without written permission.

17. Anodized and Powder Coated Profiles

The suspension marks of the profiles may be seen on the edges and the ends of the profiles. Any additional support required in the middle of the profile, may create an additional trace.

18. Storage of Anodized and Raw Profiles

The profiles contained in the transport package and to be installed or processed later should always be stored in a dry place, protected from rain, direct sunlight and the risk of mechanical damage. The packaging of the profiles should not be wet or in contact with moisture.

19. Surface Cleaning

Surfaces should be checked and cleaned at least once a year. They should be washed with a synthetic, neutral (pH 5-8) solution of detergent, and then rinsed with clean water at room temperature. Mechanical tools, steel wool, steel brushes etc. should not be used in cleaning. In addition, acidic or alkaline cleaning detergents should not be used.

20. Extrusion Molds

All extrusion molds in Ersas Alüminyum are the property of Ersas Alüminyum, regardless of whether they are paid by the customer or Ersas Aluminum. Molds for custom profiles may only be used by the original customer request or by written permission. Custom molds will be stored for three (3) years from the final delivery of the profile and then be destroyed. By a written agreement between the parties, the molds can be stored for a longer period of time, provided that the costs will be borne by the customer. In the event that the customer is liquidated, bankrupt or ceases to operate, all rights regarding the molds will terminate. No binding delivery period may be given for first delivery with a new mold. Making new molds ready for production may require a few trials and corrections.

21. Force Majeure

Natural disasters, fires, floods, landslides, earthquakes, strikes, lockouts, wars, internal rebellions, terrorism and similar reasons; the simultaneous failure of machines or vehicles and any spare molds may make it impossible to fulfill the contractual obligations on time. No change or cancellation of the order can be requested by the customer during the period of force majeure.

22. Dispute Resolution

The law governing this order and the business relationship between the Parties is the substantive and procedural law of the Switzerland. In the event of a dispute between the Parties, the Parties shall come together within 10 (ten) days following the written notification of the dispute by one Party to the other and attempt to reach an agreement on the resolution of the dispute. If the Parties do not come together within this period and/or cannot reach an agreement within 10 (ten) days from the date of their meeting, Zurich Courts shall have jurisdiction to resolve the disputes.



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kuruluşudur.

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