



Technical Data Aluminum Profiles

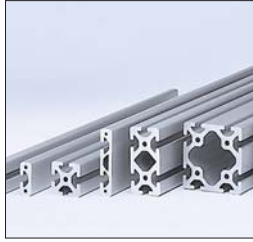
技术参数工业铝型材

Selection of Profile Line

型材系列的选择



Profiles of Line 6 型材 6 系列



Profiles of Line 8 型材 8 系列

When selecting the appropriate profile Line, you need to consider the maximum profile load anticipated. The correct size of profile can be found from a calculation of the stress due to bending and material strain, taking into account appropriate safety reserves.

当选择适当的型材系列时，你需要考虑型材的预期最大载荷。通过计算弯曲和材料应变所造成的应力，并考虑适当的安全余量，从而确定型材的正确尺寸。

For areas with lower loads, "light duty" profiles are available in Line 6 and "light duty" and "E" (Economy) profiles in Line 8. This ensures that all components can still be used throughout, and that the construction is not only cost-effective, but can also accommodate the appropriate stresses.

对于载荷较低的区域，可以采用 6 系列的“轻载”型材以及“轻载”和“E”（经济型）8 系列的型材。这样可以确保所有零部件都物尽其用，结构不仅具有成本效益，而且能够承受适当的应力。

Technical Data

技术数据

Extruded Profile

Symbol Al Mg Si 0.5 F 25
Material number 3.3206.72
Status: Artificially aged

Mechanical details (apply only in press direction)

Tensile strength Rm	min. 245 N/mm ²
0.2 limit Rp 0.2	min. 195 N/mm ²
Density	2.7 kg/dm ³
Ductile yield A ₅	min. 10 %
Ductile yield A ₁₀	min. 8 %
Linear coefficient of expansion	23.6x10 ⁻⁶ 1/K
Mod. of elasticity	approx. 70,000 N/mm ²
Modulus of rigidity	approx. 25,000 N/mm ²
Hardness	approx. 75 HB-2.5/187.5

Tolerances

Deformations such as straightness and flatness tolerance to DIN EN 12020 Part 2. Profiles not cut to size and supplied in packs may be slightly longer than specified, due to manufacturing methods. Profile stock lengths may exceed stated usable lengths by up to 100 mm.

挤压型材

符号 Al Mg Si 0.5 F 25
材料编号 3.3206.72
状态：经过人工时效处理

机械性能详情（仅沿压力方向受力）

拉伸强度 Rm	最小 245 N/mm ²
0.2 极限 Rp 0.2	最小 195 N/mm ²
密度	2.7 kg/dm ³
延伸率 A ₅	最小 10 %
延伸率 A ₁₀	最小 8 %
延展的线性系数	23.6x10 ⁻⁶ 1/K
弹性模量	大约 70,000 N/mm ²
刚性模量	大约 25,000 N/mm ²
硬度	大约 75 HB-2.5/187.5

公差

直线度和平面度等变形的公差，符合 DIN EN 12020 标准的第 2 部分。由于制造方法的缘故，型材并没有切割到所要的尺寸，而是比规定的长度稍微长一些。型材的标准长度比标示的可用长度可能最多超出 100 mm。



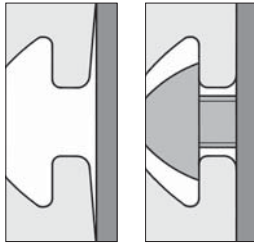
Surface

The aluminium profiles are natural (CO) anodized and are therefore permanently resistant to scratching and corrosion. Surface with matt finish (E 6), anodized and compressed oxidation. Minimum layer thickness 10 µm, layer hardness 250 - 350 HV.

This all-round hard anodized surface covering makes the saw cut virtually burr-free, so that it does not require remachining.

All standard Profiles, Profiles light and Profiles E of all Lines feature defined points of support on the profile exterior and inclined groove flanks.

The defined points of support ensure a firm and stable connection with all other components. The controlled elastic deformation of the groove flanks pre-tensions the fastening screw in all operating states and protects the connection against vibration.



表面

铝质型材经过氧化银白色 (CO) 阳极化处理，因此能够永久性地抗刮擦和耐腐蚀。

表面经过消光处理 (E 6)、阳极化处理和加压氧化处理。处理层最小厚度为 10 µm，硬度为 250-350 HV。这种全方位硬质阳极化处理的表面覆盖层使得锯痕几乎没有毛刺，因此它不需要再进行机械加工。

所有标准系列型材、轻型系列型材和 E 系列型材的特征是，在型材外部和倾斜槽轨侧面具有规定的支撑点。

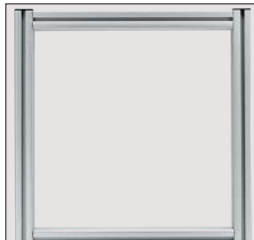
规定的支撑点能够确保与其它零部件构成坚固和稳定的联接。在任何工作状态下，通过预先张紧固定螺钉都可以控制槽轨侧面的弹性变形，并防止联接出现振动。

Recommended Assembly Configurations

推荐的安装配置

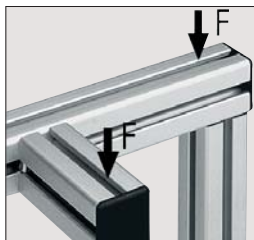


Vertical through profiles 垂直贯通型材



Where possible, the vertical profiles should extend through the entire height; this simplifies connection of the floor elements and improves the overall appearance.

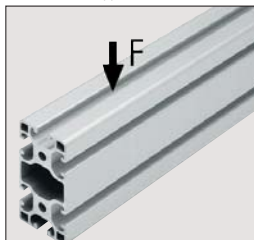
如果可能，垂直型材应当延伸通过整个高度；这将简化地板元件的联接，并改进整体性能。



Load-resistant support 抗载荷支撑

Structures should be designed to withstand the loads likely to be placed on them, i.e. by avoiding torsional stress at the connection points and by giving preference to positive locking over friction resistance in the direction of applied force in all the connections.

设计结构应避免联接处的扭曲应力，以及沿受力方向优先主动锁定所有联接中的摩擦阻力，从而使其能够承受可能施加其上的载荷。



Preferred orientation of profile 型材的优先定向

Where possible, profiles should be installed so that the largest section dimension opposes the load in order to achieve the maximum flexural strength.

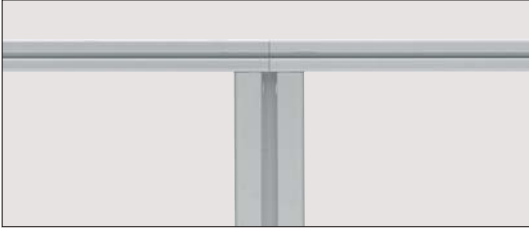
在可能的情况下，型材的安装应当能够利用最大截面尺寸来抵抗载荷，以取得最大挠曲强度。



Attachment on the profile 型材上的附件

Avoid breaks in the supporting profile when installing additional attachments; the benefits include greater stability, fewer cuts, fewer connections and reduced assembly time.

当安装附加的附件时，应避免支撑型材发生断裂。这样做的益处包括：稳定性更好、切口更少、联接更少，并缩短了安装时间。



Support for a joint 连接件的支撑

Extend the profiles only with the aid of the corresponding fastening elements and, where possible, support them at the joints.

仅通过相关紧固元件的辅助即可延伸型材，如果可能，在连接件处支撑元件。



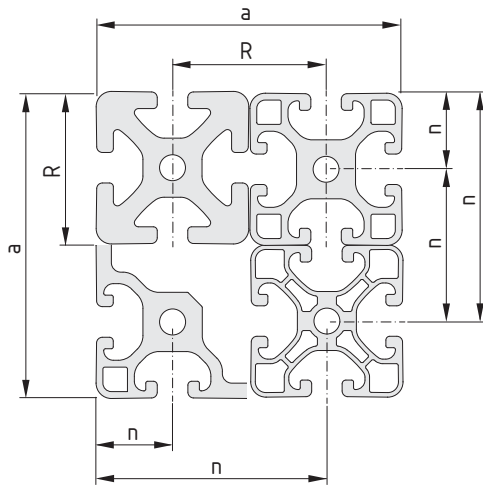
Anodized surfaces in contact 阳极化处理的接触表面

If it is not possible to avoid anodized surfaces being in direct contact with one another, the contact points must be greased. This will help to avoid any noise which might result from movement.

如果无法避免阳极化处理的表面相互直接接触，接触点必须得到润滑。这将有助于避免可能由运动造成的任何噪声。

Groove position, external dimensions and modular dimensions

槽轨位置、外部尺寸和模块化尺寸

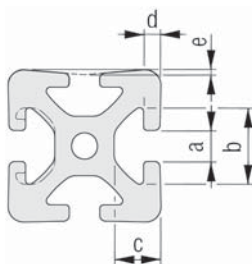


Modular dimensions R [mm] 模块化尺寸 R [mm]	
30	40

Profil edge length a [mm] from 型材边缘长度 a [mm] 从	up to 到	Tolerances of external dimensions a and groove position n ± [mm] 外部尺寸 a 和槽轨位置 n ± [mm] 的公差
20	40	0.30
40	60	0.35
60	80	0.40
80	100	0.45
100	120	0.50
120	160	0.60

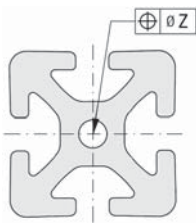
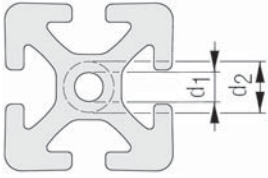
Groove Dimensions

槽轨尺寸





a	6.2 ^{+0.3}	8.0 ^{+0.4}
b	16.3 ^{+0.3}	20.0 ^{+0.4}
c	9.75 ^{+0.2}	12.25 ^{+0.3}
d	3.0 ^{-0.25}	4.5 ^{+0.3}
e	0.15 ^{±0.1}	0.2 ^{±0.1}

Core Bore 芯孔



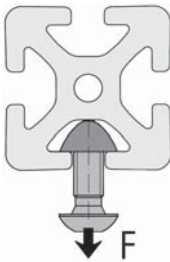
The hole position tolerance depends on the number of core bores and the profile contour.

孔位公差取决于芯孔数量和型材外形。

		
Hole 孔 d_1	$\varnothing 5^{+0.2}$ mm for M6 $\varnothing 5^{+0.2}$ mm M6 采用	$\varnothing 6.8_{-0.2}$ mm for M8 $\varnothing 6.8_{-0.2}$ mm M8 采用
reborable up to d_2 可重新 钻孔到 d_2 以内	$\varnothing 8$ mm or M8 $\varnothing 8$ mm 或 M8	$\varnothing 13$ mm or M12 (not Profile E) $\varnothing 13$ mm 或 M12 (不包括型材 E)



Profiles with Open Grooves 带有开式槽轨的型材		Closed Grooves 封闭式槽轨	
Number of Holes 孔的数量	z [mm]	Number of Holes 孔的数量	z [mm]
1	0.4	1	0.6
2 to 4 2 至 4	0.6	> 1	0.8
> 4	0.8		

Tensile Loading 拉伸载荷



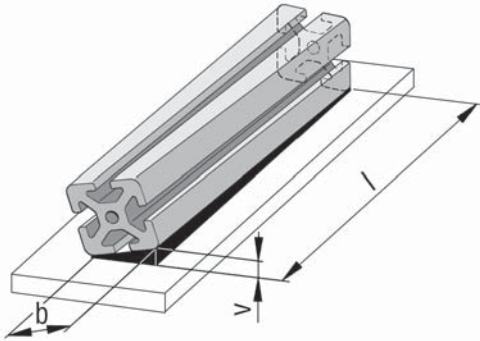
The allowable tensile forces on the groove flanks. These nominal loads include safety factors ($S > 2$) against plastic deformation.

槽轨侧面允许承受的拉伸力。这些标称载荷包括防止塑性变形的安全系数 ($S > 2$)。

Groove form 槽轨类型		
normal 正常	1,750 N	5,000 N
light 轻型	500 N	2,500 N
E E 型		1,750 N

Torsion

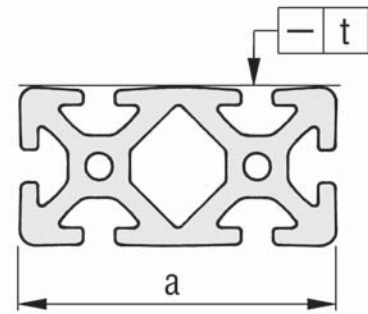
扭转



b [mm] from b [mm] 从 到	Torsion tolerance v for Length l [mm] 扭转公差 v 适用于长度 l [mm]					
	up to 最高 1,000	up to 最高 2,000	up to 最高 3,000	up to 最高 4,000	up to 最高 5,000	up to 最高 6,000
25 50	1.0	1.2	1.5	1.8	2.0	2.0
50 75	1.0	1.2	1.2	1.5	2.0	2.0
75 100	1.0	1.5	1.8	2.2	2.5	3.0
100 125	1.2	1.5	1.8	2.2	2.5	3.0
125 150	1.2	1.5	1.8	2.2	2.5	3.0
150 200	1.5	1.8	2.2	2.6	3.0	3.5

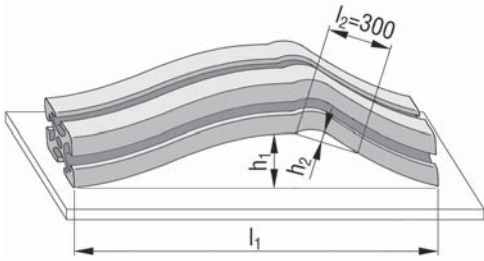
Straightness Tolerance transverse

横向直线度公差



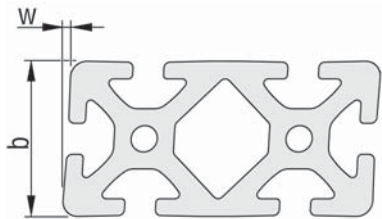
Width a [mm] from up to 宽度 a [mm] 从 到	Straightness Tolerance t [mm] 直线度公差 t [mm]
0 80	0.3
80 120	0.4
120 160	0.5

Straightness Tolerance longitudinal 纵向直线度公差



Length 长度 l_1 [mm]	Tolerances 公差	
	h_1 [mm]	h_2
up to 1,000 最高 1,000	0.7	For every length section of $l_2 = 300$ mm, a maximum deviation of 0.3 mm is allowed 对于型材的每个长度段 $l_2 = 300$ mm, 允许的最大误差为 0.3 mm
up to 2,000 最高 2,000	1.3	
up to 3,000 最高 3,000	1.8	
up to 4,000 最高 4,000	2.2	
up to 5,000 最高 5,000	2.6	
up to 6,000 最高 6,000	3.0	

Angular Tolerance 角公差



Width b [mm] from up to 宽度 b [mm] 从 到	Angular Tolerance $w \pm$ [mm] 角公差 $w \pm$ [mm]
20 40	0.4
40 80	0.6