Aluminum Extrusion Q&A

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Q. I want to size aluminum extrusions, what's a guideline?

A. MISUMI Aluminum Extrusions are comprised of the following product series.
Slot Width 6: 5 Series (20, 40mm square) for small coverings, small part racks, etc.
Slot Width 8: 6 Series (30, 50, 60mm square) for medium coverings, conveyor frames, etc.
Slot Width 10: 8 Series (40, 80mm square), 8-45 Series (45, 90, 50, 100, 60mm square) for larger clean booths, equipment bases and structural material, etc.
Find the weight that will apply on the extrusion frame, and select the extrusions from the tables on **P.521**.

Q. I want to size some brackets, what's a guideline?

A. Applicable brackets and load capacity guidelines for each extrusion type are separately listed on bracket product pages.
• If brackets interfere with panels and others, use Blind Brackets (**P.550**, etc.) Simple Joints (**P.604**, etc.), Tapping Joints (**P.552**, etc.), Screw Joints (**P.552**, etc.), Single Joints (**P.609**, etc.), Center Joints (**P.553**, etc.), Post Assy. Insertion Double joints (**P.554** , etc.) and Pre Assy. Insertion Double Joints (**P.611**, etc.).

Q. What is the aluminum material used?

A. EN AC-51400-T5 Equiv. (JIS Symbol) is used for HFS, HFSL and EFS Series. EN AW-6063-T5 Equiv. (JIS Symbol) is used for NFS Series.
The High Rigidity Type is made with A6061SS-T6 Equiv. with more strength.
For detailed data for this material, see Alum. Extrusion Material Data on **P.514**.

Q. What is cutting tolerance?

A. Within ±0.5mm of customer specified length.

Q. What are the surface treatment methods used for?

A. The extrusion surfaces are anodized (9μm or more). Cut surfaces are not anodized.
* Glossy clear coated aluminum extrusions are pre-anodized (9μm or more), then clear-coated (7μm).

Q. How are the extrusions cut?

A. The extrusions are cut with carbide tipped saws for soft steel material. Use the Extrusion End Caps (**P.567**, etc.) to cover the open cut ends after assembly.

Q. What is the cut's perpendicularity?

A. Since the extrusions do not have any datum, perpendicularity of cuts is not defined.

Q. Can JIS standard hex nuts and square nuts be used with the extrusions?

A. No, they cannot be used. Our dedicated nuts are designed with larger seating areas to prevent aluminum from buckling under load.
* Flat Extrusions (**P.743, 745**) can be used with standard nuts.

Q. The nuts fall within extrusion slots when the extrusions are vertically positioned.

A. Mount "Pre-Assembly Insertion Stopper (**P.559, 619, 669, 715**)" on Pre-Assembly Nut Insert them into the slot.
Post-Assembly Insertion Nut and Stopper Sets (**P.562, 622, 672, 718**) are also available.
When many nuts are required, Pre-Assembly Insertion Spring Nuts (**P.560, 620, 670, 716**) and Post Assembly Insertion Spring Nuts (**P.563, 622, 672, 718**) are more convenient to use.

Q. What are the proper tightening torques for the nuts and hex socket cap screws?

A. See the tightening torque (N・m) references on each nut page.
Post-Assembly Insertion Easy Brackets **P.544, 595, 652**, Pre-Assembly Insertion Nuts **P.559, 619, 669, 715**, Post-Assembly Insertion Nuts **P.562, 622, 672, 718**, Long Nuts **P.566, 626, 676, 722**, Flanged Nuts **P.565・625・675・721**
* Conditions vary depending on bracket and washer uses. Use as approximated references.

Q. I want to mount resin panels on aluminum extrusion...

A. There are following methods to mount resin panels. Select an applicable method specific to your application. (**P.804**)
(1) Mounting panels on brackets within the extrusions.
This method results in aesthetically good appearance, and makes for easy install/remove of the panels. Recommended for Safety Covers, etc.
(2) Fitting in the extrusion slots.
Requires no panel drilling or screws, and recommended for applications where designed appearance is of high priority.
(Some notching of the panels may be required depending on the type of brackets in use.)
(3) Mounting panels on the outside of the extrusions.
Pre-insert nuts with stoppers in the extrusion slots, and use Panel Mounting Screws (**P.751, 754**) to mount the panels.
Specify M5 tap for the nuts to be used (Ex. HNTT6-5)

Q. How can I mount doors on my extrusion frame?

A. There are following methods to mount resin panels. Select an applicable method specific to your application.
Resin Plate Doors: See **P.805~814** for Hinges, Handles, etc.
Extrusion Frame Doors: Use Cover Plates and HFS5-2020/HFS6-3030 extrusions to construct the doors.
* Extrusions for Doors HFTF Series (**P.854**) can be used in place for the HFS Series for even easier door creation.

Q. I want to mount adjusters and casters.

A. Adjusters and Casters useable for each extrusion size are offered. (**P.831~846**)

Q. Any precautions on the assembly?

A. • Provide a flat and ample space for the assembly work.
• For orthogonality checks and face leveling during the assembly, use plates (assembly fixture on **P.846**) for your convenience.
• We recommend that you purchase some Post Assy. Ins. Nuts prior to the assembly work as spares.
• Be sure to check for the screw torques after the assembly is complete.

Q. Is Express-T for extrusions free of charge?

A Yes, and we intend on keeping it free. If same day shipping is desired, simply specify as Express-T. There is no additional charge for the service. (Aluminum Extrusions for Brackets (**P.742**), Aluminum Extrusions (**P.749, 750**), Fence Extrusions (**P.747**) are not subject to free Express-T service.)

Q. What is Fixed Length Extrusion (Effective Length 4000mm)?

A It indicates the extrusion with 4000mm or more effective length. The actual length with extra lengths on ends is more than 4000mm (several tens of mm). Fixed Length Extrusions need to be cut by users thus the exact length cannot be specified.