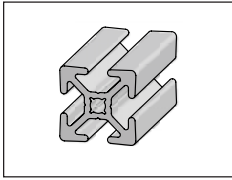
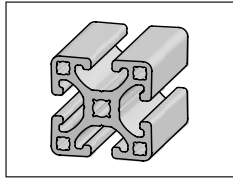


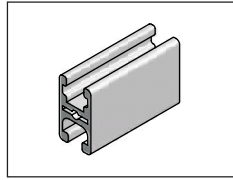
Section 1 – Profiles



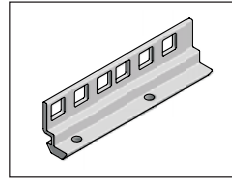
Basic Profiles - 1"
Pages 16-17



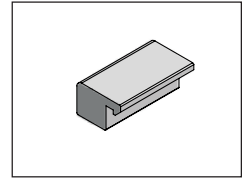
Basic Profiles - 1.5"
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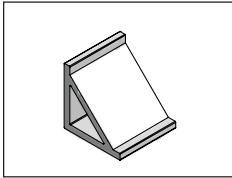
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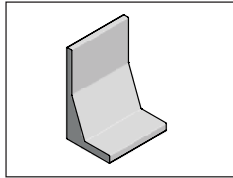
Rack Angle Profile
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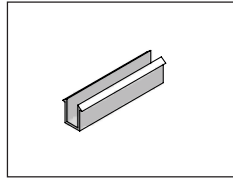
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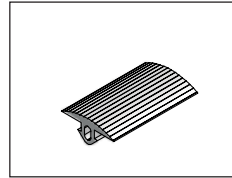
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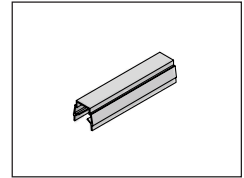
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Panel Gaskets
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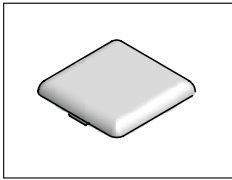


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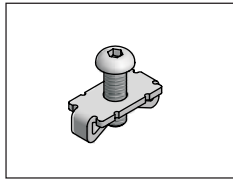


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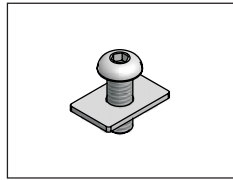
Section 2 – End Caps & Fasteners



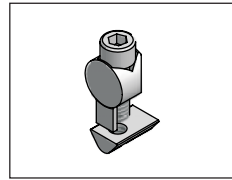
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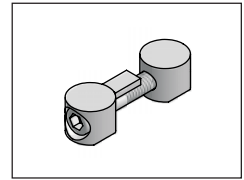
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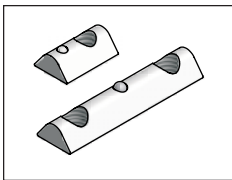
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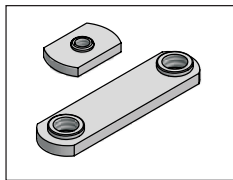
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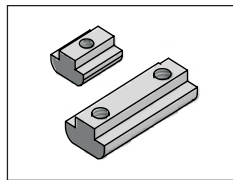
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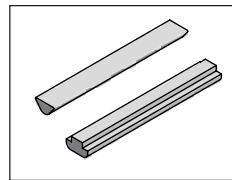
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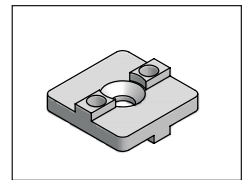
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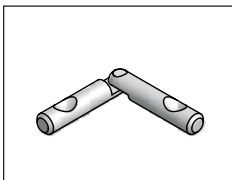
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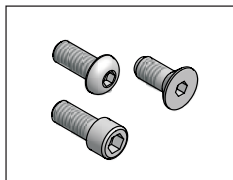
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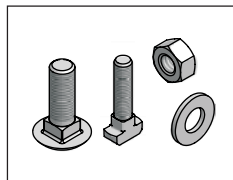
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Miter Connectors
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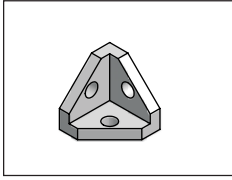


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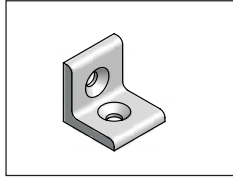


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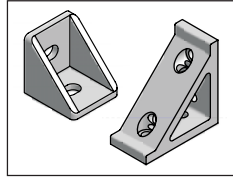
Section 3 –Gussets, Plates & Brackets



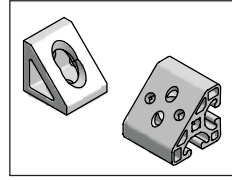
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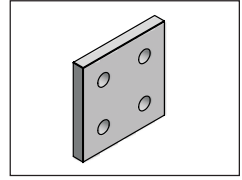
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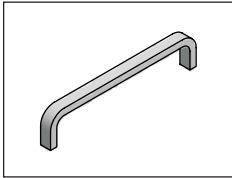


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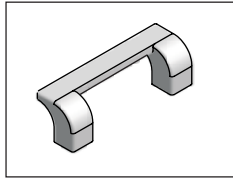


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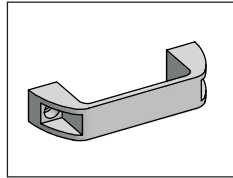
Section 4 –Handles, Hinges & Safety Switches



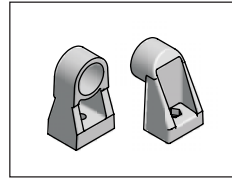
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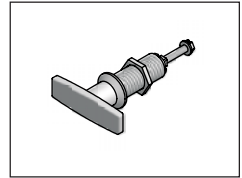
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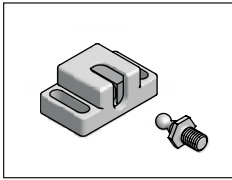
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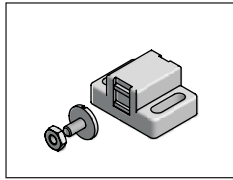
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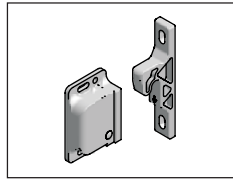
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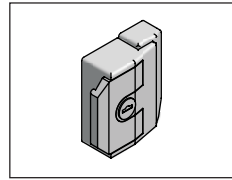
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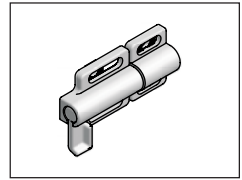
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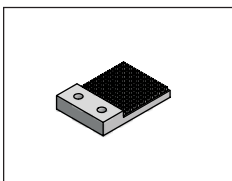
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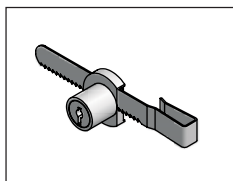
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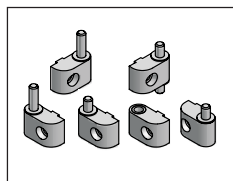
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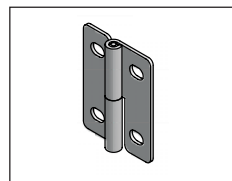
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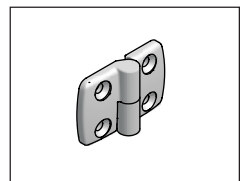
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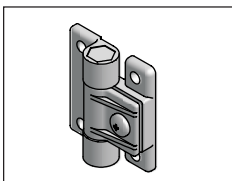
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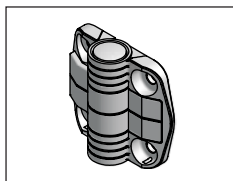
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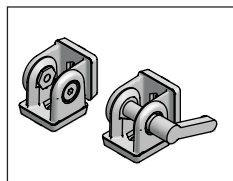
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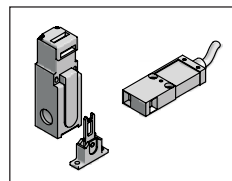
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Positioning Hinges
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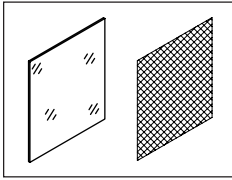


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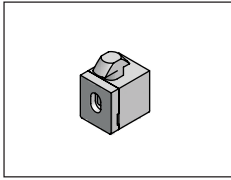


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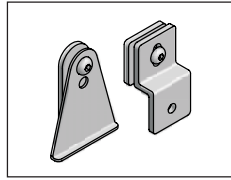
Section 5 –Panels & Accessories



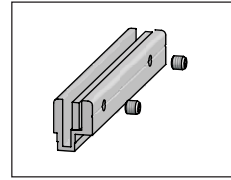
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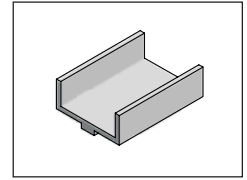
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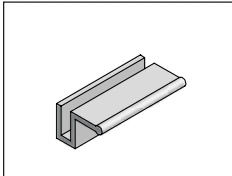
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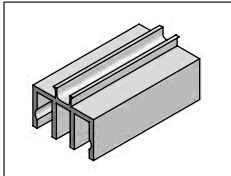
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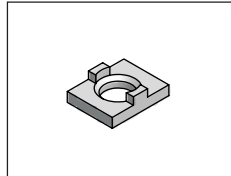
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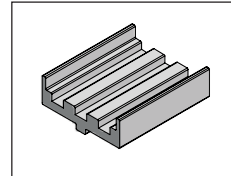
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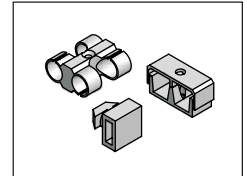
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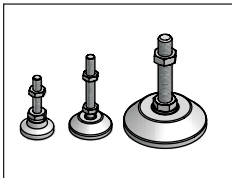


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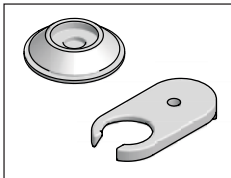


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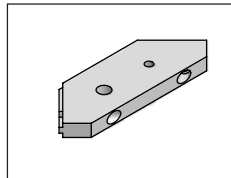
Section 6 –Feet & Casters



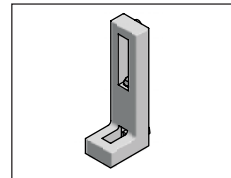
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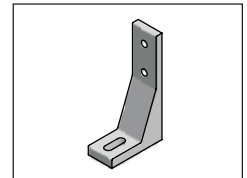
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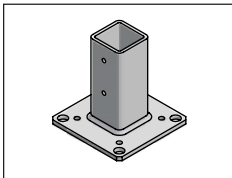
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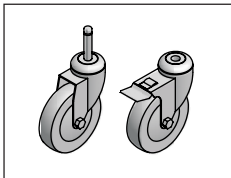
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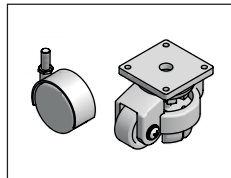
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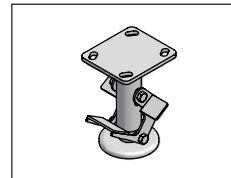
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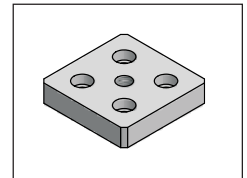
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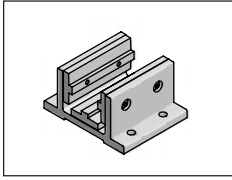


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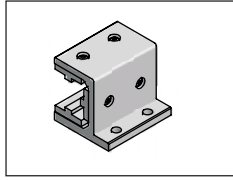


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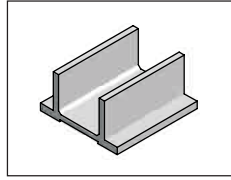
Section 7 –Slide Blocks & Linear Motion



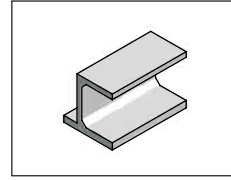
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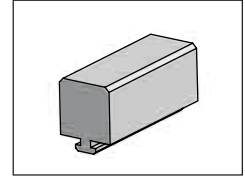
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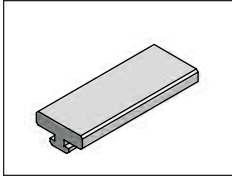
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Side Flange Profiles
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Slide Bar Profiles
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Slide Strip Profiles
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Section 8 –Additional Products

Section 9 –Services and Assembly Tips

Section 10 –Part Number Index

Profile Information

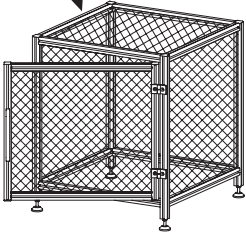
Each profile page in the catalog includes:

- application information and examples
- technical information about the product
- dimensions
- how to assemble
- recommended fasteners and end caps
- ordering information (part #, unit and weight)
- UPS packaging, if available
- saw cut part number
- additional accessories

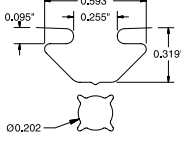
Application Example

Catalog **Basic Profiles**
Industrial Profile Systems **Profiles**

1" Series

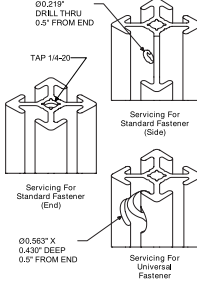


Slot Detail



1" T-SLOT DETAIL

Machining for Assembly



Application

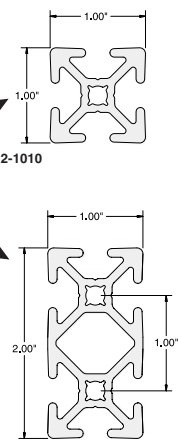
1" Series Profiles are designed for safety guards, enclosures, shelves, and other light to medium duty applications. T-Slots on four sides allows for effortless mounting of accessories directly onto the structure without additional machining. The T-Slot is smaller than the 15 series requiring different hardware. With 12-1020 higher rigidity can be attained by orienting the extrusion on its 'y' axis for heavier applications.

Technical Data

Aluminum, Clear Anodized (See Technical Data page for full material and finish Specification)

Part #	Ix [in ⁴]	Iy [in ⁴]	Section [in ²]	Weight [lb/ft]
12-1010	0.046	0.046	0.439	0.516
12-1020	0.085	0.310	0.785	0.923

Dimensions



Application Information

Ordering Information

1" X 1" Profile
1" X 1" UPS Package

1" X 2" Profile
1" X 2" UPS Package

* Saw Cut Needed for Cut to length
No saw cut needed for UPS packages.

Technical Information

Unit

12-1010 Cut off max. 240 in
6 Pieces @ 96 in

12-1020 Cut off max. 240 in
4 Pieces @ 96 in

19-001

Part #

12-1010

12-1010PKG

12-1020

12-1020PKG


UPS Packaging

Saw Cut

Mating Components

Quick Reference for Mating Components

Fasteners	Structural Accessories
1" Standard Fastener 25-022	Levelers pg xx
1" Universal Fastener 25-023	Casters pg xx
	Plates pg xx
	Gussets pg xx
	Pneumatics pg xx


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Parker Hannifin Corporation
Industrial Profile Systems Business Unit
Wadsworth, Ohio USA

Product Information

Each product page in the catalog includes:

- application information and examples
- technical information
- dimensions
- how to assemble
- recommended fasteners, if applicable
- ordering information (part #, unit and weight)

Profile Compatibility

As a quick reference for product usage, a symbol appears next to the Application heading(s) on each page.



- This symbol represents the 1.5" series. Products with this symbol are compatible with the T-slots of the 1.5" profiles



- This symbol represents the 1" series. Products with this symbol are compatible with the T-slots of the 1" profiles

Catalog
Corner Brackets

Industrial Profile Systems
Gussets, Plates & Brackets

Corner Bracket

How to Assemble →

Technical Information →

Profile Compatibility →

Application Information → **Application**
 Corner brackets are used for connecting 1.5" Series profiles at right angles. Ideal solution for construction of display cases, tables, cover hoods, etc. Corner caps are designed to match the contour of the profile.

Recommended Fasteners → **Recommended Fastening Hardware (Included)**
 Screws 5/16-18 x 3/4" [25-112-5]

Ordering Information →

Ordering Information	Unit	Weight	Part #
Corner Bracket 1.5"	Each	4.23 oz	22-153
Connector Cap 1.5", Radius	Each	0.28 oz	22-154
Connector Cap 1.5", 3 x 45°	Each	0.32 oz	22-155

Application Example →

Dimensions →
22-153

Part # →
22-154

22-155

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Parker Hannifin Corporation
 Industrial Profile Systems Business Unit
 Wadsworth, Ohio USA

Ordering Choices

Parker offers several ways to order Inch product so that you can choose a level of service to suit your needs. You can order everything from a bundle of uncut profiles to a completely assembled structure.



- **Bundles** –IPS Inch product line can be ordered as bundles of profiles and packages of fasteners and accessories to machine and assemble at your location.
- **Order profile by bundle** –bundle sizes are shown on page detailing the profile
- **Order UPS packages of extrusion** –details and quantity of pieces specified on profile pages. These bundles are specifically cut to length and packaged to be shipped out of our facility via courier to get to your location quicker.
- **Kits** –IPS Inch product line can be ordered in a kit form where the profiles are cut and machined to order and fasteners and accessories are included based on a parts list. This kit can be assembled at your location.
- **Complete Assembly** –IPS Inch product line can be ordered completely assembled and shipped as an assembled unit. Shipping costs should be a consideration when using this method.

Machining Services

- **Order cut to size** –specify the length in inches. Either fractional or decimal dimensions can be used. E.g. 23.5 inches or 23 $\frac{1}{2}$ inches; (see conversion chart for fraction to decimal conversion). A cut charge will be included with cut-to-size lengths.
- **Additional machining** should also be specified along with the profile if it is required for fasteners or accessories. Standard machining options include tapping, drilling, and counter boring. See machining services pages in this catalog for correct part numbers. Any additional custom machining can be done by our expert machinists to ensure that your design is complete and to your requirements.

Choosing a Fastener/Accessory

What aspect is critical for fastening?

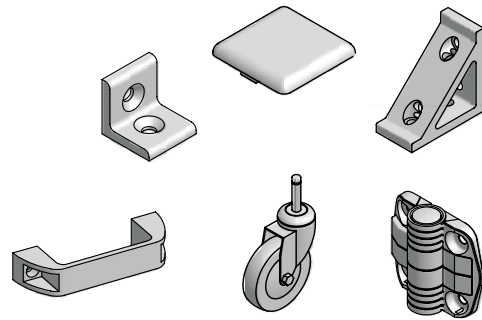
- Aesthetics/hidden (standard fastener, universal)
- Strength (universal fastener, standard)
- Ease-of-assembly/no machining (joining plate, gussets)
- Adjustability (gussets, angle bracket, universal)

When ordering universal fasteners or standard fasteners, machining operations are required for the fastener to work in a profile. Part numbers and descriptions for machining operations are found in the machining services section of the catalog.

Choices of Accessories

A full range of accessories are available to complete an assembly:

- T-slot covers
- end caps
- brackets and gussets
- joining and base plates
- casters
- hinges
- handles



What aspect is critical for accessories?

Parker offers a wide range of accessories to provide the right part for the special considerations of your application.

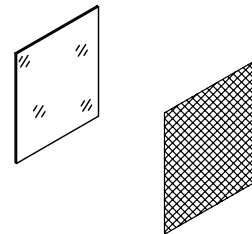
- Aesthetics
- Ease-of-assembly
- Load on structure/accessory
- Functionality

Panels & Wire Mesh

Panels and Wire mesh can be ordered as a full sheet or cut to a specified dimension in sq ft. When ordering full sheets, please add a P to the end of the part number that you are ordering (e.g. 26-790-6P)

Standard panel choices include:

- Polycarbonate
- Trespa®
- Expanded PVC
- ABS
- PVC coated wire mesh
- Aluminum Composite



Specialty panels of any material can be ordered for any project. Additional time may be required to expedite any specials.

Mechanical Properties

- All structural IPS profiles are prime aluminum, mill-certified with metallurgical properties of 6105-T5, 6005-T5, 6061-T6 or 6063-T6 specifications.
- Yield (0.2 limit) Rm min. 35,000 psi
- Tensile strength Rm min. 38,000 psi
Note: Cross sectional thickness variations of the profiles may influence yield and tensile strength.
- Elongation for 2 in. long specimens:
6105-T5 (up thru 0.5 in.), 6005-T5 (thickness up thru 0.124 in.), 6061-T6 (up thru 0.249 in.) - 8% min
6005-T5 (thickness 0.125-1 in.), 6061-T6 (0.25 in. and over) - 10% min
- Elasticity E approximately 10,150 kpsi
- Brinell Hardness approximately 75 HB 2.5/187.5
- The molecular structure of the 6005-T5 alloy is generally stable in an ambient temperature range of:
-40°F to +392°F
Extreme temperature fluctuations may change the mechanical properties.

Profile Finish

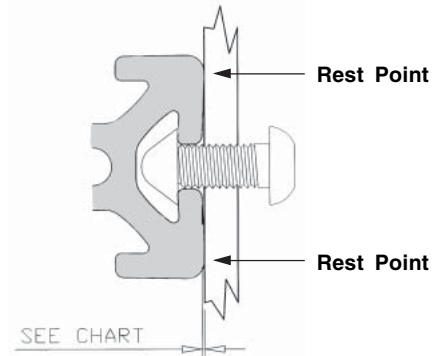
- Clear anodizing: 204R1, Clear
- Minimum depth: 0.0004 in.
- Custom anodizing and protective finishes available

Tolerances

- Outer dimensions depending on size ± 0.008 in. - 0.016 in.
- Extrusions conforming to Aluminum Association Standards Table 11.2 and to IPS blueprints.
- Twist per 1 foot length not to exceed 0.25° and total twist over 20 foot length not to exceed 1.5°.
- Flatness 0.004 in. per 1 in. of width.
- Straightness 0.0125 in. per 1 ft. of length and not exceeding 0.12 in. over 20 ft. of extrusion.
Maximum bow 0.12 in. over 20 ft.

Defined Rest Points

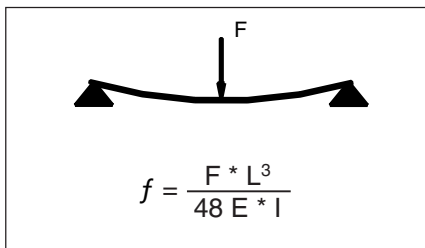
All 1.5" and 1" series profiles have a taper built-in to the T-slot. Preload in the material elastic range results in a vibration safe connection because the T-slot lips are pulled flush with the connecting surface during fastener tightening. The high quality material ensures that the profile T-slot will remember it's original shape if disassembly is required, making all IPS profiles completely reusable.



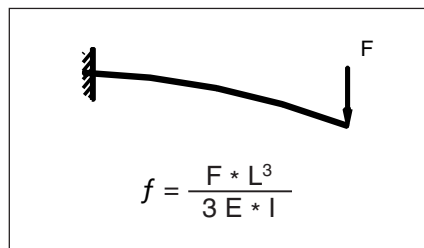
Profile Series	Preload Range
1.5	0.008 inches
1	0.008 inches

Formulas for calculating deflection at critical points

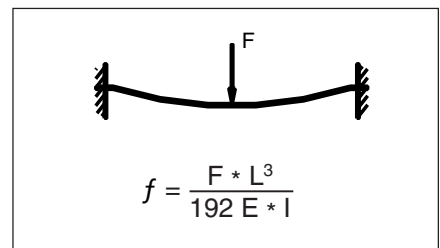
Supported at both ends



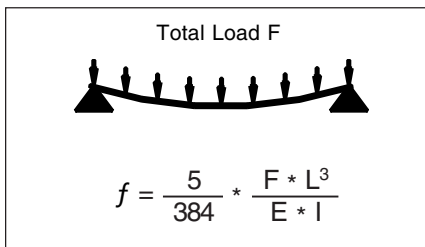
Fixed at one end



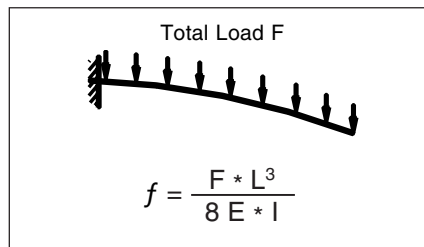
Fixed at both ends



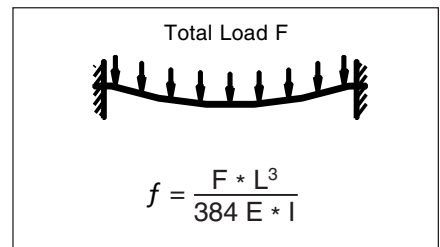
Total Load F



Total Load F

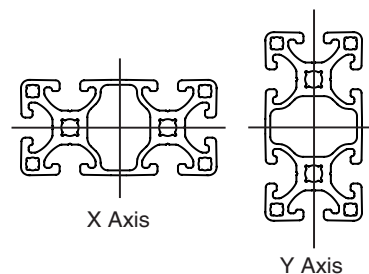


Total Load F



Where:

- f = deflection in inches
- F = Load in pounds (lb)
- L = free profile length in inches
- E = Modulus of Elasticity (10,150,000 lb-in²)
- I = Moment of Inertia in in⁴



Fractions to Decimals

Fraction	Decimal
1/16	0.063
1/8	0.125
3/16	0.188
1/4	0.25
5/16	0.313
3/8	0.375
7/16	0.438
1/2	0.50
9/16	0.563
5/8	0.625
11/16	0.688
3/4	0.75
13/16	0.813
7/8	0.875
15/16	0.938

Metric/English Conversions

Below is a conversion chart for converting metric and English units of measure for applicable physical conditions with this product line.

	Multiply	by	To Get
Linear	mm	0.03937	Inches
	Inches	25.4	mm
	cm	0.3937	Inches
	m (meter)	3.2808	Feet
	Feet	0.3048	m (meters)
Area	mm ²	0.00155	Inches ²
	Inches ²	645.16	mm ²
Volume	cm ³	0.06102	inches ³
	inches ³	16.387	cm ³
	inches ³	0.0165	liters
	Liters	61.024	inches ³
Mass	Gram (g)	0.0353	Ounce (oz)
	Ounce (oz)	28.329	Gram (g)
	Kilogram (kg)	2.2046	Pounds (lb)
	Pounds	0.4536	Kilograms (kg)
Velocity	Meters/Minute	3.281	Feet/Minute
	Feet/Minute	0.3048	Meters/Minute
Force	Kilograms-f (kgf)	9.807	Newtons (N)
	Newtons (N)	0.10194	Kilograms-f (kgf)
	Pounds-f (lbf)	4.448	Newtons (N)
	Newtons (N)	0.2248	Pounds-f (lbf)
Pressure	Bar	14.5	PSI
	PSI	0.069	Bar
Torque	Newton-Meters (Nm)	8.851	Pound-Inches (lb-in)
	Pound-Inches	0.11298	Newton-Meters (Nm)
Moment of Inertia	cm ⁴	0.02403	inch ⁴
	inch ⁴	41.623	cm ⁴