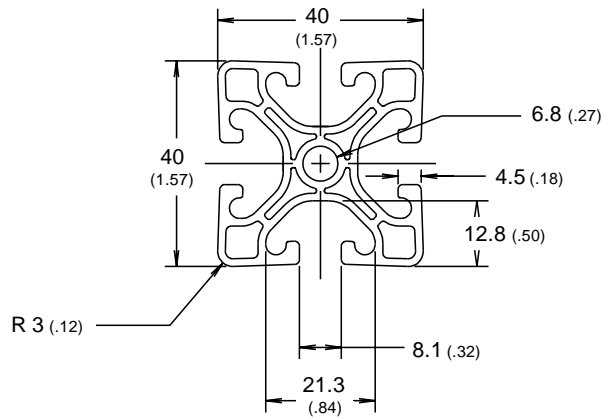


Dimensional Data

Part No. TSV4040

The TSV4040 profile is suitable for very light duty applications such as machine guarding/enclosures and for light duty structural applications.

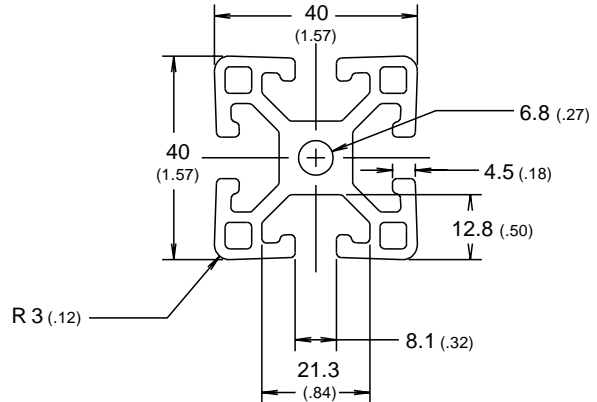
Weight: 1.50 kg/m (1.01 lbs/ft)
 Cross-Sectional Area: 5.44 cm² (.84 in²)
 Moment of Inertia: 8.36 cm⁴ (.201 in⁴)
 Section Modulus: 4.18 cm³ (.255 in³)



Part No. TSL4040

The TSL4040 profile is suitable for light to medium duty applications such as machine guarding/enclosures and structures.

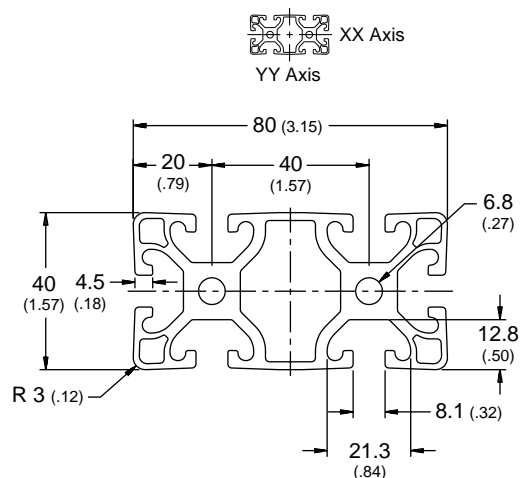
Weight: 1.86 kg/m (1.25 lb/ft)
 Cross-Sectional Area: 6.71 cm² (1.04 in²)
 Moment of Inertia: 10.07 cm⁴ (.242 in⁴)
 Section Modulus: 5.04 cm³ (.307 in³)



Part No. TSV4080

The TSV4080 profile is suitable for light to medium duty structural applications. The center of the profile can be used to house electrical or air lines, or as a manifold for pressurized air (150 psi maximum).

Weight: 2.95 kg/m (1.98 lb/ft)
 Cross-Sectional Area: 10.85 cm² (1.68 in²)
 Moment of Inertia: I_{xx} = 16.48 cm⁴ (.397 in⁴)
 I_{yy} = 64.57 cm⁴ (1.55 in⁴)
 Section Modulus: Z_{xx} = 8.25 cm³ (.503 in³)
 Z_{yy} = 16.14 cm³ (.985 in³)
 Internal Volume: 6.77 cm³/cm (1.05 in³/in)



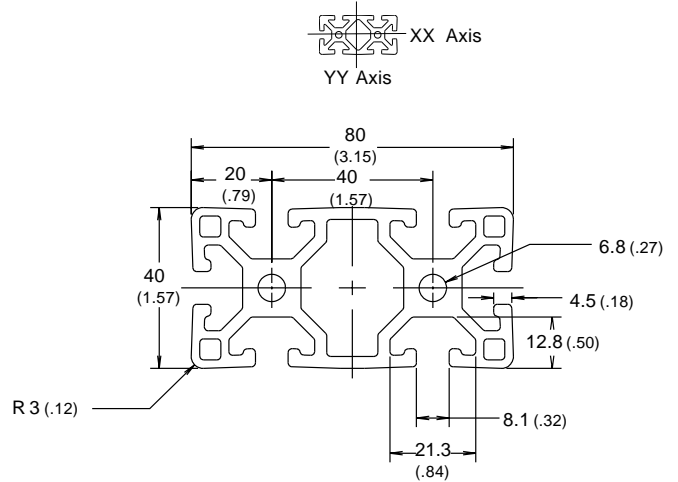
Note: All dimensions shown in mm (in)

Dimensional Data

Part No. TSL4080

The TSL4080 profile is suitable for light to medium duty structural applications. The center area of the profile can be used to house electrical or air lines, or as a manifold for pressurized air (150 psi maximum).

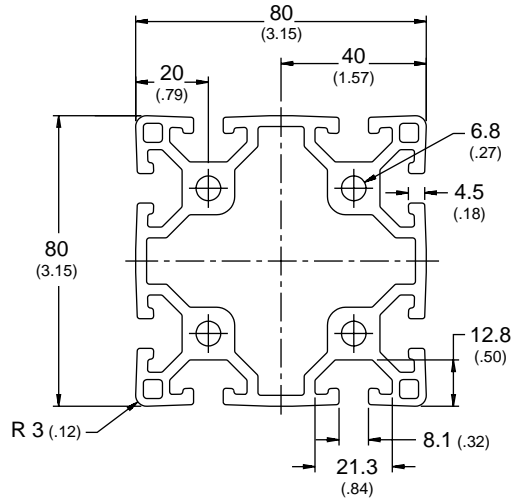
Weight:	3.34 kg/m (2.24 lb/ft)
Cross-Sectional Area:	12.02 cm ² (1.86 in ²)
Moment of Inertia:	I _{xx} = 19.37 cm ⁴ (.465 in ⁴) I _{yy} = 73.96 cm ⁴ (1.78 in ⁴)
Section Modulus:	Z _{xx} = 9.69 cm ³ (.591 in ³) Z _{yy} = 18.49 cm ³ (1.13 in ³)
Internal Volume:	6.44 cm ³ /cm (1.00 in ³ /in)



Part No. TSL8080

The TSL8080 profile is suitable for medium duty structural applications. The center area of the profile can be used to house electrical or air lines, or as a manifold for pressurized air (150 psi maximum).

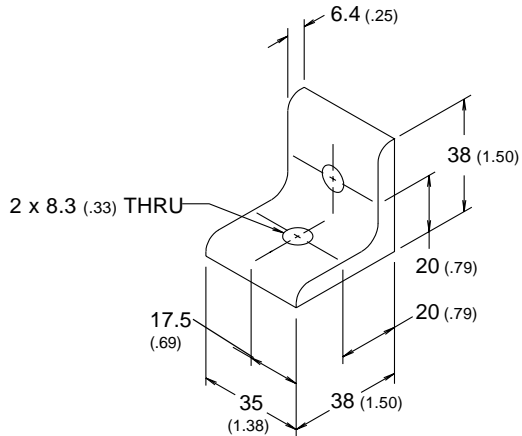
Weight:	5.12 kg/m (3.44 lb/ft)
Cross-Sectional Area:	18.87 cm ² (2.93 in ²)
Moment of Inertia:	133 cm ⁴ (3.20 in ⁴)
Section Modulus:	66.5 cm ³ (4.06 in ³)
Internal Volume:	27.00 cm ³ /cm (4.18 in ³ /in)



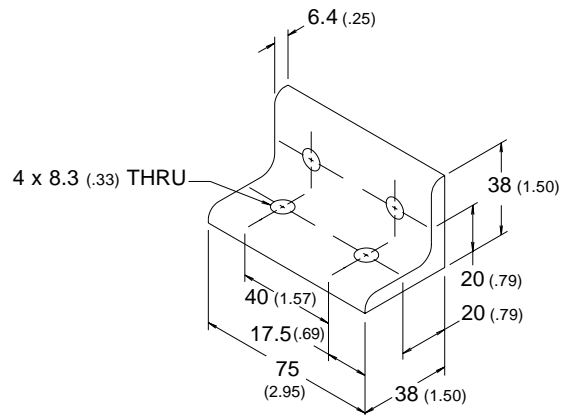
Note: All dimensions shown in mm (in)

Angle Brackets

TSB4040



TSB4080

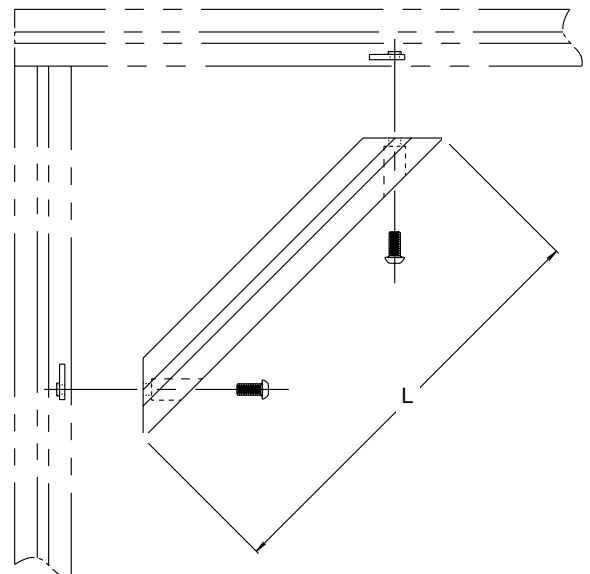
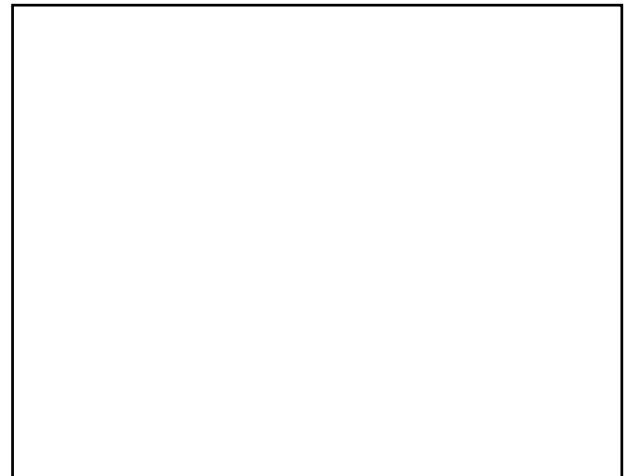


45° Support Brackets

These are used to provide a very high strength right angle connection. The chart below provides standard lengths. Custom lengths are available on request.

Machining Required: For a 45° support bracket, the profile requires a miter cut and counterbore operation - see Machining section.

Part No.	Material cm	Length			Weight
		in	kg	lb	
TSS2150	15	5.9	0.20	0.44	TSL4040 Extrusion Profile
TSS2300	30	11.8	0.48	1.06	
TSS2450	45	17.7	0.76	1.67	
TSS2600	60	23.6	1.04	2.29	
TSS5150	15	5.9	0.37	0.81	TSL4080 Extrusion Profile
TSS5300	30	11.8	0.87	1.91	
TSS5450	45	17.7	1.37	3.01	
TSS5600	60	23.6	1.87	4.11	



Hinged Support Bracket

These hinges may be mounted at the end or the side of 40mm profiles and are generally used for two purposes. First, they can eliminate miter cuts when mounted like a gusset and fixed (eliminating rotation with the pin). Second, they each provide free rotation as a pivoting joint. The axis of the pivot pin may be orientated parallel or perpendicular to the T-slot allowing maximum flexibility.

Die cast tabs provide alignment with the profile and may be broken off for side-of-profile mounting. A drill point is cast into the body. When drilled through, a pin may be pressed in. A roll pin is provided as standard for gusset-type support applications.

Hinged support brackets may be mounted using a single bolt or a pair of anchor fasteners. The twin anchor fastener mount (for end of profile only) will provide greatest rigidity.

Part No.: TSA0150

Material: Zinc Die Casting

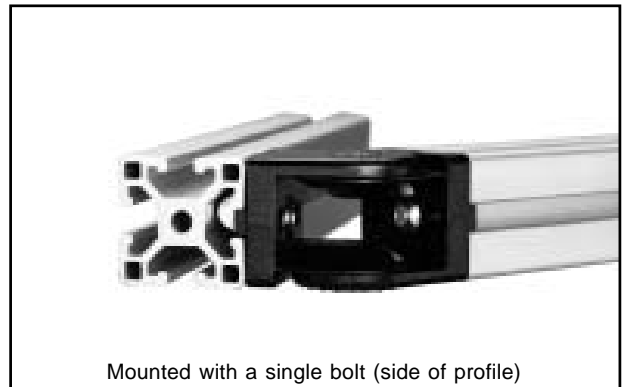
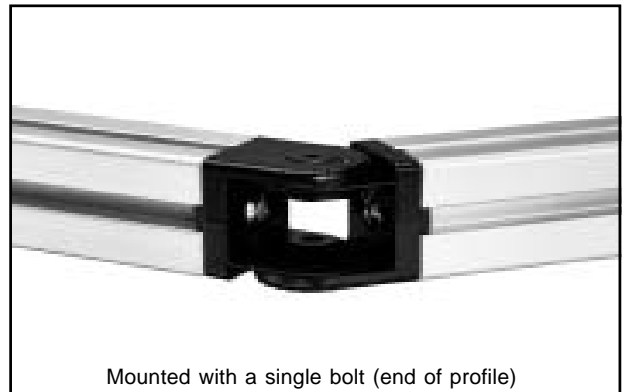
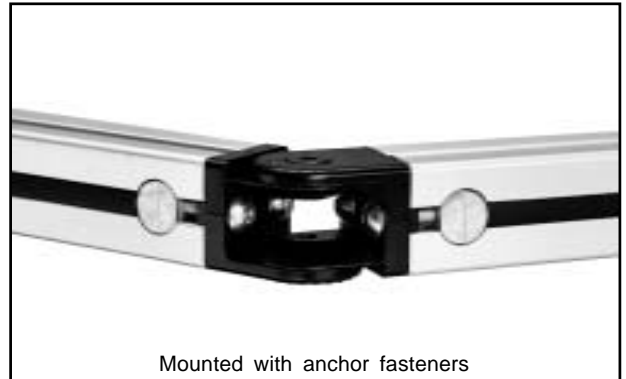
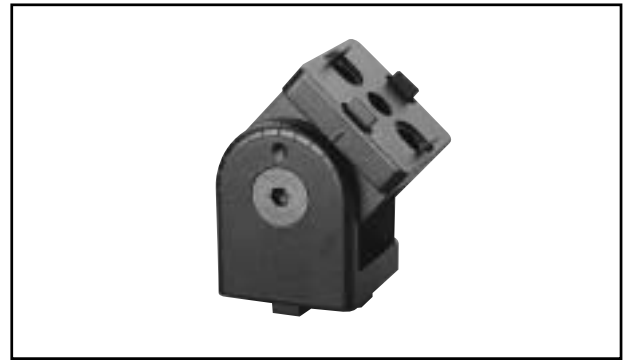
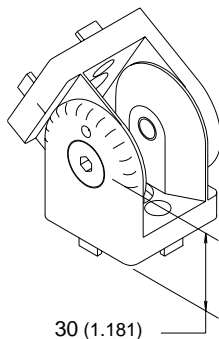
Color: Black

Machining Required: Anchor fastening assemblies utilize two counterbore operations. Refer to Machining section for details.

Fastening the hinge to the end of a profile requires tapping the end. Refer to the Machining section for details.

RECOMMENDED FASTENERS

Dimension	Anchor Fasteners	End of Profile	Side of Profile
Metric	TSF4008-35 (2 pcs)	TSF4008-25	TSF4008-18



Note: All dimensions in mm (in)

Hinged Support Bracket with Handle

These adjustable hinges may be mounted at the end or the side of 40mm profiles and are generally used for two purposes. First, they can eliminate miter cuts when mounted like a gusset. Second, they each provide free rotation as a pivoting joint. The axis of the pivot pin may be orientated parallel or perpendicular to the T-slot allowing maximum flexibility. Die cast tabs provide alignment with the profile and may be broken off for side of profile mounting.

Hinged support brackets may be mounted using a single bolt or a pair of anchor fasteners. The twin anchor fastener mount (for end of profile only) will provide greatest rigidity.

Handle allows for fixed positioning without drilling and pinning.

Part No.: TSA0152

Material: Zinc Die Casting

Color: Black

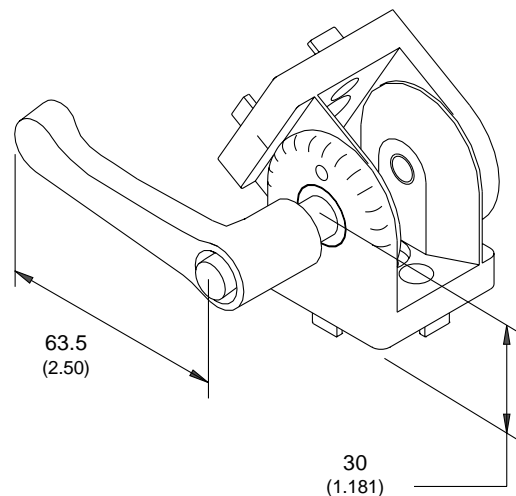
Machining Required: Anchor fastening assemblies utilize two counterbore operations. Refer to Machining section.

Fastening the hinge to the end of a profile requires tapping the end. Refer to Machining section for details.



RECOMMENDED FASTENERS

Dimension	Anchor Fasteners	End of Profile	Side of Profile
Metric	TSF4008-35 (2 pcs)	TSF4008-25	TSF4008-18

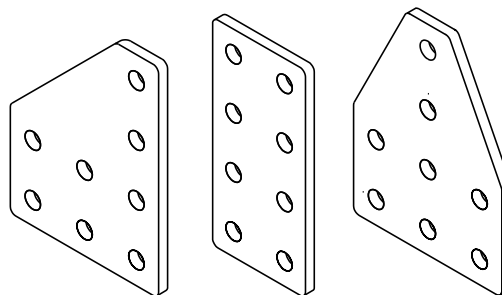


Note: All dimensions in mm (in)

Joining Plates

Joining Plates provide a simple and economical method for connecting extrusion profiles without drilling or tapping. Attachment can be made inline, at right angles or at 45° angles.

Material: 6061-T6 Aluminum Alloy, Clear Anodized



Part No.	Attachment	Profiles	Weight, kg (lb)	Number of Holes
TSJ4000	Inline or right angle	Two 40 x 40	.05 (.10)	2
TSJ4002	Double inline or right angle	Two 40 x 40 or two 40 x 80	.09 (.20)	4
TSJ4010	Right angle	Two 40 x 40 or two 40 x 80	.17 (.38)	5
TSJ4012	"T"	Two 40 x 40 or two 40 x 80	.17 (.38)	5
TSJ4014	45° angle	Two 40 x 40 or two 40 x 80	.25 (.54)	4
TSJ4016	45° angle	Two 40 mm or two 80 mm	.37 (.81)	6
TSJ8000	Inline or right angle	Two 40 x 80	.10 (.21)	4
TSJ8002	Inline or right angle	Two 40 x 80 or two 80 x 80	.20 (.43)	8
TSJ8010	Right angle	Two 40 x 80 or two 80 x 80	.36 (.79)	12
TSJ8012	"T"	Two 40 x 80 or two 80 x 80	.36 (.79)	12

Recommended Fasteners

For Part Numbers TSJ40xx and TSJ80xx (All quantities as required per number of holes)

1) Button Head Cap Screw Method

Metric

TSF4008-18 BHSCS
 TSF3008 Standard T-Nut
 or
 TSF3208 Drop In T-Nut

2) T-Slot Stud Method

Metric

TSF4208-20 T-Slot Stud
 TSF1008 Flat Washer

End Fastener Assembly

This assembly provides a hidden right angle connection between two extrusion profiles. The bolt threads into a tapped hole at the end of an extruded profile. End fasteners resist rotation better than a single bolt connection.

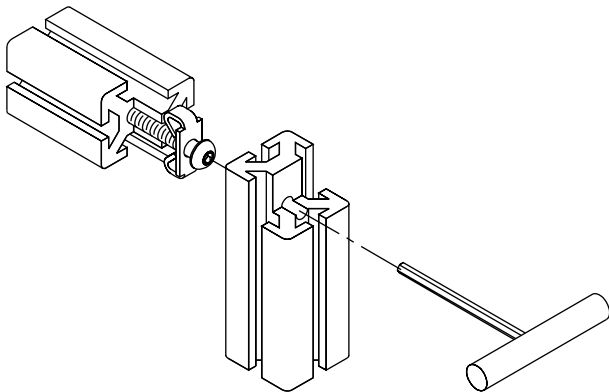
Material: Zinc Plated Carbon Steel

Machining Required: A fastener assembly requires two machining operations:

1. Tap the end of one profile - refer to the Machining section.
2. Drill an access hole in the other profile - refer the Machining section for details



Part No.	Description	Profiles
TSF0026	End Fastener with M8 x 20 BHSCS	40 & 80



Anchor Fastening Assembly

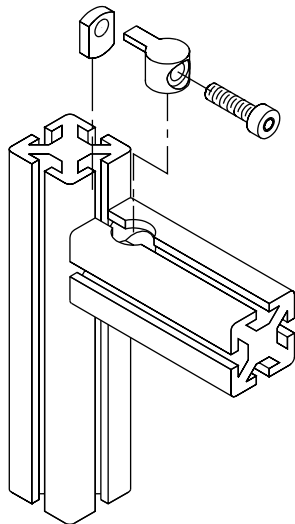
Anchor fasteners provide a clean, high strength, low-profile, right angle connection between two extrusion profiles where the T-slots are in line. Anchor fastened beams can easily be added to existing structures and are position adjustable.

Material: Zinc Die Casting, Zinc Plated Carbon Steel

Machining Required: The Anchor Fastening Assembly requires a counterbore operation - refer to the Machining section for details.

Design Tip: Two anchor fasteners should be located in opposite T-slots. Example: T-slot locations A1 and A3 (See machining section).

Part No.	Description	Profiles	Weight
TSF0022	Includes M8 x 30 SHCS and Nut	Includes 40 & 80	.03 kg (.07 lb)



Butt Fastening Assembly

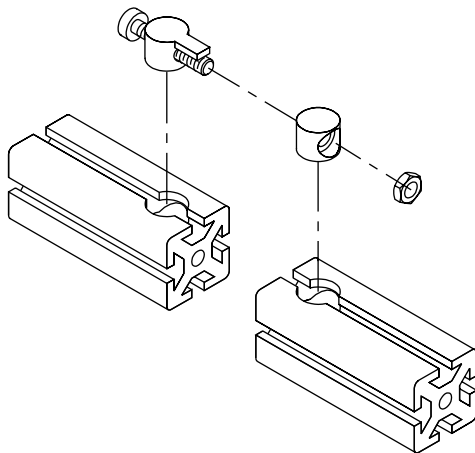
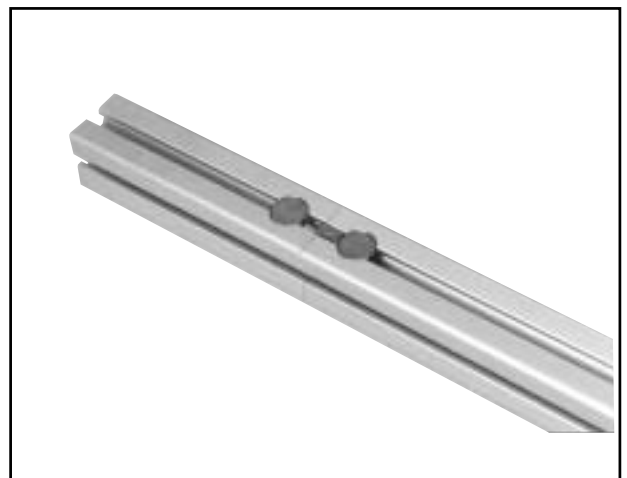
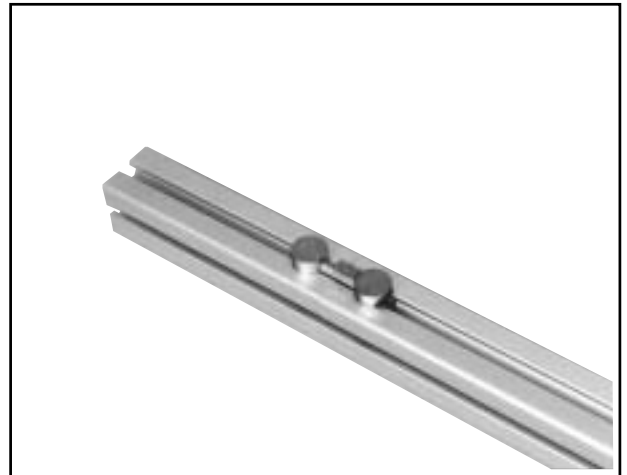
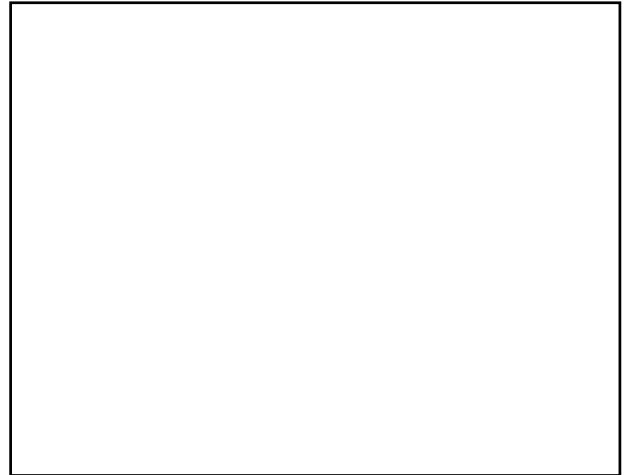
The Butt Fastening Assembly is used to join two similar extrusions end to end, where a hidden connection is desired. This fastening method allows lengthening of a structure and is particularly suited to "seamless" long conveyor lines with end-to-end connections.

Material: Zinc Die Casting, Zinc Plated Carbon Steel

Machining Required: The Butt Fastening Assembly requires a counterbore operation in both profiles being connected - refer to Machining section for details.

Design Tip: Two butt fasteners should be located in opposite T-slots. Example: A1 and A3 (See Machining section).

Part No.	Description	Profiles	Weight
TSF0020	Includes M8 x 45 SHCS	40 & 80	.05 kg (.12 lb)



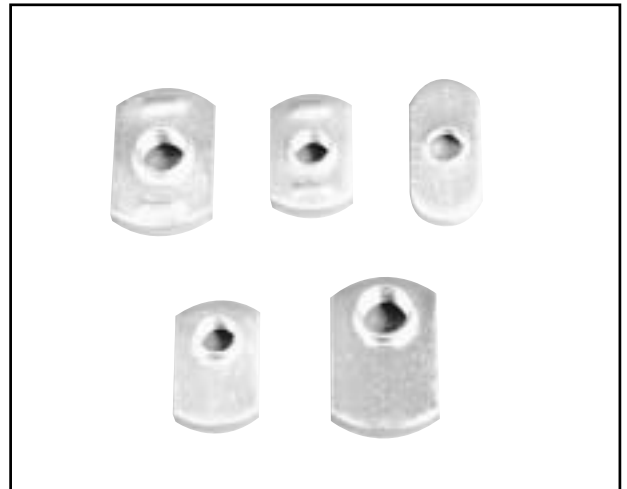
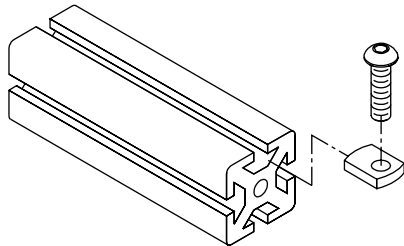
Extrusions/Fasteners

Economy T-Nuts

The economy T-Nut is the most economical method of fastening, and provides a high strength connection. This nut must be installed into the T-slot from an open end of the extrusion profile.

Material: Zinc Plated Carbon Steel

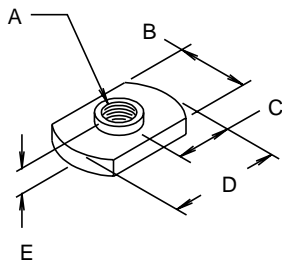
Assembly Tip: Insert economy T-nuts into the T-slot before final installation of accessories.



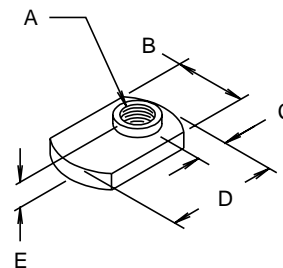
Part No.	A	B		C		D		E		Weight		Tapped Hole Position
		mm	in	mm	in	mm	in	mm	in	kg	lb	
TSF3004*	M4	11.00	0.43	11.00	0.43	22.00	0.87	3.50	0.14	0.005	0.01	Centered
TSF3005*	M5	11.00	0.43	11.00	0.43	22.00	0.87	3.50	0.14	0.005	0.01	Centered
TSF3006	M6	13.00	0.51	6.50	0.26	20.50	0.81	4.50	0.18	0.005	0.01	Offset
TSF3008	M8	16.00	0.63	7.00	0.28	25.00	0.87	5.80	0.23	0.009	0.02	Offset
TSF8019	10-32	11.00	0.43	11.00	0.43	22.00	0.87	3.50	0.14	0.005	0.01	Centered
TSF8025	1/4-20	13.00	0.51	6.50	0.26	20.50	0.81	4.50	0.18	0.005	0.01	Offset
TSF8031	5/16-18	16.00	0.63	7.00	0.28	25.00	0.87	5.80	0.23	0.009	0.02	Offset

* TSF3004 and TSF3005 can be dropped into the T-slot of 40 mm profiles after assembly.

T-Nut with Center Hole Position



T-Nut with Offset Hole Position



Drop In T-Nut

The Drop In T-Nut has a unique profile which allows it to be inserted into the T-slot at any point along an extrusion profile. This feature is useful when adding hardware to an existing assembly where the ends of the profile are not accessible.

As an added benefit, the rubber tip can be used to drag the nut into place. Furthermore, a rubber tip provides a friction hold so that the T-nut remains fixed in place. This is especially important in vertical profiles.

Material: Zinc Plated Carbon Steel

Weight: .009 kg (.02 lb)

Part No.	T-Nut Thread
TSF3205	M5
TSF3206	M6
TSF3208	M8
TSF8219	10-32
TSF8225	1/4-20
TSF8231	5/16-18

