

# *Brunner Enterprises Inc.*

455 Center Road, West Seneca, NY 14224

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[www.brunnerent.com](http://www.brunnerent.com)

This cast fitting is made of a high tensile strength, aluminum/magnesium alloy. It is stocked in a Class I (.7 mil) clear anodized finish with stainless steel set screws or a mill finish with carbon steel set screws. We stock Schedule 40 Class I (.7 mil) clear anodized aluminum pipe in 3/4", 1" 1-1/4" and 1-1/2". 1" is 6063-T5 alloy, 3/4", 1-1/4" and 1-1/2" are 6105-T5. All pipe is available in: 24 ft., 12 ft., 8 ft. and 6 ft. lengths. This combination will provide an extremely durable exterior application with no maintenance!!

# Specification

This material specification was copied by:

*Brunner Enterprises Inc.*  
455 Center Road  
West Seneca (Buffalo), NY 14224

Source of data:

Revere Copper & Brass

## 6105-T5 Properties

### Chemical Composition (%):

Si————	.60-1.0	Cr----	.10 max	Zn————	.10 max
Mg —————	.45-.80	Cu—	.10 max	Others —	.15 total max
Fe—————	.35 max	Mn—	.10 max		
Remainder Aluminum					

### Mechanical Properties:

Brinell Hardness:	95	500 kg. load with 10 mm ball
Ultimate Tensile Strength:	45.0 ksi (310 MPa)	
Yield Tensile Strength:	39.9 ksi (275 MPa)	
Fatigue Strength:	14.0 ksi (95 MPa)	500,000,000 Cycles
Shear Strength:	29.7 ksi (205 MPa)	
Shear Modulus:	3770 ksi (26 GPa)	
Modulus of Elasticity:	10000 ksi (69 GPa)	Average of Tension and Compression
Poisson's Ratio	.33	
Machinability	50	Percent Tile of Aluminum Alloys

### Physical Properties:

Density: .0975 lb/in (2.7 g/cc)

### Thermal Properties:

Melting Point:	1080-1210 °F	582-652 °C
Heat Capacity:	.215 BTU/lb-°F	.9 J/g-°C

The proceeding data are presented as information only and in no way guarantees minimum or maximum data for the purposes of design by *Brunner Enterprises Inc.* or any of its suppliers.

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Source of data:

Alcoa Structural Handbook

## 6063-T5 Properties

### Chemical Composition (%):

Mg —————	.45-.90	Cr—- .10 max	Mn—— .10 max
Si————	.20-.60	Cu— .10 max	Ti—— .10 max
Fe————	.35 max	Zn— .10 max	Others .15 total max
Remainder Aluminum			

### Mechanical Properties:

Brinell Hardness:	60	500 kg. load with 10 mm ball
Ultimate Tensile Strength:	26.8 ksi (185 MPa)	
Yield Tensile Strength:	21.0 ksi (145 MPa)	
Fatigue Strength:	10.2 ksi (70 MPa)	500,000,000 Cycles
Shear Strength:	16.7 ksi (115 MPa)	
Shear Modulus:	3740 ksi (25.8 GPa)	
Modulus of Elasticity:	10000 ksi (69 GPa)	Average of Tension and Compression
Poisson's Ratio	.33	

### Physical Properties:

Density: .0975 lb/in (2.7 g/cc)

### Thermal Properties:

Melting Point:	1140-1210 °F	616-654 °C
Heat Capacity:	.215 BTU/lb-°F	.9 J/g-°C

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