

Material Properties

Bar Manifolds and Accessories are offered in the following standard materials;
6061-T6 Aluminum, 65-45-12 Continuous Cast Ductile Iron and C12L14 free machining steel.

Other materials such as Stainless Steel, Mild Steel, Brass, and Plastic are available upon request.
Below, are the properties of the standard materials:

For its aluminum bodies, a 6000 series aluminum alloy that offers high strength characteristics and good corrosion resistance in the finished product is used. The mechanical properties of grade 6061-T6 aluminum are:

| ALUMINUM PROPERTIES PROPERTIES | ASTM B-221 ** Grade 6061-T6 |
|-----------------------------------|--------------------------------|
| Tensile Strength | 45,000 PSI |
| Yield Strength | 40,000 PSI |
| Elongation, % | 12% |
| Brinell Hardness Range | 95 |
| ASTM Specification | B-221 |

**Above material is rated at 3000 psi max, depending on duty cycle and design parameters.

We use a ductile iron that offers high tensile strength and good ductility for its iron bodies. All ductile iron bodies use iron produced by the continuous cast method which provides a body that possesses a dense, homogeneous structure with minimal inclusions for high pressure integrity. The mechanical properties of grade 65-45-12 ductile iron are:

| DUCTILE IRON PROPERTIES | ASTM A-536 ** Grade 65-45-12 |
|----------------------------|---------------------------------|
| Tensile Strength | 65,000 PSI |
| Yield Strength | 45,000 PSI |
| Elongation, % | 12% |
| Brinell Hardness Range | 131/220 |
| ASTM Specification | A-536 |

**Above material is rated at 5000 psi max, depending on duty cycle and design parameters.

Where applicable, a free machining grade of steel is used on select bodies. The mechanical properties of this material are equal to or greater than ductile iron. The mechanical properties of grade C12L14 are:

| FREE MACHINING STEEL PROPERTIES | ASTM A-108 ** Grade C12L14 |
|------------------------------------|-------------------------------|
| Tensile Strength | 78,000 PSI |
| Yield Strength | 70,000 PSI |
| Elongation, % | 15% |
| Brinell Hardness Range | 163 |
| ASTM Specification | A-108 |

**Above material is rated at 5000 psi max, depending on duty cycle and design parameters.

THIS DATA IS FOR REFERENCE ONLY. CONSULT THE APPROPRIATE STANDARDS FOR CRITICAL DIMENSIONS AND RATINGS.

WE RESERVE THE RIGHT TO DISCONTINUE MODELS, OR CHANGE SPECIFICATIONS WITHOUT NOTICE OR INCURRING OBLIGATION

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