



Tolerances



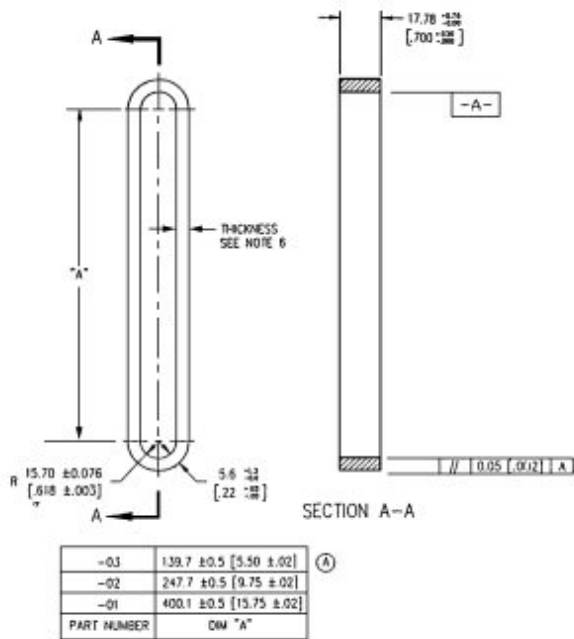
Cylinder Quality Tubing

Precision inside diameter without the expense or delays of honing operations.

Precision tooling developed and maintained by Amalga Composites is a critical element in providing the close tolerance pressure tubing you demand. Cylinder tubing offered by Amalga Composites has the following inside diameter characteristics that improve piston performance. The table provides geometric characteristics and tolerances for the range of diameters available.

INSIDE DIAMETER SIZE RANGE	TOLERANCE
Greater than 1.00" to 3.25"	Plus .005" minus .000"
Greater than 3.25" to 6.00"	Plus .006" minus .000"
Greater than 6.00" to 8.00"	Plus .008" minus .000"
Greater than 8.00" to 10.00"	Plus .010" minus .000"
Greater than 10.00" to 14.00"	Plus .015" minus .000"
Greater than 14.00" to 20.00"	Plus .020" minus .000"
Greater than 20.00" to 30.00"	Plus .025" minus .000"
Microinch bore finish: 5-15 Ra Straightness: .001 per foot	Circularity: 0.002 Inches Cylindricity: 0.002 Inches

Machining to Blueprint Specifications

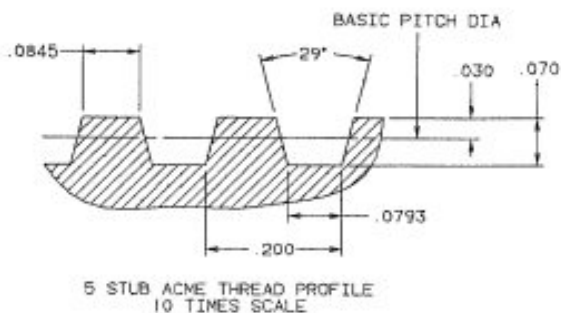


Outside diameter grinding

Amalga Composites uses centerless grinding as the standard OD finishing process. The table provides tolerances for the range of diameters available and the process features.

Closer tolerances available upon request.

OUTSIDE DIAMETER SIZE RANGE	TOLERANCE
Greater than 1.00" to 2.50"	Plus .006" minus .000"
Greater than 2.50" to 5.25"	Plus .010" minus .000"
Greater than 5.25" to 8.25"	Plus .012" minus .000"
Greater than 8.25" to 14.50"	Plus .025" minus .005"
Greater than 14.50" to 20.50"	Plus .030" minus .010"
Greater than 20.50" to 32.00"	Plus .040" minus .010"
Surface Finish: 125 Ra	Circularity: 0.010
Concentricity: 0.010	



Cutting

Composite tubing produced by Amalga Composites is cut to blueprint specified lengths. Depending on the tube diameter, either a horizontal stroke or abrasive cut off saw is utilized.

Chamfers, Shoulders and Grooves

Amalga Composites can offer a cylinder body that is completely machined and ready for assembly.

**Cut to Length Tolerances and Geometric Characteristics
STANDARD INDUSTRY PRACTICE**