

Hydrabrite® hydraulic fluid line tubing is produced in 1010 carbon by the Eupora, Mississippi mill of the Carbon & Alloy Tube Group of Plymouth Tube Co. to the SAE specification J525. The current Hydrabrite® size range is .250" OD thru 1.375" OD by .028" wall thru .120" wall.

Mechanical Properties

Properties	Values
Yield Strength, min	24,650 psi
Ultimate Strength, min	44,950 psi
Elongation in 50 mm, min	35% ⁽¹⁾
Hardness (Rockwell B), max	65 ⁽²⁾

- (1) For tubing having nominal outside diameter of 0.368" or less, and/or wall thickness of .035" or less, a minimum elongation of 25% is permissible.
- (2) The hardness test shall not be required on tubing with nominal wall thickness of less than 0.065". Such tubing shall meet all other mechanical properties and performance requirements.

Chemical Requirements

Element	Cast or Heat Analysis, Weight %
Carbon	0.06 min/0.18 max
Manganese	0.30 through 0.60
Phosphorus	0.04 max
Sulfur	0.05 max

Tubing Diameter Tolerances

Nominal Tubing OD ⁽¹⁾⁽²⁾	Tube OD Tolerance (+)	Tube ID Tolerance (+)
Up to .3740	0.0020	0.0020
Over .3740 to .6252	0.0023	0.0023
Over .6252 to 2.000	0.0031	0.0031



- (3) OD measurements shall be taken at least 1.93" from the end of the tubing.
- (4) Refer to SAE J514 for nominal tubing OD to be used in conjunction with standard hydraulic tube fittings and SAE J533 for recommended maximum nominal wall thickness for double flaring.

Tubing Wall Thickness Tolerances

Nominal Wall Thickness ⁽¹⁾	Nominal Tubing Outside Diameter Through .8661 (+)	Nominal Tubing Outside Diameter Over .8661 Through 1.8898(+)	Nominal Tubing Outside Diameter Over 1.8898 Through 3.9370 (+)
.0350	0.002/0.002	0.002/0.002	0.002/0.002
.0393	0.002/0.002	0.002/0.003	0.002/0.003
.0490	0.002/0.002	0.002/0.003	0.002/0.003
.0580	0.002/0.002	0.002/0.003	0.002/0.003
.0650	0.002/0.002	0.002/0.003	0.003/0.003
.0750	0.002/0.002	0.002/0.003	0.003/0.003
.0830	0.002/0.002	0.002/0.003	0.003/0.003
.0950	0.002/0.003	0.002/0.003	0.003/0.003
.0983	0.002/0.003	0.002/0.004	0.003/0.003
.1090	0.002/0.003	0.002/0.004	0.003/0.003
.1179	0.003/0.003	0.002/0.004	0.003/0.003
.1200	0.003/0.003	0.002/0.004	0.003/0.003

- (1) For intermediate wall thickness, the tolerance for the next heavier wall thickness shall apply.

Testing capabilities include non-destructive testing (eddy-current) and destructive (flattening and flaring) methods that exceed the stated requirements of SAE J525.

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