

# Tubing Data & Performance Sheet

## 3-1/2" 9.30# P-110 3-1/2" CS Hydril Type

### TUBE BODY DATA

Tube OD	3.500 in.
Wall Thickness	0.254 in.
Tube ID	2.992 in.
Tensile Yield Strength	224,400 lbs. (API Premium 80% Inspection Class)
Torsional Yield Strength	16,300 ft-lbs. (API Premium 80% Inspection Class)
Tube Burst	12,800 psi. (API Premium 80% Inspection Class)
Tube Collapse	9,100 psi. (API Premium 80% Inspection Class)

### TUBULAR ASSEMBLY

Approximate Length	30 ft.
Nominal Weight	9.30 lbs./ft.
Material Grade	110,000 psi.
Drift Diameter	2.867 in.
Displacement	0.1346 gal./ft.   0.0032 bbls./ft.
Capacity	0.3652 gal./ft.   0.0087 bbls./ft.
Compression Yield Strength	227,920 lbs.
Max Bending	115.2 degrees/100 ft.

### CONNECTION DATA

Connection	CS Hydril Type
Connection OD	3.915 in.
Connection ID	2.920 in.
Threads per inch	8
Make-Up Loss	2.840 in.

### MAKE-UP TORQUE

Make-Up Torque - Minimum	3,300 ft-lbs.
Make-Up Torque - Optimum	3,800 ft-lbs.
Make-Up Torque Maximum	4,200 ft-lbs.

### CONNECTION PERFORMANCE

Connection Torsional Strength	Not Reported
Connection Tensile Strength	284,900 lbs.
External Pressure Capacity	13,500 psi.
Internal Pressure Capacity	14,000 psi.

### FEATURES

Hardbanding	None
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#### Notes:

- Referenced tube size, wall and assembly length are nominal, unless indicated otherwise. Values shown may vary with actual values due to OEM tolerances, rounding and other factors. Tubing is manufactured to API 5CT 87-1/2% RBW and inspected to minimum Premium Class (80% RBW).
- Maximum make-up torque is that value above which there is no additional benefit, or reason to exceed. It is not meant to indicate the maximum torque the connection can withstand.

The technical information contained herein, including the product performance sheet and other attached documents, has been extracted from information available from the manufacturer and is for reference only and not a recommendation. The user is fully responsible for the accuracy and suitability of use of the technical information. Patterson Services, Inc. cannot assume responsibility for the results obtained through the use of this material. No expressed or implied warranty is intended. Tubular assembly properties are calculated based on uniform OD and wall thickness. No safety factor is applied. Weight, displacement, and capacity are approximate and can vary by ± 10% (or more) depending on OD, specified wall, wall tolerance, and internal coating options. It is the responsibility of the customer and the end user to determine the appropriate performance ratings, acceptable use of the product, maintain safe operational practices, and to apply a prudent safety factor suitable for the application.