

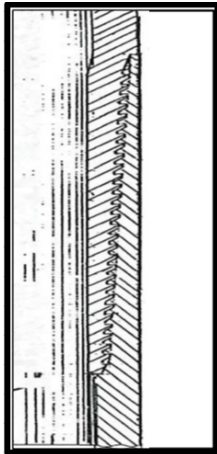


**WOOLLEY FLUSH JOINT LINER TECHNICAL DATA**

**SPECIAL FEATURES**

Hook thread prevents jump out and hoop loading caused by tension loads. The elimination of hoop loading improves pressure seal under both tension and compression loading of the joint.

If you want a FLUSH-FLUSH O.D. JOINT, this is the best joint for you. It is economical, dependable, and fast running.

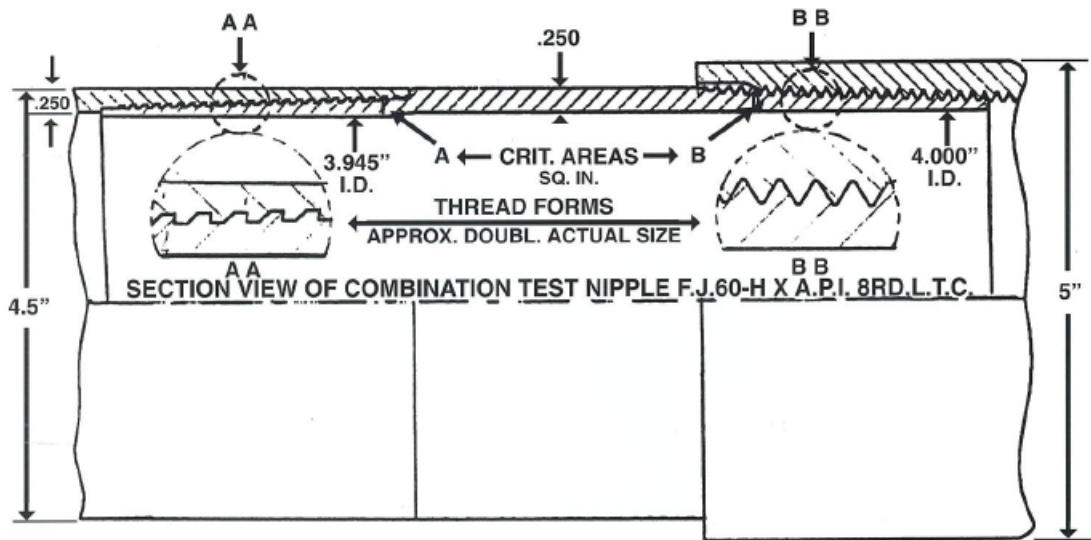


4 1/2"	lbs/ft	FJ-HS	J55	N80	P110
<b><u>PIPE BODY DIMENSIONS</u></b>					
Nominal Pipe Body O.D. (in)			4.500	4.500	4.500
Nominal Pipe Body I.D. (in)			4.000	4.000	4.000
Nominal Wall Thickness (in)			0.25	0.250	0.250
Nominal Weight (lbs/ft)			11.60	11.600	11.600
Plain End Weight (lbs/ft)			11.35	11.350	11.350
Drift I.D. (in)			3.875	3.875	3.875
<b><u>PIPE BODY PERFORMANCE DATA</u></b>					
Minimum Pipe Body Yield Strength (lbs)			184,000	267,000	367,000
Minimum Collapse Pressure (psi)			4,960	6,350	7,580
Minimum Internal Yield Pressure (psi)			5,350	7,790	10,710
<b><u>CONNECTION DIMENSIONS AND PERF. DATA</u></b>					
Connection O.D. (in)			4.500	4.500	4.500
Pin Connection I.D. (in)			4.000	4.000	4.000
Make-up Loss (in)			2.250	2.250	2.250
Critical Area (sq in)			1.836	1.836	1.836
Joint Efficiency (%)			55	55	55
Reference Minimum Parting Load (lbs)			174,000	183,000	229,000
Reference String Length (ft)			7,683	9,515	12,637
Collapse Pressure Rating (psi)			4,960	6,350	7,580
Internal Pressure Rating (psi)			5,350	7,790	10,710
<b><u>RECOMMENDED MAKE-UP TORQUE</u></b>					
Minimum Final Torque (ft/lbs)			1,100	1,300	1,300
Maximum Final Torques (ft/lbs)			2,200	2,500	2,500

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SKETCH TO ILLUSTRATE THE SET UP FOR TENSILE TESTING, PARTING LOAD CAPACITY OF WOOLLEY F.J.60-H FLUSH JOINT THREAD VS. A.P.I., 8RD, L.T.C. THREADS CUT ON OPPOSITE ENDS OF EACH J OR K-55 4 1/2" O.D., 11.60# CASING TEST NIPPLE



Repeated tests with above setup established two things. the A.P.I. 8rd thread always jumped out at approximately 160,000# tension, leaving the flush joint F.J.60-H undamaged and not tested near to its limit.

The setup was then changed to F.J.60-H thread on both ends of the same test nipples in order to determine parting load of the flush joint thread.

On this setup we had repeated parting loads of 196,000# with one test going to 220,000#.

On all tests to ultimate tensile on the F.J.60-H flush joint, there were no jump outs. All pins parted in critical root of the last effective pin thread.

All tension testing started at 100,000#, then increased in tensile steps of 15,000# with Hydrotest to 6,000 psi between tensile steps. There were no leaks prior to parting.