

TES Splined Expansion Joint

TES splined expansion joints are designed to be used in single- and dual-string completions to accommodate changes in tubing length caused by variations in pressure, temperature, or both.

APPLICATION

- Single and dual completions

BENEFITS

- Stroke length may be changed in the field.
- Splines transmit torque through the joint

FEATURES

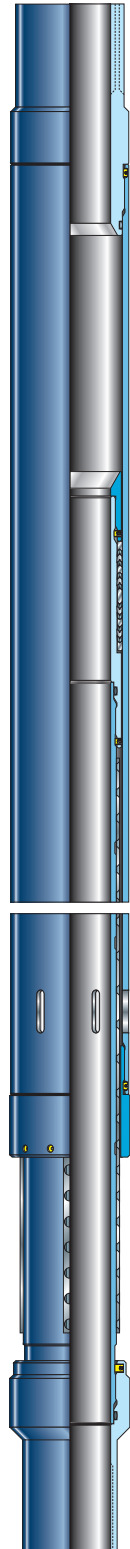
- Capable of maintaining the pressure integrity of tubing
- May be shear-pinned at 1-ft [0.3-m] intervals along the stroke length
- Available with stroke lengths of 2, 6, and 10 ft [0.7, 2.0, and 3.3 m]

They are capable of maintaining the pressure integrity of the tubing while allowing the string to safely expand and contract. The TES expansion joint can be run above rotational-release or straight-pickup-release packers. The proper placement and stroke selection of these splined slip joints reduce the chances of overstressing the well tubing during production or acidizing. The TES expansion joint stroke can be set from fully open to fully closed at 1-ft [0.3-m] intervals along its entire stroke length, allowing the operator to select the proper expansion and contraction stroke that will be required before installation. Alloy-steel construction gives these joints high body and end-connection tensile strength.

DESCRIPTION AND OPERATION

TES telescoping, splined expansion joints maintain maximum pressure integrity throughout a lifetime of reciprocations. Undercuts in the splined mandrel of these joints are spaced at 1-ft [0.3-m] intervals. These undercuts receive the running shear pins that hold the TES joint in its running position. The TES joint is run in either the closed or the partially extended position. These configurations accommodate completions that require the injection of acid that has not been preheated or in waterflood installations where the temperature of the injected fluid is less than the mean wellbore temperature. When running a TES expansion joint in these situations, the shear pin strength must be sufficient to assure that the weight of equipment below the joint will not prematurely shear the pins.

When allowing for thermal expansion, the TES expansion joint may be pinned in the fully expanded position. For thermal expansion and hydraulic packer setting purposes, the strength of the shear pins must be sufficient to sustain the packer setting pressure without releasing from its preset position. When a TES joint is assembled on a production string that must land in a permanent packer, the shear pins must have sufficient strength so that the expansion joint will not be inadvertently closed when the packer stinger or seal assembly is run and engaged. Inadvertent closure would make the joint inoperable for thermal expansion.



TES Splined Expansion Joint

TES Splined Expansion Joint Specifications						
Tubing [†]		Expansion Joints				
OD (in. [mm])	Weight (lbm/ft)	Min. Casing Size for TES		Max. OD (in. [mm])	Drift (in. [mm])	Stroke (in. [mm])
		(in. [mm])	(lbm/ft)			
2.375 [60.3]	4.7	4.500 [114.3]	All weights	3.562 [90.5]	1.901 [48.3]	2.0 [0.66]
						6.0 [1.98]
						10.0 [3.30]
2.875 [73.0]	6.5	5.500 [139.7]	26.0	4.312 [109.5]	2.347 [59.6]	2.0 [0.66]
						6.0 [1.98]
						10.0 [3.30]
3.500 [88.9]	9.3	6.625 [168.3]	32.0	5.312 [134.9]	2.867 [72.8]	2.0 [0.66]
						6.0 [1.98]
						10.0 [3.30]
4.500 [114.3]	12.8	7.625 [193.7]	45.3	6.312 [160.3]	3.833 [97.4]	2.0 [0.66]
						6.0 [1.98]
						10.0 [3.30]
5.500 [139.7]	17.0	8.625 [219.1]	52.0	7.000 [177.8]	4.653 [118.2]	2.0 [0.66]
						6.0 [1.98]
						10.0 [3.30]
7.000 [177.8]	26.0	9.625 [244.5]	32.3	8.750 [222.3]	6.000 [152.4]	2.0 [0.66]
						6.0 [1.98]
						10.0 [3.30]

[†] Other sizes are available on request. Contact your local Schlumberger representative.

www.slb.com/completions

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