WTSP4L Liner-Top Packer

5-1/2 × 7-5/8 in. and 7-5/8 × 10-3/4 in.

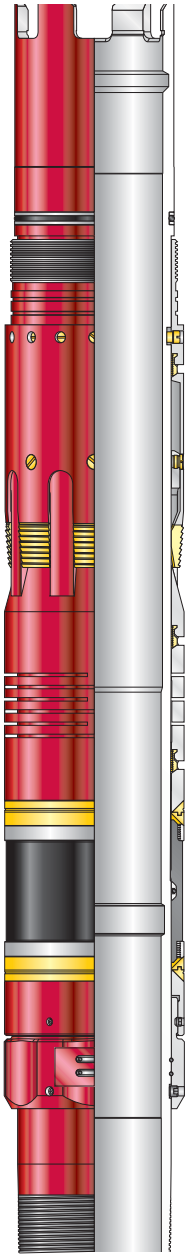
Weatherford's WTSP4L liner-top packer is run as an integral part of the liner hanger assembly to provide a reliable, high-integrity seal that isolates the annulus between the liner OD and the host casing ID. This reliable liner-top packer isolates the cement, preventing gas migration or flow while the cement sets. The WTSP4L packer also incorporates the profile for the running tool; and when a liner setting sleeve is not run, the packer is the means by which the running tool connects to the liner.

The design of this packer builds on the success of Weatherford's TSP4 liner-top packer with the addition of two circumferential lock wires that mechanically lock the polished bore receptacle (PBR) to the packer. This design feature eliminates the possibility of the PBR backing off while running-in-the-hole, making the WTSP4L ideal for drill- or ream-down applications.

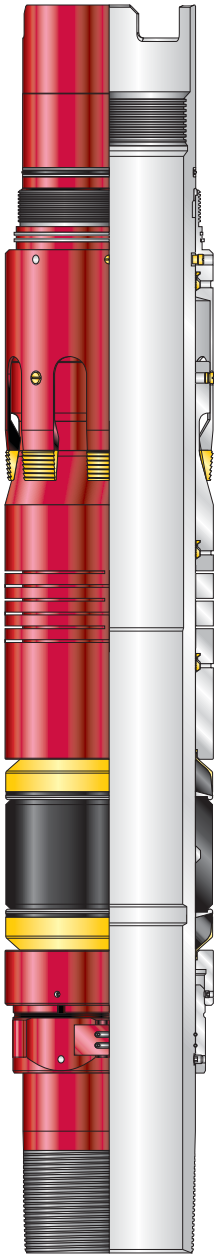
The WTSP4L packer is normally set by setting down weight on the TSP4L tieback PBR with the packer actuator after the running tool is released. The weight is transferred to the WTSP4L liner-top packer, setting the element and the holddown slips.

Applications

- Any cemented liners
- Uncemented liners for which a seal between the liner OD and the host casing ID is necessary or advantageous
- Tieback packers
- Drill-down liners
- Liners that must be reamed to depth



5 1/2- × 7 5/8-in. WTSP4L with HNG Profile



7 5/8- × 10 3/4-in. WTSP4L with R Running Tool Profile

WTSP4L Liner-Top Packer

5-1/2 × 7-5/8 in. and 7-5/8 × 10-3/4 in.

Features, Advantages and Benefits

- Packing element creates a reliable seal that prevents gas migration in the cement of most well conditions, saving the cost of a liner-top squeeze.
- Element system is highly resistant to swabbing off, enabling high-circulation rates past the liner-top packer assembly, therefore, aiding in the removal of debris during well cleaning and improving the quality of cement displacement.
- An integral beam spring stores an internal force that helps sustain the setting load in the element under dynamic loading conditions (such as temperature or pressure changes), maintaining seal integrity.
- XYLAN® coated backup rings and filler ring reduce the setting force required for energizing the packing element. This advantage is useful in applications (such as extended-reach wells) that present a challenge to getting enough weight down to set the liner-top packer.
- Holddown slips and integral-body lock-ring ratchet system positively lock in the applied setting forces to ensure that the packer does not become unset.
- The WTSP4L liner-top packer incorporates the profile and sealbore for Weatherford's RSM retrievable cement packoff. This feature eliminates the need for and cost of a separate assembly. It also facilitates retrieval of the packoff, because the packoff does not have to be retrieved through a premium connection.
- One WTSP4L can be set inside host casing of the same size but varying weights. This design provides operational flexibility.
- Dual square-shouldered lock wires are inserted between the PBR and the packer body, locking them together and eliminating PBR back off while rotating downhole.

WTSP4L Performance Ratings

Size (in./*mm*)	5-1/2 × 7-5/8 *140 × 200*	7-5/8 × 10-3/4 *200 × 273*
Pressure rating (psi/*MPa*)	10,000 *68,948*	
Temperature rating (°F/°*C*)	300° *149°*	350° *177°*
ISO 14310 element rating	V3	V0

Options

- The WTSP4L liner-top packer is available with a running profile for either the R or HNG running tool.
- Standard metallurgies are L-80 and P-110 (125 ksi); other metallurgies are available upon request.
- Standard connection is VAM® TOP® HT.