



### *TSP4R Liner-Top Packer* *9-5/8 × 11-3/4 in. and 11-3/4 × 13-3/8 in.*

Weatherford's TSP4R liner-top packer is run as an integral part of the liner hanger assembly to provide a reliable, high-integrity seal that isolates the gap between the liner OD and the host casing ID. This particular size of the TSP4R liner-top packer was specifically developed for deepwater applications, such as the Gulf of Mexico, where tight clearance between the liner and the host casing is typical. This reliable liner-top packer isolates the cement, preventing gas migration or flow while the cement sets. The TSP4R also incorporates the profile for the running tool and is the means by which the running tool connects to the liner.

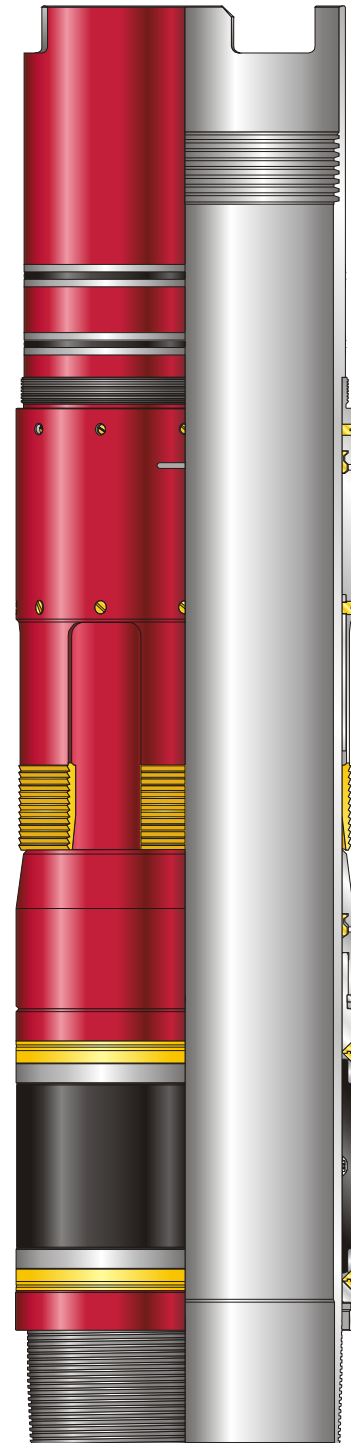
The packer is normally set by setting down weight on the TSP4R tie-back polished bore receptacle with the packer actuator after the running tool is released. The weight is transferred to the TSP4R liner-top packer, setting the element and the holddown slips.

#### *Applications*

- Any cemented liners
- Uncemented liners for which a seal between the liner OD and the host casing ID is necessary or advantageous
- Tie-back packers

#### *Features, Advantages and Benefits*

- Peroxide-cured HNBR packing element creates a reliable seal that prevents gas migration in the cement in most well conditions, saving the cost of a liner-top squeeze.
- One-piece packing element is resistant to swabbing to enable high circulation rates past the liner-top packer assembly, aiding removal of debris during well cleaning and improving the quality of cement displacement.





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### *Features, Advantages and Benefits (continued)*

- XYLAN® coated backup rings reduce the setting force required for energizing the packing element. This advantage is particularly useful in applications (such as extended-reach wells) that present a challenge getting enough weight down to set the liner-top packer.
- The design of this liner-top packer optimizes the functionality of Weatherford's proven TSP4 technology for use with a liner where little or no clearance exists between the liner and the host casing.
- Holddown slips and internal body lock-ring ratchet system positively lock in the applied setting forces to ensure that the packer does not become unset.

### *Specifications*

- Standard metallurgies in both sizes are P-110 (125 ksi) and API 140 (140 ksi) OCTG.
- Connections on the 11 3/4- x 13 3/8-in. model are Hydril® 561 and on the 9 5/8- x 11 3/4-in. model are Grant Prideco WHC-1.

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