



WDSL Drillpipe Dart

Weatherford's WDSL drillpipe dart is used to wipe the interiors of drillpipe and running tools, providing a mechanical barrier between the cement and the displacement fluid. The WDSL can then be used to launch one of the following compatible wiper plugs: Weatherford's single wiper plug (WSWP) or Weatherford's liner wiper plug (WLWP).

The WDSL is launched from the cementing head and displaced through the drillpipe and running tools by either cement or displacement fluid. When the WDSL reaches the wiper plug at the bottom of the running tool string, it latches into the wiper plug and seals. Differential pressure across the plug releases it from the running tools. The unique locking design locks the WDSL in the wiper plug while being displaced to the landing collar.

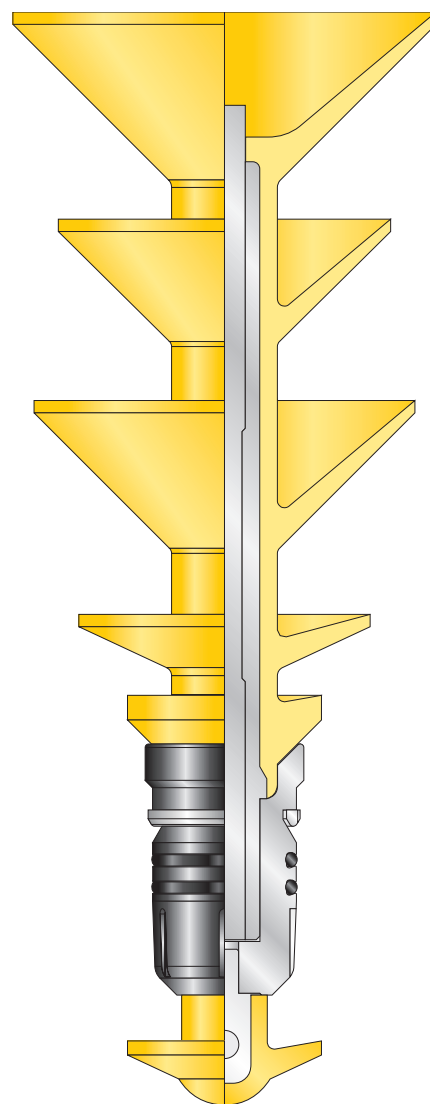
The polyurethane multiple-fin dart provides superior wiping and fluid separation capabilities for drillstrings 2-7/8 up to 6-5/8 in. and is also capable of withstanding high temperatures, as well as high bump and backpressures that may be encountered downhole.

Applications

- Liner cementing jobs that require wiping drillpipe in conjunction with WSWP or WLWP wiper plugs
- For use with liner sizes 4-1/2 to 7-5/8 in.

Features, Advantages and Benefits

- Composed entirely of PDC-drillable materials (aluminum, HNBR, polyurethane, and Duromer), the WDSL allows trouble-free drillout, helping to conserve rig time.
- The unique locking-taper design locks the WDSL to the wiper plug to prevent rotation, therefore facilitating drillout and reducing rig time.
- The lead fin provides stability downhole among the various drillpipe diameters.





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Features, Advantages and Benefits (continued)

- The sealing fin provides a positive bidirectional seal for Weatherford's compatible WLWP when the WDSL latches in, allowing for a positive shear indication when the plug is released and enabling the wiper plug to withstand a high differential pressure when bumped.
- The WSWP is locked to the running string by a set of profiled dogs rather than shear screws, reducing the risk of premature release and associated nonproductive time.
- The aluminum nose is specially designed with peroxide-cured HNBR O-rings suitable for most well conditions to provide outstanding sealing capabilities.
- The universal fin design provides operational flexibility, enabling the WDSL to be employed with multiple drillpipe or workstring sizes.

Specifications

Drillpipe wiping range (in.)	2-7/8 in. min. 6-5/8 in. max.
Maximum temperature rating of polyurethane plug fins (°F/°C)	250 121
Maximum bump pressure (psi/MPa)	10,000 68.95
Maximum backpressure (psi/MPa)	3,000 20.68