

NWS Wet Shoe Sub

The NWS wet shoe sub is designed to provide a positive indication of cement displacement, and the ability to have a wet shoe for first-zone injection eliminates the need for a costly perforating run. The wiper plug is pumped down the casing behind the cement to the seat in the wet shoe sub. A pressure increase indicates the plug is on seat; continued increase in pressure shears the plug seat, which moves it down to allow circulation around the wiper plug, creating a 'wet shoe' for first zone injection.



Features

- Large flow area around the wiper plug after shear-out
- Positive indication wiper plug is on seat
- Circulation through tool after plug seat shear-out
- No explosives required on location
- Exchangeable wiper plug seat insert to accommodate cemented frac sleeve dart system

Benefits

- Time and cost efficiency compared with traditional TCP operations
- Ability to employ continuous pumping operations
- Reduces HSE risk by eliminating need for dedicated coiled tubing operations
- Decreases amount of water used compared to traditional toe initiation

Applications

- Fracturing/stimulation
- Production
- Injection

Technical data

Casing		Wet Shoe Sub								
Size in. (mm)	Weight lb/ft (kg/m)	Max. OD in. (mm)	Min. ID (seat) in. (mm)	Burst rating psi (MPa)	Collapse rating psi (MPa)	Tensile rating lbf (KN)	Flow area before wiper plug in ² (mm ²)	Flow area after wiper plug in ² (mm ²)	Shear value per screw psi (kPa)	Qty. of shear screws
3.500 (88.90)	9.2 - 9.3 (13.69 - 13.84)	3.530 (89.66)	1.630 (41.40)	16,000 (110.32)	14,000 (96.53)	156,000 (693.92)	2.09 (1,346.27)	2.09 (1,346.27)	249-ea. (1,717-ea.)	12
4.000 (101.6)	9.5 - 11.6 (14.14 - 17.26)	4.250 (107.95)	1.630 (41.40)	15,000 (103.4)	15,000 (103.4)	401,000 (1,783.7)	2.09 (1,346.27)	2.09 (1,346.27)	250-ea. (1,724-ea.)	12
4.500 (114.30)	13.5 (20.09)	5.650 (143.51)	3.375 (85.73)	11,695 (80.63)	10,450 (72.05)	503,000 (2,237.46)	8.95 (5,771.71)	4.40 (2,892.00)	488-ea. (3,365-ea.)	10
5.500 (139.70)	20.0 (29.76)	7.000 (177.80)	3.375 (85.73)	12,693 (87.52)	11,380 (78.46)	608,000 (2,704.52)	8.95 (5,771.71)	6.84 (4,411.05)	539-ea. (3,716-ea.)	10

Note: LTC & BTC standard connections, premium threads available on request.