



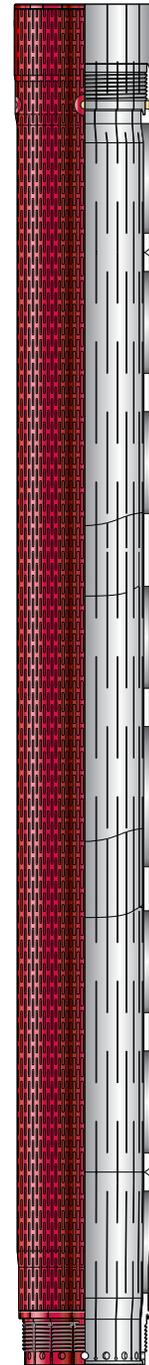
ESS® Expandable Sand Screen Joint

Weatherford's *ESS* expandable sand screen joint consists of slotted base pipe to which overlapping weave layers are attached. An external layer of perforated, expandable shroud protects filter media from damage during deployment. Integral slotted connections allow contribution of flow over the entire length of the joint.

ESS joints are run using lift subs in conjunction with conventional rig-handling equipment. *ESS* connections are made using a special micro-grip tool and then locked in position with anti-rotation lock screws. Expansion of the *ESS* string is achieved from the surface by using either a low-pressure ACE™ axial compliant expansion tool or a tapered expansion cone.

Features, Advantages and Benefits

- Compliant expansion eliminates the screen/wellbore annulus for enhanced sand-control integrity and borehole stabilization.
- The large post-expansion ID reduces flowing friction, thereby optimizing production.
- The large open-to-flow area and low delta P filter media improve well productivity and inflow performance.
- Slotted connections allow inflow over the entire length of the *ESS* joint.





ESS® Expandable Sand Screen Joint

Specifications

General Specifications

ESS size (in.)	4	4-1/2	5-1/2
Connection ^a	ESS		
Weight (lb/ft)	11	13	18
Joint lengths available (ft)	38, 20 and 10		
Pre-expansion running OD (in./mm)	4.47 113.5	5.07 128.8	6.10 154.9
Pre-expansion running ID (in./mm)	3.38 85.8	3.84 97.5	4.80 122.0
Post-expansion typical OD range ^b (in./mm)	5.50 to 6.06 139.7 to 153.9	5.88 to 6.50 ^c 149.2 to 165.1	8.00 to 8.83 203.2 to 224.3
		6.13 to 6.77 ^d 155.7 to 172.0	
Post-expansion typical final ID at connection (in./mm)	4.41 to 4.97 112.0 to 126.2	4.64 to 5.26 ^c 117.9 to 133.6	6.70 to 7.53 170.2 to 191.3
		4.89 to 5.53 ^d 124.2 to 140.5	

^aProprietary connection

^bBased on expansion with the ACE™ tool

^cExpansion with 4 1/2-in. OD tool

^dExpansion with 4 3/4-in. OD tool

Standard Materials*

Base pipe	316L
Connector	25Cr
Weave	316L
Outer shroud (perforated plate)	316L

*Alternative metallurgies available for more aggressive well environments

Filtration Media

Weave aperture (µm)	270	230	150	120
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