Schlumberger

FacsRite Sand Screen

APPLICATIONS

- Alternative to slotted liner or wire-wrapped screen
- Horizontal wells with steam-assisted gravity drainage (SAGD)
- Vertical or horizontal gravel-pack or frac-pack applications
- High-pressure, high-temperature wells
- Water/steam injector and coal-bed-methane-producing wells
- Underpressured or depleted wells
- Highly corrosive environments

BENEFITS

- Greater well productivity from maximized basepipe size
- Lower completion costs
- Longer well life

FEATURES

- Has variable open flow area (0%–23%) that matches well productivity
- Has premium sintered mesh medium with ratings of 60 to 400 microns
- Is made with corrosion-resistant metal; available in 316L, Inconel®, and Hastelloy®
- Has excellent tensile, compressive, torsional, collapse strength
- Can rotate, reciprocate, and circulate through difficult hole conditions
- Has excellent sand retention capability
- Can be treated just like casing, even drilled into place
- Requires no centralization

FacsRite™ screens consist of premium-medium discs that are flush mounted and secured into the basepipe, thereby allowing the open flow area (OFA) to be economically tailored to a well's productivity or injectivity requirements.

This cost-effective geometry provides significantly more torsion, compression, and collapse strength than does slotted liner. These advantages are all crucial for horizontal wells, especially SAGD and underpressured wells with excessive wellbore stresses.

Also, because FacsRite screens retain significant strength up to a maximum OFA of 23%, they provide an alternative to wire-wrap and prepacked screens for gravel-pack, frac-pack, or stand-alone applications. FacsRite screens are robust, making them the only type of screen that can be handled like casing and feasibly drilled into place. These characteristics help reduce completion costs.

Standard FacsRite medium discs are 1.0-in diameter 316L stainless steel fusion-bonded mesh laminates that provide very good erosion and corrosion resistance at high temperatures. For extreme-corrosion environments such as H_2S, raw seawater injection, or fireflood, exotic metals or super alloys such as Inconel® and Hastelloy® are available. Because the discs can be arranged in almost any pattern on the basepipe, FacsRite screens can accommodate instrumentation, flow control lines, shunt tubes, and even catalysts for toe-to-heel air injection.

With FacsRite screens, there is no extra material on the outside of the pipe, allowing maximum OD and ID selections for the well. The larger wellbore radius allows lower velocities, lower pressure drops, and greater well productivity.

FacsRite screens are versatile and can be used in

- high- or low-flow-rate horizontal wells
- deviated or vertical wells
- gas-, oil-, or water-producing wells
- thermal or conventional environments
- steam, gas, or water injector wells.

Custom-engineered screen manufacturing equipment ensures precise tolerances and quality control, and these manufacturing capabilities also enable quick responses to custom orders for any well, anywhere in the world. Appropriate screen selection, which depends on a variety of factors, is a critical step in the well completion process. Schlumberger technical staff can help in this selection process to optimize well performance.

FacsRite sand screen.

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Dimensions					Mechanical Properties[‡, §]			
Nominal Size, in [mm]	**Weight, lbm/ft [kg/m]**	**Screen ID, in [mm]**	**Holes per Foot,[†] hpf**	**Percentage Open Flow Area, %**	**Tension, lbf [N]**	**Torque, lbf.ft [N.m]**	**Collapse Pressure, psi [MPa]**	**Pipe Burst,[††] psi [MPa]**
4.500 [114.3]	17.7 [26.3]	3.696 [93.88]	24	6.1	196,700 [875,000]	21,600 [29,300]	8,822 [60.8]	9,802 [67.6]
4.500 [114.3]	17.7 [26.3]	3.696 [93.88]	64	16.3	175,200 [779,000]	18,700 [25,400]	6,994 [48.2]	7,845 [54.1]
5.000 [127.0]	20.3 [30.2]	4.184 [106.27]	24	5.5	224,800 [1,000,000]	30,400 [41,200]	8,346 [57.6]	9,164 [63.2]
5.000 [127.0]	20.3 [30.2]	4.184 [106.27]	48	11.0	189,200 [842,000]	26,200 [35,500]	7,011 [48.4]	7,758 [53.5]
5.500 [139.7]	23.0 [34.2]	4.670 [118.62]	24	5.0	256,700 [1,142,000]	38,100 [51,700]	7,977 [55.0]	8,744 [60.3]
5.500 [139.7]	23.0 [34.2]	4.670 [118.62]	48	10.0	215,400 [958,000]	34,200 [46,400]	6,634 [45.8]	7,294 [50.3]
6.625 [168.3]	28.0 [41.7]	5.791 [147.09]	36	6.24	323,200 [1,438,000]	56,500 [76,700]	6,595 [45.5]	7,091 [48.9]
6.625 [168.3]	28.0 [41.7]	5.791 [147.09]	132	22.9	184,300 [820,000]	36,100 [48,900]	3,203 [22.1]	3,669 [25.3]
7.000 [177.8]	26.0 [38.7]	6.276 [159.41]	24	3.9	296,600 [1,319,000]	55,300 [75,000]	5,897 [40.7]	6,264 [43.2]
7.000 [177.8]	26.0 [38.7]	6.276 [159.41]	64	10.5	238,700 [1,062,000]	48,600 [65,800]	4,549 [31.4]	4,872 [33.6]
7.000 [177.8]	26.0 [38.7]	6.276 [159.41]	120	19.7	168,800 [751,000]	33,500 [45,400]	3,201 [22.1]	3,451 [23.8]
8.625 [219.1]	32.0 [47.6]	7.921 [201.19]	24	3.2	374,700 [1,667,000]	83,200 [112,800]	4,720 [32.6]	4,945 [34.1]
8.625 [219.1]	32.0 [47.6]	7.921 [201.19]	48	6.4	339,100 [1,508,000]	82,000 [111,100]	4,238 [29.2]	4,452 [30.7]
8.625 [219.1]	32.0 [47.6]	7.921 [201.19]	108	14.4	243,500 [1,083,000]	60,900 [82,600]	3,066 [21.1]	3,234 [22.3]
9.625 [244.5]	36.0 [53.6]	8.921 [226.59]	24	2.9	419,700 [1,867,000]	106,200 [144,000]	4,345 [30.0]	4,524 [31.2]
9.625 [244.5]	36.0 [53.6]	8.921 [226.59]	64	7.6	363,400 [1,617000]	102,000 [138,300]	3,751 [25.9]	3,915 [27.0]
9.625 [244.5]	36.0 [53.6]	8.921 [226.59]	120	14.3	247,300 [1,100,000]	80,100 [108,600]	2,765 [19.1]	2,900 [20.0]
10.750 [273.05]	40.5 [60.3]	10.05 [255.27]	24	2.6	487,100 [2,167,000]	133,400 [180,800]	3,992 [27.5]	4,147 [28.6]
10.750 [273.05]	40.5 [60.3]	10.05 [255.27]	60	6.8	435,900 [1,939,000]	128,200 [173,800]	3,379 [23.3]	3,524 [24.3]
10.750 [273.05]	40.5 [60.3]	10.05 [255.27]	216	23.1	230,400 [1,025,000]	83,000 [112,600]	1,455 [10.0]	1,523 [10.5]

[†] Any number of holes per foot can be accommodated; those in the table are examples of what is available.

[‡] Based on 80,000-psi basepipe material with 24 hpf.

[§] The values of all mechanical properties contain an engineering safety factor.

[††] The medium disc pop-out differential pressure is 1,400 psi [9.65 MPa], which is independent of the pipe burst pressure.

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