

LineSlot™ Sand Screen Data

Application:

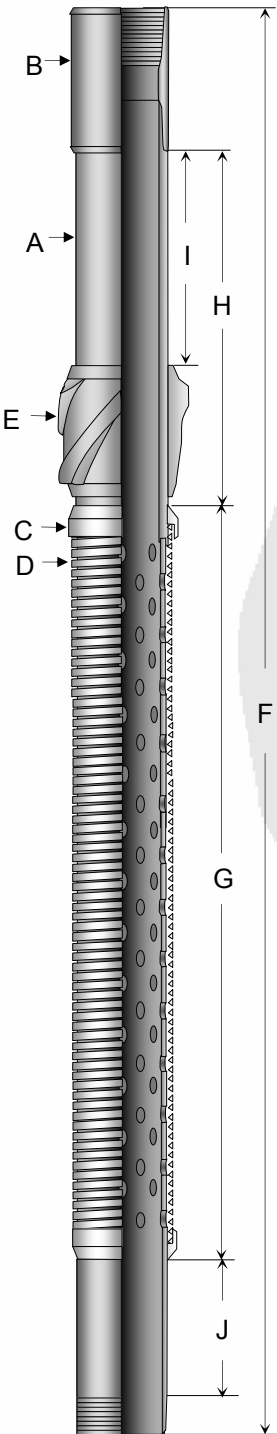
Robust single wire wrap sand screen for vertical, deviated and horizontal open hole completion of oil, gas and injector wells. Can be used in standalone completions or for gravel pack and frac pack.

Benefits:

- No longer the weakest link in the completion – tolerates high loads
- Reduced risk during installation due to unique screen robustness
- Reduced rig time for installation – like running casing
- Increased completion longevity (erosion and corrosion resistant)

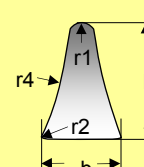
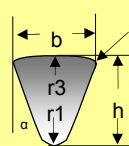
Features:

- Unique shrink fit design and process controlled manufacturing process
- External forces on screen are transferred to and taken up by base pipe
- Torque, tensile, collapse and bending data equivalent to casing
- Base pipe is Range 3 casing
- Heavy duty 316L and Incoloy 825 screen wire materials
- No welding on base pipe material (Screen wire is shrink fit to base pipe)
- Handling and installation using conventional casing equipment
- Well suited for short radius well bore. Maintains sand control at 90°/100 ft
- Consistent and accurate slot opening for superior sand control



PROFILE WIRE DIMENSIONS

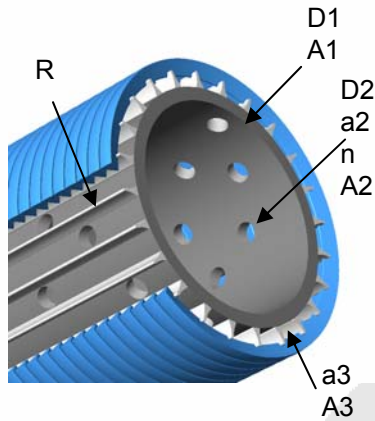
Screen Wire Profile	Ref.	Unit	Axial Rod Profile
4.00 / 0.1575	h	mm / in	6.20 / 0.2441
3.00 / 0.1181	b	mm / in	3.20 / 0.1260
0.50 / 0.0197	r1	mm / in	0.50 / 0.0197
0.12 / 0.0047	r2	mm / in	0.30 / 0.0118
8.00 / 0.3150	r3	mm / in	-
-	r4	mm / in	16.00 / 0.6299
16.79	α	[°]	-
7.58 / 0.0117	A	mm ² / sqin	11.05 / 0.0171



SCREEN ASSEMBLY DIMENSIONAL DATA:

Note	Ref	Base Pipe								
		2 7/8" 6.4 #/ft	3 1/2" 9.2 #/ft	4" 10.9 #/ft	4 1/2" 11.6 #/ft	5" 15 #/ft	5 1/2" 17 #/ft	6 5/8" 20 #/ft	7" 26 #/ft	9 5/8" 53.5 #/ft
	A	2.875"	3.5"	4.0"	4.5"	5.0"	5.5"	6.625"	7.0"	9.625"
	B	3.2"	3.9"	4.4"	4.9"	5.6"	6.1"	7.4"	7.7"	10.6"
	C	3.6"	4.5"	5.0"	5.5"	6.0"	6.5"	7.6"	8.0"	10.6"
	D	3.4"	4.2"	4.7"	5.2"	5.7"	6.2"	7.3"	7.7"	10.3"
1	E	5.6"	5.6"	5.8"	5.8"	5.8"	8.1"	8.1"	8.3"	11.9"
2	F	48 ft	48 ft	48 ft	48 ft	48 ft	48 ft	48 ft	48 ft	48 ft
	G	± 37 ft	± 37 ft	± 37 ft	± 37 ft	± 37 ft	± 37 ft	± 37 ft	± 37 ft	± 37 ft
1	H	7 ft	7 ft	7 ft	7 ft	7 ft	7 ft	7 ft	7 ft	7 ft
	I	6 ft	6 ft	6 ft	6 ft	6 ft	6 ft	6 ft	6 ft	6 ft
1	J	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft	3 ft

Notes: 1 Client specified input 2 Dimensions according to API 5B, Range 3 casing



- D1: Base pipe ID
- A1: Base pipe flow area
- D2: Base pipe perforation diameter
- a2: Base pipe perforation flow area per hole
- n: Number of perforations
- A2: Total base pipe perforation flow area
- R: Number of axial profile rods
- a3: Axial channel flow area
- A3: Axial channels total flow area

SCREEN ASSEMBLY MECHANICAL PROPERTIES:

Note	Ref.	Unit	5 1/2 17 #	6 5/8 20 #	Unit	5 1/2 17 #	6 5/8 20 #
1	Tensile	kN	2030	2080	klbs	397	459
	Collapse	Mpa	46.4	24	psi	6290	3480
2	Bending	°/30 m	90	90	°/100 ft	90	90
3	Torque	kNm	56000	79000	ft-lb	41000	58000
4	Pull-off	kN / m	900	1100	lbs / ft	62000	75000
5	Wire weld	N	3300	3300	lb	740	740

Data is based on L80 13Cr base pipe with New Vam thread

- 1 Base pipe tensile strength is reduced to 95 % of base pipe strength due to perforations
- 2 Bending to this angle gives permanent deformation in base pipe and approx. 10 % change in slot opening
- 3 Yield occurs in base pipe due to perforations. This value is significantly higher than maximum torque values for any oilfield coupling, hence the maximum torque which can be applied to the screen is defined by the selected coupling
- 4 Force pr unit length that can be applied to the screen surface. E. g. if a stuck pipe occurs over a section of more than 2 meters, the base pipe will be the limiting factor
- 5 Filter wire to axial rod pull strength

SCREEN ASSEMBLY DATA:

Ref.	Unit	Base Pipe								
		2 7/8" 6.4#	3 1/2" 9.2#	4" 11.6#	4 1/2" 11.6#	5" 15#	5 1/2" 17#	6 5/8" 20#	7" 26#	9 5/8" 53.5#
150 um	sq in / ft	6.20	7.66	8.57	9.48	10.39	11.30	13.31	14.04	18.78
200 um	sq in / ft	8.14	10.05	11.25	12.44	13.64	14.83	17.47	18.42	24.64
250 um	sq in / ft	10.01	12.37	13.84	15.31	16.79	18.26	21.50	22.68	30.33
300 um	sq in / ft	11.83	14.62	16.36	18.10	19.84	21.58	25.41	26.80	35.85
400 um	sq in / ft	15.31	18.92	21.17	23.42	25.67	27.92	32.88	34.68	46.39
D1	in	2.44	2.99	3.47	4	4.4	4.89	6.05	6.27	8.53
A1	sq in	4.67	7.02	9.45	12.56	15.20	18.77	28.73	30.86	57.12
D2	in	0.31	0.31	0.39	0.39	0.39	0.39	0.39	0.39	0.39
a2	sq in/hole	0.08	0.08	0.12	0.12	0.12	0.12	0.12	0.12	0.12
n	# / ft	24	24	28	28	32	32	36	36	48
A2	sq in/ft	1.87	1.87	3.42	3.42	3.90	3.90	4.39	4.39	5.86
R	#	24	24	28	28	32	32	36	36	48
a3	sq in	0.09	0.11	0.11	0.12	0.12	0.13	0.14	0.15	0.15
A3	sq in	2.20	2.68	3.07	3.45	3.83	4.22	5.12	5.37	7.42

SCREEN ASSEMBLY WEIGHT AND DISPLACEMENT DATA:

Ref.	Unit	Base Pipe								
		2 7/8" 6.4#	3 1/2" 9.2#	4" 11.6#	4 1/2" 11.6#	5" 15#	5 1/2" 17#	6 5/8" 20#	7" 26#	9 5/8" 53.5#
Weight	lbs/ft	9.9	13.0	15.3	16.4	19.9	22.3	26.3	32.5	62.6
Metal displ.	gal/ft	0.15	0.19	0.24	0.25	0.30	0.34	0.40	0.49	0.94