

NO. 221-B

BETWEEN TUBING & CASING**

Inside Tubing

O.D. 1.315"

THREE STRINGS

			OUTSIDE CASING	
Lin. Ft. Per Barrel	Cu. Ft. Per Lin. Ft.	Lin. Ft. Per Cu. Ft.	Wt/Ft With Couplings Lb.	Size O.D. In.
89.20	.0629	15.887	9.50	4½
91.66	.0613	16.325	10.50	4½
95.21	.0590	16.957	11.60	4½
101.13	.0555	18.013	13.50	4½
108.93	.0515	19.401	15.10	*4½
89.71	.0626	15.978	16.00	*4¾
65.96	.0851	11.749	11.50	5
68.59	.0819	12.216	13.00	5
72.28	.0777	12.873	15.00	5
78.60	.0714	14.000	18.00	5
85.30	.0658	15.193	21.00	*5
50.82	.1105	9.052	13.00	*5½
51.65	.1087	9.198	14.00	5½
52.65	.1066	9.377	15.00	*5½
53.30	.1053	9.493	15.50	5½
54.92	.1022	9.782	17.00	5½
58.35	.0962	10.393	20.00	5½
61.93	.0907	11.031	23.00	5½
45.16	.1243	8.043	14.00	*5¾
47.33	.1186	8.430	17.00	*5¾
49.68	.1130	8.849	19.50	*5¾
52.22	.1075	9.301	22.50	*5¾
40.65	.1381	7.239	15.00	*6
41.07	.1367	7.316	16.00	*6
41.99	.1337	7.479	17.00	*6
42.48	.1322	7.566	18.00	*6
43.89	.1279	7.817	20.00	*6
46.22	.1215	8.233	23.00	*6
48.67	.1154	8.669	26.00	*6
31.72	.1770	5.650	17.00	*6⅝
32.78	.1713	5.839	20.00	6⅝
33.55	.1673	5.976	22.00	*6⅝
34.46	.1629	6.138	24.00	6⅝
35.38	.1587	6.302	26.00	*6⅝
36.31	.1546	6.468	28.00	6⅝
36.76	.1527	6.548	29.00	*6⅝
38.10	.1474	6.786	32.00	6⅝
27.41	.2048	4.882	17.00	7
28.21	.1990	5.024	20.00	7
28.80	.1950	5.129	22.00	*7
29.13	.1927	5.188	23.00	7
29.45	.1907	5.245	24.00	*7
30.10	.1865	5.361	26.00	7
30.80	.1823	5.485	28.00	*7
31.14	.1803	5.547	29.00	7
31.50	.1783	5.610	30.00	*7
32.22	.1743	5.739	32.00	7
32.90	.1707	5.859	34.00	*7
33.36	.1683	5.941	35.00	7
34.48	.1629	6.141	38.00	7
35.66	.1575	6.351	40.00	*7
22.59	.2486	4.023	20.00	*7⅝
23.31	.2409	4.152	24.00	7⅝
23.73	.2366	4.227	26.40	7⅝
24.46	.2295	4.357	29.70	7⅝
25.37	.2213	4.518	33.70	7⅝
26.60	.2111	4.737	39.00	7⅝

**Note: No allowance made for couplings.

CEMENTING MATERIALS AND ADMIXTURES

PHYSICAL PROPERTIES AND WATER REQUIREMENTS

Material	Bulk Weight lbs/cuft	Specific Gravity	Absolute gals/lb	Volume cu ft/lb	Activity %	Dry/ Liquid	Liquid Base	Water Requirements gals/lb
MicroSand	38	2.65	0.0453	0.0061	100	Dry		0.05
Perlite (0 psi)	8	0.67	0.1792	0.0240	100	Dry		0.5
Perlite (3000 psi)		2.2	0.0546	0.0073	100	Dry		
Perlite Six (0 psi)	38	1.575	0.0762	0.0102	100	Dry		0.158
Perlite Six (3000 psi)		2.4	0.0500	0.0067	100	Dry		
NF-3		0.981	0.1224	0.0164	100	Liquid	Water	
NF-4		1.01	0.1189	0.0159	100	Liquid	Water	
NF-4E		0.998	0.1203	0.0161	100	Liquid	Water	
NF-5		0.94	0.1277	0.0171	100	Liquid	Water	
SA-541	47	1.4	0.0857	0.0115	100	Dry		none
Spherelite (0 psi)	25	0.685	0.1753	0.0234	100	Dry		0.95
Spherelite (500 psi)		0.759	0.1582	0.0211	100	Dry		
Spherelite (1000 psi)		0.785	0.1529	0.0204	100	Dry		
Spherelite (2000 psi)		0.828	0.1450	0.0194	100	Dry		
Spherelite (3000 psi)		0.864	0.1389	0.0186	100	Dry		
Spherelite (4000 psi)		0.902	0.1331	0.0178	100	Dry		