

SURE-LINK™ PTFE Expansion Joints - Spring Rates

2 Convolutions (Style 214)

Nominal ID in	Nominal FF in	Axial Compression lb/in	Axial Elongation lb/in	Lateral Deflection lb/in	Angular in-lb/deg	Effective Area sq in
1	1 3/8	1100	900	950	2.0	3.2
1.25	2	240	168	360	0.6	4.4
1.5	1 3/8	1150	1050	1000	5.1	6.1
2	1 9/16	1200	1100	1050	9.6	11.2
2.5	2 1/4	1270	1150	1100	15.7	14.4
3	2 1/4	1350	1200	1150	23.5	19.7
4	2 5/8	1400	1300	1200	45.3	29.4
5	3 1/4	1570	1450	1370	79.1	38.3
6	2 3/4	1700	1600	1450	126	51.3
8	4	1800	1700	1570	237	79.9
10	3 1/16	2720	1630	5440	356	106
12	3 1/8	3240	1940	6480	610	144
14	3 9/16	3720	2230	7430	954	190
16	3 11/16	4280	2570	8550	1433	243
18	4 1/8	4680	2810	9350	1983	299
20	4 1/8	5160	3090	10310	2700	365
24	4 1/8	6200	3720	12390	4671	514

*All spring rates should be considered approximate and are based on a zero pressure system at ambient temperatures.

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3 Convolutions (Style 215)

Nominal ID in	Nominal FF in	Axial Compression lb/in	Axial Elongation lb/in	Lateral Deflection lb/in	Angular in-lb/deg	Effective Area sq in
1	1 3/4	350	320	300	0.7	3.2
1.25	2 5/8	171	120	257	0.4	4.4
1.5	2	470	450	420	2.2	6.1
2	2 3/4	550	500	490	4.3	11.2
2.5	3 3/16	700	650	550	8.8	14.4
3	3 5/8	750	700	650	13.7	19.7
4	3 5/8	870	850	790	29.6	29.4
5	4	990	900	850	49.0	38.3
6	4	1000	950	900	75	51.3
8	6	1200	1100	1050	153	79.9
10	4 1/4	1940	1160	3880	254	106
12	4 5/16	2310	1390	4630	436	144
14	4 13/16	2660	1590	5310	681	190
16	4 15/16	3050	1830	6110	1024	243
18	5 7/16	3340	2000	6680	1417	299
20	5 7/16	3680	2210	7370	1928	365
24	5 1/2	4430	2660	8850	3336	514

*All spring rates should be considered approximate and are based on a zero pressure system at ambient temperatures.

SURE-LINK™ PTFE Expansion Joints - Spring Rates

4 Convolutions (Style 216)

Nominal ID in	Nominal FF in	Axial Compression lb/in	Axial Elongation lb/in	Lateral Deflection lb/in	Angular in-lb/deg	Effective Area sq in
1	2 5/8	91	64	137	0.1	2.2
1.25	3 3/16	137	96	206	0.3	4.4
1.5	3 5/16	183	128	274	0.6	6.0
2	3 3/8	251	176	377	1.5	7.7
2.5	4	365	256	548	3.5	13.0
3	4 7/16	480	336	719	6.6	17.1
4	4 5/8	640	448	959	15.6	23.9
5	4 15/16	822	576	1233	31.3	33.4
6	5 1/8	1051	630	2101	49.4	45.8
8	5 1/4	1279	767	2558	107	72.8
10	5 3/8	1550	930	3110	203	106
12	5 1/2	1850	1110	3700	349	144
14	6 1/16	2120	1270	4250	545	190
16	6 3/16	2440	1470	4890	819	243
18	6 3/4	2670	1600	5340	1133	299
20	6 3/4	2950	1770	5890	1542	365
24	6 13/16	3540	2120	7080	2669	514

*All spring rates should be considered approximate and are based on a zero pressure system at ambient temperatures.

SURE-LINK™ PTFE Expansion Joints - Spring Rates

5 Convolutions (Style 217)

Nominal ID in	Nominal FF in	Axial Compression lb/in	Axial Elongation lb/in	Lateral Deflection lb/in	Angular in-lb/deg	Effective Area sq in
1	3 1/8	74	52	111	0.1	2.2
1.25	3 3/4	111	78	167	0.3	4.4
1.5	3 15/16	148	104	223	0.5	6.0
2	4	204	143	306	1.2	7.7
2.5	4 13/16	297	208	445	2.8	13.0
3	5 3/8	390	273	585	5.3	17.1
4	5 5/8	520	364	779	12.6	23.9
5	5 15/16	668	468	1002	25.4	33.4
6	6 1/8	854	512	1707	40.1	45.8
8	6 5/16	1039	624	2078	86.9	72.8
10	6 9/16	1260	760	2520	165	106
12	6 11/16	1500	900	3010	283	144
14	7 5/16	1730	1040	3450	443	190
16	7 7/16	1990	1190	3970	665	243
18	8 1/8	2170	1300	4340	921	299
20	8 1/8	2390	1440	4790	1253	365
24	8 1/8	2880	1730	5750	2168	514

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SURE-LINK™ PTFE Expansion Joints - Spring Rates

2 Convolutions (Style 214)

Nominal ID mm	Nominal FF mm	Axial Compression N/mm	Axial Elongation N/mm	Lateral Deflection N/mm	Angular N-m/deg	Effective Area sq mm
25	35	195	160	165	0.2	2080
32	51	40	30	65	0.1	2865
40	35	200	185	175	0.6	3905
50	40	210	195	185	1.1	7225
65	57	220	200	195	1.8	9282
80	57	235	210	200	2.7	12718
100	67	245	230	210	5.1	18947
125	83	275	255	240	8.9	24687
150	70	300	280	255	14.2	33122
200	102	315	300	275	26.8	51536
250	78	475	285	955	40.2	68349
300	79	565	340	1135	69.0	93157
350	90	650	390	1300	108	122542
400	94	750	450	1495	162	156509
450	105	820	490	1635	224	193221
500	105	905	540	1805	305	235342
600	105	1085	650	2170	528	331627

*All spring rates should be considered approximate and are based on a zero pressure system at ambient temperatures.

SURE-LINK™ PTFE Expansion Joints - Spring Rates

3 Convolutions (Style 215)

Nominal ID mm	Nominal FF mm	Axial Compression N/mm	Axial Elongation N/mm	Lateral Deflection N/mm	Angular N-m/deg	Effective Area sq mm
25	44	60	55	55	0.1	2080
32	67	30	20	45	0.0	2865
40	51	80	80	75	0.2	3905
50	70	95	90	85	0.5	7225
65	81	125	115	95	1.0	9282
80	92	130	125	115	1.5	12718
100	92	150	150	140	3.3	18947
125	102	175	160	150	5.5	24687
150	102	175	165	160	8.4	33122
200	152	210	195	185	17.3	51536
250	108	340	205	680	28.7	68349
300	110	405	245	810	49.2	93157
350	122	465	280	930	77.0	122542
400	125	535	320	1070	116	156509
450	138	585	350	1170	160	193221
500	138	645	385	1290	218	235342
600	140	775	465	1550	377	331627

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SURE-LINK™ PTFE Expansion Joints - Spring Rates

4 Convolutions (Style 216)

Nominal ID mm	Nominal FF mm	Axial Compression N/mm	Axial Elongation N/mm	Lateral Deflection N/mm	Angular N-m/deg	Effective Area sq mm
25	67	15	10	25	0.0	1425
32	81	25	15	35	0.0	2865
40	84	30	20	50	0.1	3848
50	86	45	30	65	0.2	4976
65	102	65	45	95	0.4	8365
80	113	85	60	125	0.7	11047
100	117	110	80	170	1.8	15394
125	125	145	100	215	3.5	21538
150	130	185	110	370	5.6	29559
200	133	225	135	450	12.1	46990
250	137	270	165	545	23.0	68349
300	140	325	195	650	39.4	93157
350	154	370	220	745	61.6	122542
400	157	425	255	855	92.5	156509
450	171	470	280	935	128	193221
500	171	515	310	1030	174	235342
600	173	620	370	1240	302	331627

*All spring rates should be considered approximate and are based on a zero pressure system at ambient temperatures.

SURE-LINK™ PTFE Expansion Joints - Spring Rates 5 Convolutions (Style 217)

Nominal ID mm	Nominal FF mm	Axial Compression N/mm	Axial Elongation N/mm	Lateral Deflection N/mm	Angular N-m/deg	Effective Area sq mm
25	79	15	10	20	0.0	1425
32	95	20	15	30	0.0	2865
40	100	25	20	40	0.1	3848
50	102	35	25	55	0.1	4976
65	122	50	35	80	0.3	8365
80	137	70	50	100	0.6	11047
100	143	90	65	135	1.4	15394
125	151	115	80	175	2.9	21538
150	156	150	90	300	4.5	29559
200	160	180	110	365	9.8	46990
250	167	220	135	440	18.6	68349
300	170	265	160	525	32.0	93157
350	186	305	180	605	50.0	122542
400	189	350	210	695	75.2	156509
450	206	380	230	760	104	193221
500	206	420	250	840	142	235342
600	206	505	305	1005	245	331627

*All spring rates should be considered approximate and are based on a zero pressure system at ambient temperatures.