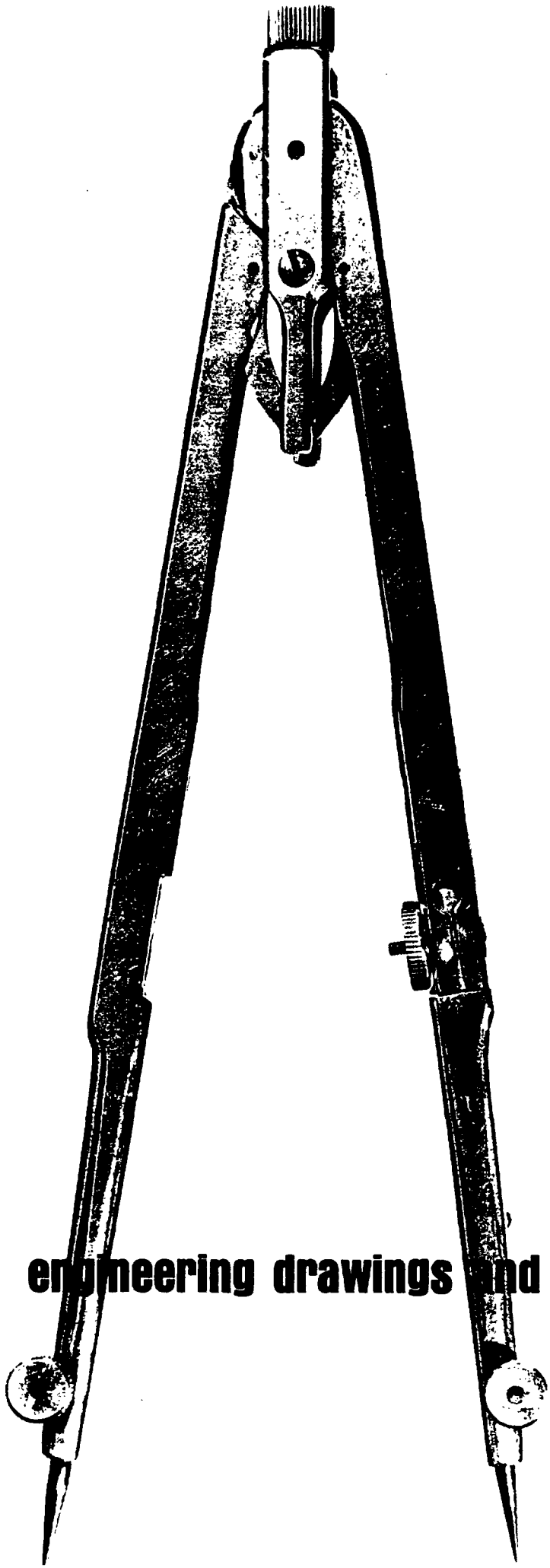
PLAINTIFF'S
EXHIBIT
CT-81

CERTAIN

asbestos-cement pressure pipe & FLUID-TITE® COUPLING

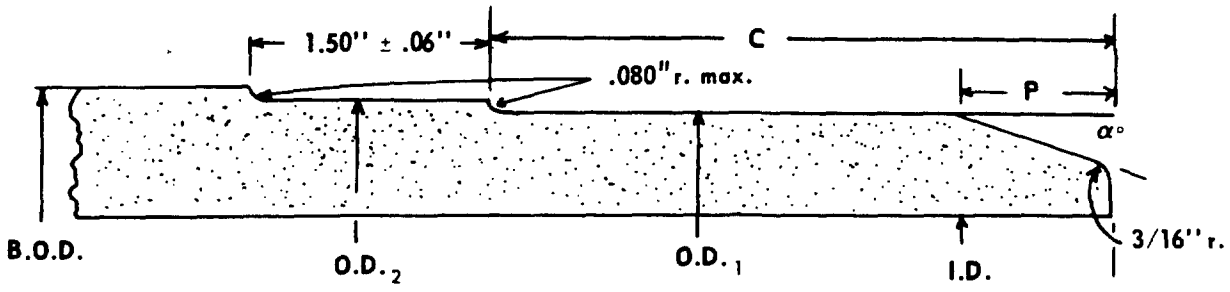




engineering drawings and dimensions

CERTAIN-TEED®

CG FLUID-TITE® Pipe



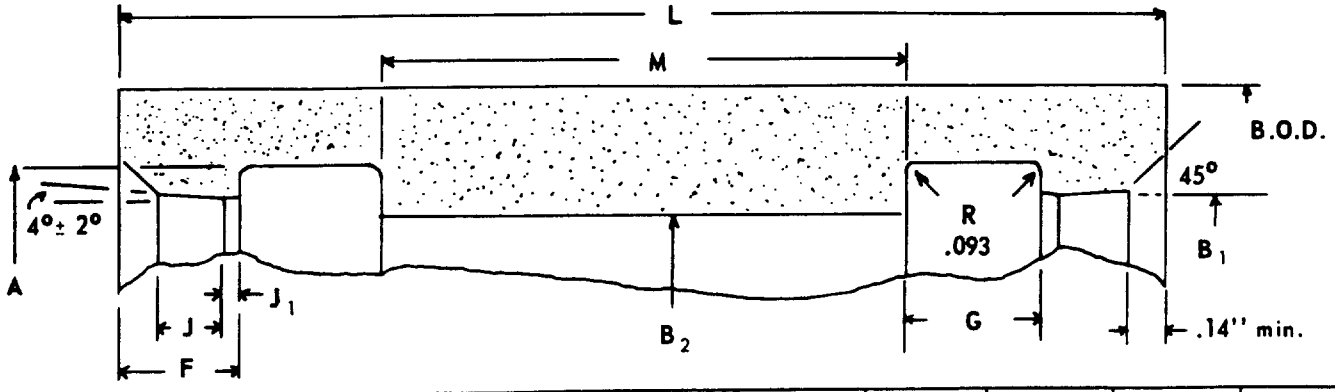
NOM. SIZE PIPE & CLASS	NOM. I.D.	B.O.D.**	O.D.1 ±.02	O.D.2 ±.02	C ±.00 −.06	P + . − .06	α° ±.02
6" – 100	6.00	7.16	6.91	7.07	2.40	.75	16
8" – 100	8.00	9.32	9.11	9.27	2.40	.75	16
10" – 100	10.00	11.46	11.24	11.40	2.40	.75	16
12" – 100	12.00	13.70	13.44	13.60	2.90	1.00	16
14" – 100	13.60	15.36	15.07	15.23	3.25	1.00	18
16" – 100	15.50	17.50	17.15	17.31	3.25	1.00	18
6" – 150	5.80	7.12	6.91	7.07	2.40	.75	16
8" – 150	7.80	9.44	9.11	9.27	2.40	.75	16
10" – 150	10.00	11.85	11.66	11.82	2.40	.75	16
12" – 150	12.00	14.11	13.92	14.08	2.90	1.00	16
14" – 150	14.00	16.41	16.22	16.38	3.25	1.00	18
16" – 150	16.00	18.65	18.46	18.62	3.25	1.00	18
6" – 200	5.70	7.36	6.91	7.07	2.40	.75	16
8" – 200	7.60	9.68	9.11	9.27	2.40	.75	16
10" – 200	9.60	11.88	11.66	11.82	2.40	.75	16
12" – 200	11.44	14.11	13.92	14.08	2.90	1.00	16
14" – 200	13.60	16.44	16.22	16.38	3.25	1.00	18
16" – 200	15.50	18.74	18.46	18.62	3.25	1.00	18

** Subject to Manufacturing Tolerances.

To better service your requirements, please contact your local Certain-teed Sales Agent or Certain-teed Sales Representative for availability.

CERTAIN-TEED®

CG FLUID-TITE® Coupling



NOM. SIZE & CLASS	A ±.025	B_1 ±.025	B_2 ±.025	B.O.D.	M +.000 -.060	L +.25 -.06	F MIN.	G +.030 -.010	J +.000 -.040	J_1 +.020 -.000
6" – 100	7.65	7.20	7.03	8.40	3.50	7.00	.76	.92	.42	.18
8" – 100	9.85	9.40	9.23	10.80	3.50	7.00	.76	.92	.42	.18
10" – 100	11.98	11.53	11.36	13.30	3.50	7.00	.76	.92	.42	.18
12" – 100	14.18	13.73	13.56	15.55	4.50	8.00	.76	.92	.42	.18
14" – 100	15.95	15.39	15.20	17.60	5.20	9.00	.83	1.00	.42	.25
16" – 100	18.03	17.47	17.28	19.80	5.20	9.00	.83	1.00	.42	.25
6" – 150	7.65	7.20	7.03	8.76	3.50	7.00	.76	.92	.42	.18
8" – 150	9.85	9.40	9.23	11.32	3.50	7.00	.76	.92	.42	.18
10" – 150	12.40	11.95	11.78	14.36	3.50	7.00	.76	.92	.42	.18
12" – 150	14.66	14.21	14.04	17.00	4.50	8.00	.76	.92	.42	.18
14" – 150	17.10	16.54	16.35	19.80	5.20	9.00	.83	1.00	.42	.25
16" – 150	19.34	18.78	18.59	22.28	5.20	9.00	.83	1.00	.42	.25
6" – 200	7.65	7.20	7.03	9.35	3.50	7.00	.76	.92	.42	.18
8" – 200	9.85	9.40	9.23	12.00	3.50	7.00	.76	.92	.42	.18
10" – 200	12.40	11.95	11.78	15.15	3.50	7.00	.76	.92	.42	.18
12" – 200	14.66	14.21	14.04	17.90	4.50	8.00	.76	.92	.42	.18
14" – 200	17.10	16.54	16.35	20.50	5.20	9.00	.83	1.00	.42	.25
16" – 200	19.34	18.78	18.59	23.20	5.20	9.00	.83	1.00	.42	.25

** Subject to Manufacturing Tolerances.

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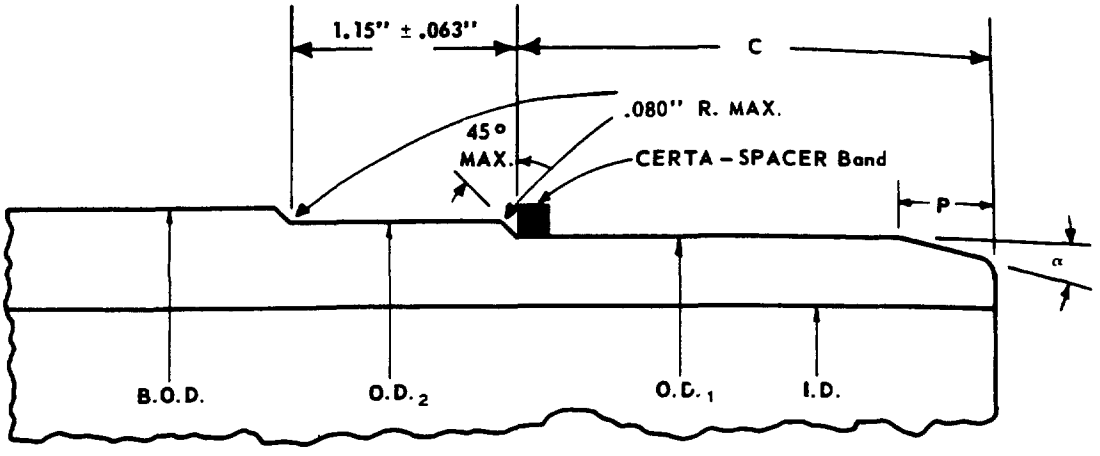
CERTAIN-TEED®

FLUID-TITE® Pipe End With CERTA-SPACER® Band



NOM. SIZE PIPE & CLASS	NOM. I.D."	B.O.D."**	O.D.1 ±.02"	O.D.2 ±.02"	C ±.06	P ±.06	α ±2
3"-100	3.00	3.93	3.74	3.90	2.60	.50	16°
4"-100	4.00	5.02	4.64	4.80	2.90	.75	16°
6"-100	6.00	7.10	6.91	7.07	2.90	.75	16°
8"-100	8.00	9.30	9.11	9.27	3.40	1.00	16°
10"-100	10.00	11.44	11.14	11.30	3.40	1.00	16°
12"-100	12.00	13.66	13.32	13.48	3.50	1.00	16°
14"-100	13.60	15.36	15.07	15.23	4.00	1.00	20°
16"-100	15.50	17.50	17.15	17.31	4.00	1.00	20°
18"-100	18.00	20.44	19.90*	20.06*	4.88	1.00	22°
20"-100	20.00	22.50	22.12*	22.28*	4.88	1.00	22°
24"-100	24.00	27.17	26.48*	26.64*	4.88	1.00	22°
3"-150	3.00	4.03	3.84	4.00	2.60	.50	16°
4"-150	4.00	5.14	4.81	4.97	2.90	.75	16°
6"-150	5.85	7.12	6.91	7.07	2.90	.75	16°
8"-150	7.80	9.44	9.11	9.27	3.40	1.00	16°
10"-150	10.00	11.85	11.66	11.82	3.40	1.00	16°
12"-150	12.00	14.11	13.92	14.08	3.50	1.00	16°
14"-150	14.00	16.41	16.22	16.38	4.00	1.00	20°
16"-150	16.00	18.65	18.46	18.62	4.00	1.00	20°
18"-150	18.00	21.20	20.94*	21.10*	4.88	1.00	22°
20"-150	20.00	23.54	23.28*	23.44*	4.88	1.00	22°
24"-150	24.00	28.22	27.96*	28.12*	4.88	1.00	22°
3"-200	3.00	4.18	3.84	4.00	2.60	.50	16°
4"-200	3.95	5.32	4.81	4.97	2.90	.75	16°
6"-200	5.70	7.36	6.91	7.07	2.90	.75	16°
8"-200	7.60	9.68	9.11	9.27	3.40	1.00	16°
10"-200	9.60	11.85	11.66	11.82	3.40	1.00	16°
12"-200	11.44	14.11	13.92	14.08	3.50	1.00	16°
14"-200	13.60	16.44	16.22	16.38	4.00	1.00	20°
16"-200	15.50	18.74	18.46	18.62	4.00	1.00	20°

*—O.D.1 and O.D.2 Tolerance for 18", 20 and 24" ± .03

**Subject to Manufacturing Tolerances

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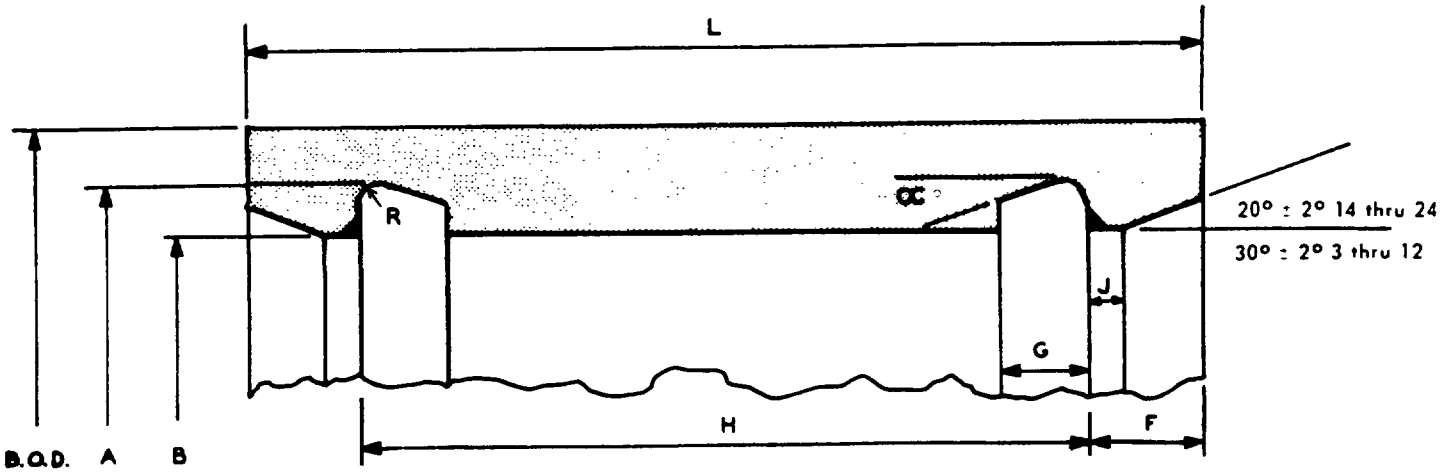
CERTAIN-TEED®

FLUID-TITE® Coupling



NOM. SIZE PIPE & CLASS	A ±.025"	B ±.025"	B.O.D." **	H +.000" −.063"	L +.25" −.00"	F + −.000"	G +.04" −.00"	R ±.01	J +.03" −.00"	OC° +0° −1°
3"-100	4.57	3.850	5.35	4.500	6.25	.812	.62	.125	.375	18
4"-100	5.57	4.755	6.47	4.875	6.50	.812	.70	.125	.375	18
6"-100	7.84	7.025	8.76	4.875	6.50	.812	.70	.125	.375	18
8"-100	10.10	9.230	11.40	5.875	7.50	.812	.75	.125	.375	18
10"-100	12.13	11.260	13.51	5.875	7.50	.812	.75	.125	.375	18
12"-100	14.31	13.440	15.96	6.125	7.75	.812	.75	.125	.375	18
14"-100	16.10	15.205	17.86	7.000	9.00	1.000	.85	.125	.375	12
16"-100	18.18	17.285	20.11	7.000	9.00	1.000	.85	.125	.375	12
18"-100	21.20*	20.080*	23 40	8.500	11.10	1.300	1.00	.125	.50	12
20"-100	23.42*	22.300*	25.82	8.500	11.10	1.300	1.00	.125	.50	12
24"-100	27.78*	26.660*	30.60	8.500	11.10	1.300	1.00	.125	.50	12
3"-150	4.69	3.950	5.55	4.500	6.25	.812	.62	.125	.375	18
4"-150	5.74	4.925	6.66	4.875	6.50	.812	.70	.125	.375	18
6"-150	7.84	7.025	8.96	4.875	6.50	.812	.70	.125	.375	18
8"-150	10.10	9.230	11.46	5.875	7.50	.812	.75	.125	.375	18
10"-150	12.65	11.780	14.61	5.875	7.50	.812	.75	.125	.375	18
12"-150	14.91	14.040	17.13	6.125	7.75	.812	.75	.125	.375	18
14"-150	17.25	16.365	19.80	7.000	9.00	1.000	.85	.125	.375	12
16"-150	19.49	18.605	22.28	7.000	9.00	1.000	.85	.125	.375	12
18"-150	22.24*	21.120*	25.33	8.500	11.10	1.300	1.00	.125	.50	12
20"-150	24.58*	23.460*	27.97	8.500	11.10	1.300	1.00	.125	.50	12
24"-150	29.26*	28.140*	33.44	8.500	11.10	1.300	1.00	.125	.50	12
3"-200	4.69	3.950	5.75	4.500	6.25	.812	.62	.125	.375	18
4"-200	5.74	4.925	6.94	4.875	6.50	.812	.70	.125	.375	18
6"-200	7.84	7.025	9.24	4.875	6.50	.812	.70	.125	.375	18
8"-200	10.10	9.230	11.70	5.875	7.50	.812	.75	.125	.375	18
10"-200	12.65	11.780	14.85	5.875	7.50	.812	.75	.125	.375	18
12"-200	14.91	14.040	17.67	6.125	7.75	.812	.75	.125	.375	18
14"-200	17.25	16.365	20.67	7.000	9.00	1.000	.85	.125	.375	12
16"-200	19.49	18.605	23 41	7.000	9.00	1.000	.85	.125	.375	12

*—A and B Tolerance for 18", 20" and 24": ±.040"

**—Subject to Manufacturing Tolerances.

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(Beachwood)
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Area Code 216 Telephone: 464-8060

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Area Code 713 Telephone: 526-3717

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1695 Crescent Avenue
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