



**PMC LONE STAR**



Gages, Calibration & Instruments

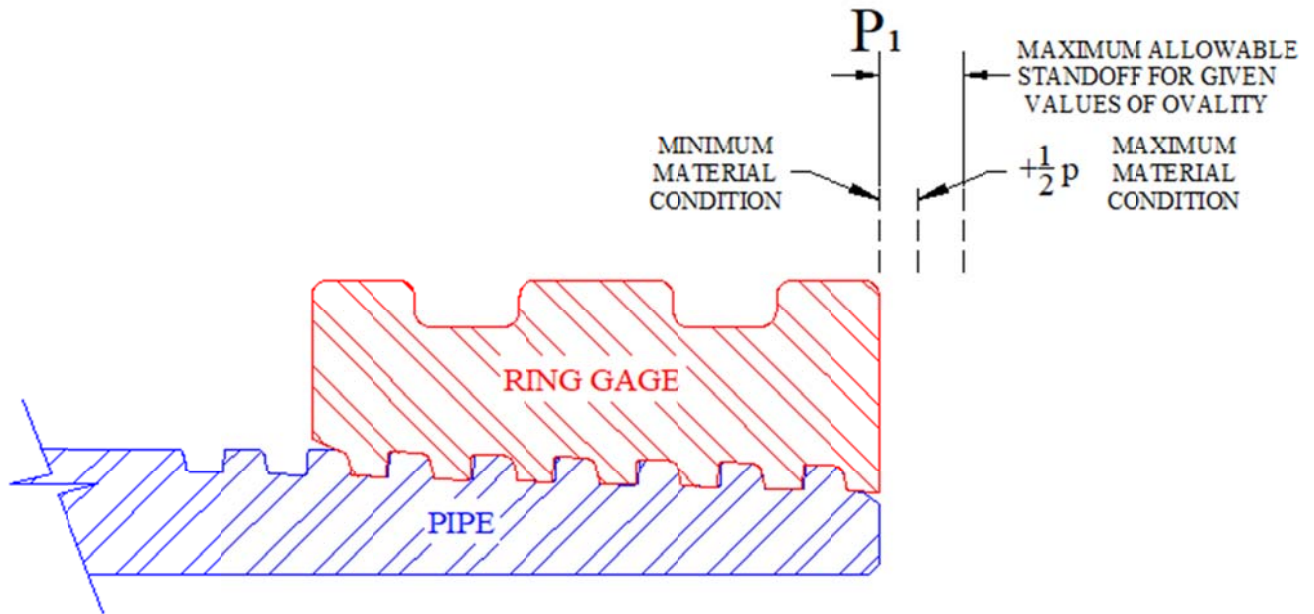
# Buttress Casing Ring Gage Adjusted Standoff for Ovality of Pipe

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API Specification 5B 16<sup>th</sup> edition has added new requirements for inspecting ovality of Buttress Casing pipe using crest diameter gages such as the CDRP. The addition of crest diameter inspection to the specification changes the allowable standoff of ring gages used to inspect pipe for functional size. The presence of ovality in a pipe will cause the ring gage to standoff further. The revised specification acknowledges this effect on standoff and provides guidance on allowable standoff variation based on the amount of ovality present. The ovality standoff allowance is added to the maximum standoff as prescribed within the specification, the minimum standoff remains unchanged.





## 3/4" TPF Buttress Casing (4-1/2" – 13-3/8")

The basic standoff of a Ring Gage to a Buttress Casing Pipe is  $P_1 + 1/2p / -0$

$P_1 = 0.000$  (nominal), actual  $P_1$  from Ring Gage certification should be used

$p = 0.200$  for all Buttress Casing

Min Standoff =  $P_1$

Max Standoff =  $P_1 + 1/2p + \text{Ovality Standoff Allowance}$

Max Standoff =  $P_1 + 0.100 + \text{Ovality Standoff Allowance}$

3/4" TPF Buttress Casing Pin Standoff (4-1/2" – 13-3/8")			
Thread Ovality  (in.)	Ovality Standoff Allowance  (in.)	Min Ring Gage Standoff	Max Ring Gage Standoff
		$P_1$  (in.)	$P_1 + 1/2p + \text{Ovality Standoff Allowance}$  (in.)
0.001	0.008	0.000	0.108
0.002	0.016	0.000	0.116
0.003	0.024	0.000	0.124
0.004	0.032	0.000	0.132
0.005	0.040	0.000	0.140
0.006	0.048	0.000	0.148
0.007	0.056	0.000	0.156
0.008	0.064	0.000	0.164
0.009	0.072	0.000	0.172
0.010	0.080	0.000	0.180
0.011	0.088	0.000	0.188
0.012	0.096	0.000	0.196
0.013	0.104	0.000	0.204
0.014	0.112	0.000	0.212
0.015	0.120	0.000	0.220
0.016	0.128	0.000	0.228
0.017	0.136	0.000	0.236
0.018	0.144	0.000	0.244
0.019	0.152	0.000	0.252
0.020	0.160	0.000	0.260
0.021	0.168	0.000	0.268
0.022	0.176	0.000	0.276
0.023	0.184	0.000	0.284
0.024	0.192	0.000	0.292
0.025	0.200	0.000	0.300
0.026	0.208	0.000	0.308
0.027	0.216	0.000	0.316
0.028	0.224	0.000	0.324
0.029	0.232	0.000	0.332
0.030	0.240	0.000	0.340
0.031	0.248	0.000	0.348
0.032	0.256	0.000	0.356
0.033	0.264	0.000	0.364

\*\*Table continued on next page\*\*



3/4" TPF Buttress Casing Pin Standoff (4-1/2" – 13-3/8" (Continued))			
Thread Ovality	Ovality Standoff Allowance	Min Ring Gage Standoff	Max Ring Gage Standoff
(in.)	(in.)	P <sub>1</sub>	P <sub>1</sub> + 1/2p + Ovality Standoff Allowance
(in.)	(in.)	(in.)	(in.)
0.034	0.272	0.000	0.372
0.035	0.280	0.000	0.380
0.036	0.288	0.000	0.388
0.037	0.296	0.000	0.396
0.038	0.304	0.000	0.404
0.039	0.312	0.000	0.412
0.040	0.320	0.000	0.420
0.041	0.328	0.000	0.428
0.042	0.336	0.000	0.436
0.043	0.344	0.000	0.444
0.044	0.352	0.000	0.452
0.045	0.360	0.000	0.460
0.046	0.368	0.000	0.468
0.047	0.376	0.000	0.476
0.048	0.384	0.000	0.484
0.049	0.392	0.000	0.492
0.050	0.400	0.000	0.500
0.051	0.408	0.000	0.508
0.052	0.416	0.000	0.516
0.053	0.424	0.000	0.524
0.054	0.432	0.000	0.532



## 1" TPF Buttress Casing (16" – 20")

The basic standoff of a Ring Gage to a Buttress Casing Pipe is  $P_1 + 1/2p / -0$

$P_1 = 0.000$  (nominal), actual  $P_1$  from Ring Gage certification should be used

$p = 0.200$  for all Buttress Casing

Min Standoff =  $P_1$

Max Standoff =  $P_1 + 1/2p + \text{Ovality Standoff Allowance}$

Max Standoff =  $P_1 + 0.100 + \text{Ovality Standoff Allowance}$

1" TPF Buttress Casing Pin Standoff (16" – 20")			
Thread Ovality  (in.)	Ovality Standoff Allowance  (in.)	Min Ring Gage Standoff	Max Ring Gage Standoff
		$P_1$  (in.)	$P_1 + 1/2p + \text{Ovality Standoff Allowance}$  (in.)
0.001	0.006	0.000	0.106
0.002	0.012	0.000	0.112
0.003	0.018	0.000	0.118
0.004	0.024	0.000	0.124
0.005	0.030	0.000	0.130
0.006	0.036	0.000	0.136
0.007	0.042	0.000	0.142
0.008	0.048	0.000	0.148
0.009	0.054	0.000	0.154
0.010	0.060	0.000	0.160
0.011	0.066	0.000	0.166
0.012	0.072	0.000	0.172
0.013	0.078	0.000	0.178
0.014	0.084	0.000	0.184
0.015	0.090	0.000	0.190
0.016	0.096	0.000	0.196
0.017	0.102	0.000	0.202
0.018	0.108	0.000	0.208
0.019	0.114	0.000	0.214
0.020	0.120	0.000	0.220
0.021	0.126	0.000	0.226
0.022	0.132	0.000	0.232
0.023	0.138	0.000	0.238
0.024	0.144	0.000	0.244
0.025	0.150	0.000	0.250
0.026	0.156	0.000	0.256
0.027	0.162	0.000	0.262
0.028	0.168	0.000	0.268
0.029	0.174	0.000	0.274
0.030	0.180	0.000	0.280
0.031	0.186	0.000	0.286
0.032	0.192	0.000	0.292
0.033	0.198	0.000	0.298

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1" TPF Buttress Casing Pin Standoff (16" – 20") (Continued)			
Thread Ovality  (in.)	Ovality Standoff Allowance  (in.)	Min Ring Gage Standoff	Max Ring Gage Standoff
		P <sub>1</sub>  (in.)	P <sub>1</sub> + 1/2p + Ovality Standoff Allowance  (in.)
0.034	0.204	0.000	0.304
0.035	0.210	0.000	0.310
0.036	0.216	0.000	0.316
0.037	0.222	0.000	0.322
0.038	0.228	0.000	0.328
0.039	0.234	0.000	0.334
0.040	0.240	0.000	0.340
0.041	0.246	0.000	0.346
0.042	0.252	0.000	0.352
0.043	0.258	0.000	0.358
0.044	0.264	0.000	0.364
0.045	0.270	0.000	0.370
0.046	0.276	0.000	0.376
0.047	0.282	0.000	0.382
0.048	0.288	0.000	0.388
0.049	0.294	0.000	0.394
0.050	0.300	0.000	0.400
0.051	0.306	0.000	0.406
0.052	0.312	0.000	0.412
0.053	0.318	0.000	0.418
0.054	0.324	0.000	0.424
0.055	0.330	0.000	0.430
0.056	0.336	0.000	0.436
0.057	0.342	0.000	0.442
0.058	0.348	0.000	0.448
0.059	0.354	0.000	0.454
0.060	0.360	0.000	0.460
0.061	0.366	0.000	0.466
0.062	0.372	0.000	0.472
0.063	0.378	0.000	0.478
0.064	0.384	0.000	0.484
0.065	0.390	0.000	0.490
0.066	0.396	0.000	0.496
0.067	0.402	0.000	0.502
0.068	0.408	0.000	0.508
0.069	0.414	0.000	0.514
0.070	0.420	0.000	0.520
0.071	0.426	0.000	0.526
0.072	0.432	0.000	0.532
0.073	0.438	0.000	0.538
0.074	0.444	0.000	0.544
0.075	0.450	0.000	0.550
0.076	0.456	0.000	0.556
0.077	0.462	0.000	0.562
0.078	0.468	0.000	0.568
0.079	0.474	0.000	0.574
0.080	0.480	0.000	0.580