

60° • 55° (Partial Profile)

(D.O.C. shows the value of radial D.O.C.)

A GRADES	Thread Type	Pitch	Part Number	rε	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass			
		mm & TPI																							
B INSERTS	External Threading	24 TPI	16ER A55	0.0024	0.0311	7	0.007	0.006	0.006	0.004	0.003	0.003	0.002												
		24 TPI	AG55	0.0024	0.0311	7	0.007	0.006	0.006	0.004	0.003	0.003	0.002												
		20 TPI	16ER A55	0.0024	0.0378	8	0.008	0.007	0.006	0.005	0.004	0.003	0.003	0.002											
		20 TPI	AG55	0.0024	0.0378	8	0.008	0.007	0.006	0.005	0.004	0.003	0.003	0.002											
		18 TPI	16ER A55	0.0024	0.0421	9	0.008	0.007	0.006	0.006	0.004	0.004	0.003	0.003	0.002										
		18 TPI	AG55	0.0024	0.0421	9	0.008	0.007	0.006	0.006	0.004	0.004	0.003	0.003	0.002										
		16 TPI	16ER A55	0.0024	0.0480	11	0.008	0.007	0.006	0.005	0.004	0.004	0.004	0.003	0.003	0.002	0.002								
		16 TPI	AG55	0.0024	0.0480	11	0.008	0.007	0.006	0.005	0.004	0.004	0.004	0.003	0.003	0.002	0.002	0.002							
		14 TPI	16ER G55	0.0087	0.0472	9	0.009	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.002										
		14 TPI	AG55	0.0024	0.0551	11	0.009	0.009	0.008	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002	0.002							
		12 TPI	16ER G55	0.0087	0.0567	10	0.009	0.009	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.002									
		12 TPI	AG55	0.0024	0.0646	12	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.002	0.002	0.002						
		11 TPI	16ER G55	0.0087	0.0630	12	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002	0.002						
		11 TPI	AG55	0.0024	0.0705	13	0.010	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.002	0.002	0.002	0.001				
		10 TPI	16ER G55	0.0087	0.0701	12	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.005	0.004	0.003	0.002	0.002						
		10 TPI	AG55	0.0024	0.0780	14	0.010	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.002				
9 TPI	16ER G55	0.0087	0.0791	14	0.009	0.009	0.008	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.003	0.002					
9 TPI	AG55	0.0024	0.0866	15	0.011	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.002				
8 TPI	16ER G55	0.0087	0.0902	15	0.011	0.010	0.009	0.009	0.008	0.006	0.006	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.003	0.002				
8 TPI	AG55	0.0024	0.0980	16	0.012	0.011	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.003	0.002	0.002			
C CBN & PCD	Whitworth	28 TPI	06IR 5501	0.0039	0.0256	13	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001						
		28 TPI	08IR 5501	0.0039	0.0256	13	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001					
		19 TPI	08IR 5501	0.0039	0.0319	15	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001			
		24 TPI	11IR A55	0.0024	0.0283	7	0.006	0.006	0.005	0.004	0.003	0.003	0.002												
		20 TPI	A55	0.0024	0.0343	8	0.006	0.006	0.006	0.005	0.004	0.003	0.002	0.002											
		18 TPI	A55	0.0024	0.0382	8	0.008	0.007	0.006	0.006	0.004	0.003	0.002	0.002											
		16 TPI	A55	0.0024	0.0433	9	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.003	0.002										
		24 TPI	16IR A55	0.0024	0.0283	7	0.006	0.006	0.005	0.004	0.003	0.003	0.002												
		24 TPI	AG55	0.0024	0.0283	7	0.006	0.006	0.005	0.004	0.003	0.003	0.002												
		20 TPI	16IR A55	0.0024	0.0343	8	0.006	0.006	0.006	0.005	0.004	0.003	0.002	0.002											
		20 TPI	AG55	0.0024	0.0343	8	0.006	0.006	0.006	0.005	0.004	0.003	0.002	0.002											
		18 TPI	16IR A55	0.0024	0.0382	8	0.008	0.007	0.006	0.006	0.004	0.003	0.002	0.002											
		18 TPI	AG55	0.0024	0.0382	8	0.008	0.007	0.006	0.006	0.004	0.003	0.002	0.002											
		16 TPI	16IR A55	0.0024	0.0433	9	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.003	0.002										
		16 TPI	AG55	0.0024	0.0433	9	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.003	0.002										
		E TURNING	Internal Threading	14 TPI	16IR G55	0.0087	0.0417	8	0.008	0.008	0.007	0.006	0.005	0.004	0.003	0.002									
14 TPI	AG55			0.0024	0.0500	11	0.008	0.007	0.007	0.006	0.005	0.004	0.003	0.003	0.002	0.002									
12 TPI	16IR G55			0.0087	0.0504	9	0.009	0.008	0.008	0.007	0.006	0.005	0.004	0.003	0.002										
12 TPI	AG55			0.0024	0.0583	11	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.002	0.002	0.002								
11 TPI	16IR G55			0.0087	0.0559	10	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.003	0.002									
11 TPI	AG55			0.0024	0.0638	12	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.003	0.002	0.002							
10 TPI	16IR G55			0.0087	0.0626	12	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002							
10 TPI	AG55			0.0024	0.0705	13	0.010	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002	0.001					
9 TPI	16IR G55			0.0087	0.0705	12	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.005	0.004	0.003	0.002							
9 TPI	AG55			0.0024	0.0783	14	0.010	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.003	0.002			
8 TPI	16IR G55			0.0087	0.0807	14	0.009	0.009	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.003	0.003	0.003	0.002			
8 TPI	AG55			0.0024	0.0886	15	0.011	0.01	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.003	0.002			
F BORING	30° Trapezoidal			External Threading	2.00mm	16ER 200TR	-	1.25	10	0.22	0.20	0.17	0.16	0.13	0.12	0.10	0.07	0.05	0.03						
				External Threading	3.00mm	16ER 300TR	-	1.75	14	0.24	0.20	0.18	0.16	0.15	0.14	0.12	0.11	0.10	0.10	0.10	0.07	0.05	0.03		
				Internal Threading	2.00mm	16IR 200TR	-	1.25	10	0.22	0.20	0.17	0.16	0.13	0.12	0.10	0.07	0.05	0.03						
				Internal Threading	3.00mm	16IR 300TR	-	1.75	14	0.24	0.20	0.18	0.16	0.15	0.14	0.12	0.11	0.10	0.10	0.10	0.07	0.05	0.03		

◆ Corner-R (rε) Selection for Partial Profiling Inserts

	External Threading	Internal Threading
Metric Unified	rε ≤ 0.1443P	rε ≤ 0.0720P
Parallel Pipe Whitworth Tapered Pipe	For Both External and Internal Thread rε ≤ 0.1373P	

- Metric, Unified Thread
Corner-R (rε) at Internal Threading is almost half of that of External.
- Parallel Pipe, Tapered Pipe, Whitworth Thread
Same Corner-R (rε) for both External and Internal Threading.

rε : Corner-R P : Pitch (= $\frac{25.4}{n}$) n : TPI