

# NPTF Class 2 Specifications Willrich Precision

Nominal Size & T.P.I.	Basic Dimensions for L1 Plug Gages, NPTF										Basic Dimensions for L3 Plug Gages										
	Basic Length L1	Small End		Basic Dim. at L1 Plane		Min. Range		Basic Range		Max. Range		Basic Length L1+L3	Small End		Four Threads L3+p	Min. Range		Basic Range		Max. Range	
		Pitch Dia.	Major Dia.	Pitch Dia.	Major Dia.	Min.	Max.	Min.	Max.	Min.	Max.		Pitch Dia.	Major Dia.		Min.	Max.	Min.	Max.	Min.	Max.
1/16-27	.1600	.27118	.29289	.28118	.30289	.12296	.14766	.14766	.17234	.17234	.19704	.2711	.2642	.2815	.1482	.23406	.25876	.25876	.28344	.28344	.30814
1/8-27	.1615	.36351	.38522	.37360	.39531	.12446	.14916	.14916	.17384	.17384	.19854	.2726	.3566	.3738	.1482	.23556	.26026	.26026	.28494	.28494	.30964
1/4-18	.2278	.47739	.51339	.49163	.52763	.17224	.20928	.20928	.24632	.24632	.28336	.3945	.4670	.4928	.2222	.33894	.37598	.37598	.41302	.41302	.45006
3/8-18	.2400	.61201	.64801	.62701	.66301	.18444	.22148	.22148	.25852	.25852	.29556	.4067	.6016	.6275	.2222	.35114	.38818	.38818	.42522	.42522	.46226
1/2-14	.3200	.75843	.80815	.77843	.82815	.24857	.29619	.29619	.34381	.34381	.39143	.5343	.7451	.7783	.2857	.46287	.51049	.51049	.55811	.55811	.60573
3/4-14	.3390	.96768	1.01740	.98887	1.03859	.26757	.31519	.31519	.36281	.36281	.41043	.5533	.9543	.9876	.2857	.48187	.52949	.52949	.57711	.57711	.62473
1-11-1/2	.4000	1.21363	1.27329	1.23863	1.29829	.31304	.37102	.37102	.42898	.42898	.48696	.6609	1.1973	1.2379	.3478	.57394	.63192	.63192	.68988	.68988	.74786
1-1/4-11-1/2	.4200	1.55713	1.61679	1.58338	1.64304	.33304	.39102	.39102	.44898	.44898	.50696	.6809	1.5408	1.5814	.3478	.59394	.65192	.65192	.70988	.70988	.76786
1-1/2-11-1/2	.4200	1.79609	1.85575	1.82234	1.88200	.33304	.39102	.39102	.44898	.44898	.50696	.6809	1.7798	1.8203	.3478	.59394	.65192	.65192	.70988	.70988	.76786
2-11-1/2	.4360	2.26902	2.32868	2.29627	2.35593	.34904	.40702	.40702	.46498	.46498	.52296	.6969	2.2527	2.2932	.3478	.60994	.66792	.66792	.72588	.72588	.78386

Nominal Size & T.P.I.	Basic Dimensions for Crest Check Plug Gages								Basic Dimensions for Root Check Plug Gages							
	Max. Dia. At L3 Basic Thread with Max. Truncation.		Basic Pipe Thread		Min. Thread		Max. Thread		Max. Dia. at L1 + L3 length from end of fitting. Basic Thread with Min. Truncation.	Max. width of crest at Major Diameter.	Basic Pipe Thread		Min. Thread		Max. Thread	
	Min. Truncation	Max. Truncation	Min. Truncation	Max. Truncation	Min. Truncation	Max. Truncation	Min. Truncation	Max. Truncation			Min. Truncation	Max. Truncation	Min. Truncation	Max. Truncation	Min. Truncation	Max. Truncation
1/16-27	.2391	.2154	.2711	.1907	.2464	.2401	.2958	.2893	.003	.2711	.2166	.2464	.1919	.2958	.2413	
1/8-27	.3315	.2169	.2726	.1922	.2479	.2416	.2973	.3817	.003	.2726	.2181	.2479	.1934	.2973	.2428	
1/4-18	.4276	.3394	.3945	.3024	.3575	.3764	.4315	.5064	.004	.3945	.3394	.3575	.3024	.4315	.3764	
3/8-18	.5622	.3516	.4067	.3146	.3697	.3886	.4437	.6410	.004	.4067	.3516	.3697	.3146	.4437	.3886	
1/2-14	.6918	.4794	.5343	.4318	.4867	.5270	.5819	.7984	.004	.5343	.4772	.4867	.4296	.5819	.5248	
3/4-14	.9010	.4984	.5533	.4508	.5057	.5460	.6009	1.0076	.004	.5533	.4962	.5057	.4486	.6009	.5438	
1-11-1/2	1.1324	.6052	.6609	.5472	.6029	.6632	.7189	1.2622	.005	.6609	.5774	.6029	.5194	.7189	.6354	
1-1/4-11-1/2	1.4759	.6252	.6809	.5672	.6229	.6832	.7389	1.6057	.005	.6809	.5974	.6229	.5394	.7389	.6554	
1-1/2-11-1/2	1.7149	.6252	.6809	.5672	.6229	.6832	.7389	1.8447	.005	.6809	.5974	.6229	.5394	.7389	.6554	
2-11-1/2	2.1878	.6412	.6969	.5832	.6389	.6992	.7549	2.3176	.005	.6969	.6134	.6389	.5554	.7549	.6714	

Nominal Size & T.P.I.	Basic Dimensions for L1 Ring Gages								Basic Dimensions for L2 Ring Gages										
	Basic Length L1	Large End		Maximum Range		Basic Range		Minimum Range		Basic Length L2	Large End		Maximum Range		Basic Range		Minimum Range		
		Pitch Dia.	Minor Dia.	Max.	Min.	Max.	Min.	Max.	Min.		Max.	Pitch Dia.	Minor Dia.	Step 1	Step 2	Step 2	Step 3	Step 3	Step 4
1/16-27	.1600	.28118	.25947	.12296	.14766	.14766	.17234	.17234	.19704	.26113	.28750	.27024	.22409	.24879	.24879	.27347	.27347	.29817	
1/8-27	.1615	.37360	.35189	.12446	.14916	.14916	.17384	.17384	.19854	.26385	.38000	.36274	.22681	.25151	.25151	.27619	.27619	.30089	
1/4-18	.2278	.49163	.45563	.17224	.20928	.20928	.24632	.24632	.28336	.40178	.50250	.47661	.34622	.38326	.38326	.42030	.42030	.45734	
3/8-18	.2400	.62701	.59101	.18444	.22148	.22148	.25852	.25852	.29556	.40778	.63750	.61161	.35222	.38926	.38926	.42630	.42630	.46334	
1/2-14	.3200	.77843	.72871	.24857	.29619	.29619	.34381	.34381	.39143	.53371	.79179	.75850	.46228	.50990	.50990	.55752	.55752	.60514	
3/4-14	.3390	.98887	.93915	.26757	.31519	.31519	.36281	.36281	.41043	.54571	1.00179	.96850	.47428	.52190	.52190	.56952	.56952	.61714	
1-11-1/2	.4000	1.23853	1.17897	.31304	.37102	.37102	.42898	.42898	.48696	.68278	1.25630	1.21577	.59582	.65379	.65379	.71176	.71176	.76974	
1-1/4-11-1/2	.4200	1.58338	1.52372	.33304	.39102	.39102	.44898	.44898	.50696	.70678	1.60130	1.56077	.61982	.67780	.67780	.73576	.73576	.79374	
1-1/2-11-1/2	.4200	1.82234	1.76268	.33304	.39102	.39102	.44898	.44898	.50696	.72348	1.84130	1.80077	.63652	.69450	.69450	.75246	.75246	.81044	
2-11-1/2	.4360	2.29627	2.23661	.34904	.40702	.40702	.46498	.46498	.52296	.75652	2.31630	2.27577	.66956	.72754	.72754	.78550	.78550	.84348	

Nominal Size & T.P.I.	Basic Dimensions for Crest Check Ring Gages								Basic Dimensions for Root Check Ring Gages							
	Major Diam at L2 Basic Thread with Max. Truncation D	Basic Pipe Thread		Minimum Thread		Maximum Thread		Ring Dia.	Minor Dia. at L2 length from end of pipe. Basic thread with min. truncation D	Max. width of Crest at Minor Dia. F	Basic Pipe Thread		Min. Thread		Max. Thread	
		Min Trunc. B	Max. Trunc. Bt	Min. Trunc. MN	Max. Trunc. MNt	Min. Trunc. MX	Max. Trunc. Mxt				Min. Trunc. B	Max. Trunc. Bt	Min. Trunc. MN	Max. Trunc. MNt	Min. Trunc. Mx	Max. Trunc. Mxt
1/16-27	.3126	.2054	.2611	.2301	.2858	.1807	.2364	1-1/4	.2624	.003	.2611	.2066	.2858	.2313	.2364	.1819
1/8-27	.4051	.2082	.2639	.2329	.2886	.1835	.2392	1-1/4	.3549	.003	.2639	.2094	.2886	.2341	.2392	.1847
1/4-18	.5419	.3467	.4018	.3837	.4388	.3097	.3648	1-1/2	.4631	.004	.4018	.3467	.4388	.3837	.3648	.3097
3/8-18	.6769	.3527	.4078	.3897	.4448	.3157	.3708	1-3/4	.5981	.004	.4078	.3527	.4448	.3897	.3708	.3157
1/2-14	.8451	.4788	.5337	.5264	.5813	.4312	.4861	2	.7385	.004	.5337	.4766	.5813	.5242	.4861	.4290
3/4-14	1.0551	.4908	.5457	.5384	.5933	.4432	.4981	2-1/4	.9485	.004	.5457	.4886	.5933	.5362	.4981	.4410
1-11-1/2	1.3212	.6272	.6828	.6852	.7408	.5692	.6248	2-5/8	1.1914	.005	.6828	.5993	.7408	.6573	.6248	.5413
1-1/4-11-1/2	1.6662	.6512	.7068	.7092	.7648	.5932	.6488	3-1/8	1.5364	.005	.7068	.6233	.7648	.6813	.6488	.5653
1-1/2-11-1/2	1.9062	.6678	.7235	.7258	.7815	.6098	.6655	3-3/8	1.7764	.005	.7235	.6400	.7815	.6980	.6655	.5820
2-11-1/2	2.3812	.7008	.7565	.7588	.8145	.6428	.6985	4.00	2.2514	.005	.7565	.6730	.8145	.7310	.6985	.6150