PRECISION TOOL TECHNOLOGIES, INC.

Unleash THE PRECISION

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This chart shows how the 1/4 diopter cylinder powers of several common lens materials relate to the exact lap tool cylinder curves required if lap tooling is cut in 1.530 index of refraction or 1.600 index of refraction.

All numbers are expressed in true curve and relate to the back curve only.

1.530 INDEX TOOLING

LENS MATERIAL INDEX	PRESCRIBED CYLINDER POWER																			
	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
1.498	0.27	0.53	0.80	1.06	1.33	1.60	1.86	2.13	2.39	2.66	2.93	3.19	3.46	3.72	3.99	4.26	4.52	4.79	5.06	5.32
1.523	0.25	0.51	0.76	1.01	1.27	1.52	1.77	2.03	2.28	2.53	2.79	3.04	3.29	3.55	3.80	4.05	4.31	4.56	4.81	5.07
1.530	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
1.540	0.25	0.49	0.74	0.98	1.23	1.47	1.72	1.96	2.21	2.45	2.70	2.94	3.19	3.44	3.68	3.93	4.17	4.42	4.66	4.91
1.560	0.24	0.47	0.71	0.95	1.18	1.42	1.66	1.89	2.13	2.37	2.60	2.84	3.08	3.31	3.55	3.79	4.02	4.26	4.50	4.73
1.586	0.23	0.45	0.68	0.90	1.13	1.36	1.58	1.81	2.03	2.26	2.49	2.71	2.94	3.17	3.39	3.62	3.84	4.07	4.30	4.52
1.600	0.22	0.44	0.66	0.88	1.10	1.33	1.55	1.77	1.99	2.21	2.43	2.65	2.87	3.09	3.31	3.53	3.75	3.98	4.20	4.42
1.660	0.20	0.40	0.60	0.80	1.00	1.20	1.41	1.61	1.81	2.01	2.21	2.41	2.61	2.81	3.01	3.21	3.41	3.61	3.81	4.02
1.700	0.19	0.38	0.57	0.76	0.95	1.14	1.33	1.51	1.70	1.89	2.08	2.27	2.46	2.65	2.84	3.03	3.22	3.41	3.60	3.79
1.800	0.17	0.33	0.50	0.66	0.83	0.99	1.16	1.33	1.49	1.66	1.82	1.99	2.15	2.32	2.48	2.65	2.82	2.98	3.15	3.31

1.600 INDEX TOOLING

LENS MATERIAL INDEX	PRESCRIBED CYLINDER POWER																			
	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
1.498	0.30	0.60	0.90	1.20	1.51	1.81	2.11	2.41	2.71	3.01	3.31	3.61	3.92	4.22	4.52	4.82	5.12	5.42	5.72	6.02
1.523	0.29	0.57	0.86	1.15	1.43	1.72	2.01	2.29	2.58	2.87	3.15	3.44	3.73	4.02	4.30	4.59	4.88	5.16	5.45	5.74
1.530	0.28	0.57	0.85	1.13	1.42	1.70	1.98	2.26	2.55	2.83	3.11	3.40	3.68	3.96	4.25	4.53	4.81	5.09	5.38	5.66
1.540	0.28	0.56	0.83	1.11	1.39	1.67	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17	4.44	4.72	5.00	5.28	5.56
1.560	0.27	0.54	0.80	1.07	1.34	1.61	1.88	2.14	2.41	2.68	2.95	3.21	3.48	3.75	4.02	4.29	4.55	4.82	5.09	5.36
1.586	0.26	0.51	0.77	1.02	1.28	1.54	1.79	2.05	2.30	2.56	2.82	3.07	3.33	3.58	3.84	4.10	4.35	4.61	4.86	5.12
1.600	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
1.660	0.23	0.45	0.68	0.91	1.14	1.36	1.59	1.82	2.05	2.27	2.50	2.73	2.95	3.18	3.41	3.64	3.86	4.09	4.32	4.55
1.700	0.21	0.43	0.64	0.86	1.07	1.29	1.50	1.71	1.93	2.14	2.36	2.57	2.79	3.00	3.21	3.43	3.64	3.86	4.07	4.29
1.800	0.19	0.38	0.56	0.75	0.94	1.13	1.31	1.50	1.69	1.88	2.06	2.25	2.44	2.63	2.81	3.00	3.19	3.38	3.56	3.75

In the above grids, given the cylinder power is described, you then see the tool cylinder necessary to polish the lens for the type of material your using. Example 1; .25 cyl, 1.53 index, for cr39 is .27, and example 2, for .25 cyl, 1.53 index, for hi-index 1.60 is .22. Example 3, for .75 cyl Cr39, Example 4, for 1.600

		diopters	1/8th	10th	12th
Example 1	power		0.27	0.27	0.27
	lap		0.25	0.3	0.25
	change		0.02	-0.03	0.02

		diopters	1/8th	10th	12th
Example 2	power		0.22	0.22	0.22
	lap		0.25	0.2	0.25
	change		-0.03	0.02	-0.03

		diopters	1/8th	10th	12th
Example 3	power		0.80	0.80	0.80
	lap		0.75	0.8	0.833
	change		0.05	0	-0.03

		diopters	1/8th	10th	12th
Example 4	power		0.66	0.66	0.66
	lap		0.625	0.7	0.666
	change		0.035	-0.04	-0.01