Refractive Index of the Lens Material

The refractive index (n) of a spectacle lens will have an effect upon the finished lens thickness and weight; as well as some impacts on other lens properties (like chromatic abberation) in higher lens powers.

Use these handy tables to quickly read the impact of chnaging the lens material for a patient's spectacles. For example: The tables below show that changing from a *Current Material* of 1.50 index to *New Material* of 1.67 will be 26% thinner and 20% lighter in weight.

Quick Ref: CHANGE IN THICKNESS

			NEW MATERIAL					
	Index		**1.50**	**1.53**	**1.59**	**1.60**	**1.67**	**1.74**
		Rel Th	1.05	0.98	0.89	0.87	0.78	0.71
CURRENT MATERIAL	**1.50**	1.05		-7%	-15%	-17%	-26%	-32%
	1.53	0.98	+7%		-9%	-11%	-20%	-28%
	1.59	0.89	+18%	+10%		-2%	-12%	-20%
	1.60	0.87	+21%	+13%	+2%		-10%	-18%
	1.67	0.78	+35%	+26%	+14%	+12%		-9%
	1.74	0.71	+48%	+38%	+25%	+23%	+10%	

The Optometry Team

Quick Ref: CHANGE IN WEIGHT

			NEW MATERIAL					
	Index		**1.50**	**1.53**	**1.59**	**1.60**	**1.67**	**1.74**
		Rel Wt	0.55	0.44	0.43	0.47	0.44	0.45
CURRENT MATERIAL	**1.50**	0.55		-20%	-22%	-15%	-20%	-18%
	1.53	0.44	+25%		-2%	+7%	0%	+2%
	1.59	0.43	+28%	+2%		+9%	+2%	+5%
	1.60	0.47	+17%	-6%	-9%		-6%	-4%
	1.67	0.44	+25%	0%	-2%	+7%		+2%
	1.74	0.45	+22%	-2%	-4%	+4%	-2%	

The Optometry Team

Excerpts from *The Optometry Team* by optometrist Dr Tony Hanks.
Book available on line at www.hanksresources.com

Last edited: 29/03/18