



To aid operators in glass strain analysis, the following arbitrary strain units have been set up for a polariscope with a tint plate having a retardation of 565 millimicrons. Originally set up for glass strain analysis in types 829 and 832.

<u>Colors</u>	<u>Strain Units</u>	
Yellow (greenish tint)	+5	*Radial Tension
Yellow Green	+4	
Green	+3	
Blue Green	+2	
Blue	+1	
Sensitive Violet	0	Neutral
Red	-1	*Radial Compression
Orange Red	-2	
Orange	-3	
Yellow Orange	-4	
Yellow (Reddish tint)	-5	

Since the variables affecting the color produced by the strained glass are thickness of the glass, kind of glass and retardation (type of tint plate as well as orientation of specimen with respect to tint plate), it can readily be seen that strains of equal magnitude in same type of glass but with different thicknesses will not produce the same color. This is also true of strains of equal magnitude in glass of equal thickness but of different types of glass. Likewise in the case of the retardation plate, a piece of glass with a certain stress and certain thickness will show different colors in different polariscopes, this is caused by differences in the retardation plates. The shades of color will not differ greatly when the variation is not more than 5 millimicrons but the difference is noticeable when the variation reaches as much as 15 millimicrons. In addition, the source of illumination will influence the colors seen as will also the efficiency of polarization of the polarizer and analyzer.

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