## MATHEMATIC MODEL FOR ARC HEIGHT SATURATION

Measuring two Almen strips, where the exposure time for the second strip is double the first, an approximation of Almen saturation may be calculated.

## PROCEDURE:

5

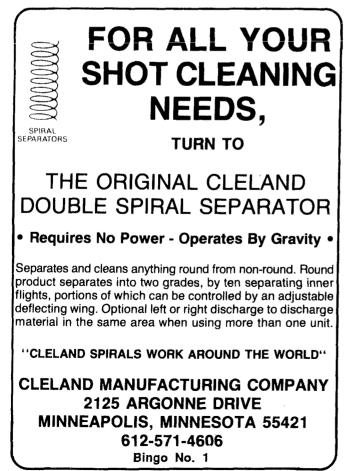
19

- 1. Measure first arc height (H1) at exposure time (T1).
- 2. Measure second arc height (H2) at exposure time (T2) which is double T1.

З.	S	==	<u>(H1) 2</u>	where S	=	saturation height
			2H1-H2	H1	=	height at T1
				H2		height at T2

The above model is based on an exponential response of the Almen strip. For a copy of the math derivation, circle Bingo No. 6.

The key to accuracy is a judicious choice of exposure time T1. If it is between 5% and 40% of the true value, then it will be accurate within 5%. Obviously choosing a value of T1 that is greater than 40% or less than 5% will result in extrapolation and measurement errors that are greater than 5%. A third strip, exposed at double T2 and labeled T3 may then be calculated if too small of a value is chosen for T1.



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