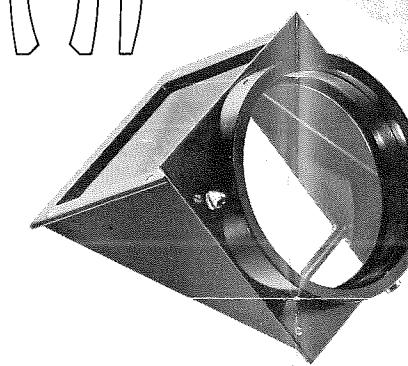
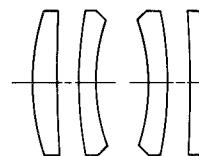
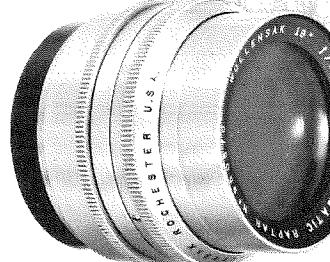


**RAPTAR
APOCHROMATIC
PROCESS f/10 and
PRISMS**



Flat field, even illumination, chromatic correction and perfect covering power assure excellent results in copying, enlarging, reducing and for four-color process work.

The front cell is threaded to receive Wollensak high precision prisms. When supplied in barrel mounting, the barrel is slotted to accept waterhouse stops. One plain waterhouse stop is supplied with each lens.

WOCOTING, Wollensak anti-reflection, hard coating effectively reduces internal light reflections and flare greatly increases brilliance and detail.

SPECIFICATION

RAPTOR APOCHROMATIC PROCESS f/10 (WOCOTED) AND PRIS

Equiv. Focus		Plates Covered for Reduction Inch	Plates Covered for Full-Size Copy Inch	Barrel	Rapax	Alphax	* Prism Size
Inch	mm						
10 1/4	260	6 1/2 x 8 1/2	10 x 12	X	X	X	2
14	355	8 x 10	11 x 14	X	X	X	3
16	406	10 x 12	12 x 15			X	3 1/2
19	482	12 x 15	14 x 17			X	
25	635	16 x 20	20 x 24	X		X	

*Extra charge for fitting prisms to lenses of other makes



This photo was made from the same camera position using the rear element alone which has a focal length of 20".



For even greater telephoto effect this photo was taken with the front element alone which has a focal length of $25\frac{1}{2}''$.

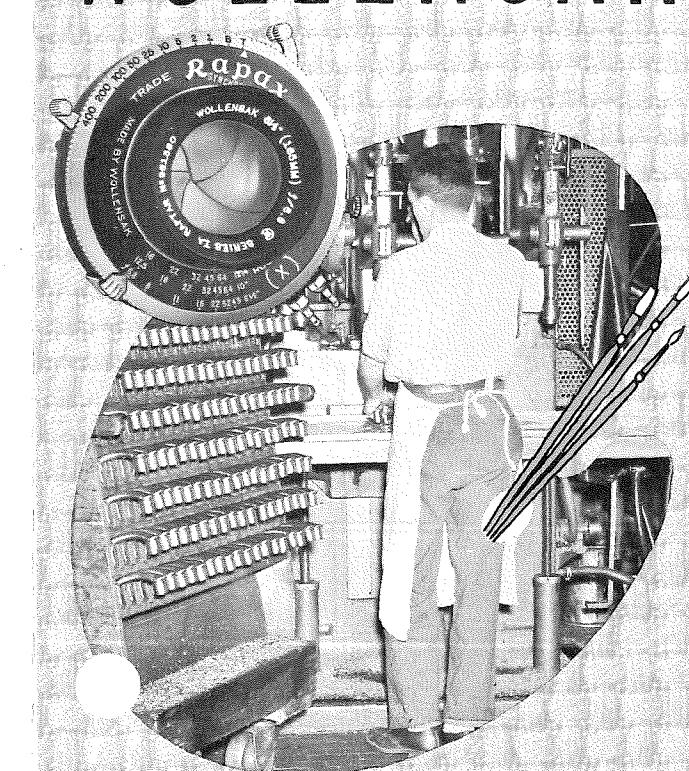


WOLLENSAK APOCHROMATIC RAPTOR COATED LENSES FOR PROCESS WORK										
(Color Corrected for Red, Green, and Blue)										
EFL (inches)	EFL (mm.)	Max. Angular Field in Degrees		Aperture for max. Def. Not necessarily power	Aperture Ratio No. for max. coverage not necessarily definition	% COPY SIZE		Object and Image Distances in Inches	Object and Image Distances in Inches	Object and Image Distances in Inches
		Normal	Normal Work e.g. Half Tones, Line Cuts			100%	75%			
10"	260.3	24	20	f/22	f/64	Lens to Film 20.5	17.94	Object and Image Distances in Inches	50%	50%
						Lens to Copy Board 20.5	20.92			
						Film to Copy Board 41	41.86			
12.0	304.8	24	20	f/22	f/64	Lens to Film 24	21	Object and Image Distances in Inches	100%	100%
						Lens to Copy Board 24	28			
						Film to Copy Board 48	49			
14.0	355.6	24	20	f/22	f/64	Lens to Film 28	24%	Object and Image Distances in Inches	50%	50%
						Lens to Copy Board 28	32%			
						Film to Copy Board 56	57 $\frac{1}{4}$			
16.0	406.4	24	20	f/22	f/64	Lens to Film 32	28	Object and Image Distances in Inches	100%	100%
						Lens to Copy Board 32	57 $\frac{1}{4}$			
						Film to Copy Board 64	89 $\frac{1}{4}$			
19.0	482.6	24	20	f/22	f/64	Lens to Film 38	35%	Object and Image Distances in Inches	50%	50%
						Lens to Copy Board 38	44%			
						Film to Copy Board 76	77 $\frac{1}{2}$			
25.0	635.	20	17	f/22	f/64	Lens to Film 50	43%	Object and Image Distances in Inches	100%	100%
						Lens to Copy Board 50	58 $\frac{1}{2}$			
						Film to Copy Board 100	102 $\frac{1}{4}$			

WOLLENSAK
OPTICAL COMPANY
ROCHESTER 21, N. Y.

Form No. 600—2M—7-53—GLP

Printed in U.S.A.



Raptar Lenses
FOR COMMERCIAL PHOTOGRAPHY

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WOLLENSAK

WHY WOLLENSAK LENSES ARE YOUR BEST BUY

WHAT MAKES A WOLLENSAK RAPTAR A SUPERIOR LENS?

There are many factors that go to make up Raptar quality. Every one is important.

1. **EXPERIENCE**—Over fifty years in producing lenses for photographic purposes.

2. **CARE IN DEVELOPMENT AND DESIGN**—All lenses bearing the Wollensak name are designed by Wollensak lens designers, developed and manufactured in Wollensak plants. They undergo rigid inspections at intermediate steps, ending with final resolution and contrast tests.

3. **MATERIALS**—Choice of highest quality materials is extremely important. For example, Wollensak's large stock pile of high quality optical glass (e.g. rare earth) permits a wide selection and choice of this glass to meet the specific requirement as called for in the original design.

4. **CRAFTSMANSHIP**—Quality workmanship is accomplished by highly skilled craftsman working to a fine lens design. The high quality and standards of Raptar lenses are a direct result of this teamwork.

5. **TOOLING**—Because Raptars are made to the most rigid tolerances, unsurpassed in the optical field, many special tools had to be designed and built at Wollensak. Thus the highest standards are always assured.

6. **MOUNTING**—Precise, careful mounting of the lens elements in the lens barrels or shutters

is as important as the fine qualities of the lens itself. If the mountings are not exact, lens performance will be impaired or destroyed.

Pressure from poor mounting will distort the lens and destroy image quality. Raptar lens elements are mounted strain-free, to exacting requirements and are controlled by very rigid standards and inspections.

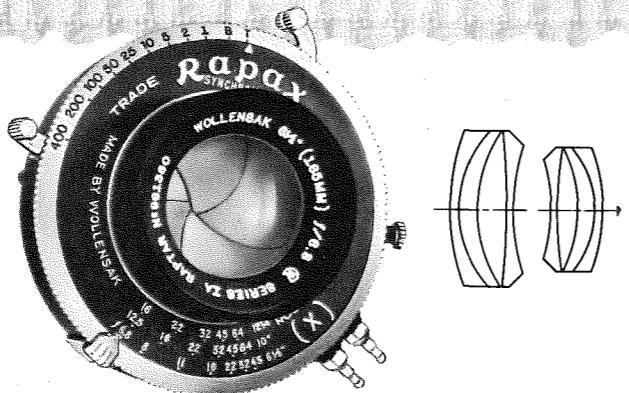
7. **HIGHEST RESOLUTION WITHOUT SACRIFICING CONTRAST**—This is one of the most important points in fine lens performance. Two lenses of the same speed and focal length made by two different companies could have the same resolution, yet one will produce sharper pictures. The reason for this is that one lens has higher resolution without sacrificing contrast, while in the manufacture of the other lens, contrast has been sacrificed to obtain high resolution. All Wollensak Raptar lenses have high resolution without the sacrifice of contrast.

8. **WOCOTING**—This anti-reflection, hard coating effectively reduces internal light reflections and flare, greatly increases brilliance and clarity. Wollensak coats *all* glass-to-air surfaces, just the external lens surface, or just the internal lens glass-to-air surface.

9. **TESTING**—Before any product leaves our plant it undergoes a series of tests. A lens, for example, must meet the design specifications without compromise.

Perfect star image indicates a well corrected lens with spherical surfaces which are true and aligned. All Raptar lenses must show this form of star image in optical bench tests to be acceptable.

SERIES Ia TRIPLE CONVERTIBLE RAPTAR . . .



What *Wollensak* Quality Means to You...

All Wollensak Cine Raptar lenses have the highest covering power, deliver sharp images to the very edge of the film over the entire focusing range. Tests show that all Raptar lenses are much more critical than the capability of the films to record the image. All lenses are corrected for color and all aberrations and are Wocoted. (Wocoting is Wollensak's anti-reflection hard coating designed to reduce internal light reflections and flare and greatly increase brilliance and detail.) Thus you are able to shoot either color or black and white with finest results.

Most of the lenses in focusing mounts have depth of field scales which tell instantly areas in focus. Positive click stops give quick, precise diaphragming.

An example of Wollensak care in manufacturing is the steps taken to give the lens barrels the finest "lifetime" finish. It takes four operations before the brass barrels are ready for chrome plating. First, the barrels are satin finished. Then they are copper plated, nickel plated, satin finished and finally chrome plated. Only by following these steps will a lens always look its best.

Finally, your assurance of consistency in uniformity of every Wollensak lens is the many critical tests and careful inspections they must undergo. Each lens must meet the highest standards of lens performance before it is engraved Raptar... before it leaves the plant. What's in a name? The reputation, honor and integrity of the manufacturer.