



## APO-ELMARIT-R f/2.8/180mm

*High-speed telephoto lens  
with apochromatic correction  
for extended spectral range*

*for LEICA R-models\*  
(all modes)*

\*) Modification for additional use on LEICAFLEX models is possible. Please ask the customer service of Leica Camera AG for advice!

The focal length of 180mm is of particular photographic importance in the LEICA R system. The APO-TELYT-R f/3.4/180mm introduced this focal length to the LEICA range of high-performance lenses, and has since earned itself a formidable reputation. With the ELMARIT-R f/2.8/180mm introduced several years ago, Leica succeeded in producing an ultra-fast high-performance lens which is nevertheless very compact and easy to use.

Leica has now combined the special features and the excellent qualities of these two lenses in the new LEICA APO-ELMARIT-R f/2.8/180mm, which replaces the two previous 180mm lenses in the LEICA R lens range, the ELMARIT-R f/2.8/180mm and the APO-TELYT-R f/3.4/180mm.

Like its predecessors, the LEICA APO-ELMARIT-R f/2.8/180mm excels not only through its superb image quality, but also through its high functionality and convenient handling. Its design is based largely on that of the ELMARIT-R f/2.8/180mm and was even slightly improved to make it more ergonomic. Thanks to its length to bayonet flange of 132mm and its front lens diameter of 76mm, the lens has an

elegant, even slim appearance. It is particularly suited for hand-held exposures, as it is convenient to hold and enables the photographer to shoot without tiring.

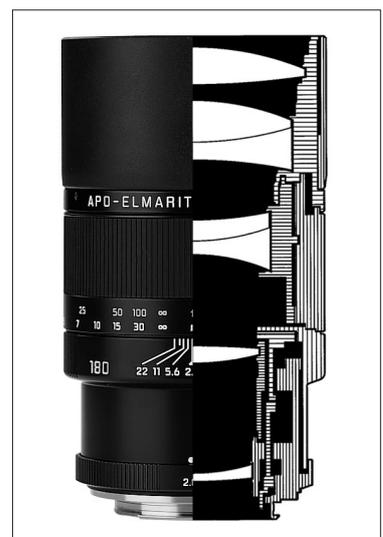
The general optical performance of the new APO lens is praised by even the most demanding photographers. Even at full aperture its image quality is exceptionally good, and there is no need to stop down. Contrast and resolution are superb on the optical axis and throughout the entire image field.

High speed lenses with long focal lengths and the highest in image quality call for apochromatic correction. Apochromatic correction is the elimination of residual errors in the so-called secondary spectrum present in the optical system. These errors are particularly evident in telephoto lenses. Shortwave blue light is refracted more sharply than light at longer wavelengths (dispersion). This phenomenon causes colour fringes which reduce contrast. The apochromatic correction counterbalances this tendency by bundling the entire spectrum in a limited range. The measures that Leica took to eliminate this residual error makes the APO-ELMARIT-R f/2.8/180mm

one of the top lenses in its class.

The image quality of the LEICA APO-ELMARIT-R f/2.8/180mm at infinity is distinguished by the virtual absence of coma, astigmatism and field curvature. Stopping down to eliminate these residual errors is therefore not necessary. In the close range, which with this lens extends down to 1.5m, the exceptional performance is retained almost in full.

The level of pincushion distortion (approx. 1%) is extremely low and hardly visible in the picture. Vignet-



ting (a decrease of light towards the edges) is virtually insignificant in practice, and from apertures of 4 or 5.6 and smaller, the lens is entirely free of artificial vignetting.

The APO-ELMARIT-R f/2.8/180mm is also equipped with internal focusing. Thus, throughout the entire focusing range, only the elements in the interior of the lens move. The length of the lens therefore remains constant during refocusing, and the equipment rests conveniently in the user's hand. The extensible lens hood has rubber rim guards enabling

the photographer to place the lens on a surface without risk of damage. Use of the APO-EXTENDER-R 2x produces an optical system with the data f/5.6/360mm. The superb image quality remains largely unchanged when this 2x converter combination is employed.

The APO-ELMARIT-R f/2.8/180mm offers serious LEICA photographers a fast high-performance telephoto lens which can be used for portraits, fashion, sports or landscape photography and which meets highest demands even in difficult conditions.



## APO-ELMARIT-R f/2.8/180mm

in a soft leather case,  
with lens cap and rear cover  
**black anodized finish**  
Order no. **11 273** \_\_\_\_\_

### Accessories:

**APO-EXTENDER-R 2x** (preferably  
with aperture priority and manual)

Order no. **11 269** \_\_\_\_\_

**UVa filter E 60**

Order no. **13 386** \_\_\_\_\_

**Yellow green filter E 60**

Order no. **13 393** \_\_\_\_\_

**Orange filter E 60**

Order no. **13 388** \_\_\_\_\_

**Polarizing filter E 60**

Order no. **13 407** \_\_\_\_\_

### Replacements:

**Soft leather case**

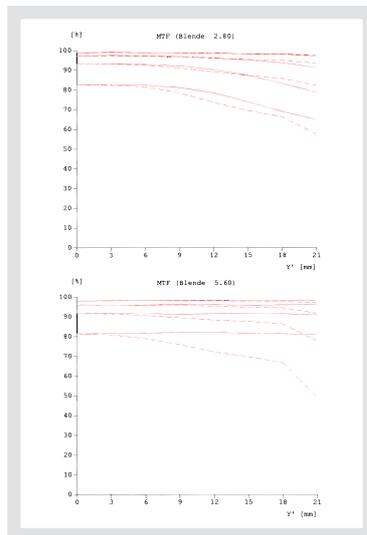
Order no. **14 765** \_\_\_\_\_

**Lens front cap**

Order no. **14 291** \_\_\_\_\_

**Lens rear cover**

Order no. **14 162** \_\_\_\_\_



The MTF is indicated both at full aperture and at f/5.6 at long taking distances (infinity). Shown is the contrast in percentage for 5, 10, 20 and 40 lp/mm across the height of the 35 mm film format, for tangential (dotted line) and sagittal (solid line) structures, in white light. The 5 and 10 lp/mm will give an indication regarding the contrast ratio for large object structures. The 20 and 40 lp/mm records the resolution of finer and finest object structures.

— sagittal structures  
- - - tangential structures

## Technical Data

- Angle of view: 14°
- Number of elements: 7  
(5 components)
- Filtersize: E67
- Internal thread: M67x0,75
- Fully automatic spring back diaphragm
- Aperture setting ring with clickstops (including half values)
- Smallest aperture: 22
- Combined meter/feet scale
- Focusing range:  
infinity to 1,5m
- Smallest object field:  
168x252mm (6.6x9.9 in,  
about 1:7)
- Parallel guided focusing mount
- LEICA R quick change bayonet  
for LEICA R3-R8 with mechanical  
(and for LEICA R8 with additional  
electronic) exposure compensation)
- Black anodized finish
- Built-in, telescopic lens hood,  
rubber-armoured
- Lens cap diameter:  
76mm (3in)
- Length from bayonet flange:  
132mm (5.2in)
- Diameter: 76mm (3in)
- Weight: 0,970kg



Trademark of  
The Leica Camera Group

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