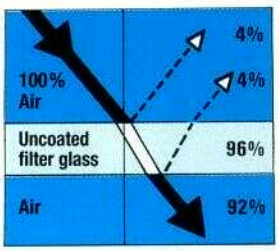
B+W Multi Resistant Coating (MRC)

- *maximum reduction of reflections*
- *water- and din-resistant*
- *improved resistance to scratching*
- *easy to clean*

1



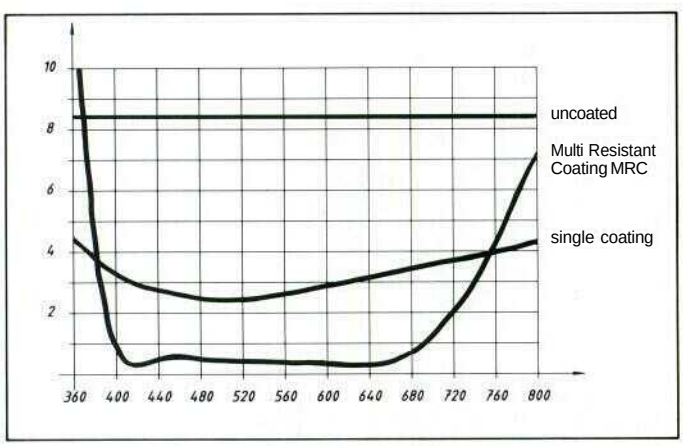
The latest generation of coating chambers are highly developed high-tech systems which, through complex physical and chemical processes, achieve a coating which is considerably more stable and harder than is possible with conventional coating chambers. The consistency of the coating process is controlled by sophisticated computers. This innovative process combined with modern manufacturing facilities and clean-rooms make it possible to apply a new layer which has water-, dust-, and dirt-repellent properties. And, because of the increased coating hardness, B+W filters with MRC also resist scratches. The new coating process provides the highest optical performance, maximum reflection reduction and is easy to clean.

Frequently, "ghost images" appear in backlit photographs or when light enters at extreme angles from the side. This is caused by a reflection created on the surface which occurs when light enters the filter glass. Normal untreated glass causes light loss of approximately 2-4% due to reflection. See Chart 1.

Along with light loss, flare can occur which causes the picture to appear flat and washed out. The reason for this is due to the different refractive characteristics of glass and air. Filter coating is necessary to compensate for this difference and to allow reflection-free light transmission. To achieve this, a scratch-resistant metallic oxide coating is applied to the surface in a high-vacuum process. The thickness of these coated layers is in the 1/4 wavelength range.

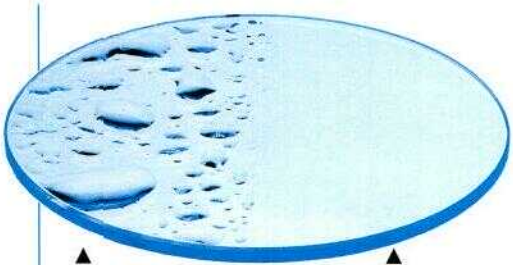
A single layer coating can reduce reflection by more than half. Further reduction of internal reflections throughout the entire spectral range requires several layers. In order to attain a substantially reflection-free transmission of all the wavelengths of visible light, a highly developed system of layers is applied to both sides of B+W's MRC filter in a high vacuum. By a suitable combination of only a few layers, the remaining reflections in the entire wavelength spectrum of visible light can be reduced to about 0.5%. See Chart 2.

2



All B+W filters for color film, black and white film, neutral density, infrared material, and "special" filters are treated with a single layer anti-reflection coating. They are also available with multi-resistant-coating MRC. B+W polarizers are available with optional multiresistant-coating MRC. The nature of polarization renders the single antireflection coating unnecessary. Further details can be found on pages 47-49.

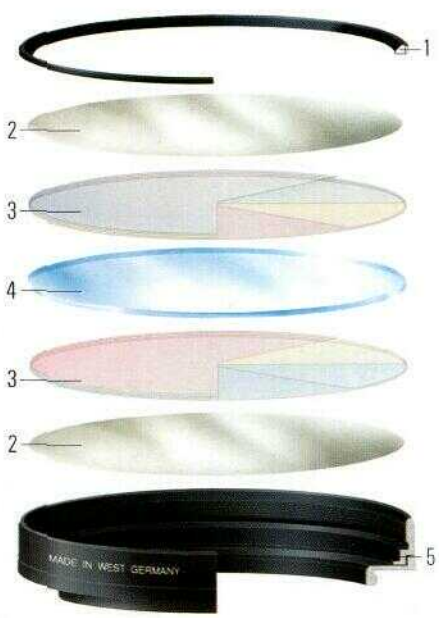
Soft focus, trick lenses, fog filters, spectra, speed effect, star effect, double sunny, and prismes are only available uncoated because coating would not improve their performance in any way.



Surface with conventional MC-coating

Surface with B+W's new MRC-coating

Structure of the Multi-Resistant Coating MRC on the example of a B+W UV filter:



1 Retaining ring
2 Outer MRC-layer, water- and dirt-repellent
3 Anti-Reflection MC-layers
4 Schott glass
5 Brass mount, matte black anodized