

Objective Classes

Achromat objectives are perfect for general applications, with standard correction of color and focus.

Fluorite objectives deliver excellent resolution and are made with higher numerical apertures than achromat objectives, resulting in brighter fluorescence signal and higher contrast imaging. The higher optical quality greatly reduces optical aberrations, and corrections for color and focus are at higher levels than achromat objectives. Fluorite objectives are ideally suited for fluorescence and demanding transmitted light applications, where the higher contrast make them ideally suited for color imaging.

Apochromat objectives are manufactured to the highest levels of resolution, fluorescence brightness, and contrast; chromatic aberrations are almost eliminated. They are recommended for the most demanding applications, particularly at magnifications of 60x and above. Apochromatic objectives are the best choice for the capture of color images in white light.

Brightfield Contrast versus Phase Contrast Objectives

Brightfield is the most basic form of light microscopy and is accomplished by sample absorption of light. A higher density area in a sample will absorb more light, thus increasing contrast in those areas.

Phase contrast objectives are most useful for hard to see, translucent specimens. This method of contrast is accomplished by converting phase shifts, caused by light passing through a translucent specimen, into brightness changes (i.e., contrast).

Long Working Distance versus Coverslip-Corrected Objectives

Long working distance (LWD) objectives are optimized for use through vessels with a nominal wall thickness of 0.9-1.5 mm. This includes vessels commonly used in cell culture and cell-based assays, such as slides, cell culture dishes and flasks, microtiter well plates, etc. Coverslip-corrected objectives are optimized for use through #1.5 coverslips (thickness approximately 0.17 mm). These objectives have a higher magnification/NA ratio and provide higher resolution compared to LWD objectives.