

# PRODUCT NOTE

## RazorEdge and MaxLine® are a Perfect Match

The MaxLine (see page 61) and RazorEdge U- and S-grade filters make an ideal filter pair for applications like Raman spectroscopy – they fit together like hand-in-glove. The MaxLine filter spectrally “cleans up” the excitation laser light before it reaches the sample under test – allowing only the desired laser line to reach the sample – and then the RazorEdge filter removes the laser line from the light scattered off of the sample, while efficiently transmitting desired light at wavelengths very close to the laser line.

Typical measured spectral curves of 785 nm filters on a linear transmission plot demonstrate how the incredibly steep edges and high transmission exhibited by both of these filters allow them to be spectrally positioned very close together, while still maintaining complementary transmission and blocking characteristics.

The optical density plot illustrates the complementary nature of these filters on a logarithmic scale using the theoretical design spectral curves. The MaxLine filter provides very high transmission (> 90%) of light immediately in the vicinity of the laser line, and then rapidly rolls off to achieve very high blocking (> OD 5) at wavelengths within 1% of the laser line. The RazorEdge filter provides extremely high blocking (> OD 6) of the laser line itself, and then rapidly climbs to achieve very high transmission (> 90%) of the desired signal light at wavelengths only 1% away from the laser line.

If you are currently using an E-grade RazorEdge filter and need a MaxLine filter, please contact Semrock.

