



Mentor UV VideoProbes

Fluorescent penetrant testing with UV light

The Mentor Visual iQ+ Video Borescope, or the Everest Mentor Flex, combined with a UV light source, integral quartz light fibers and correct UV optics and filters, presents the optimal solution for fluorescent penetrant inspections. This solution delivers maximum UV light levels, with low reflection, and the ability to access small remote areas of equipment.

Functional principle of the fluorescent penetrant test

The surface is first cleaned, then wetted with a fluorescent penetrant. The penetrant is drawn into small surface defects by capillary action. After a rinse step, the penetrant remains only in the defect, which can be seen and measured with Real3D™ Measurement using the UV light.

Scope of application

The compact size of the integrated probe and UV light makes new applications possible. The dual channel light source offers both UV and visible output to navigate to and inspect difficult to access components such as turbine blades or weld seams in situ. In automotive manufacturing, some manufacturers add UV fluorescent substance to auto body sealing wax to inspect and verify the coating process. The Mentor Visual iQ+ system with UV is available from 3.9 mm to 8.4 mm diameter probes, so inspections are possible in equipment with access of only 4.0mm!

UV light source

In order for UV-versions of the Mentor Visual iQ+ system to meet ASTM Specification E1417/E1417M – 16, it is recommended that the UV light source used to supply UV-light energy to the Mentor Visual iQ+ system be Waygate Technologies P/N ELS-50LEDUV. This is a White-Light/UV-Light switchable light source that when used with the Mentor Visual iQ+ UV probes allows conformance with ASTM E1417/E1417M – 16 UV and white light specifications. See product specification data sheet for the ELS-50LEDUV for full technical specifications.



Quartz Fiber QuickChange™ probe with quartz light guide and LED UV/White Light Source PN: ELS-50LEDUV. Olympus and ACMI style light source connector



Mentor Visual iQ+ UV QuickChange probe and UV light source standard case and accessories

6.1mm UV-Optimized Tips

Optical tips	Color	FOV (deg)	DOF mm	(in)
Forward view				
XLG3T61UV-8528	White	50	12-200	(.47-7.87)
XLG3T61UV-8553	Orange	80	3-20	(.12-.79)
XLG3T61UV-8581	Black	120	5-120	(.20-4.72)
XLG3T61UV-8593	Yellow	90	20-inf	(.79-inf)
Side view				
XLG3T61UV-8535	Green	50	9-160	(.35-6.30)
XLG3T61UV-8582	Blue	120	4-100	(.16-3.94)
XLG3T61UV-8554	Red	80	1-20	(.04-.79)

The 6.1mm Mentor UV products use custom optical tips with superior UV transmitting material to optimize UV output performance.