

System Maintenance

Various facilities and equipment are installed and operated in air force, naval, and army bases.

Daily and regular maintenance of facilities and equipment is essential to keep them in good condition for a sudden mission.

This section introduces remote visual inspection solutions for defense facilities.

Visual Inspection Solutions: Defense and Security

Olympus Scientific Solutions



Pressure Vessel Inspection

Application

In system maintenance, videoscope inspections are performed to inspect internal conditions and monitor defects in areas such as pressure vessels. Calcium, sodium, and other dissolved contaminants can accumulate—especially in welded areas and joints—causing corrosion and blockage. Heat-induced corrosion is also a main source of material degradation in a pressurized container. Efficient videoscope inspection is critical for mission readiness.

Challenges

- Access to the pressure vessel may be limited, so a videoscope with a long length is needed
- Depending on the vessel size, visibility may be extremely low due to limited illumination from the videoscope

Solutions

- Both IPLEX™ NX and IPLEX GAir videoscopes enable up to 12 seconds of long exposure for better visibility in dark environments
- The IPLEX NX videoscope offers intensely bright laser diode illumination, and the IPLEX GAir videoscope has powerful LEDs located in the distal end of the insertion tube that can provide bright illumination in large, dark spaces without the intensity decay common in other long videoscopes
- IPLEX NX videoscope with 5 or 7.5 m (16 or 25 ft.) and IPLEX GAir videoscope with 20 m or 30 m (66 or 98 ft.) length options enable extended reach for large and difficult-to-access inspection locations



Recommended Products

IPLEX NX videoscope and IPLEX GAir videoscope



Fuel/Storage Tank Inspection

Application

Remote visual inspection of fuel/storage tanks is an effective way to identify foreign particles or leaks that may lead to dangerous situations. Depending on the industry standard, a combination of external nondestructive examination (NDE) and internal remote visual inspection (RVI) may be required for maximum mission readiness.

Challenges

Besides the typical challenges of inspecting inside a dark, confined space, the presence of explosive and hazardous material, even for empty tanks, is the most difficult aspect of this inspection.

Solutions

Most IPLEX™ industrial videoscopes are certified in compliance with the MIL-STD-810G standard for explosive atmospheres.

The MIL-STD-810G Method 511.5/6 Procedure 1 test is performed to demonstrate the ability of material to operate in fuel-air explosive atmospheres without causing ignition or demonstrate that an explosive or burning reaction occurring within encased material will be contained and will not propagate outside the test item. This method applies to all material designed for use in the vicinity of fuel-air explosive atmospheres associated with aircraft, automotive, and marine fuels at or above sea level.

IMPORTANT: The Olympus videoscopes listed above DO NOT conform to ATEX Directive 2014/34/EU. Users are advised to perform individual risk assessments associated with using Olympus visual inspection products in your specific environments, using a hot work permit for instance.



Recommended Products

IPLEX NX videoscope, IPLEX GX/GT videoscopes, and IPLEX G Lite videoscope



OLYMPUS[®]

A thick yellow horizontal line with a slight upward curve in the center, positioned below the word 'OLYMPUS'.

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