
VISUAL INSPECTION USING HIGH INTENSITY UV LIGHT

PROCEDURE

M-CC-P-002 REVISION A

General Description

The purpose of this procedure is to identify the required steps to safely and accurately inspect the internal surfaces and components of the GCC for contamination using high intensity UV light.

UV Black Light inspection is used to detect any possible molecular contaminants. The effectiveness of visual inspection for hydrocarbons (molecular contaminants) on surfaces depends on the concentration and type of material. Materials such as oils, grease, fingerprints, residual detergents, etc. will fluoresce under UV Black Light inspection. In general, such inspection is effective in viewing molecular contaminants left on surfaces. Black light inspection coupled with NVR analysis is an excellent inspection method to validate cleaning methods.

Equipment and Materials

- Cleanroom approved gloves: VWR nitrile sterile gloves, Ultrapoly pure polyethylene gloves
- Cleanroom garments correct for the class of cleanroom
- Cleanroom wipes: TexWipe
- Contec pre-saturated 30/70 IPA/DI wipe
- Isopropyl Alcohol 100%.
- Spectroline SB-100P High Intensity Ultraviolet Lamp (365nm)
- UV absorbing protective eyewear

Note: Spectroline high intensity UV Lamp is to be left in the Anteroom when not in use.

Material Wipe Down

Wipe down the Spectroline Black Lamp before entering into the cleanroom area. Wipe the lamp using a pre-saturated Contec wipe, and then wipe with a dry TexWipe. Visually inspect for any particles on the lamp.

Note: Cleanroom gloves MUST be worn before wipe down begins.

Procedure

1.	Plug in the UV Black lamp. Turn ON the lamp and allow 3-5 minutes for the lamp to reach full lighting intensity. If the lamp fails to light, check that the bulb is completely screwed into the socket.
2.	Do not look directly into the UV light. Wear UV-absorbing protective eyewear when operating the lamp for inspections. Never operate the lamp with the UV filter lens removed.
3.	Hold the light at a 10-70° degree grazing incidence angle to the surface. The light shall not be more than 12” above the surface of the hardware. Exercise caution not to contact the light with any component being inspected, or any other equipment since contact could cause additional particles. This inspection must not put the part at risk of degradation due to carelessness or improper preparation.
4.	Starting at the interior of the hardware scan the surface. Optimum viewing range for molecular contamination detection is 12-24” from the light. Viewing should be done along the direction of the light beam.
5.	Move the light along a parallel line, sectioning off the inspection area and allowing to complete 100% inspection of the area using overlapping scans.
6.	The nominal rate that the light shall move across the surface of the hardware for inspection is 5ft per minute, giving 5 sqft/min effective scan rate.
7.	If contamination is detected, notify the responsible engineer.
	End of Procedure

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Document Release:

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