

Type of Lesson Learned: Internal
Title: Razor Blades Not To Be Used In Optical Measurements

Priority Descriptor: blue
Significance Category: N/A
Lesson Learned Identifier: 2007-SSO-SNL-8350-01
Internal Category: SNL
Organization: 08350

Associated Occurrence Report:

Corrective Actions:
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Statement of Lesson Learned from Operating Experience:
Razor blades need not be used in optical measurements.

Discussion of Activities:
Twice in recent months, lab workers have been cut while using a razor blade as a 'knife-edge' in an optical measurement. The most recent injury resulted in a trip to the emergency room and 5 stitches to the worker's hand. In this latest injury, the worker commented that he only lightly brushed against the blade, felt almost nothing and was shocked to see how serious the injury was. The injured lab worker was lucky that the cut missed tendons and veins on his hand.

Analysis:
The use of a razor blade as a 'knife edge' in optical measurements is generally a convenience, not a necessity. In this case the razor was mounted vertically for use as a knife edge to measure a beam diameter. In a mental lapse the lab worker brushed against the razor blade with the back of his hand resulting in a laceration to the back of the hand.

It may seem obvious, but we must be reminded that a new razor blade is very sharp. In almost all cases, a dull, thin metal plate will suffice. In the rare instance where a true knife-edge may be required, for example measuring the waist of a tightly focused beam, it is suggested that the use of a simple designed guarded edge would be much safer.

Recommended Actions:
Stop using unguarded razor blades for the purpose of optical measurement.

Management has requested the fabrication of plates for the purpose of optical measurement. These plates will be made available to those who need them.

Estimated Savings/Cost Avoidance:

Work/Functions: Engineering and Design, Human Factors, Laboratory
Experimentation, Occupational Safety and Health

User-Defined Categories: Injury Prevention

Hazards: Lasers

ISM Core Functions: Analyze Hazards and Risks

Keywords: Laceration, Razor Blades, Optical, Laser

References:

Other:

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