

Davidson Optronics

A TRIOPTICS COMPANY

Putting Your Future in Focus

Scratch/Dig Samples | D-667



Inspecting and characterizing surface quality of finished optical components e.g.: lenses, prisms, mirrors, reticles, windows and wedges in accordance with MIL-13830, MIL-C-48497 and the new ANSI/OEOSC OP1.002:2008 is easily accomplished using these Scratch/Dig Sample Sets. The samples serve as direct visual comparison standards.

Each set consists of ten individual samples in a fitted hardware case. Samples are hermetically sealed as stand-alone pieces with a size of 1.5 x 1.5 x 0.375 inch (38 x 38 x 10 mm)

Values are: Scratch 10 - 20 - 40 - 60 - 80,
Dig: 5 - 10 - 20 - 40 - 50

Order set D-667, or D-667A for a set with half-aluminized scratch samples (useful for characterizing highly reflective and/or polished metal surfaces).

D-667-11 Viewing Fixture:

- Ground glass with strips for inspecting to MIL-O-13830
- Overhead fluorescent lamps for inspecting to MIL-C-48497
- Curtain conforms to MIL-C-48497
- Overall size (H x D x W): 20 x 19 x 20 inch (508 x 483 x 508 mm)
- Weight: 30 lbs (17 kg)
- Shipping Weight: 42 lbs (19 kg)
- Shipping Box: 32 x 32 x 32 inch (813 x 813 x 813 mm)

- Compliant to MIL-O-13830 Rev. L
- Conforms to ANSI/OEOSC OP1.002:2008
- Certificate of Calibration Supplied



D-667-11 Viewing Fixture

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Use of samples: Designation of defect size. Limiting size of surface defects is designated on the applicable drawings by two numbers which refer to the graded sets of surface quality standards; e.g. 80/50. The first number refers to scratches and the second number refers to digs.

Scratches: Any marking or tearing of the surface. Scratch types are identified as follows:

- A. Block Reek - Chain like scratch produced in polishing.
- B. Runner Cut - Curved scratch caused by grinding.
- C. Slick - Hairline Scratch.
- D. Crush or Rub - Surface scratch or a series of small scratches generally caused by mishandling.

Digs: Small rough spots on the polished surface, similar to pits in appearance, generally caused by mishandling.

Bubbles: Internal inclusions in the glass are classified as digs and are added to the other surface defects.

When using the D-667-11 view fixture:

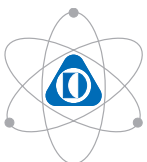
Inspection Method #1

The element to be inspected and the applicable sample are viewed against a ground glass or opal surface illuminated from behind by a 40 watt lamp approximately 3 inches (76 mm) from the surface under examination.

Inspection Method #2

The light through ground glass from a 40 watt bulb shall be passed through the element and sample. Defects are observed by light scattered from the surface while viewing it at approximately 90° to the path of the beam against a dark background.

Cleaning: Scratch/Dig Samples have been sealed and their surfaces may be cleaned with a mild detergent and warm water solution. Wipe dry with a lens tissue or lint free cloth. Avoid use of chemical solvents as the sample seals could be affected.



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