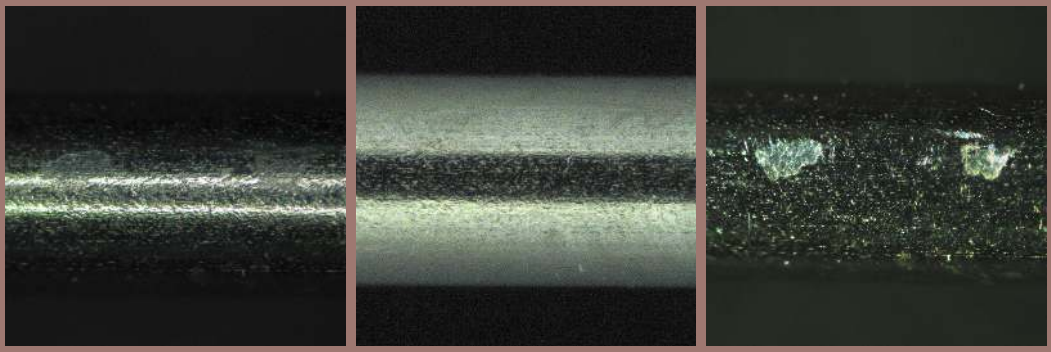
APPLICATION NOTE CYLINDER



INSPECTION OF CYLINDERS

AVOIDING REFLECTIONS ON THE SURFACE OF CYLINDRICAL PARTS.

CONTRASTING DEFECTS AND SURFACE STRUCTURE.

Using standard illuminations to inspect reflective cylindrical parts creates parasite reflections of the light source on the surface to inspect, preventing a sharp observation. The metal rod used in this application has a diameter of 2 mm. The L.E.S.S. lighting systems provide a perfect illumination of the entire visible surface and speeds up inspection.

FEATURES OF L.E.S.S. LIGHTING SYSTEMS APPLIED.

- Features of L.E.S.S. lighting systems applied
- Darkfield illumination
- Easy adjustment of working distance
- Uniform and diffuse illumination with neutral white light (5400 °K)
- Avoidance of reflections on mirroring surfaces
- Partly covering the illumination ring
- Free view and easy access to the specimen
- No heat dissipation from the ring lights

SWISS MADE

APPLICATION

Fig.1 has been taken with in a traditional configuration: the lighting system lights the sample from above, generating parasite reflections on the surface to inspect as per shown on Fig. 1. As a consequence, marks on the surface are hardly visible.

Fig.2 has been taken with a diffuser: an opened transparent coffee cup, illuminated from an external light source. While widely used, this set-up actually extends the reflections and diminishes the contrasts, covering the marks the observer would like to reveal. The dark strip on top of the cylinder is the mirror image of the microscope objective.

Fig.3 has been taken with the L.E.S.S. Darkfield illumination. In this low angle illumination configuration, the reflections are totally eliminated: the surface structure is revealed in sharp contrasts, marks are clearly visible and well defined.

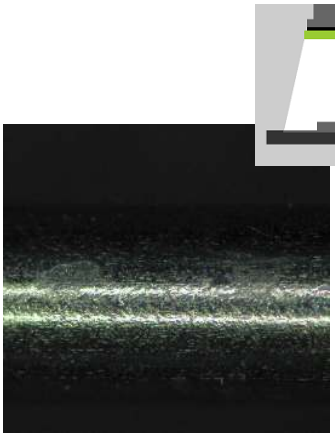


Fig.1

Cylinder lit by L.E.S.S. Brightfield illumination.

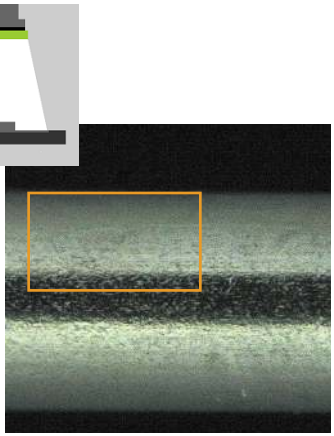


Fig.2

Cylinder lit with a «Coffee Cup» diffuser.

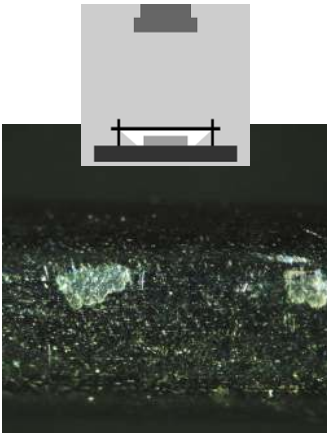


Fig.3

Cylinder lit by L.E.S.S. Darkfield illumination.

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