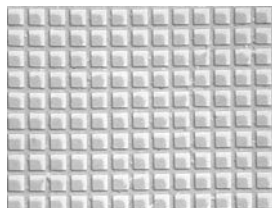


MAGNIFICATION CALIBRATION DIFFRACTION GRATING REPLICA PRODUCT NO. 677

This specimen is a replica of a 2,000 lines/mm cross line diffraction grating. When imaging the specimen it should be kept in mind that the line spacing is 500nm +/- 1%; also the pattern will not be visible until the imaging system is set to resolve that level of detail, which is around x2,000. At this magnification the lines of the pattern will be 1mm apart.



To calculate the electron microscope magnification using the pattern of the diffraction grating replica:

Take the measurement, in millimeters, of as many squares and lines as possible. Apply the following formula:

$$\text{Magnification} = A \times 2000/B$$

A is distance in mm between limiting lines.

B is number of spaces between limiting lines.

(Alternatively, use the PELCO[®] Magnification Calibration Calculator, Prod. No. 253)

Care of Grating Replica Specimen

When not in use, the replica should be kept in the vial. The replica surface may be damaged if touched. Never try to clean it. Care must be taken to avoid bending the grid as distortion may cause the replica film to fracture. When viewing in the TEM begin at low magnification with a low illumination level. Increase the illumination a little beyond comfortable viewing level then reduce it. This helps to stabilize the specimen. Before moving the specimen to view another grid square, reduce the illumination and magnification to starting levels again.

Note:

Artifacts such as furrows or other distortions are on the surface of the original master grating and do not affect the accuracy of the line spacing.

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