Agar Scientific Ltd
Unit 7, M11 Business Link
Parsonage Lane, Stansted
Essex, UK CM24 8GF
t: +44 (0)1279 215 506
f: +44 (0)1279 813 105
e: sales@agarscientific.com
w: agarscientific.com

Agar Filaments for Zeiss/LEO/Cambridge Microscopes

AGA054

These filaments are manufactured under carefully controlled conditions to ensure reproducibility and good life. The filament bases are made to close tolerances to ensure a good fit into the gun. Our welding jig ensures rejection of any bases outside tolerance. The filament wire is jig-formed to ensure accurate shaping. The tungsten wire is a special ductile form which is specially imported. Thus, the forming stresses are minimized. After welding, the filaments are heated in vacuum to reveal any welding defects, and to stress relieve the wire after welding. This minimizes any drift problems when the filament is loaded into the microscope. Finally, each filament is checked to be within the tolerance limits for centering, following the heating.

Operation

In order to assist you to obtain the best results from these filaments, we offer the following suggestions:

1. The filament should be set accurately in the firing unit according to the microscope manufacturer's recommendations. Any slight deviations can have wide ranging effects on filament lifetime and gun brightness.

2. The filament should not be switched on until the operating vacuum has reached the recommended level (ideally, 10^{-4} Torr or better).

3. When the filament is heated for the first time, the best results are obtained if the filament is heated slowly (over five minutes) to the temperature at which electron emission can just be detected, then heated very slowly (over 60 minutes) to the full saturation condition. Some adjustment to the beam alignment may be required after the first hour. Subsequently it should be stable.

4. Where the control is available, the filament should not be heated beyond the point at which saturation is achieved.