

Replacement Filaments for Electron Microscopes

The filaments supplied by TAAB are made in specially designed jigs to ensure accuracy and reproducibility. High ductility tungsten wire is used to minimise strain in the wire. All filaments are stress relieved by flashing in a vacuum at temperatures above the normal operating level. They are then checked for accuracy of centring. Filament assemblies with alignment screws are set up under a light microscope to ensure they are ready for immediate operation in the EM.

F086 Filaments for **AEI** and all **Cambridge/LEO** microscopes except S2A and S4-10 box of 10

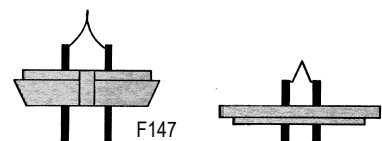


F086

F085

F085 Agar filaments for **AEI** microscopes. Box of 10

F147 Filaments for **JEOL (K type)** box of 6



F147

F146

F146 Filaments for **Philips** box of 10

F087 Filaments for **Siemens** microscopes, **Cambridge S2A, S4-10** and **Cam scan** Single - packed in individual transit tube



F087

F087/1 Filaments as above but packed 20 filaments in special wooden box

F148 Filaments for **ISI/ABT** (2 pin) box of 10

F201 Filaments for **ISI/ABT** (3 pin) box of 10

F202 Filaments for **ISI/ABT** (Bent 2 pin) box 10

F203 Filaments for **Hitachi** (HU series), box of 10

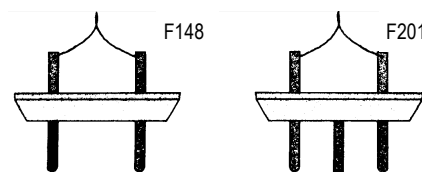
F192 Filaments for **Hitachi** (H, S, and X series) box of 10

F198 Filaments for **Zeiss** box of 10

F204 Filaments for **Amray** (except model 1200) box of 10

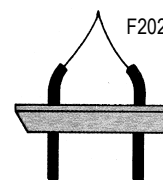
F205 Filaments for **JEOL** (GC type) box of 10

F096 Filament retaining washer for filaments in **Stereoscan S600** each



F148

F201



F202

Filament Repair Service

Most filaments can be accepted for repair provided the bases are in good condition. If the insulators need replacement these will be changed (if available) and charged in addition. Repaired filaments are given the same exacting care as new filaments. All are pre-flashed in vacuum to promote stability in operation and those filaments on bases provided with adjustment screws are subsequently re-centred under the light microscope. The filaments sent for repair must be in a suitable transit box or tube.

F149 Refilamenting **Siemens** type

F150 Refilamenting **JEOL** type

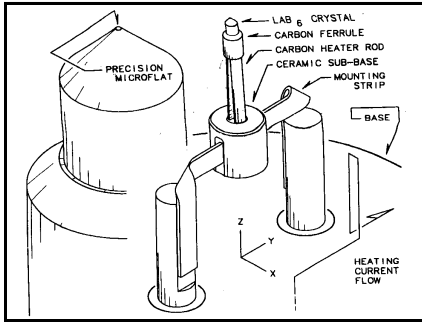
F151 Refilamenting **ISI/ABT**

F206 Refilamenting **Amray**

F207 Refilamenting **Philips**

F208 Refilamenting **Hitachi**

Lanthanum Hexaboride Filaments



Kimball Physics single crystal lanthanum hexaboride cathodes are available for most makes of electron microscopes and other electron beam instruments. These are tiny tips (15µm diameter) of lanthanum hexaboride mounted on the end of a single, stress-free carbon heater rod held in place by a carbon ferrule.

In the SEM the extra brightness provided by these filaments promotes better imaging resolution and an improved signal to noise ratio. For microanalytical applications the extra probe current density available using the LaB₆ emitter facilitates the use of finer probes and gives improved counting statistics. For TEM imaging LaB₆ is largely used in applications where high brightness and a low energy spread are required; hence LaB₆ is particularly advantageous for high resolution studies. Lifetimes in excess of six months are regularly achieved in commercial SEM's and TEM's with suitable gun vacuum. LaB₆ is a very economical way of improving the microscope performance but for best results and longest filament life the vacuum in the vicinity of the gun should be of the order of 10⁻⁷ Torr. Operational guide lines for the use of LaB₆ cathodes are available on request.

F209 On **Philips** base

F210 On **Siemens** base

F211 On **Cambridge/LEO** base

F212 On **JEOL** base

F213 On **Zeiss** base

F214 On **ISI/ABT** base

F215 On **Hitachi** base

F216 On **Amray** base

F217 On **VG** base