



Model 180

XTEM Prep Kit

Produce precise cross-section TEM
(XTEM) specimens



EXCELLENCE...MAGNIFIED



Model 180 XTEM Prep Kit includes all components needed to produce high-quality cross-section specimens.

- ***Stacks and holds cross-section specimens.***
- ***Aligns areas of interest.***
- ***Produces consistent glue layer thickness.***

The Model 180 XTEM Prep Kit produces controlled cross-section TEM (XTEM) specimens using rectangular wafers obtained from the area of interest of the bulk material. These wafers are readily cut by the Fischione Model 170 Ultrasonic Disk Cutter.

The XTEM Prep Kit makes it easy to stack and bond these wafers together. A small amount of vacuum-compatible epoxy is placed between each wafer. The wafers are then held in place by a vise assembly to produce a consistent epoxy layer thickness.

After the epoxy has cured, the wafer stack is cored with the Ultrasonic Disk Cutter. The core is inserted into brass tubes for subsequent sectioning into self-supported 3mm diameter disk specimens.

By sectioning the sample and adhering together several layers, each containing an interface of interest, significant amounts of information can be obtained from one specimen.

Cross-section TEM

For the study of interfaces by transmission electron microscopy (TEM), it is critical to align the interface of interest parallel to the incident electron beam. One method for preparing such samples is to fabricate cross-section (XTEM) specimens. Widely used cross-section specimens include semiconductor devices (which often have multiple layers and thus multiple interfaces), specimens with thin film layers, and composite materials.

Included components

- Vise Assembly; Spring Type
- Stack Mounting Plate Assembly
- Mixing Dish
- Teflon Mold
- Glue Sticks
- Brass Tubes



EXCELLENCE...MAGNIFIED

E.A. Fischione Instruments, Inc.
9003 Corporate Circle
Export, PA 15632 USA
Tel: 724.325.5444
Fax: 724.325.5443
E-mail: info@fischione.com
Website: www.fischione.com

Cover image: XTEM specimen consisting of Co/Ru multilayers and a Ru buffer layer deposited by CVD on a sapphire substrate. Ion milling was conducted at a voltage of 4kV, a current of 4mA, and an incident milling angle of 7°.

Image courtesy of K. Hono and D.H. Ping, NIMS (Japan)