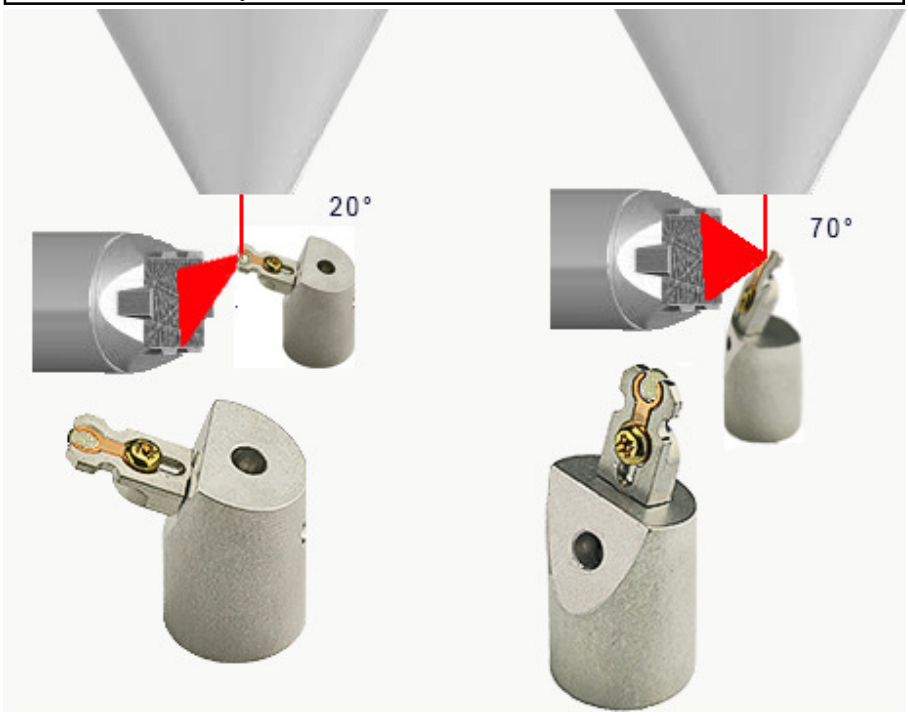
EBSD Sample Holders for TEM & FIB Grids

EBSD analysis is a powerful microstructural crystallographic characterisation technique for crystalline or polycrystalline materials. Standard EBSD analysis on bulk samples and surfaces is performed on high-tilt samples (typically 70° from horizontal). The EBSD pattern reveals the crystal orientation and in polycrystalline materials the variation of orientation amongst the crystals. For optimum EBSD results, deformation free, polished surfaces are needed.

Transmission EBSD analysis is only possible on (very) thin TEM samples suspended on a TEM grid or on a TEM lamella attached to an FIB grid. EBSD analysis on thin samples can be performed in backscatter mode at 70° tilt (from horizontal) or transmission mode at 20° (from horizontal). For transmission EBSD or t-EBSD it is imperative that transmitted electrons can reach the EBSD detector without any obstruction.

Our t-EBSD holders are specifically designed to generate transmission Kikuchi patterns. The transmission EBSD holders include an opening of 2mm Ø in the base. The top is formed by a fork-shaped phosphor-bronze clip which clamps the TEM or FIB grid. Transmission EBSD imaging and analysis is possible over the 2mm Ø area.



The t-EBSD holders are available with 1 or 3 TEM grid capacity.

S738 t-EBSD holder for three (3) TEM/FIB lift-out grids standard pin
S739 t-EBSD holder for one (1) TEM/FIB lift-out grid standard pin
S740 3x replacement t-EBSD TEM grid clips plus 3x M2 3mm brass screws

S741 t-EBSD holder kit 20°/70° for three TEM/FIB lift-out grids standard pin
S742 t-EBSD holder kit 20°/70° for single TEM/FIB lift-out grid standard pin

S743 t-EBSD holder kit 20°/70° for three TEM/FIB lift-out grids M4
S744 t-EBSD holder kit 20°/70° for single TEM/FIB lift-out grid M4

Note

The EBSD sample holder kits combine a number of available SEM holders: metallographic mount holders or geological slide holders with the EBSD 70° pre-tilt holder and a height extender for the 30mm/1¼" EBSD sample holder to provide clearance. The height extender can be easily removed if the stage adapter on the SEM stage does not require it. The EBSD 70° pre-tilt holders are available with either a pin or M4 threaded hole.

Using a stub adapter for JEOL SEMs is only advised if there is enough height clearance or if the JEOL SEM has been converted to use pin stubs.

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EBSD Pre-Tilt Sample Holders & Kits

The EBSD pre-tilt sample holders all include a 70° pre-tilt angle to facilitate EBSD analysis. With a 70° pre-tilt angle there is no need to tilt the SEM sample stage. Using pre-tilted holders instead of tilting the SEM stage offers the following advantages:

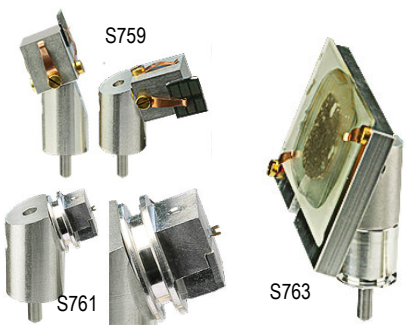
- Correct EBSD angle when loading sample
- No stage drift in Z-direction
- Choice of 70° or 20° pre-tilt

The EBSD sample holder kits combine a number of available SEM sample holders: metallographic mount holders, geological slide holder, small vice type holders and S-Clip holders. These are combined with the EBSD 70° pre-tilt holder and a height extender if needed. The P70 and H70 pre-tilt EBSD holders include both 70° pre-tilt and -20° pre-tilt to enable EBSD measurements at a 90° angle on the same sample. The EBSD 70° pre-tilt holders are available with pin and M4 threaded hole.

S745 P70 EBSD 70° pre-tilt holder for pin stubs/holders, 12.7mm Ø x 20mm, on pin base
S746 P70M EBSD 70° pre-tilt holder for Hitachi M4 stubs/Holders, 12.7mm Ø x 20mm, on pin
S747 H70P EBSD 70° pre-tilt holder for pin stubs/holders, 12.7mm Ø x 20mm, M4 base
S748 H70 EBSD 70° pre-tilt holder for Hitachi M4 stubs/Holders, 12.7mm Ø x 20mm, M4 base

S749 P71 EBSD 70° pre-tilt sample holder for 25mm Ø/1" Ø mounts, on pin base
S750 P72 EBSD 70° pre-tilt sample holder for 30mm /32mm/1¼" Ø mounts, on pin base
S751 H71 EBSD 70° pre-tilt sample holder for 25mm Ø/1" Ø mounts, M4 base
S752 H72 EBSD 70° pre-tilt sample holder 30mm /32mm/1¼" Ø mounts, M4 base

S753 P78 EBSD 70° pre-tilt vice clamp holder for samples up to 16mm, on pin base
S754 P77 EBSD 70°pre-tilt vice clamp holder for cross sections up to 8mm, on pin base
S755 P76 EBSD 70° pre-tilt mini-vice holder for sample cross sections up to 4mm, pin base
S756 H78 EBSD 70° pre-tilt vice clamp holder for samples up to 16mm, M4 base
S757 H77 EBSD 70°pre-tilt vice clamp holder for cross sections up to 8mm, M4 base
S758 H76 EBSD 70° pre-tilt mini-vice holder for sample cross sections up to 4mm, M4 base



S759 P75 EBSD 70° pre-tilt S-Clip sample holder for Si-chips/thin samples, on pin base
S760 H75 EBSD 70° pre-tilt S-Clip sample holder for Si-chips/thin samples, M4 base

S761 P74 EBSD 70° pre-tilt sample holder for FIB lift-out lamella, on pin base
S762 H74 EBSD 70° pre-tilt sample holder for FIB lift-out lamella, M4 base

S763 P73 EBSD 70° pre-tilt sample holder for geological slides up to 48 x 28mm, pin base
S764 H73 EBSD 70° pre-tilt sample holder for geological slides up to 48 x 28mm, M4 base