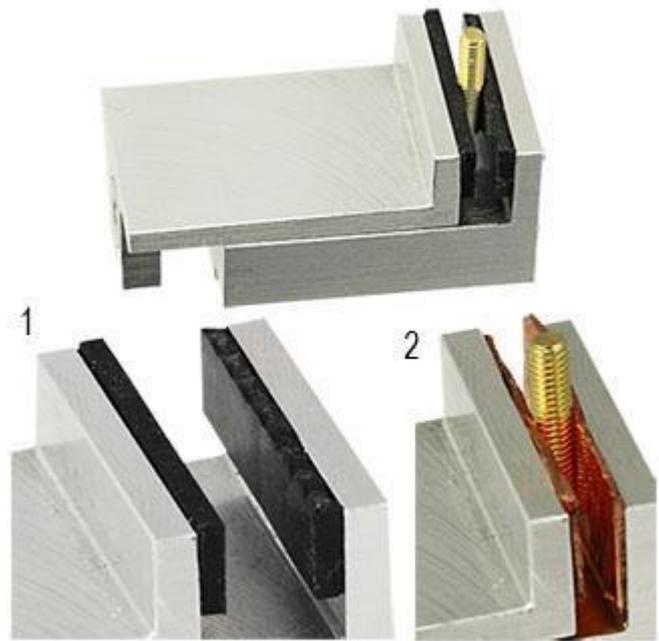


EM-Tec conductive soft jaw lining kit for vise type SEM sample holders

Introduction

When using vise type SEM sample holders, the sample is generally clamped between two vise jaws. This method of clamping holds the SEM sample securely for subsequent examination. Conductivity is provided by the metal vise jaws. This method of clamping with metal vises is suitable if the sides of the sample are sturdy and any marring is acceptable. Using a soft layer of conductive material enables clamping of more delicate samples as well. This technical support bulletin is applicable with the following EM-Tec vise type sample holders:

- EM-Tec V22 compact vise holder, [#12-000200](#) and [#12-000300](#)
- EM-Tec V12 small spring-loaded vise holder, [#12-000221](#) and [#12-000321](#)
- EM-Tec V26 dual action spring-loaded vise holder, [#12-000222](#) and [#12-000322](#)
- EM-Tec VS42 universal spring-loaded vise holder, [#12-000220](#) and [#12-000320](#)
- EM-Tec CV1 large centering vise holder, [#12-000202](#) and [#12-000302](#)



1 Better and lasting solution: With rubber pads
2 Quick stop gap solution: With soft aluminium or soft copper SEM tape

Clamping delicate SEM samples:

- If the samples are too delicate or too brittle to clamp with vise jaws, do not attempt to use a vise clamp but use a conductive adhesive to mount the sample on a sample stub. On other delicate samples which are strong enough to clamp, the metal clamping jaws can potentially damage or mar the sides or surface of the sample. Example: surface treated or threaded samples.



- There are solutions to mitigate this problem:
 - Quick stop gap solution:** Cover the clamping jaws with multiple layers of soft aluminium or soft copper SEM tape (at least 5-10 layers). This will create a soft conductive buffer which will hold the sample but is much less damaging. This solution is generally for single use only and suitable for surfaces with sharp ridges.
 - Better and lasting solution:** Use conductive rubber pads on the inside of the jaws like EM-Tec [#12-003207](#). The soft jaw linings are adhered to the jaws with a layer of conductive adhesive. The rubber is relatively soft and conductivity is maintained. The elasticity of the rubber pads allows for multiple use. If the rubber pads are damaged, they can be simply replaced.

Provide conductivity for epoxy embedded samples

If conductive samples are embedded in non-conductive embedding material, conductivity has to be provided in a different way. We suggest to use conductive aluminium or copper SEM tape to provide a conductive path from sample to clamping jaw.

TSB 12-003207 Clamping delicate samples in vise type SEM holders 2015-12-22 Revision 1

