

CLEANING INSTRUCTIONS

Drukker Ultramicrotome Knives

Drukker hydrophilic ultramicrotome knives

Polished diamond surfaces are characteristically hydrophobic, which means that as soon as the water level in the trough is lowered the cutting edge will de-wet and efficient cutting becomes difficult. Drukker International ultramicrotome knives are all cut and polished in such a way that the surface of the diamond is hydrophilic, thereby ensuring complete wettability of the cutting edge at extremely low water levels in the trough. This enables the user to choose a lower water level in the trough when cutting acrylic embedding media or other water sensitive materials.

Cleaning of Drukker Hydrophilic Ultramicrotome Knives

Because of the above mentioned property, it is important to know that water soluble materials will adhere easier to this hydrophilic surface than to a hydrophobic surface. This is also true for hydrophilic parts which will be in contact with the diamond knife during or immediately after sectioning. Drukker therefore advise to clean the knife immediately after a sequence of sectioning.

Never leave a section on the edge of the diamond, because removing dried sections is difficult!

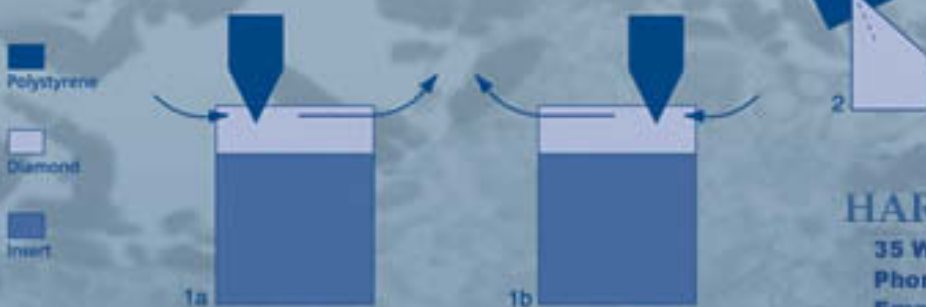
1. After completing a series of sections, we advise to cut two extra blue sections (200 nm). These blue sections will push all debris into the trough.
2. Fill the trough up to a higher level and remove the blue sections with an eyelash.



3. Remove contamination from the cutting edge with the polystyrene cleaning sticks supplied with the knife. The end of the stick should be cut to give a 45-90 degree wedged end using a clean razor-blade or scalpel.

The wedge end of the stick should be soaked in ethyl-alcohol. Gently press the stick onto the diamond cutting edge at about one third of the cutting length from the blade corner. In one movement the cleaning stick should be stroked along the cutting edge and out. If necessary repeat this procedure in opposite direction (see figure 1a and 1b).

Care should be taken not to apply any force other than parallel to the cutting edge (see figure 2).



Cryo knives

Remove the knife from the clamp immediately after use. Due to its very low temperature ice will form. The ice will melt away after a few minutes. While still wet the knife should be cleaned as described.



Removal of dried sections

To remove dried out sections from the cutting edge the whole knife should be soaked in distilled water overnight. Standard cleaning procedures can then be used to remove the sections.

For cleaning only use distilled water and ethyl-alcohol.

Always store the knife in its protective box.



Temporary restoration of hydrophilic property

Surfaces which need a more hydrophilic property can be treated with a solution of de-ionised water and Decon90.

Put this mixture in a squeeze bottle and rinse the entire surface, including the back side of the knife and the diamond part.

Dry the knife with canned air.
Advised concentration:
1 drop Decon90 : 1 litre de-ionised water. Do not use a higher concentration than 1 drop Decon90 : 1/2 litre water.

For further information contact:

HARRIS INTERNATIONAL

35 West 45th Street, New York, NY 10036
Phone: 212-869-3037 Fax: 212-302-5757
Email: sales@harrisinternational.com