

POLISHING KIT 040 891

For all NaCl and KBr cells

The polishing kit for NaCl and KBr cells includes all necessary parts.
It can also be used for the pre-grinding of cells that are so severely
scratched that the polishing procedure alone is not sufficient.

PERKIN-ELMER

Perkin-Elmer Corporation, Norwalk, Conn., USA
Bodenseewerk Perkin-Elmer & Co. GmbH, Überlingen, Federal Republic of Germany
Perkin-Elmer Limited, Beaconsfield, Bucks., England

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WORKING INSTRUCTIONS

Caution: When using the polishing kit, please follow the below-mentioned instructions:

1. Use rubber gloves or finger stalls.
2. Do not polish within an atmosphere of high humidity.
3. Take care to work in a dustfree atmosphere.
4. Keep the polishing plate clean of oil, dust and other contamination.
5. NaCl cells are soft and fragile. Please, be careful when grinding or polishing them.
6. Polished cells must be kept in a desiccator or in a drying oven.

1. Pre-grinding (Only on damaged cells)

When cells show a strong dimming (especially when the surface is scratched), they must be ground before polishing. With your left hand put the emery paper on an even surface and with the right hand lead the cell in circular movements softly over the emery paper.

The grade 600 is used for fine-grinding when the polishing cloth alone is not sufficient.

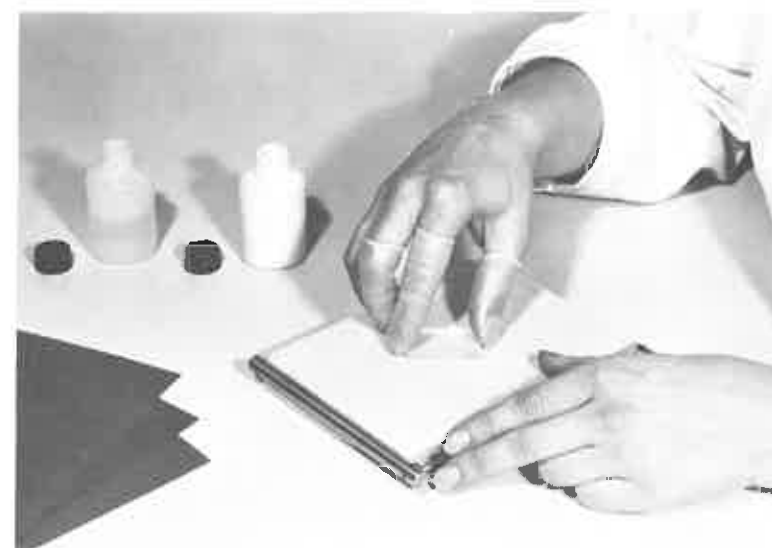
A heavily damaged cell is ground with the grade 400. From time to time remove the powder from the plate and clean the cloth. Do not blow the powder away from the plate as the NaCl cell will be instantly blurred. The surface is ground afterwards with a finer grade of emery paper (first grade 500 and then grade 600). The cell is then polished as described below.

2. Polishing

The polishing cloth is stretched tightly over the polishing plate. A little of the polishing powder is poured onto the cloth and moistured with a few drops of dry alcohol. A section of the cloth should be kept dry and free of polishing powder so that the cell can be placed on this part when it is removed from the polishing mixture.

The polishing should be carried out with cross-wise, straight and figure-of-eight movements and the cell should be frequently rotated between the fingers (see picture). Too vigorous polishing will wear away the edges of the cell and it will become convex. The face of the cell must be regularly checked by standing it on the glass test-plate. Whenever the cell is removed from the polishing cloth it should be drawn over the other cloth to ensure that it is dry. Care should be taken to keep the test-plate free from dust to prevent the cell becoming scratched. The following procedure for removing the dust is recommended:

Place a piece of fine tissue on the plate. Place the cell on the tissue and then gently withdraw the tissue from under the cell. The polishing cloth should be washed if it becomes dirty or has dust particles on it. A spectral lamp is used to measure the interferences between the cell and the test-plate. 10 to 20 interferences and a plane parallelism of about 30 are sufficient for most cell windows. When counting the interferences the double ones should not be counted twice.



Polishing a cell window

The polishing kit contains the following components:

	order no.
1 polishing plate with stretching device	040 886
2 polishing cloths	040 897
2 sheets of emery paper, grade 400	040 899
2 sheets of emery paper, grade 500	040 933
2 sheets of emery paper, grade 600	040 895
1 bottle of alcohol, 95 %, 50 ccm	038 742
1 bottle of french chalk	039 670
3 rubber finger stalls	039 674
1 test-plate, optically plane	040 898