

Diamond EX-Press micro compression cell



The Diamond EX-Press is an excellent sample preparation tool for FT-IR micro analysis.

With this compression cell you can easily flatten and thin materials through low-pressure compression by turning thumb screws.

It is the highest quality and lowest cost micro compression cell available. By applying pressure on a sample using this cell, the sample is thinned to a uniform thickness across the measuring area.

Excellent for analyzing hard materials such as minerals, and for rubbers, plastics, polymers and pharmaceuticals.

The Diamond EX-Press Compression Cell uses two Sumicrystal type IIa single crystal synthetic diamonds.

Produced under the most stringent quality control, the Sumicrystal is of superior quality, predictable nature and consistent supply. It gives excellent optical transmission and mechanical properties, as well as highly desirable crystalline characteristics, which meet, or exceed those of type IIa natural

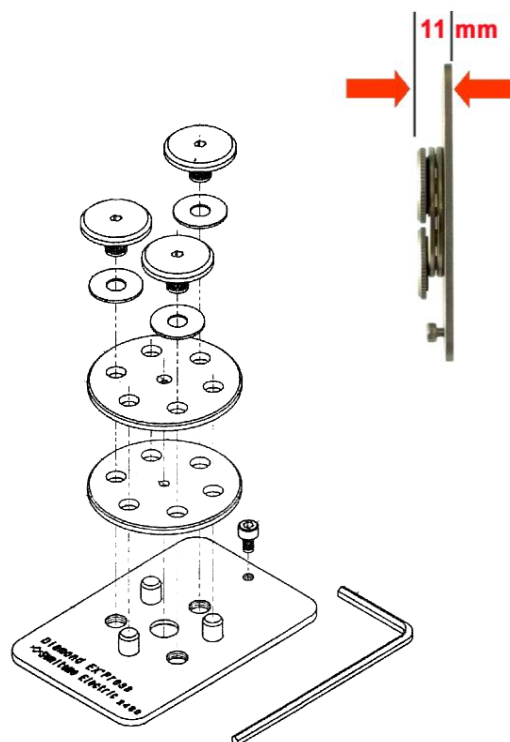
diamonds.

Feature of the cell:

- Synthetic Diamond type IIA
- Window size of 2,1mm in diameter.
- Available clear aperture of 1,6 or 2mm.
- Universal for use under microscopes or in sample compartment
- Three thumb screw design for an equal pressure over the working area
- Cell dimensions of (76.2mm x 50.8mm x 9.1mm)

The three thumbs screw design ensures equal pressure over the entire working area of the cell. It permits to thin the sample to a uniform thickness across the measuring area for a maximum throughput to the detector without detection saturation.

The Diamond EX-Press compression cell is ideal for work with Microscopes. Its works with both 15X and 32X objectives. Furthermore, because of their strength and hardness, the diamonds used in these cells are relatively thin (1 mm). Thus the Diamond EX-Press has a working distance which is significantly smaller than other cells.



The increased working distance required by other cells can force the removal of the top plate prior to use with a microscope. In the case of certain samples such as rubbers, the relaxation caused by the removal of the pressure causes the sample to return to its original thickness. The Diamond EX-Press cell can accommodate such samples without removing the top plate.

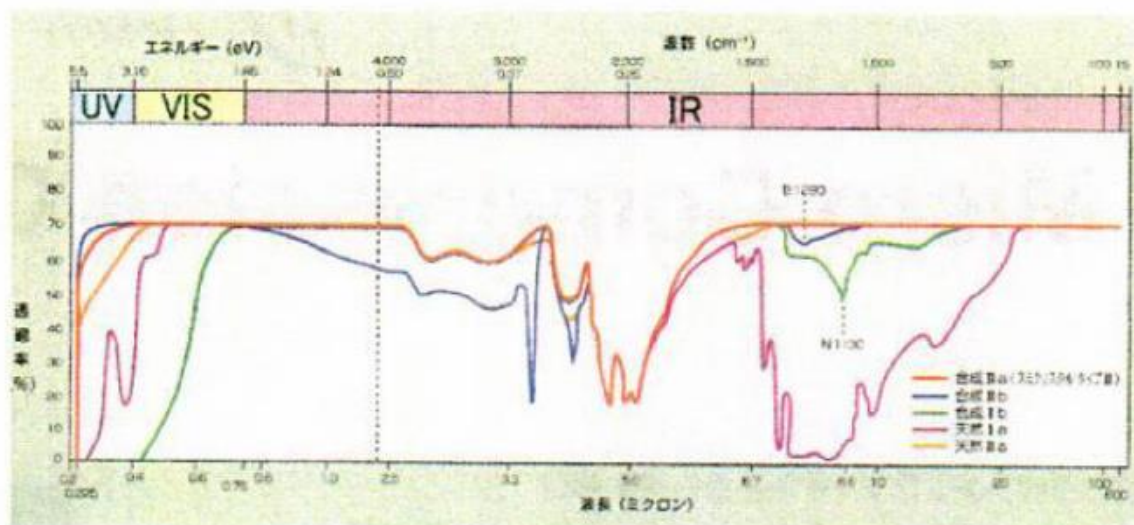
This cell is available in two apertures can also be used in sample compartment without beam condenser or under microscope

Diamond Specifications:

- Highest IR throughput – saving you time and improving your analysis quality
- Low concentration of nitrogen impurities and crystal defects
- Minimal interfering absorption bands
- Reduced thickness thus resulting in improved throughput
- Greater fracture strength
- No impurities in the diamond to interfere with sample measurements
- High resistance to plastic flow
- Increased & uniform hardness
- no solvent washing necessary

Minimal Spectral Interference:

The infrared and ultraviolet-visible transmission spectra of synthetic diamonds compares favorably with natural diamonds as shown below.



Please note: Specifically the spectra of type IIa synthetic diamonds used in the Diamond EX'Press Compression Cell and shown in red, compared with the spectra of natural type IIa diamonds used in equipment and shown in orange. The spectra of these two diamonds are essentially the same except for the UV-visible region where the natural IIa diamonds tail off at about 225 nm. The other diamond spectra shown are: green, synthetic Ib; purple, natural Ia; blue, synthetic Ib.



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