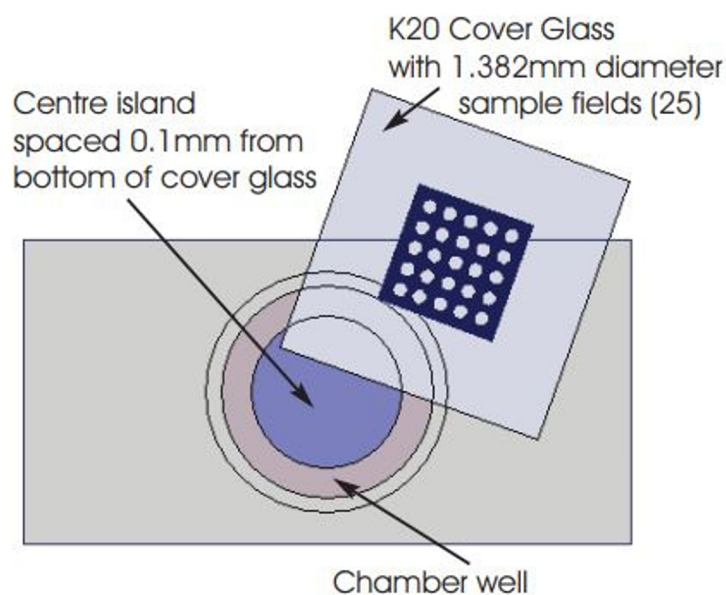


Description

The S60 Howard Cell and associated K20 Cover Glass, is used world wide for mould counting in food quality control applications, such as tomato products and other fruit based preparations. Graticules Optics' improved Howard Cell is based on the method originally developed by B.J. Howard in 1911, primarily for the purpose of monitoring tomato products, using a microscope.

The S60 Howard Cell is a glass slide 76mm x 35mm with a central circular island and is used for counting mould fibres and spores in fruit juices especially from tomatoes. With the K20 cover glass in place a 0.1mm thickness of liquid is contained over the central island. The cover glass has 25 calibrated fields of 1.382mm diameter through which to view the particles. This cover glass removes the necessity of precise adjustment of the microscope magnification and calibration of a special eyepiece reticle in the original Howard Method, making it suitable for use with a modern zoom stereo microscope as well as a conventional compound microscope.

Note: The complete system requires both the cell itself and cover glass. The cell does not come with a cover glass and one must be ordered separately. We recommend ordering one or two extra cover glasses, this way there is always going to be one in reserve.



How to Use a Howard Cell – General Procedure

- The material to be examined should be a pulp. Mix a small quantity with water until the solids of the diluted pulp represent between 8.37% and 9.37% of the solution. This corresponds to an Abbe refractometer reading at 20°C of 1.3460.
- Spread a small drop of the well-mixed sample with the end of a glass rod over the counting chamber.
- Place the cover glass on to the counting chamber and carefully press down the shoulder of the chamber until Newton's rings are visible.
- Prepared samples containing air bubbles beneath the cover glass or an over-full moat should be discarded.
- If using a compound microscope, examine using the 10X eyepiece and the 10X objective.
- Systematically examine all 25 fields and note those with a presence or absence of mould filaments (hyphae). A field is regarded as positive if the aggregate length of not more than three filaments present exceed one sixth of the diameter of the field.

This is a general description of how a Howard Cell is used. The results are interpreted as a percentage of positive fields observed in all the fields examined. Precise interpretation of the results is made by a statistical analysis of the sample and should be carried out in accordance with your own internal or published procedures.



Graticules Optics Ltd

17-19 Morley Road, Tonbridge, Kent, TN9 1RN, UK

Tel +44 (0)1732 360 460

Email sales@graticulesoptics.com

www.graticulesoptics.com

