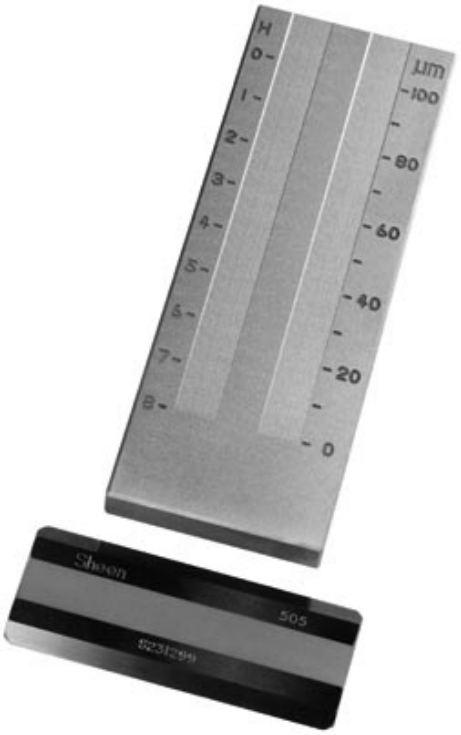
Physical Testing:
Fineness of Grind Gauges



The Fineness of Grind Gauge is used for the determination of dispersion.

The test consists of placing a small volume of product on the deep end and drawing it with a straight scraper toward the shallow end. The position on the scale where oversize particles and their tracks appear can be rated for determination of dispersion.

Why use Grind Gauges?

1. Grinding is expensive – use the gauge to determine minimum grinding time
2. Insufficiently ground materials yield untidy films with substandard gloss values.
3. For comparison of different sources of pigment ground for equal times.
4. Optimisation of grinding equipment.

Ref. 501 *Ref. 502* *Ref. 504*

Description

The term ‘Hegman’ is sometimes applied as a generic description to these gauges and, in spite of National and International specifications recommending the adoption of the micron (*µ*m) scale, arbitrary scales such as Hegman, North, FSPT, etc., are sometimes wanted.

Each gauge consists of a block of hardened stainless steel with dimensions of: 175mm x 63mm x 13mm (6.9˝x 2.5˝x 0.5˝) with either a single or double channel of 12.5mm (0.49˝) width and supplied with a scraper blade.

Size ranges

0-25*µ*m, 0-50*µ*m, 0-100*µ*m. *Special sizes made to order.*

All our gauges are made from high quality stainless steel.

Fineness of Grind Gauges BS EN 21524, ISO 1524 (BS 3900 C6) ASTM D1210.

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Physical Testing: **Fineness of Grind Gauges**

Method of use

Reference should be made to the current editions of British Standards 3900 Part C6, International Standard ISO 1524, ASTM-D 1210 Standard and other National Standards for details of the test method. The term 'fineness of grind' is defined as the reading obtained on a gauge under specified conditions of test and the reading indicates the depth of the gauge at which discrete solid particles are readily discernible.

The selected gauge should be clean and dry and placed on a flat surface. A small sample of the test material is poured into the deep end of the groove, then with the scraper blade held at right angles to the gauge with both hands, it is scraped at a steady rate down the length of the gauge. Sufficient downward pressure should be exerted on the scraper to clean the level surface of the gauge but leaving the channel filled with material. Immediately after draw down determine the fineness-of-grind by viewing the gauge, at right angle to its length, at a suitable to view angle.

Observe the point along the channel where the material first shows a predominantly speckled appearance and note the graduation marks between which the number of particles, in a band 3mm wide across the groove, is in the order of 5 to 10. Report the higher graduation figure as the fineness-of- grind, disregarding any scattered specks which may appear above the band where the speckles appearance begins. Clean the gauge immediately after use.

Cleanliness Gauge

This instrument is basically the same as the Fineness of Grind Gauge but the channel is much wider (37mm). This wide channel enables foreign particles e.g. pieces of paint 'skin', agglomerates, fibers or other stray matter to be shown more readily, whilst the fineness of grind may be read in the usual way. The ranges available are the same as fineness of grind gauges i.e. 0-25 microns, 0-50 microns, and 0-100 microns.

Method of use is the same as the Fineness of Grind Gauges.

Ordering information

Please use the appropriate reference numbers and state the range required. Standard gauges are engraved with micron and Hegman scales. State if other scales are required instead, i.e. 'Ref. SH501, 0-50*µ*m, engraved microns and mils.' Gauges are supplied with a scaper blade.

Product Ref.	Description
SH501	Fineness of Grind Gauge - Double channel gauge Ref. SH501/25: 0-25µm; SH501/50: 0-50µm; SH501/100: 0-100µm
SH502	Fineness of Grind Gauge - Single channel gauge Ref. SH502/25: 0-25µm; SH502/50: 0-50µm; SH502/100: 0-100µm
SH504	Fineness of Grind Gauge - Wide channel gauge Ref. SH504/25: 0-25µm; SH504/50: 0-50µm; SH504/100: 0-100µm
SH505	Spare scraper blade for any above.

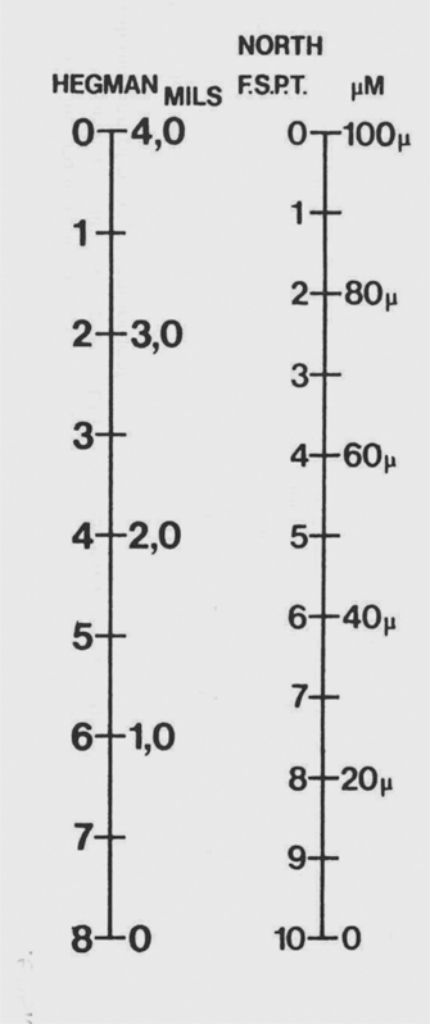

Figure 1 above shows the relationship between the various scales using the 1 to 100µm range as a guide. This diagram has been reproduced from the International Standard in order to show the simple conversion from the arbitrary scales to the micron scale.

Owing to continuous development, we reserve the right to introduce improvements and modify specifications without prior notice.

Our sales team can be contacted on:
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