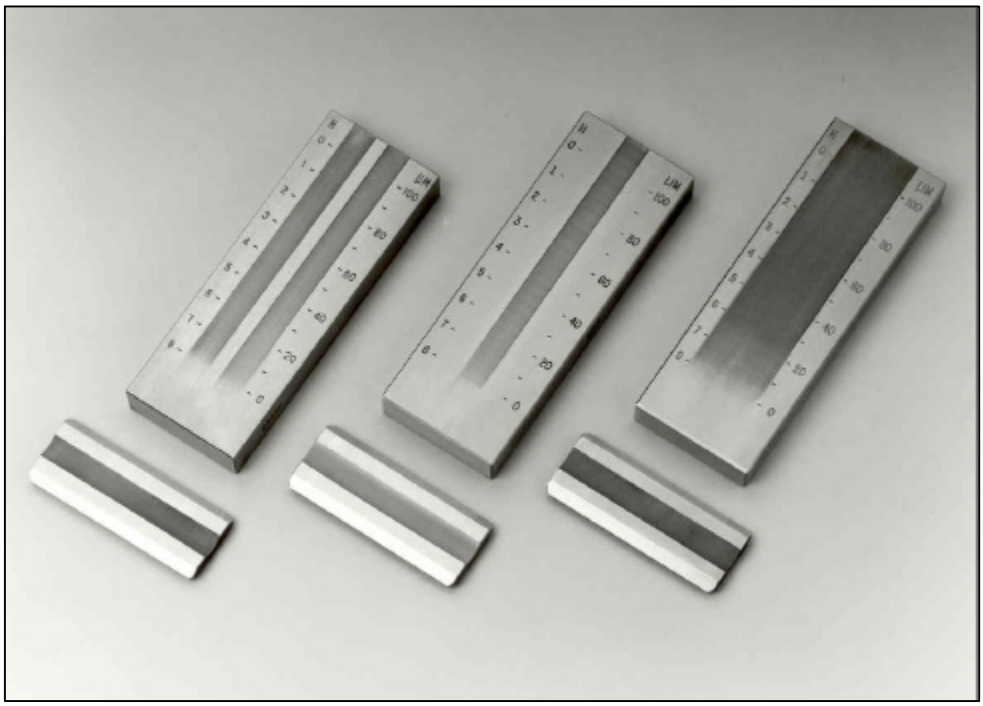
PARTICLE SIZE

REFS. 501, 502 & 504 FINENESS OF GRIND GAUGES
BS EN 21524, ISO 1524 (BS 3900 C6) ASTM D1210



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

INTRODUCTION

The Fineness of Grind Gauge is used for the determination of the wet film thickness at which the size of the pigment just exceeds the film thickness.

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.

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 (um) 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 with either a single or double channel of 12.5mm width and supplied with a scraper blade.

Size ranges: 0-25um, 0-50um, 0-100um.

SPECIAL SIZES MADE TO ORDER

ALL OUR GAUGES ARE MADE FROM HIGH QUALITY STAINLESS STEEL

Figure 1 overleaf shows the relationship between the various scales using the 1 to 100um 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.

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 grazing 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.

REF. 504 CLEANLINESS GAUGE

DESCRIPTION

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, fibres 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, & 0-100 microns.

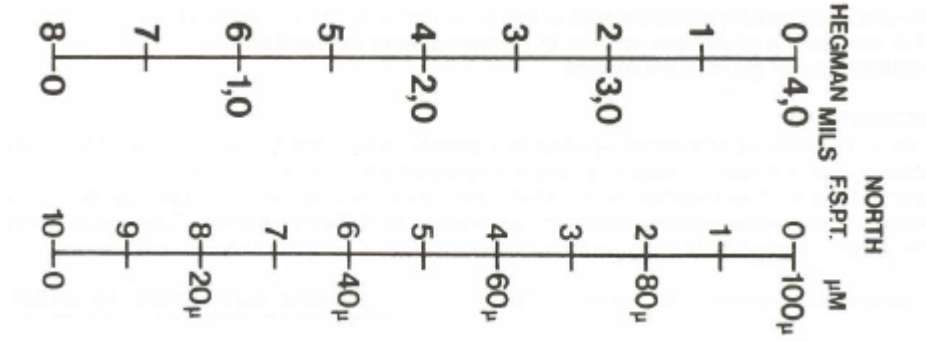
METHOD OF USE

As for Fineness-of-Grind Gauges.

ORDERING INFORMATION

Ref.501 - Double channel gauge Ref.501/25: 0-25µm; 501/50: 0-50µm; 501/100: 0-100µm
Ref.502 - Single channel gauge Ref.502/25: 0-25µm; 502/50: 0-50µm; 502/100: 0-100µm
Ref.504 - Wide channel gauge Ref.504/25: 0-25µm; 504/50: 0-50µm; 504/100: 0-100µm
Ref.505 - Spare scraper blade for any above.

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. 501, 0-50µm, engraved microns and mils." Gauges are supplied with a scraper blade.



Sheen Instruments Ltd
Unit 4, St. Georges Ind. Est., Richmond Road, Kingston, KT2 5BQ England
Tel: 020 8541 4333 Fax: 020 8549 3374 Intl. Tel: 44 20 8541 4333 Intl. Fax: 44 20 8549 3374

www.sheeninstruments.com Email:info@sheeninstruments.com