

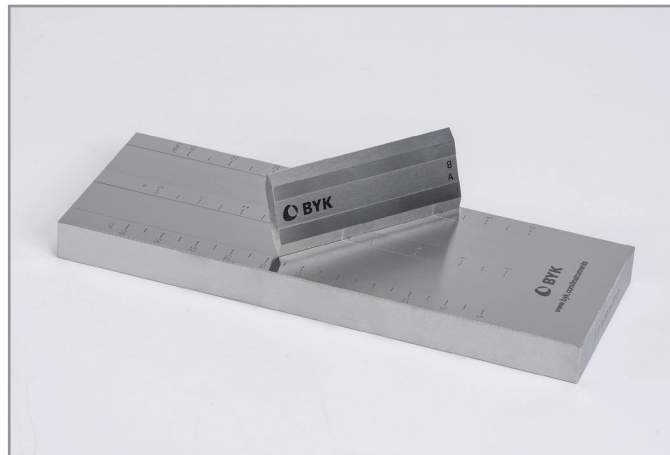
# Grind Gages – $\mu\text{m}$ / Hegman / NPIRI for Printing Ink, 2 paths

## Fineness of Grind Gages

Also called grind gages and Hegman gages. Many types of solid materials must be ground or milled into finer particles for dispersion in appropriate liquid vehicles. The physical properties of the resulting dispersions, often called "grinds", depend not only on the actual size of the individual particles, but also on the degree to which they are dispersed.

The Fineness of Grind Gage is used to indicate the fineness of grind or the presence of coarse particles or agglomerates in a dispersion. It does not determine particle size or particle size distribution.

Grind gages are used in controlling the production, storage, and application of dispersion products produced by milling in the paint, plastic, pigment, printing ink, paper, ceramic, pharmaceutical, food, and many other industries.



## Working principle

The Fineness of Grind Gage is a flat steel block in the surface of which are two flat-bottomed grooves varying uniformly in depth from a maximum at one end of the block to zero near the other end. Groove depth is graduated on the block according to one or more scales used for measuring particle size.



## Available Scales

Different Grindometers with different scales are available. These are equipped with Hegman, Micrometer and North scales. These scales are explained below:

### 1.) Micrometer

One Micrometer is one thousandth of a meter.

### 2.) Hegman Scales

The Hegman scale or National Standard scale may be abbreviated "NS" on the gage. The scale ranges from 0 to 8 with numbers increasing as the particle size decreases.

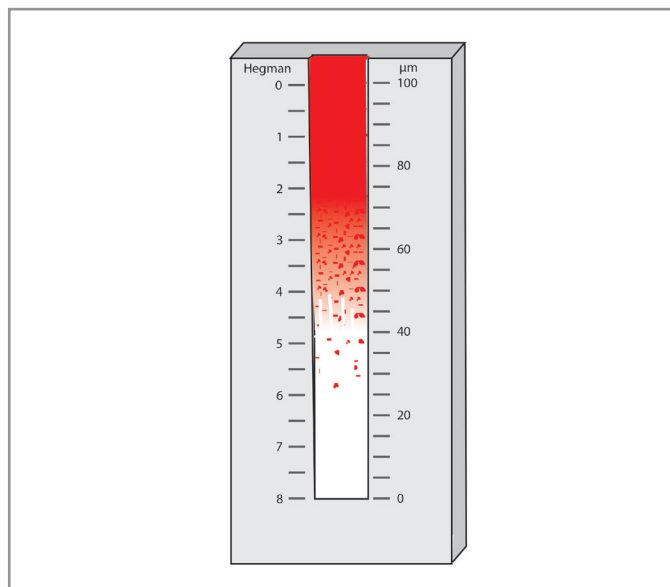
0 Hegman = 4 mil/100 micron particle size

4 Hegman = 2 mil/50 micron particle size

8 Hegman = 0 mil/0 micron particle size

### 3.) NPIRI Scale

NPIRI stands for National Printing Ink Research Institute. The scale begins with "0" at the infinite point and extends to "10" at a depth of .001 inches. While it is an arbitrary scale, it is a logical one in that these divisions are equivalent of tenths of mils.



## Standards

ASTM D333, D1210  
ASTM D1316, D6846  
ISO 1524  
FTMS 141 a  
Method 4411.1



Catalog Number	Short Description	Path Size	No. of Paths	Scales	Range	Range	Range	Dimensions: L x W x H	Weight	Weight
2509	Grind Gage No. 6251 - G1	1 x 6.25 in	2	μm, Hegman, NPIRI	0 - 25 μm	8 - 6 Hegman	0 - 10 NPIRI	9.5 x 3.5 x 0.75 in	5 kg	11 lb
2510	Grind Gage No. 6252 - G2				0 - 50 μm	8 - 4 Hegman	0 - 20 NPIRI			
2511	Grind Gage No. 6254 - G4				0 - 100 μm	0 - 8 Hegman	0 - 40 NPIRI			

### Delivery Content

Grind Block  
Scraper (2514)  
Storage Case