SEE 3-D – i®

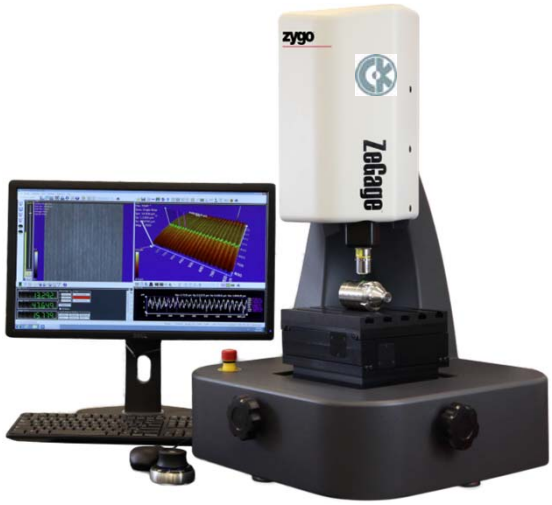
Three Dimensional Bore Surface Evaluation Equipment

C-K Engineering
Innovative Solutions

SEE 3-D ® i

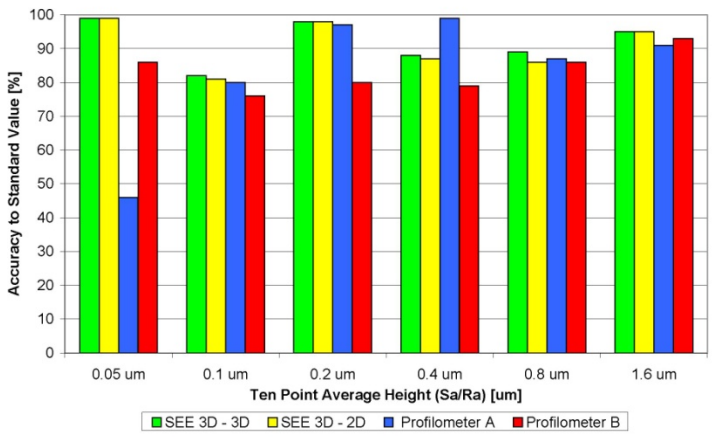
- Easy to use – practical for production floor use by production operators
- Precise measurement of surface finish of small bores
- Accurately reproduces and quantifies surface finish
- No fragile probe tips
- No possibility of probe over travel or probe tip radius effects
- More accurate values are generated by measuring an area
- Minimal set up time
- Samples are indefinitely storable and available for analyses at any time

The *SEE 3-D* ® system was developed to examine the surface finish in difficult to measure small bores. Small diameter parts with critical surface finish features can prove very difficult to measure with standard equipment. By leveraging technology used to create precise surface finishes on small bores, C-K Engineering has created a surface measurement system that can reach where no profilometer can! A two-part silicon rubber compound, is used to make a three-dimensional negative copy of the bore surface, which then can be analyzed with a non-contact surface analyzer to provide all the vital surface finish data you need. *SEE 3-D* ® *i* will allow you to accept or reject parts on the basis of surface finish from anywhere along the bore, not just on the ends or from estimations made with visual equipment!



SEE 3-D ® **Analyzer System**

Accuracy of Various Surface Measuring Equipment

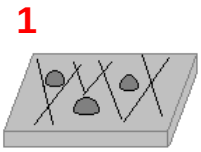


C-K Engineering, Inc. I www.c-kengineering.com I 636.394.3331

Features

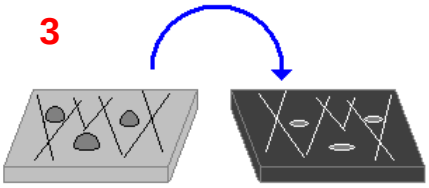
- Accurately reproduces surface finish
- Wide range of bore diameters and lengths, so any bore can be replicated
- Provides two-dimensional data including R_a, R_K, R_{PK}, & R_{VK}
- Quantifies 35 different 3-D parameters including S_a, S_K, S_{PK}, & S_{VK}
- Fully integrated system hardware: replicate fixture and surface analyzer & analysis software

Replication Process



1 Original honed surface

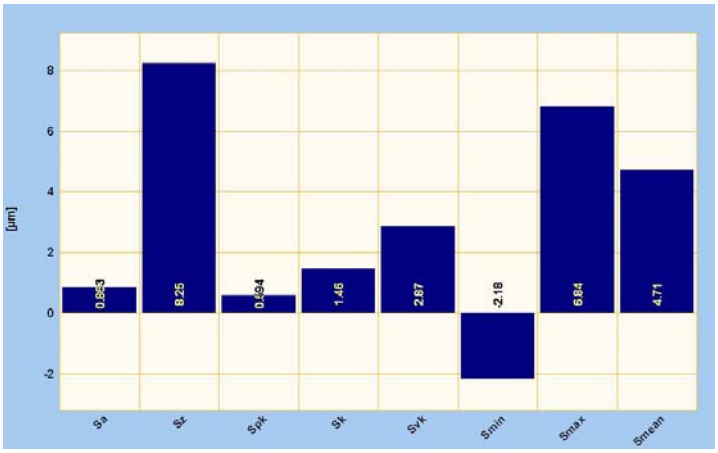
2 Replicate material cures



3 Replicate material is removed from surface producing a negative copy of the surface

4 Primary software produces 2-D image of replicate surface, similar to Fax Film

5 Secondary software used to develop further statistical data about the surface.

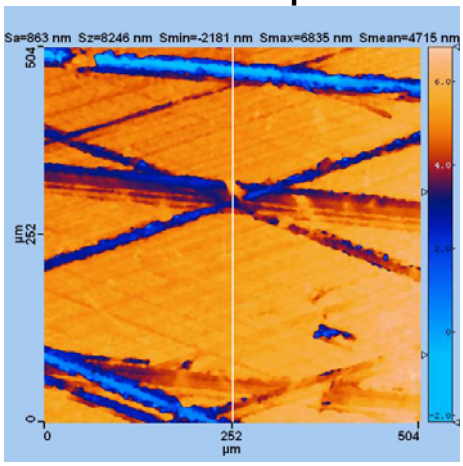


Software Output

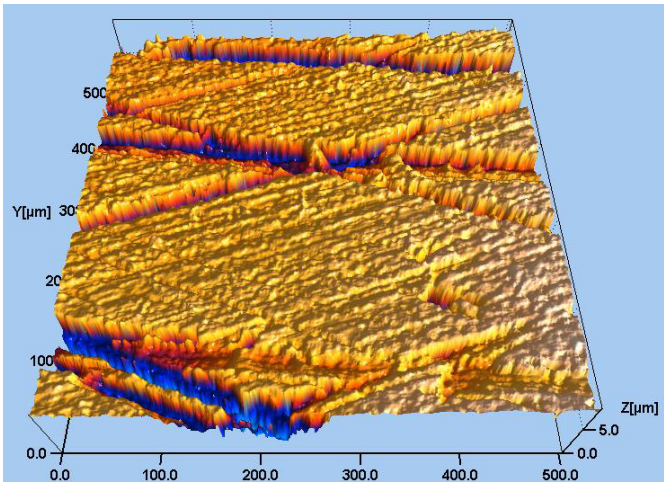
Sizing Information

For bores 0.370” - 1.250” diameter, lengths of 3.625”, 4.375”, and 4.625” are available

Other sizes and lengths are available by request



Software Output



Software Output