

# numerical engineering research + design

Engineering Consultants  
Specializing in Honing Technology and Precision Metrology

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## Surface Finish Measurement and Applications in Honing

The availability of inexpensive computers and powerful software has spawned great advancements in surface finish measurement technology. At the same time, emissions regulations are forcing power cylinder designers to specify smoother and more complicated surfaces. This course is designed to explain the basic concepts of surface finish measurement and their applications to power cylinder honing.

Course Outline:

### Instrument types

- Skidded
- Non-Skidded

### Filtering

- 2RC
- PC
- Gaussian
- M1 & M2
- Anti-Aliasing
- Bandwidth

### Parameters

- Extreme Value Parameters
- Average Extreme Value Parameters
- Statistical Parameters
- Graphical Parameters
- Rk Parameters

### Standards

- ISO
- ANSI/ASME
- DIN

### Honing Basics

- Cylindricity
- Cross Hatch
- Surface Finish
- Self Dressing

### Abrasives

- Diamond
- CBN
- SiC
- AlO<sub>2</sub>

### Bonding Systems

- Metal
- Vitriified
- Resin

### Coolants

- water vs. oil
- synthetic
- semi-synthetic

### Work Materials

- Grey cast iron
- Nodular iron
- Forged steel
- Hardened steel
- Thermal sprayed iron
- Aluminum

### Feed system Types

- Mechanical
- Hydraulic
- Adaptive
- Pressure

### Industry Trends

- Multi-Pass Honing
- Peak Honing
- Plateau Honing
- Superabrasives

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