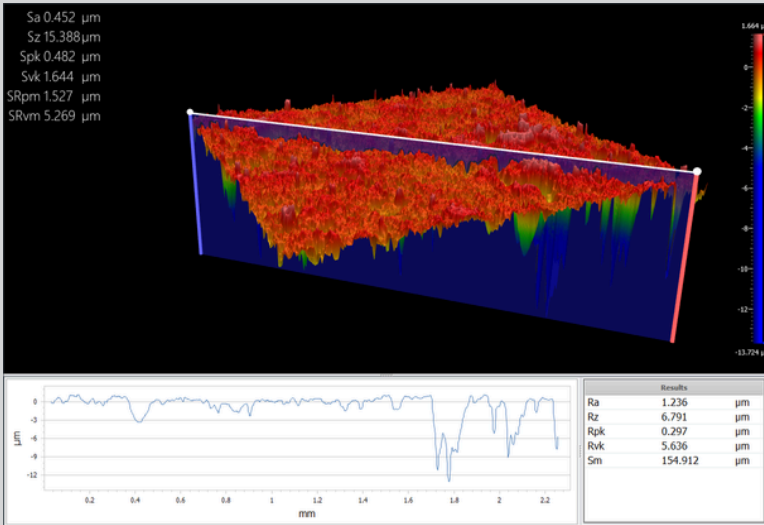


WHAT IS SURFACE TEXTURE?

Surface texture is a gauge of the irregularities in a product's surface, which along with lay, include:

- **Roughness** - closely spaced irregularities which result from the production process used or material condition
- **Waviness** - widely spaced irregularities typical of chatter, vibration, feeds and speeds
- **Flaws** - defects which occur randomly on the surface



IMPACT ON PERFORMANCE

More than appearance, surface texture impacts a product's overall performance and can compromise the efficiency, corrosion resistance, friction and adhesion of coatings or plating. Careful surface finish specification during the design phase can play a pivotal role in component function.

ADDITIONAL SURFACE PARAMETERS

Surface texture is vital to a product's success using the data to analyze surface texture beyond just roughness and waviness. Additional functional parameters within ISO 4287 standards include:

- **Rz** - Average peak to valley roughness
- **Rpm** - Mean peak height. Highest peak of 5 sampling lengths averaged together
- **Rvm** - Mean valley profile depth. Deepest valley of 5 sampling lengths averaged together
- **Rpk** - Reduced peak height. Peak height above core roughness and the nominal height of material for removal
- **Rvk** - Reduced valley depth. These valleys trap lubricant and debris below the core roughness

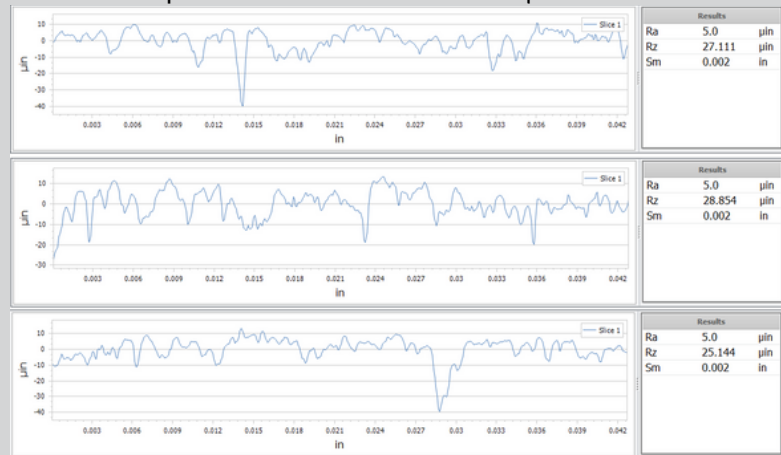
HOW SURFACES ARE MEASURED

With the form removed, surfaces are most commonly measured for waviness and roughness using a profilometer or interferometer. Measurements are taken perpendicularly to the lay and to a standard evaluation length - suggested by the standards used (such as ANSI/ASME or ISO).

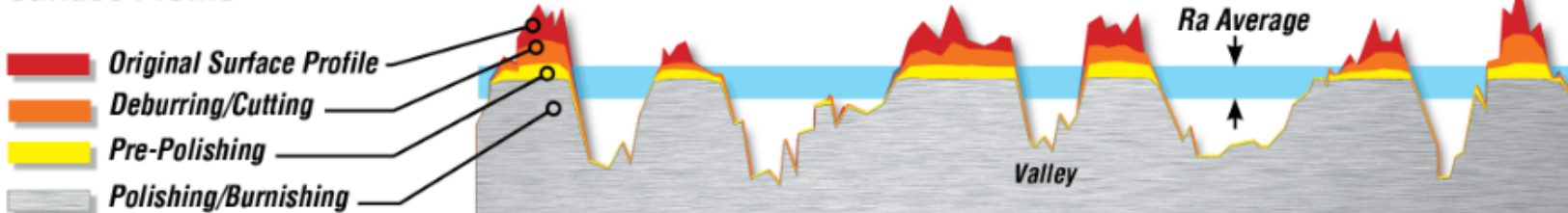
The **sampling length** determines which peaks and valleys are used to analyze roughness. The data not contained within the sampling length is considered to be waviness and determined by the cut-off value making the measurement valid.

3 SURFACES | SAME Ra

Because Ra is the average of the peak and valley irregularities, the same Ra can show very different surface profiles. Using the raw data to look at the surface profile as a whole, not just roughness, can have a profound impact product success. Each of the data samples below all have a Ra of 5.0 μm.



Surface Profile



BENEFITS OF SURFACE FINISHING

At ISO Finishing our comprehensive approach and tailor-made processes refine surfaces resulting in an isotropic (non-directional) finish. Additional benefits include:

- Improved performance & efficiency
- Corrosion, friction & wear reduction
- Compressive stress gain
- Uniform surface for coating & plating adhesion
- Better edge quality
- Dimensional accuracy with all geometries maintained
- Contaminant free surface

Let us show you first-hand how our surface finish will become your surface finish by processing your sample free of charge.

LET'S GET IT FINISHED.