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## **Applications Report: 3D Metrology Services for Glass Components**

### Surface Finish Inspection of Glass Components

Author: EDM Intelligent Solutions

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### **Executive Summary**

Surface integrity is a key factor in the performance and durability of glass and ceramic products, especially in applications such as kitchenware, optics, and high-temperature environments. EDM Intelligent Solutions provides advanced 3D metrology services to evaluate surface finish and roughness using non-contact scanning techniques. This report outlines a case study of surface roughness analysis on a ceramic kitchenware component using our MVi5 3D Metrology Center.

### **Overview of 3D Metrology Capabilities**

With high-resolution 3D scanning technology, EDM Intelligent Solutions measures surface topography at the micron level. Our approach allows for accurate, repeatable, non-destructive evaluation of components with complex geometries.

Key capabilities include:

- $\mu\text{m}$ -scale surface roughness analysis
- Non-contact, high-resolution 3D scanning
- Surface texture mapping and profile extraction
- Suitable for curved, transparent, or delicate components

### **Application Case Study: Kitchenware Surface Finish Inspection**

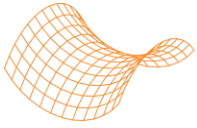
#### **Component Overview**

- Type: Kitchenware
- Material: Ceramic
- Metrology System: MVi5 3D Metrology Center
- Metrology Services: Surface Roughness Measurement

#### **Inspection Process**

The ceramic component was scanned using our MVi5 3D Metrology Center to capture the surface topography in high detail. Using extracted 3D profiles, roughness parameters such as Ra (average roughness) were calculated to characterize the texture and finish of the component's surface.

The data provided a reliable representation of how the surface might perform in real-world conditions, including wear resistance, cleanliness, and aesthetics.



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## Results & Value Delivered

- Clear understanding of ceramic surface texture
- Non-contact and non-destructive inspection of fragile items
- Traceable surface finish data for quality assurance
- Enhanced control over visual and functional surface quality

## Conclusion

Precision measurement of surface finish is critical in evaluating the performance and quality of glass and ceramic components. EDM Intelligent Solutions provides comprehensive surface roughness inspection using cutting-edge metrology systems like the MVi5, delivering results that drive confidence in product durability and appearance.

## About EDM Intelligent Solutions

EDM Intelligent Solutions is a leader in 3D metrology and manufacturing services. We support clients in industries ranging from aerospace to consumer products, offering solutions for high-precision inspection, form validation, and surface analysis using advanced non-contact technologies.