gelsight

Any Material, Anywhere™

GelSight Max

Handheld, nanometer scale surface measurements in seconds

The GelSight Max is our highest resolution handheld 3D surface analysis solution and is designed for the most demanding applications, with nanometer scale z-axis accuracy and a surface roughness range from 0.2 to 20 μm Ra. The GelSight Max immediately quantifies the surface characteristics of any material at any workflow location, regardless of composition, reflectivity, transparency, or ambient lighting conditions. Its precise, repeatable, in-situ measurement capability can lower the cost-per-measurement by 10x or more vs. legacy solutions while eliminating test escapes and boosting workflow productivity.

Industry 4.0 ready including an AI Toolbox

Automated, high-speed process workflows are enabled by a streamlined 'Operator Mode' UI, external triggering, customizable functions with unique pass/fail criteria, batch-mode analysis, STL and CSV outputs, and immediate PDF report generation. In addition, users can create powerful AI models to apply automated touch sensing to many tasks that had no simple path to digitization.

Precise & Repeatable
Provides extremely detailed, non-destructive, nanometer-level measurements to eliminate human error and subjectivity

Fast
Real-time 2D and 3D surface inspection capabilities with operator-specific UI workflows enable pass/fail testing in seconds

Portable & Versatile
Inspect and measure any type of material in-situ and eliminate the need to disassemble or cross-section parts for lab analysis. Test under any ambient lighting conditions.

Traceable
Provides NIST traceable measurements, full documentation, and a digital audit trail for fully objective quantification of surface defects.

The GelSight Max 3D surface analysis system transforms workflows by putting lab-grade surface measurements in the palm of your hand, with fully traceable, digital results in seconds.

For use in hard-to-reach areas, the Replica Transformation feature enables direct, in-situ measurements of metrology-grade replica materials.

## Improve productivity and lower cost across a wide range of NDT workflows:

- Incoming Inspection and Vendor Qualification
- Production Quality Control
- Field Installation and Flight Line
- MRO (Maintenance, Repair, and Overhaul), and Sustainment
- Research & Development
- Academia

2D and 3D Measurement and Analysis Capabilities

Unlike manual, mechanical, or optical measurement technologies, GelSight's patented elastomeric sensor technology conforms to the topology of any surface regardless of material, reflectivity, transparency, or ambient lighting conditions. 2D surface detail is displayed in real time, and micron-level 3D measurement and analysis of surface textures and defects are computed and displayed in seconds.

GS Mobile includes a powerful suite of 2D and 3D tools for surface characterization. Our BASE software package has a focus on the image itself typically for use in applications where a field portable SEM-like image is desired. GS Mobile CORE is for users looking to either export their 3D data or focused on scratch and offset measurement. Our fully featured GS Mobile PRO software offers many tools including the ability to measure profile and surface roughness, automatically detect and characterize defects, pitting, small radii and many more. For hard-to-reach areas, the updated Replica Transformation feature enables intuitive, direct and in-situ measurement of replica material to eliminate the traditional down-time waiting for lab results with GelSight's fast report creation options streamlining workflows.

Applications Include
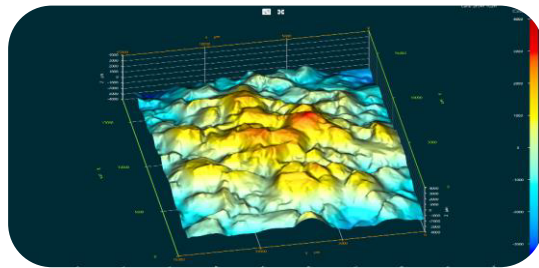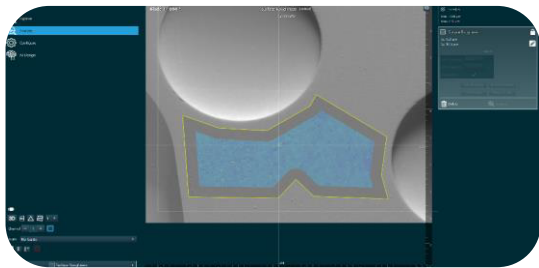
- Profile Roughness
- Surface Roughness
- Pitting / Corrosion
- Texture / Profile
- Shot Peen Finish

- Scratches / Cracks
- Nicks / Gouges
- Fastener Flushness
- Hole Diameter
- Fillet Relief
- Burr Height

- Radius of Curvature
- Profile Geometry / Angles / Slopes
- X-Y-Z Dimensions
- Weld Bead
- Direct Replica Measurement
  with image transformation

GS Max Condensed Specifications

Dimensions	6.7cm x 6.7cm x 24.5cm	2.6" x 2.6" x 9.6"
Weight	727 g	1.6 lbs
Field of View	14.6 mm x 8.3 mm	0.6" x 0.3"
Roughness Range	0.2-20 µm	7.9 –790 µin
x-y Accuracy (G250 Calib. Plate)	3 µm + 0.2%	0.1 thou + 0.2%
z Sensitivity	< 1 µm	0.04 thou
z Accuracy (1-50µm)	300 nm + 4%	0.01 thou + 4%
Capture Speed	500 mS	
Operating System	Windows 10 and above	
Interface / Power	USB-C	
Data Export Format	PDF, STL, CSV, TMD, X3P	
Optional Computer	Microsoft Surface Pro, 12.3"	

Aerospace & Military   Automotive   Forensics   Additive Manufacturing   Research & Academia   Chemical   Oil & Gas