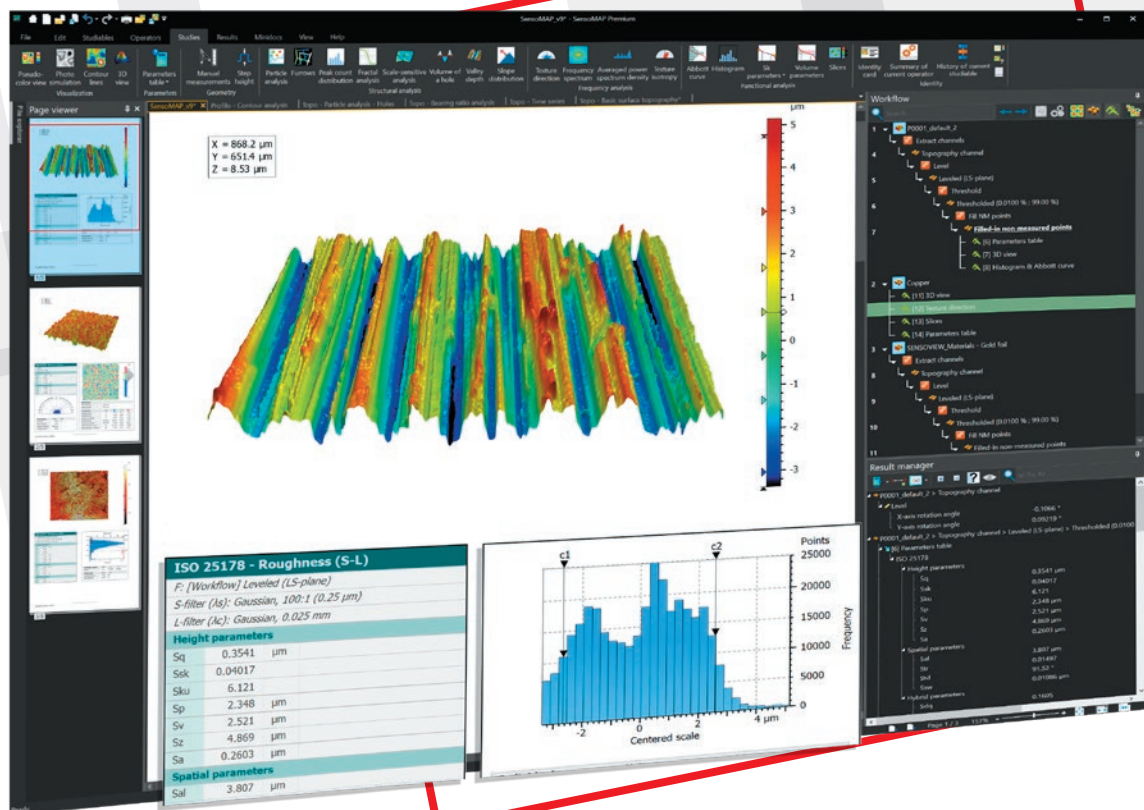


SENSOFAR METROLOGY



SensoMAP v9
software specification



SensoMAP



Designed for use with the broadest range of research and industrial applications, SensoMAP software is the perfect surface imaging, analysis and metrology solution that is fully integrated with Sensofar 3D optical profilers. It includes:

- Imaging – visualization of surface data using cutting-edge imaging technology and intelligent filters.
- Metrology – analytical studies in accordance with the very latest standards and methods.
- Report Creation – creation of detailed, accurate multi-page surface analysis reports in a smart desktop publishing environment with powerful automation features to speed up analysis.

SensoMAP is a powerful 3D analysis, documentation and reporting tool. It contains a complete and comprehensive set of tools, surface transformations and measurements focused on obtaining 3D data for your sample. These include:

- Position adjustment (level, mirror, rotate...)
- Surface correction (spatial filtering, fill non-measured points...)
- Filtering (form, roughness, outliers...)
- Surface extraction (profile, contour, area, layers...)
- Surface comparison and stitching
- 2D and 3D advanced visualization modes
- Geometrical analysis (distance, step height, contour...)
- Structural Analysis (fractal, volume...)
- Roughness Analysis (2D and 3D roughness parameters)
- Frequency Analysis (Fourier, wavelet decomposition...)
- Functional analysis (Abbot curve, Rk parameters, histograms...)



SensoMAP is an scalable software available on two product levels:

SensoMAP Standard provides the features required for standard surface imaging and analysis. It comes with numerous optional modules that can be added at any time for advanced and specialized applications.

SensoMAP Premium is a much more powerful solution in terms of features and includes all the modules except: *Advance contour*, *Shell extension*, *Lead (Twist) analysis* and *Scale-sensitive fractal analysis*. Other highly-specialized modules that can be added if required.

SensoMAP Software Network License allows to use the software on several computers on a network. The number of computers that can use the software simultaneously depends on the number of "seats" purchased with the network license.

General Features

GENERAL FEATURES	Standard	Premium
(KERNEL) Desktop publishing & Template document	✓	✓
Template document on all data of a folder	✓	✓
Can load studiabiles	✓	✓
Can save studiabiles	✓	✓
Can export a document	✓	✓
Can export as image	✓	✓
Can export results in a CSV file	✓	✓
Enable Multi Documents Interface (MDI)	✓	✓
Can lock a document	✓	✓
Videos, Tutorials, Quick Reference Guide	✓	✓
Welcome dialog	✓	✓
Tolerances Limits (pass/fail)	✓	✓
Table of Results	✓	✓
Minidocs	✓	✓
Masterpages	✓	✓
Document pages Viewer	✓	✓
File Explorer & Favorite Folders	✓	✓
Floating Panels	✓	✓
Result Manager	✓	✓
Can Use Results As Settings	✓	✓
Can Use Quick Pre-processing	✓	✓
Can Use Quick Extractions	✓	✓
Palette Manager	✓	✓
Languages : EN, FR, DE, SP, IT, BR, PL, JP, CN, KR, RU	✓	✓
Third party Plug-ins	✓	✓
Global management of non-measured points	✓	✓
Management of absolute data	✓	✓
Min and Max values of axes	✓	✓
Web Update detection enabled	✓	✓
Acquisition interface for workshop profilers		✓
Digital Surf file formats	✓	✓
Basic set of file formats	✓	✓
Image formats	✓	✓
File formats of 2D Profilers		✓
File formats of 3D Profilers		✓
File formats of Optical Microscopes (WLI, PSI, SCM)	✓	✓
File formats of Form Measurement instruments		✓
Profilometry product	✓	✓
Topography product	✓	✓
Statistics enabled		✓
Profiles enabled	✓	✓
Series of profiles enabled		✓
Parametric profile enabled		✓
Surfaces enabled	✓	✓
Series of surfaces enabled		✓
Surfaces+Images enabled	✓	✓
Multilayer surfaces enabled		✓
RGB Images enabled	✓	✓
Series of RGB Images enabled	✓	✓



STUDIES OF THE STATISTICS MODULE	Standard	Premium
Table of statistical parameters		✓
Trend plot		✓
Scatter plot		✓
Histogram		✓
Box plot		✓

General Features

GENERIC SERIES STUDIES	Standard	Premium
Trend plot		✓
Scatter plot		✓
Histogram		✓

STUDIES ON PROFILES	Standard	Premium
Profile Curve	✓	✓
Filtered Profiles (Roughness and Waviness)	✓	✓
Abbott-Firestone Curve	✓	✓
Fractal Analysis		✓
Graphical study of Rk parameters		✓
Rk Profiles		✓
R & W Motifs (ISO 12085)		✓
Distance Measurement	✓	✓
Area of a hole / Peak	✓	✓
Morphological Envelopes		✓
Step Height	✓	✓
<ul style="list-style-type: none"> Step Height option with automatic and ISO5436 mode 	✓	✓
Frequency Spectrum		✓
Averaged Power Spectrum Density		✓
Contour Analysis		✓
Continuous Wavelet Decomposition		✓
Parameters Table	✓	✓
<ul style="list-style-type: none"> 2D (P+R) Parameters, Group A: Base parameters 	✓	✓
<ul style="list-style-type: none"> 2D (P+R) Parameters, Group B: old parameters 		✓
<ul style="list-style-type: none"> Waviness parameters of groups A and/or B 	✓	✓
<ul style="list-style-type: none"> 2D Parameters, Group C: Automotive 		✓
<ul style="list-style-type: none"> 2D Parameters, Group D: Form Deviation 		✓
<ul style="list-style-type: none"> Plastic Parameters AF, PG, CH 		✓
WD filtered profile		✓

Profiles

Profiles

OPERATORS ON PROFILES	Standard	Premium
Level	✓	✓
Extract Area (Zoom)	✓	✓
• option autozoom on flat portion		✓
Mirror (Symmetries)	✓	✓
Standard Filter		✓
Morphological Filter		✓
Filter the Fourier Spectrum		✓
Remove Form		✓
Retouch Profile Points		✓
Fill in Non-measured Points	✓	✓
Threshold		✓
Resample		✓
Autocorrelate		✓
Intercorrelate two profiles		✓
Discrete Wavelet Filtering		✓
Build Series of Profiles		✓
Join two Profiles		✓
Subtract profiles		✓
Patch Profiles		✓
Convert Profile into a Parametric Profile		✓
Edit Axes	✓	✓
Use Matlab		✓
Remove Microroughness	✓	✓
Helix Angle Correction		✓
Sliding Profiles		✓



Series of Profiles

STUDIES ON SERIES OF PROFILES	Standard	Premium
Profile Curve		✓
Abbott-Firestone Curve		✓
Step Height		✓
<ul style="list-style-type: none"> Step Height option with automatic and ISO5436 mode 		✓
Parameters Table		✓
<ul style="list-style-type: none"> 2D (P+R) Parameters, Group A: Base parameters 		✓
<ul style="list-style-type: none"> 2D (P+R) Parameters, Group B: old parameters 		✓
<ul style="list-style-type: none"> Waviness parameters of groups A and/or B 		✓
<ul style="list-style-type: none"> 2D Parameters, Group C: Automotive 		✓
<ul style="list-style-type: none"> 2D Parameters, Group D: Form Deviation 		✓
<ul style="list-style-type: none"> Plastic Parameters AF, PG, CH 		✓

OPERATORS ON SERIES OF PROFILES	Standard	Premium
Level		✓
Extract Area (Zoom)		✓
<ul style="list-style-type: none"> option autozoom on flat portion 		✓
Mirror (Symmetries)		✓
Fill in Non-measured Points		✓
Resample		✓
Build Series of Profiles		✓
Edit Axes		✓
Use Matlab		✓
Remove Microroughness		✓
Convert Series of Profiles into Surface		✓
Profile extraction		✓
Resample T-Axis		✓
Edit T-Axes		✓
Automatic lateral alignment of profiles		✓
Concatenation		✓

Parametric Profiles

STUDIES ON PARAMETRIC PROFILES	Standard	Premium
Contour Analysis		✓

OPERATORS ON PARAMETRIC PROFILES	Standard	Premium
Mirror (Symmetries)		✓
Patch Profiles		✓
Helix Angle Correction		✓
Rotate		✓
Extract Area (Zoom)		✓

Surfaces

STUDIES ON SURFACES	Standard	Premium
Pseudo-colour View	✓	✓
Photo Simulation	✓	✓
Contour Lines	✓	✓
3D View	✓	✓
• 3D Surface Flight + AVI exportation	✓	✓
Abbott-Firestone Curve	✓	✓
Slices	✓	✓
Fractal Analysis		✓
Peak Count Distribution		✓
Volume of a Hole / Peak	✓	✓
Graphical study of Sk parameters		✓
Graphical study of Volume parameters		✓
Distance Measurement (& horizontal angle & position)	✓	✓
Step Height	✓	✓
Parameters Table	✓	✓
3D parameters, group A (Height & Bearing ratio)	✓	✓
• 3D parameters, group B (Spatial & Hybrid)		✓
• 3D parameters, group C (Functional)		✓
• 3D parameters, group D (Features)		✓
• 3D parameters, group E (Form)		✓
Frequency Spectrum		✓
Averaged Power Spectrum Density		✓
Valley Depth Measurement		✓
Furrows		✓
Texture Direction		✓
Texture Isotropy		✓
Particle analysis		✓



Surfaces

OPERATORS ON SURFACES	Standard	Premium
Level	✓	✓
• option Include/Exclude zones	✓	✓
Level Line by Line		✓
• option Include/Exclude zones in line correction		✓
Partition and level	✓	✓
Extract Area (Zoom)	✓	✓
Mirror (Symmetries)	✓	✓
Rotate	✓	✓
Standard Filter (Gaussian & Spline)	✓	✓
Morphological Filter		✓
Spatial Filter	✓	✓
• Option edge filters + custom filters		✓
Threshold	✓	✓
Resample	✓	✓
Retouch Surface Points	✓	✓
Fill in Non-measured Points	✓	✓
Remove Form	✓	✓
• option Include/Exclude zones	✓	✓
Extract Profile	✓	✓
• option Circular & User-defined path		✓
Subtract two Surfaces	✓	✓
Divide two Surfaces		✓
Patch Surfaces		✓
Stitch		✓
Filter the Spectrum		✓
Threshold the Spectrum		✓
FFT Spectrum		✓
Autocorrelate		✓
Intercorrelate two surfaces		✓
Wavelet Transform		✓
Edit Axes	✓	✓
Tip Deconvolution		✓
Correct Lines by Interpolation		✓
Build of a Series of Surfaces		✓
Convert Surface into a Series of Profiles		✓
Build a Surface-Image	✓	✓
Extract (Horizontal) Contour		✓
Use Matlab		✓
Map Local Properties		✓
Remove Outliers	✓	✓
Multi-plane form removal		✓
High/low-pass Filter	✓	✓
Math function		✓
Structure detection		✓
Remove Microroughness	✓	✓

Series of Surfaces

STUDIES ON SERIES OF SURFACES	Standard	Premium
Pseudo-colour View		✓
3D View		✓
• 3D Surface Flight + AVI exportation		✓
Abbott-Firestone Curve		✓
Parameters Table		✓
• 3D parameters, group A (Height & Bearing ratio)		✓
• 3D parameters, group B (Spatial & Hybrid)		✓
• 3D parameters, group C (Functional)		✓
• 3D parameters, group D (Features)		✓
• 3D parameters, group E (Form)		✓
Grid of images of the series		✓

OPERATORS ON SERIES OF SURFACES	Standard	Premium
Level		✓
• option Include/Exclude zones		✓
Extract Area (Zoom)		✓
Mirror (Symmetries)		✓
Spatial Filter		✓
• Option edge filters + custom filters		✓
Resample		✓
Fill in Non-measured Points		✓
Build of a Series of Surfaces		✓
Use Matlab		✓
Math function		✓
Remove Microroughness		✓
Extraction from the series		✓
Extraction of a series of profiles from the series		✓
Transversal profile extraction		✓
Series Resampling		✓
T-Axes edition		✓
Lateral alignment of surfaces		✓
Reduction of the number of images by KL transform		✓



Surfaces
+ images

STUDIES ON SURFACE + IMAGE	Standard	Premium
Pseudo-colour View	✓	✓
3D View	✓	✓
• 3D Surface Flight + AVI exportation	✓	✓
Abbott-Firestone Curve	✓	✓
Slices	✓	✓
Volume of a Hole / Peak	✓	✓
Distance Measurement (& horizontal angle & position)	✓	✓
Step Height	✓	✓
Parameters Table	✓	✓
• 3D parameters, group A (Height & Bearing ratio)		✓
• 3D parameters, group B (Spatial & Hybrid)		✓
• 3D parameters, group C (Functional)		✓
• 3D parameters, group D (Features)		✓
• 3D parameters, group E (Form)		✓
Texture Direction		✓
Particle analysis		✓
Grid of images of the series		✓

OPERATORS ON SURFACE + IMAGE	Standard	Premium
Level	✓	✓
• option Include/Exclude zones	✓	✓
Partition and level	✓	✓
Extract Area (Zoom)	✓	✓
Mirror (Symmetries)	✓	✓
Rotate	✓	✓
Standard Filter (Gaussian & Spline)	✓	✓
Spatial Filter	✓	✓
• Option edge filters + custom filters		✓
Threshold	✓	✓
Resample	✓	✓
Retouch Surface Points	✓	✓
Fill in Non-measured Points	✓	✓
Remove Form	✓	✓
• option Include/Exclude zones	✓	✓
Extract Profile	✓	✓
• option Circular & User-defined path		✓
Patch Surfaces		✓
Stitch		✓
Edit Axes	✓	✓
Build a Surface-Image	✓	✓
Extract (Horizontal) Contour		✓
Use Matlab		✓
Map Local Properties		✓
Remove Outliers	✓	✓
Multi-plane form removal		✓
High/low-pass Filter	✓	✓
Surface extraction	✓	✓
Layer fusion	✓	✓
Image Conversion/extraction	✓	✓
Color inversion	✓	✓

Multilayer Surface

STUDIES ON MULTILAYER SURFACE	Standard	Premium
Pseudo-colour View		✓
3D View		✓
• 3D Surface Flight + AVI exportation		✓
Abbott-Firestone Curve		✓
Distance Measurement (& horizontal angle & position)		✓
Step Height		✓
Parameters Table		✓
• 3D parameters, group A (Height & Bearing ratio)		✓
• 3D parameters, group B (Spatial & Hybrid)		✓
• 3D parameters, group C (Functional)		✓
• 3D parameters, group D (Features)		✓
• 3D parameters, group E (Form)		✓
Texture Direction		✓
Particle analysis		✓
Grid of images of the series		✓

OPERATORS ON MULTILAYER SURFACE	Standard	Premium
Level		✓
• option Include/Exclude zones		✓
Level Line by Line		✓
• option Include/Exclude zones in line correction		✓
Partition and level		✓
Extract Area (Zoom)		✓
Mirror (Symmetries)		✓
Rotate		✓
Standard Filter (Gaussian & Spline)		✓
Spatial Filter		✓
• Option edge filters + custom filters		✓
Threshold		✓
Resample		✓
Retouch Surface Points		✓
Fill in Non-measured Points		✓
Remove Form		✓
• option Include/Exclude zones		✓
Extract Profile		✓
• option Circular & User-defined path		✓
Stitch		✓
Edit Axes		✓
Tip Deconvolution		✓
Correct Lines by Interpolation		✓
Use Matlab		✓
Map Local Properties		✓
Multi-plane form removal		✓
High/low-pass Filter		✓
Math function		✓
Surface extraction		✓
Layer fusion		✓



STUDIES ON IMAGES	Standard	Premium
True Colour View	✓	✓
Distance Measurement (& horizontal angle & position)	✓	✓
Texture Direction		✓
Particle analysis		✓

Surfaces
+ images



OPERATORS ON IMAGES	Standard	Premium
Extract Area (Zoom)	✓	✓
Mirror (Symmetries)	✓	✓
Rotate	✓	✓
Spatial Filter	✓	✓
Retouch Image Points	✓	✓
Stitch		✓
Edit Axes	✓	✓
Build Series of Images		✓
Build Surface+Image Studiabile	✓	✓
Extract (Horizontal) Contour		✓
Convert Image into Surface	✓	✓
Enhance Image	✓	✓
High/low-pass Filter	✓	✓
Scale Image	✓	✓
Color inversion	✓	✓
Resample		✓
Structure detection		✓




















STUDIES ON SERIES OF IMAGES	Standard	Premium
True Colour View	✓	✓
Grid View of the Series of Images		✓

Series of
images

OPERATORS ON SERIES OF IMAGES	Standard	Premium
Extract Area (Zoom)	✓	✓
Edit Axes	✓	✓
Build Series of Images		✓
Color inversion	✓	✓
Resample		✓
Extract Image		✓
Shift Surfaces		✓
Multifocus Reconstruction		✓
Resample T-Axis		✓
T-Axes edition		✓

Optional
Modules

Optional	
Included	

MODULES	Standard	Premium
Advanced Profile		
Contour		
Advanced Contour		
Automotive		
Advanced Topography		
Fourier & Wavelets		
Shell Extension		
Shell Topography		
Colocalization		
Lead Analysis (Twist)		
Particle Analysis		
Scale-Sensitive Analysis		
4D Series		





SENSOFAR is a leading-edge technology company that has the highest quality standards within the field of surface metrology

Sensofar Metrology provides high-accuracy optical profilers based on confocal, interferometry and focus variation techniques, from standard setups for R&D and quality inspection laboratories to complete non-contact metrology solutions for in-line production processes. The Sensofar Group has its headquarters in Barcelona, known as a technology and innovation hub in Europe. The Group is represented in over 30 countries through a global network of partners and has its own offices in Asia, Germany and the United States.

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