Rhopoint TAMS 3

Measure and improve surface appearance

Complete process control - from raw material to final clear coat

Rhopoint TAMS 3 gives transport and automotive manufacturers full surface control in any step of the work flow. Measure incoming material roughness. Check waviness on E-coat and primers to link early process material finish directly to final visual quality using perception-based metrics that match what customers see. Use roughness and texture parameters to refine the surface to the target appearance without over-processing

Assess quality independent of surface colour

Uniquely, Rhopoint TAMS 3 rates dark colours, light colours and metallics on a single visual scale aligned with real customer perception, proven by independent visual studies. This eliminates unnecessary rejects and rework.

Surface mapping, orange peel and defect analysis

High-resolution topography shows orange peel, waviness, texture and defects throughout the process. Full images and height maps quantify surface defects such as craters, fish eyes, pinholes and inclusions.

Simple, intuitive numbers for operators

Easy to understand parameters of Quality and Harmony make surface evaluation and reporting straightforward.

Versatile deployment

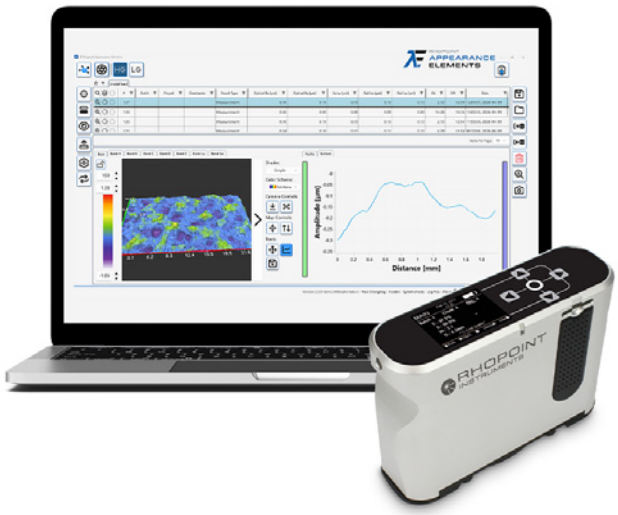
Rhopoint TAMS 3 is a portable hand-held instrument for rapid spot checks on the line or in the lab.

It can be connected to Rhopoint Appearance Elements software for advanced analysis, batch processing and reporting. The instrument supports both high gloss mode for painted surfaces and low gloss mode for primers and substrates.

What Rhopoint TAMS 3 measures

By combining high-resolution topography with perception-based metrics in a portable hand-held system, Rhopoint TAMS 3 provides complete appearance assessment from early process stages through to final finish.

Rhopoint Appearance Elements Software



Rhopoint Appearance Elements provides a practical environment for working with Rhopoint TAMS 3 data, with an emphasis on maps rather than isolated numbers.

Each reading is stored together with its full 2D and 3D surface representation, so Quality and Harmony values can be viewed in direct relation to the underlying height field, waviness distribution and local defect features.

Engineers can inspect colour-coded topographical maps, extract line profiles and compare regions or batches.

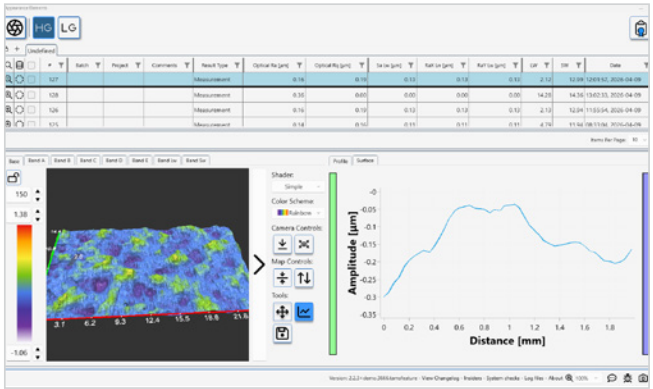
Measurement sets are organised in jobs and batches, with basic statistical tools and filters to support investigations on substrates, E-coat, primers and topcoats.

Numeric results, images and maps can be saved together for traceable reporting and integration into existing quality systems.

Extensive quantitative control

Rhopoint TAMS 3 as a metrology system extends quantitative control beyond clear coat into every stage of the paint and pretreatment process.

From raw material and electrocoat through primer and colour, manufacturers can now directly link waviness and optical ISO 25178 roughness values such as Sa or Ra at early steps to bridge between modern surface specifications and perceived texture.



Maps and values

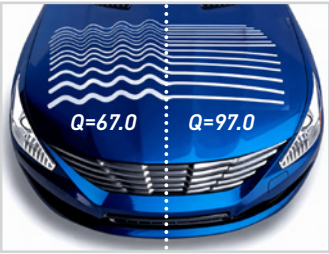
Rhopoint TAMS 3 reports correlated established appearance parameters such as 20° gloss, DOI, and Long Wave (LW)* and Short Wave (SW)* values, supporting continuity with existing specifications while delivering advanced measurement capabilities.

Topographic maps and optical profilometric measurements enable visualization of common paint defects, for example inclusions or a pinholes with sub-micron resolution.

** Rhopoint TAMS texture bands are Rhopoint parameters and are not endorsed by, affiliated with, or identical to any third-party instrument or trademarked scale.*

Perception parameters

Rhopoint TAMS 3 parameters describe how a smooth, reflective surface actually appears to a human observer, rather than just reporting traditional gloss or waviness values. Together they quantify image clarity, contrast, texture and panel-to-panel matching, so users can link measured numbers directly to visible differences in perceived quality.



Quality (Q)

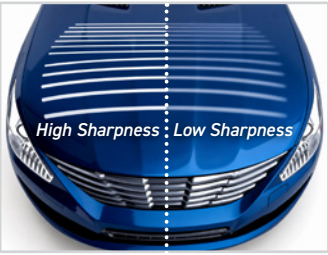
Composite quality index (0–100) that combines contrast, sharpness, waviness into a single score describing how clean, deep and mirror-like a high gloss surface appears. This composite, easy-to-understand index enables sales teams and customers to quickly compare results, track improvements over time, and clearly demonstrate that defined quality targets and standards are being met.

Harmony (H)

The Harmony Index shows at a glance how well different parts of a product visually match each other in real life. A low H value means the surfaces look perfectly coordinated and high class. A higher value signals visible mismatches that can weaken the overall impression.

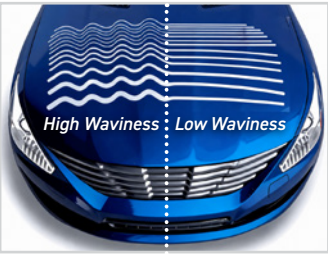
Contrast (C)

Contrast is based on the colour brightness of the base paint and shows how clearly structures and reflections on a surface shape the product's visual impact. Dark colours have a stronger influence on this perception, with a greater impact on perceived surface quality.



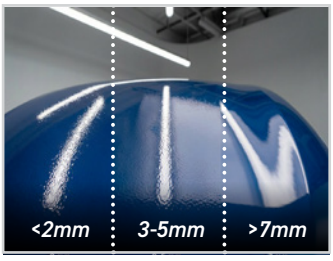
Sharpness (S)

The Sharpness Index describes how clearly edges, textures and fine details are perceived on the surface, closely linked to its DOI (Distinctness of Image). A high Sharpness Index together with high DOI signals a crisp, high definition finish that looks precise and premium, while lower values indicate a softer, more diffuse appearance.



Waviness (TAMS) (W)

Waviness in TAMS describes how gently or strongly the surface undulates, and how these waves influence gloss and reflections across the product. Higher values indicate more visible texture, while surfaces with lower values are perceived as flat and smooth.



Dimension (D)

The Dimension Index describes how large or fine the surface structures appear to the human eye and how this perceived "texture size" shapes the overall look of the product. It captures typical orange peel effects in a single value, making it easy to specify, compare and optimize surface appearance. Low values below 2 mm indicate a surface dominated by short wave texture, while larger values above 7 mm indicate a surface dominated by longer wave texture.

RoboTAMS

Automated non-contact appearance measurement for the production line

RoboTAMS is a version of Rhopoint TAMS developed specifically for non-contact measurement of automotive body panels, body-in-white and E-coat surfaces in the production line.

It is mounted on a standard-size industrial robot, allowing the instrument to be positioned automatically to take multiple measurements at almost any point on the vehicle body or transport component.

With a fast capture time of less than two seconds, RoboTAMS can effectively measure within an automated quality control setup and offers significant throughput and advantages over hand-held measurements.

RoboTAMS is supplied with a full SDK, making it suitable for integration into a wide range of factory environments and control systems. It can be implemented within different production architectures to support automated appearance monitoring, process control and quality assurance.