Evaluate Special Effect Automotive Parts 60% Faster

The MA-5 QC multi-angle spectrophotometer, along with EFX QC software, improves color evaluation accuracy as well as tracks data for process improvement on automotive parts.

Challenges

When working to an automotive manufacturer's specification, suppliers must verify color accuracy and prove compliance. This process can introduce many challenges.

- Special effect paints and coatings change in appearance based on the type of light and angle of reflection.
- Paint defects and mismatched color on parts can delay the speed to market and impact on average up to 600 vehicles.
- Suppliers need the quantifiable data from a color measurement device to verify and prove compliance, but existing instruments are heavy and quickly cause operator fatigue.
- With optics in the center, these devices are difficult to align in tight intersections and can distort the shape of curved and flexible parts during the measurement.
- Wasted time equates to wasted money, so quality control must happen fast.

Solution

Together, X-Rite's MA-5 QC multi-angle spectrophotometer and EFX QC software help part suppliers quickly evaluate metallic and special effect finishes on automotive parts and communicate clear expectations with manufacturers.

The MA-5 QC digitally communicates tolerances and measurement procedures with EFX QC software and collects, tracks, and reports color data to streamline approvals and identify areas for improvement. Built with quality control managers in mind, the solution can identify a paint defect early in the manufacturing process and avoid unnecessary repair costs.

This lightweight and compact instrument enables one handed operation and minimizes the fatigue associated with other multi-angle devices on the market. With optics on the tip, it is easy to align on shaped and flexible surfaces and tight intersections, while LED indicator lights ensure the instrument is correctly positioned on the sample.

The MA-5 QC includes a touch screen display with an intuitive interface for simple data input and analysis. It can be programmed for automated jobs to collect multiple data points and provides green and red pass/ fail tolerance lights for fail-proof analysis. It is the first device on the market to help users identify whether the temperature of a sample is affecting color data with an on-screen temperature preview.

Results

The MA-5 QC and EFX QC software help part suppliers quickly evaluate metallic and special effect automotive finishes. Here's how:*

- 60% faster data collection per measurement.*

- 0.02 dE repeatability on white for consistent color data.

- Within 0.16 dE inter- instrument agreement when tested on 196 solid, metallic and pearlescent effect paints.

- 50% lighter at <22 ounces (615 grams).*

- 45% more compact.*

*Compared against X-Rite legacy and competitor devices with 5 or more measurement angles. Size based on external volume dimensions.

How it Works

1. Automotive manufacturers provide suppliers with digital color data that describes both color and special effect appearance.

2. Suppliers use the MA-5 QC to measure the finished part and compare it with the digital data for the specified color using indicator lights to ensure proper device alignment on the sample.

3. Using a pre-programmed process, the MA-5 QC guides the location for each measurement to collect multiple data points.

4. The MA-5 QC compares the measured data with the digital color specification and produces a green checkmark if the color is within tolerance or a red checkmark if not.

5. The connected EFX QC software tracks color measurement data to gauge quality and look for areas of improvement to increase profitability.

Achieve Color Success

The MA-5 QC multi-angle spectrophotometer with EFX QC software offers a fast, user-friendly, cost-effective solution to validate whether produced parts are within manufacturer specification before shipment.