

The Drive for Color

Solutions for automotive color management

x-rite
right on color



Color is a Difference Maker

Whether establishing a corporate identity, a brand, a new product, color has the power to illuminate and engage to create an attractive first impression that separates your image or product from everyone else's. It is, for many, the defining element of your product's personality.

Defining your color and ensuring its accuracy every time it appears is fundamental to long-term success. X-Rite is a global leader in quantitative color measurement and visual analysis. We pioneer innovative solutions that are scalable from a single location to a global, multi-facility enterprise. The results are improvements in productivity, time-to-market, and profitability.

X-Rite's product portfolio offers solutions which connect color accurately throughout the entire process, ultimately: reducing costs through product scrap, production downtime, off-color product shipments and rework; simplifying by managing the color process through a global supply chain or multiple locations, and; preventing corporate brand damage by bid list exclusions due to poor quality ratings.

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Bringing Color Into Focus

There are cars, trucks, vans virtually everywhere in the world. As markets continue to grow, the needs of consumers come more sharply into focus. This is especially true when it comes to color, because color is a fundamental selling point that represents an individual's attitude about themselves and the vehicle they drive.

What this means for automotive OEMS and component suppliers is that getting the colors right is as important as getting the right colors. There are a number of key issues to consider when measuring and evaluating color.

Product development: Whether designing a body panel, an accessory, or a new coating system, color development is an important part of the process. Colorimetric measurement provides the needed consistency from initial design, through prototyping, to finished product.

Process harmony: Not only must a color respond to the desires and demands of the consumer, but there must also be harmony among individual components. This means that color compatibility between horizontal and vertical parts of the vehicle is essential. Equally important is the relationship between add-on parts, such as bumpers, mirror housings, trim and corresponding body panels. Color variations or flaws can become especially obvious on models with panels that require very tight fits to each other.

Multiple source uniformity: Parts may often come from different plants, or even different suppliers, to a central assembly site. A precise color program—from defining color to communicating color—is critical to ensuring that colors match.

Materials color variability: In recent years, new materials have been introduced to enhance vehicle appearance, improve durability, reduce weight, and increase safety. Each has a different composition that may require a different coating system to achieve a color match. Accurate color standard and measurement tools are necessary to achieve these exact matches.

Aftermarket products: A major part of the industry, consumers often look for OEM-specified replacement parts for repairs. Exterior and interior parts may often be produced at a separate location or for vehicle models or colors that are no longer a major part of an OEM line. It is important that these replacement components are consistent with the original vehicle color scheme.

X-Rite offers tools for validating color at every process step



Given the increasing importance of color and appearance to vehicle preference, it would seem that color measurement would be an integral part of the automaking process. Yet, traditional color measurement is typically five percent or less of a total production run and most often performed only at final inspection.

There's a better, more productive solution. Integrating X-Rite color measurement technology into your operation increases color control and promotes repeatability and improved efficiency. Consider these advantages:

- Eliminate common visual errors caused by inadequate lighting or human estimate
- Integrate a consistent, precise color program into your operation
- Measure color in real time to reduce scrap and rework
- Achieve color harmony among locations and suppliers
- Compile data for quality analysis and production review
- Reduce production time
- Improve quality analysis and control

Tools designed to meet a range of process requirements.

Non-Contact In-Line Solutions. Choose from basic color verification systems to robot-based multi-angle devices to ensure the integrity of the painting process and vehicle color quality.

Solutions: VeriColor Spectro, VeriColor System, VeriColor Solo, CarFlash

Portable Instruments. Primarily used direct at line to make color decision there wherever this is required – close to the line or even at the customers or suppliers place. This avoids to take samples (with the need to destroy material) and reduces waiting time.

Solutions: MA68II, SP64, SP62, SP60, 964, 962

Benchtop Instruments. Primarily used in the central lab for validation of incoming goods and very often used for research projects and or used if special requirements are given such as measurement of transparent products or whiteness control of uv including materials.

Solutions: Color i7, Color i5

Software Applications. Instrument functionality can be enhanced by adding formulation, quality control, profiling functions, color matching, or color management packages. Web-based editions are also available for server-based environments requiring simultaneous data viewing and communication across the globe.

Solutions: X-RiteColor Master, Color iQC, NetProfiler

Visual Products. X-Rite offers two daylight simulation technologies – SpectraLight filtered tungsten halogen technology for critical color decisions and seven-phosphor fluorescent technology for relative color assessment. Both offer unparalleled precision, enabling your entire supply chain to deploy lighting products and complementary calibration services for maximum reliability and effectiveness.

Solutions: SpectraLight III, Judge IIS, Munsell Color FM 100 Hue Test

Non-Contact In-Line Solutions



VeriColor™ Spectro
The VeriColor Spectro is a cutting-edge, non-contact spectrophotometer that delivers in-line, non-contact, absolute (L*a*b*) color measurement and identification.

VeriColor™ Color Verification and Identification System
Designed to meet the exacting color process control requirements of automotive parts suppliers, the VeriColor system merges the non-contact advantages of industrial grade color sensors with the precision of laboratory spectrophotometers. VeriColor is a complete system that features a programmable hub to interface with up to six sensors.

VeriColor™ Solo
VeriColor solo is a single "hubless" standalone industrial grade color sensor that allows color measurement in assembly and sorting operations.

CarFlash Online Multi-Angle Spectrophotometer
This non-contact, multi-angle unit collects colorimetric data on special effects coating. It works in concert with an industrial robot to ensure fully automated collection of quality control information.

Portable Instruments



MA68II Multi-Angle Spectrophotometer
The ultimate portable, multi-angle instrument for accurate measurement of metallic, pearlescent, and special effect finishes. It's the accepted standard of the global automotive industry.

SP Series of Portable Sphere Spectrophotometer
The SP series offers a full line of spherical hand held spectrophotometers designed to meet the performance and feature capabilities necessary for diverse color measurement applications.

900 Series of Portable 0/45 Spectrophotometer
A series of 0/45 handheld spectrophotometers designed to address a wide range of industry specific color needs, ensuring consistent color quality in the plant, laboratory or field.

Benchtop Instruments



Color i7 Benchtop Spectrophotometer
A full-featured reference instrument for reliable digital workflow and error-free measurement of textile, plastic, coated, liquid, and brightened samples. An embedded NetProfiler system combines with self-diagnostic, and auto-configure functions ensuring consistent, precise performance.

Color i5 Benchtop Spectrophotometer
A flexible instrument for accurate, high-volume production measurement of a wide variety of samples sizes, shapes, textures, and opacity levels. An embedded NetProfiler system combines with self-diagnostic, and auto-configure functions ensures consistent, precise performance.

Software Applications



X-RiteColor® Master

A versatile color formulation and quality assurance software package that provides immediate access to essential color control data throughout the manufacturing process. The package includes the ability to access, analyze, and report data from multiple angles of color information from various types of instruments.

Color iQC Color Quality Control Software

A flexible, job-oriented software package that streamlines color measurement, reporting and recording to maintain a centralized, cost-efficient process. Whether approving lab dips, production samples, or finished goods, Color iQC adapts to workflow to make color fast and easy.

NetProfiler

An exclusive advance in color measurement, NetProfiler enables customers to exchange spectral color data with confidence. By minimizing the variance between color measurement data — either from one instrument to the next or from one year to the next — NetProfiler controls the critical variable in managing the color reproduction process.

Visual Products



SpectraLight® III Color Viewing Booth

The most accurate simulation of natural daylight available, this patented filtered tungsten halogen light source is available in single, dual, or multiple overhead luminaire configurations.

The Judge® IIS Color Viewing Booth

A patented seven-phosphor design that provides the closest match to natural daylight available in a fluorescent source.

Harmony Rooms

Sometimes referred to as fit and finish areas, these custom-designed viewing rooms simulate the consumer experience and allow for the evaluation of final product for color harmony between parts and components coming from multiple vendors.

Munsell Color FM 100 Hue Test

The Farnsworth-Munsell 100 Hue Test from Munsell Color is the industry standard for determining color discrimination and identifying color deficiencies. This portable, 15-minute test and scoring software analyze how accurately your visual evaluators see color.

Comprehensive Laboratory Service

For evaluating color performance and measurement standards and X-Rite maintains fully accredited laboratories throughout the world. Each is accredited in accordance with the recognized International Standard ISO / IEC 17025 and also meets additional program requirements in the field of calibration.

In accordance with the A2LA evaluation process, accreditation is granted to laboratories to perform a wide range of units, including:

- Model 962, 964, 939 968, 948, 938
- Model SP61, SP62, SP64
- Model 504, 508, 518, 528, 530
- Model MA68 & MA68II
- Model Color i7, Color i5
- Optical Radiation for 2300 K and 2856 K lightboxes (SPL family)



The Color of Success

The automotive market continues to present numerous challenges and opportunities. Color continues to play a significant role. OEMs, assembly operations, component and coating suppliers.

X-Rite offers you the expertise and technology to make the most of your color opportunities.

For more information, visit **xrite.com**.

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