

COLORBOND® prepainted steel

PAINT SYSTEM FUNDAMENTALS

High-performance paint systems typically consist of two key components:

1. **Resin** – The polymer binder that forms the backbone of the coating.
2. **Pigments** – The colorants that impart hue and contribute to durability.

Bluescope Steel's current COLORBOND® steel for Progressive Metals currently offers a palette of 20 carefully curated colors. While not exhaustive, this range is optimized to balance aesthetic appeal with long-term performance. Selecting appropriate pigment and resin combinations is essential, as inferior choices may result in premature fading or dissatisfaction over time.

Ongoing research is continuously improving the resilience of these coatings. It's important to recognize that all exterior paint systems will experience color change over time due to exposure to sunlight and weather. This natural aging process occurs as coatings degrade and pigments are lost or retained unevenly.

With over five decades of industry experience, COLORBOND® ensures that strict standards are applied to maintain consistent and predictable color performance. By selecting durable pigment and resin combinations, the product's resistance to fading is maximized, contributing to greater overall sustainability. A longer-lasting finish reduces the need for replacements, supporting a more environmentally conscious solution.

Technological advancements in paint chemistry allow eligible products to be covered by warranties against common issues such as flaking and peeling across various building applications.

TESTING AND QUALITY CONTROL

One of the defining features of COLORBOND® pre-painted steel is the extensive investment in research, product development, and quality assurance testing. Multiple outdoor exposure sites—strategically located to represent a range of climate conditions—allow for real-world evaluation of durability and corrosion resistance.

Figure 1: Outdoor Exposure – Hotracks, Rockhampton, QLD.



Color performance testing is also carried out on **hot racks** that mimic real-world installation scenarios, such as coated steel installed on insulated roofing (see **Figure 1**). These structures replicate the thermal and UV stresses encountered during service, providing reliable insight into how coatings will perform in practice.

The Weathering Laboratory coordinates a comprehensive exposure program and supports this with **accelerated laboratory testing**. Using cutting-edge equipment like **Hot QUVA** and **Solar Eye** chambers (see **Figure 2**), the lab simulates long-term weathering in a condensed timeframe. Additionally, **Q-FOG corrosion cabinets** are used to evaluate how coatings resist rust and degradation under extreme moisture and salt exposure.

Figure 2: Hot QUVA with Solar Eye technology – used to test accelerated rates of weathering.



These rigorous procedures ensure every product meets stringent performance benchmarks before reaching the marketplace.