FMH Stainless

ColourTex® Finishes and the Light Interference Phenomena

RIMEX METALS (UK)

Specialists in Metal Finishes

Dynamic metal finishes suitable for:

Architecture • Elevators • Engineering
Machinery • Refrigeration • Signage • Transport

Australia | China | France | Germany | Middle East | South Africa | Spain | UK | USA

Where Does Colour Come From?

The colour of the objects that we see is largely due to the way those objects interact with light and ultimately reflect or transmit it to our eyes. The colour of an object is not actually within the object itself. Rather, the colour is in the light that shines upon it and is ultimately reflected or transmitted to our eyes. We know that the visible light spectrum consists of a range of frequencies, each of which corresponds to a specific colour. When visible light strikes an object and a specific frequency becomes absorbed, that frequency of light will never make it to our eyes. Any visible light that strikes the object and becomes reflected or transmitted to our eyes will contribute to the colour appearance of that object.

The Colouring Process

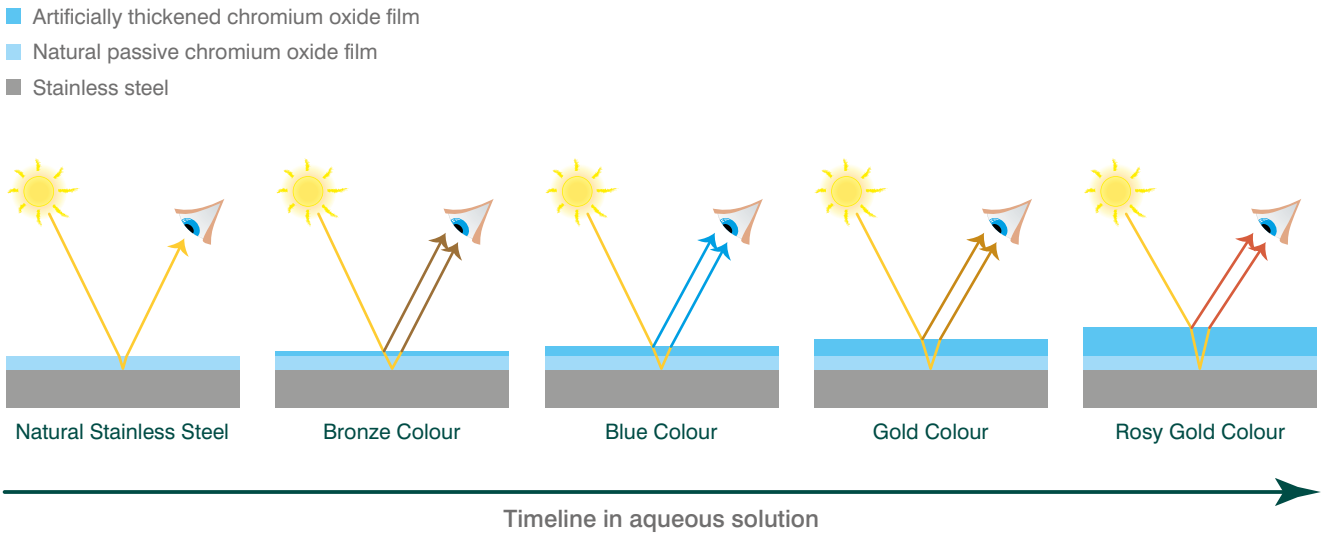
By default, stainless steel already has a natural passive and transparent chromium oxide layer that gives the material its corrosive resistance. Rimex achieves its dynamic ColourTex® product range through a dipping process that increases the thickness of this chromium oxide layer.

The stainless steel is immersed into a hot aqueous solution contained in heated tanks. A natural reaction leads to a thickening of the chromium oxide layer which in turn leads to light interference effects between the surface of the film and the surface of the stainless steel. This results in a breakdown of reflected white light and creates a perception of colour. The perceived colour moves through a spectrum of colours as the thickness of the chromium oxide layer is increased on stainless steel as shown in **Figure 1.**

The thickness of the chromium oxide layer (and consequently the colour resulting from the process) is monitored in production through the changes in electrical resistance accross the sheet that is recorded in millivolts (mv).

The increase in the thickness of the chromium oxide layer on the ColourTex® (coloured) stainless steel ranges from 0.02 - 0.36 Microns.

Figure 1: The ColourTex® Colouring Process.



Our Product Range

The range of standard colours that Rimex offer through this process in the order of the chromium oxide film thickness is champagne, bronze, blue, gold, rosy gold and black.

Even more tones and other various effects of colour can be achieved by altering the finish of the material prior to colouring. For example; a satin (grit) finish will produce a different visual effect to say a mirror or Granex™ (bead-blasted) finish. Other effects can include the combination of the ColourTex® process with one of the many textured patterns in the OneTex® range (single-sided pattern) or our embossed range (double-sided pattern). Our MetalArt™ (bead-blasted etching) products can also have the ColourTex® process applied.

Advantages of ColourTex® (Coloured) Stainless Steel

- The colour will not crack or flake on fabrication.
- The coloured metal can be laser cut without issue.
- Thickened chromium oxide film leads to enhanced corrosion performance.
- The colour will not fade in UV light.
- The visible ‘colour’ is a ‘living colour’ that will change with the angle of inspection and environmental lighting.
- Unlike other metals, there is no leaching of chemicals into the ground and ground water from ColourTex® stainless steel.

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