

Designing the finish

Pre-finished steels for domestic appliances



The Sector

Corus offer a range of specially formulated finishes for domestic appliances such as wrap-arounds and panels for washing machines, refrigerators, dishwashers, tumble driers, domestic central heating boilers, freezers and microwave ovens.

The Product

Selection of the topcoat depends upon the properties and surface finish that is required for the appliance, Colorcoat® smooth, textured or structured Polyester or Colorstelve® can be selected. If a *Colorcoat* panel is used on a 'mix & match' basis with powder-paint coated panels, then *Colorcoat* Structured Polyester is more suitable because its finish resembles a powder-paint finish. Since finish, colour and gloss are particularly important considerations in this market; users should consult Corus about the kind of finish for their particular products.

Surface finish is critically important in the domestic appliance market. Welding is not normally recommended for joining *Colorcoat* since the heat from welding can affect the coating finish. There are other methods of joining *Colorcoat* appliance polyesters on which Corus can advise. Various reverse-side coatings are available.

Selection and Use

Colorcoat and *Colorstelve* are ready to use. They give manufacturers superior design and production flexibility and are durable and easily maintained.

Smooth, textured and structured polyester products have good resistance to heat, detergents and other household substances such as foodstuffs, shoe polish and lipstick, which can stain ordinary paint finishes. The highest specification substrate is used according to corrosion resistant requirements.

The flexibility of the paint also allows the material to be drawn or subjected to tight bends.

Panels and wrap-arounds can be mass produced because *Colorcoat* appliance polyesters have good scuff resistance. For more difficult production conditions, they can be supplied with a protective strippable film.

The range has been designed with specific properties for particular applications in the industry. Therefore, it is essential that prospective users should choose the right product. Corus can help with this choice.

The methods of designing and manufacturing products in *Colorcoat* and *Colorstelve* are well established and careful attention to these methods will enable users to get the best productivity and efficiency from them.

Substrates

Substrate can be selected according to corrosion resistance requirements, although Corus have recently completed extensive work on special coatings to give good corrosion resistant for cold reduced steel.

Design and Fabrication

Substituting post paint with pre-finished steel normally requires some modification to product design, although usually minor. Corus offers free, confidential advice for designing and manufacturing with pre-finished steel. The key is to design with pre-finished in mind from the start allowing flexibility of manufacture.

Using pre-finished steel offers you environmental, health and safety, streamline and cost efficient benefits together with the durability and surface finish that is so vital in this sector.

Start with the finish and contact us for more information.

Products

Product	Colour	Finish
Colorcoat high gloss Polyester	White or silver	Smooth with high gloss
Colorcoat Structured Polyester (Elk)	White or silver	High gloss with subtle texture
Colorstelve Polished Finish	White or silver	High gloss with 'orange peel' texture
Colorcoat Textured (Krinkle)	White or silver	Textured with excellent scratch resistance

Note: Consult Corus for Colors outside these ranges

Substrate

Substrate	Qualities available	Standard	Corrosion resistance
Cold Reduced	DC01 + DC04	BS EN 10 130 : 1999	Low
Galvatite®	DX51 + DX53	BS EN 10 142 : 2000	High

Typical properties

Property	Colorcoat High Gloss Polyester and Colorcoat Structured Polyester	Colorstelve Polished Polyester	Colorcoat Krinkle Polyester
Nominal organic coating thickness (µm) ECCA T1, BS 3900/C5	25	35	25 - 35
Specular Gloss (60°), ECCA T2, ASTM D523	75%	90% +	20%
Scratch resistance, BS 3900/E2	>3000g	>4000g	>3500g
Minimum bend diameter (T = substrate thickness), ECCA T7, BS 3900/E1	0.5T	0.5T	0.5T
Corrosion resistance (salt spray), ECCA T8, ASTM B117-73 (Galv substrate)	500h	250h	250h
Corrosion resistance (humidity), B3900/F2 (Galv substrate)	1000h	1000h	1000h
Maximum continuous operating temperature	120	100	120

Note: All figures given in the table above are typical properties and do not constitute a specification.

Dimensional limits

Thickness (mm)		Maximum substrate	Width (mm)	
≥	≤	CR	Galvatite DX51	Galvatite DX53
0.400	0.499	1300	1300	N/A
0.500	1.200	1420	1420	1420

Note: Consult Corus about dimensions marginally outside those shown in the table.

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