ColorCore Laminate: Fabrication

Formica ColorCore® is a high quality surfacing material. Most of the conventional tools, machines and methods used in the fabrication of normal laminates apply, but some additional techniques are needed to take advantage of the full potential of Formica ColorCore.

Cutting

Formica ColorCore can be cut with the same standard tools and equipment as used for other Formica® decorative laminates. Cutters and saws should all be TCT and must be kept sharp to avoid chipping.

The slightly more brittle nature of Formica ColorCore may result in chipping on the underside when cutting on circular saws, so take precautions to minimise the risk: lower the saw in the saw bench; reduce the throat of the saw by placing a piece of hardboard under the cut; change the saw blade for one with negative angle teeth; or simply allow an extra amount for edge trimming.

When cutting Formica ColorCore by hand using a fine toothed saw, support the sheet well on both sides of the cut to prevent tearing.

Large sheets may be cut by scoring, but take extra care to prevent shattering.

Cutting Formica ColorCore on a laminate slitter is not recommended.

Bonding and Pressing

Formica ColorCore may be hot or cold pressed. Follow all the normal procedures for bonding Formica decorative laminates.

The solid colour has no dark edge to mask the glue-line. Tight joints at right-angle intersections, and the use of non-pigmented or transparent drying adhesives, are essential to achieve a visually satisfactory result.

Substrates

Formica ColorCore may be used with any substrate suitable for normal Formica decorative laminate.

Adhesives

Almost all normal laminate adhesives can be used to bond Formica ColorCore, except that contact adhesives (particularly hand applied) are not recommended. These flexible adhesives cannot properly restrain Formica ColorCore, which can lead to stress cracking and edge lifting unless special precautions are taken.

There is no dark edge to disguise the glue-line, so the wrong choice of adhesive may result in the end product being visually unacceptable. Clear drying PVA or UF adhesives give the best results, but require sustained pressure.

If the use of contact adhesives is unavoidable then perimeter bonding, using a combination of adhesives, may be used to good effect. The technique involves bonding the main area of the panel with contact adhesive, and bonding a 25mm - 30mm perimeter strip with PVA or UF. Cramp or tape down the edges to produce a tight joint. Use this technique around the edges of cut-outs.

Keep the glue-line as thin and even as is consistent with achieving a sound bond. This is particularly important at the arrises, where a thick glue-line would spoil the desired monolithic effect.

Avoid pigmented and dark coloured adhesives such as Resorcinol, since the resulting coloured glue-line would be clearly visible in the finished product.

If the use of dark coloured adhesives is unavoidable, some modification to the normal bonding sequence may be necessary to enable the final piece of Formica ColorCore to be bonded with a more suitable adhesive. For instance, hot-melt or neoprene could be used for pre-edging, and the main panel area bonded with PVA.

Post-applied edges require more care in fabrication and choice of adhesive to produce an acceptable result. If a seamless joint effect is required, do not use hot-melt and contact adhesives for post-applied edging.

Backing

Where optimum flatness is required, use the same Formica ColorCore laminate on both sides. Where a degree of bow can be tolerated (within BS 4965 limits), or for panels fixed to a rigid substructure, use Formica ColorCore Balancer for backing.

Bending

Formica ColorCore can be bent, but only to large radii because of its inherent stiffness. Strips 60mm wide can be cold bent to a minimum radius of 150mm, but the minimum radius increases as strip width increases. Heat facilitates bending, but Formica ColorCore is not postformable. For postformed components the solid seamless appearance can be achieved by capping the ends in Formica ColorCore.

Machining and Finishing

To achieve aesthetically acceptable results it is critical to flush off the first piece of laminate to be applied, whether it is the edge or the main surface area. Trim the overhanging Formica ColorCore absolutely flush with the surface of the substrate, otherwise visible gaps will be evident at the arrises.

Trim arrises with hand trimmers in the usual manner, using either bevelled or small radius TCT cutters. For best results, hand finish with a fine file and a cabinet scraper. Generous bevels and radii up to 2.5mm may be produced at the arrises, but such large bevels and radii require more finishing to blend with the surrounding surface.

When filing or sanding the edges flush with the substrate, always work towards the substrate to prevent surface chipping. Sanding belts should be no coarser than 100 grit.

When trimming Formica ColorCore down to the surface of normal laminate, take extra care not to expose the brown core of the latter at the intersection.

Special Effects

The solid colour of Formica ColorCore opens up a wide variety of decorative effects achieved by techniques such as multi-layering, engraving, routering and sandblasting, or by combinations of any of these. The use of hardwood edges in conjunction with Formica ColorCore can also create very interesting details.

Multi-layering

Multi-coloured sandwiches of Formica ColorCore can be bonded together and then sawn at 90° to the glue-line. These laminate strips can then be used for pre-lipping the edges of table tops etc for a solid laminated look.

Laminated work of this kind should be bonded with an epoxy adhesive and flat pressed. Before bonding, thoroughly sand the decorative surfaces of the inner laminations to provide a good key for the adhesive.

Engraving and Routering

The surface of Formica ColorCore may be engraved or routered to a maximum depth of 0.8mm. This method achieves interesting effects ranging from straightforward sign-writing to intricate monochrome patterns and designs.

Designs in two or more colours can be achieved by a combination of multi-layering and routering. This technique involves bonding one colour on top of another then routering through to reveal the underlying colour or colours. Adhesives and bonding procedure should be the same as for multi-layering.

Cutting through the surface releases tension to some degree, so it may be necessary to machine the reverse side to maintain panel stability and prevent bowing.

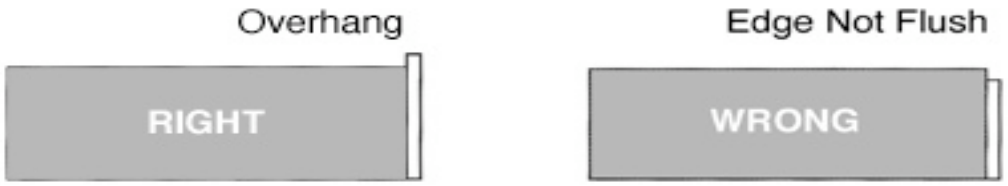
A slight colour change may be noticeable in the machined areas due to differences in gloss levels, particularly with dark colours. This difference in appearance can be minimised on narrow engraved lines by applying a light silicone-free oil. Alternatively, large routered areas may be scraped and polished using progressively finer grades of glass paper, then given a final buffing with T-Cut or Brasso.

Sandblasting

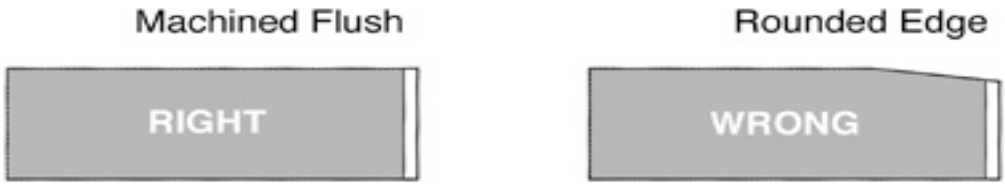
Sandblasting also creates interesting decorative effects in Formica ColorCore, with surface texturing ranging from subtle changes in gloss level to deep sculpting to a maximum depth of 0.8mm.

Fabrication Guidelines

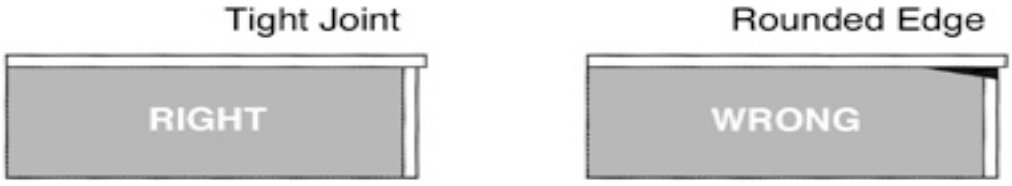
To produce a tight joint, allow up to 6mm overhang when applying the first piece of Formica ColorCore to the edge of the substrate for subsequent machining flush with the surface.



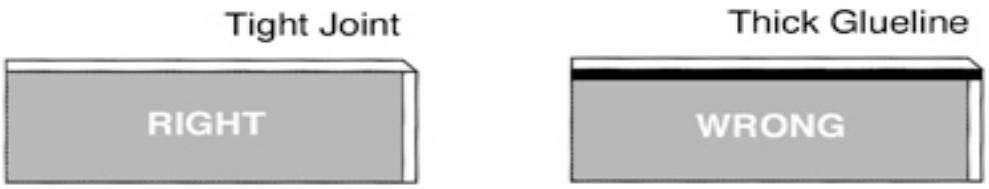
To avoid chipping, use sharp tools to machine Formica ColorCore flush with the substrate. When sanding, always work towards the substrate, using a fine grit sanding belt. Take care not to round-over the edge as this will result in a wide glue-line.



Apply a thin (but sufficient) even coating of adhesive to the surface laminate, again allowing a slight overhang. Use appropriate bonding pressure to achieve a tight glue-line.



Machine the finished edge of the surface laminate with a bevel or radius cutter, and file or scrape smooth.



Colour Matching: please note

The special characteristics of Formica ColorCore laminate mean that an exact match between a Formica ColorCore product and the equivalent laminate in the Formica Plain Colours Range may not always be possible. Formica Limited recommends that you examine actual laminate samples of both products before committing yourself to specification or fabrication.