Appendix 1

1.1 GENERAL SITE WORK NOTES

Storage

Always store sheets face to face with a sheet of protective paper between the faces.

Bulk stocks should be stacked flat and completely supported.

Avoid low humidity & extreme temperature.

Handling

Keep work area clean to avoid marring and scratching.

Avoid contact with abrasive surfaces or grit. Lift sheets carefully, do not slide on the decorative surface. Do not use as a work surface.

Preconditioning

Prior to fabrication laminate and substrate material should be allowed to reach moisture equilibrium under the same conditions for 48 hours.

The recommended environment to achieve this is 20-25°C and 50% relative humidity.

Fabrication

Laminates can be bonded to a variety of substrates including particle board, medium density fibreboard, plywood, hardboard, corestock, paper honeycomb and aluminium. Substrate surface must be of sound strength and free of sanding defects to ensure good adhesion to laminate and to minimise "telegraphing" of defects. Do not bond thin laminates directly to plaster, plasterboard or concrete. Laminates of less than 2mm thickness should be bonded fully supported to substrate.

For the correct adhesive for your applications refer to the Adhesive Selection guide page 139 or your nearest Branch of The Laminex Group.

To obtain maximum dimensional stability, unframed panels should have a backing sheet bonded to rear surface.

Ensure sufficient adhesive and mechanical pressure is used to provide a first class bond. We recommend a minimum pressure of 3kg/cm^2 for contact adhesives and 6kg/cm^2 for hard setting glues.

Hand Sawing

A panel saw gives the best result because of the relatively small set of the teeth.

The back stroke should be light and the cutting stroke at approximately 45° to the face of the board.

Keep the saw sharp.

Machine Sawing

Circular saws with 3-4 teeth per 25mm with only a slight set and a saw blade tip speed of 3000 metres/minute will give a clean cut. For long production runs tungsten carbide tipped blades 300mm to 350mm in diameter and operating at 3000 to 3500 RPM are recommended to achieve this. Always cut with face up to minimise surface chipping.

Jigsawing

A clean cut can be achieved with a jigsaw using hardened blades with average teeth and slow feed speed. Non-carbide blades will dull quickly. Ensure sheet is adequately supported while cutting.

Note:
Jigsaws cut with an upward stroke, therefore, in this instance cut from the back of the sheet.

Metal cutting band saws with 32 teeth per 25mm are ideal for shapes.

Hand Planing

A perfect edge finish can be made with a hand plane. Specially hardened plane irons, such as the Titan high-speed type, require less sharpening than standard irons.

Machine Planing

Vertical spindle moulding machines with tungsten-tipped cutters operating at 6000 RPM are ideal for edge finishing and for making perfect mitres without any edge chipping.

Portable Routing

Portable routers with twin fluted tungsten carbide cutters and replaceable tips are recommended for on-site edge trimming or cut-outs for sinks, basins, etc.

Drilling

High-speed twist drills, either hand or power operated, will cut clean holes. Because of the hard melamine surface, a small pilot hole should be drilled for carpenter's bits.

Fast cut types give the best results. For larger holes, 18mm diameter and over, a centre bit should be used.

Screwing

Where mechanical fixing of any laminate sheeting is required always use round head screws and cup washers. Drill the hole slightly larger than the shank of the screw to allow for laminate movement. Do not overtighten screws or fracture of the laminate surface may occur. Nails should never be used.

CRACKING OF LAMINATE

Intermittent cracking of laminate on fabricated components, particularly with cut outs or internal L shape corners, can be a problem occuring particularly with changes in climatic conditions.

Laminates will grow in moist humid conditions and shrink in dry conditions. Shrinkage is accelerated if heat is also a factor, therefore rapid shrinkage may occur in hot dry conditions unless components have been preconditioned prior to fabrication.

Ragged edges with underside chip out or square cut internal corners provide weak spots for cracking to commence as the laminate shrinks.

The main actions to prevent this type of cracking are:

- Laminate and substrate should be allowed to equilibrate for up to 72 hours before fabrication.

- All cut outs must have clean chip free edges and small (2-3mm) internal radius at corners.
- Ensure that machined edges of cut outs are sanded smooth and that the top edge of the laminate is arrissed to eliminate the possiblity of stress.
- L-shaped sections must have a small (2-3mm) chip free radius at internal corner.
- Sufficient glue and pressure must be used to ensure a first class bond, or alternately use a hard setting glue such as urea or epoxy around perimeter of cut out or corners.

This cracking is a recognised characteristic of laminates and will never be totally eliminated therefore it is important that you and your customers understand why it occurs and wherever possible take the necessary precautions to reduce the chances of it happening.

OPENING UP OF JOINS

As detailed under 'Cracking of Laminate', laminates will grow in moist humid conditions and shrink in dry hot conditions. This needs to be allowed for in fabrication where laminate sheets are being joined, particularly in areas subject to extreme climatic changes.

The main actions to be taken to minimise laminate movement are:

- Laminate and substrate should be allowed to equilibrate for up to 72 hours before fabrication.

- Sufficient glue and pressure must be used to ensure a first class bond, or alternatively use a hard setting glue such as urea or epoxy both sides of any join and around each laminate panel perimeter.

- If contact adhesive is used then the adhesive coverage must be in excess of 85% on both laminate and substrate surfaces.

- If installing laminate on site allow it to acclimatise for up to 72 hours before fabrication. If site is to have air conditioning then this should be in operation before laminate is installed.

- Where two fabricated components are to be joined such as at a Mason's mitre, a complete spread of silicon sealant or Colorfill should be applied to one surface of the components before clamping them together.

Special Note: Oven and Hot Plate surrounds

Laminate can be used on bench tops around ovens or hot plates, however it is recommended that any cut outs for hot plates should have an appropriate heat absorbing tape applied to the perimeter of the cut out to help avoid cracking as detailed in 'Cracking of Laminate'.

Regarding oven surrounds there are some basic requirements which need to be followed.

Gas appliances: The installation of gas appliances is covered by Plumbing code AG 601. Basically any vertical surface surrounding a cooktop extending from 10mm below the hob, to 150mm above, if closer than 200mm from the burner, must be non-combustible. Non combustible means products like metal, ceramic tiles etc. Laminates are combustible and therefore not permitted.

Always install gas appliances as per manufacturers instructions. When installed correctly, laminate products are suitable.

Electric appliances: There is no national regulation regarding the surrounds of electric appliances, however the appliance must conform to AS 3172 and part of this standard is the inclusion of installation instructions for each particular appliance.

Always install electrical appliances as per manufacturers instructions. When installed correctly, laminate products are suitable.

Therefore with electric appliances the manufacturers installation instructions become the standard and must be adhered to at all times. The only requirement for surrounding surfaces is that they can withstand temperatures up to 90°C which means that laminates are suitable for this application with electric appliances.

However, in all instances it is the customers' responsibility to ensure that all regulations are adhered to when installing laminates in these applications.