

DENACO IMPORTS LIMITED

The home of Polydur

Polydur Laminating System – Working Procedures



Mould and Tool Preparation

Models should be prepared in the usual way as with any resin system. Ebalta T2 mould release has been found to be successful with most materials (except styling clay) and is applied by soft cloth and polished after solvent evaporation. A minimum of two applications is recommended.

T2 can also be used to take Polydur laminates from Polydur. The Polydur laminate requires no sealing, but three applications of T2 are advised.

Styling clay requires special consideration and varies with different styling clay products, suppliers should be able to make recommendations in respect of this. Ebalta MK2 has proved suitable for most styling clays but tests should be done with individual styling clay types to determine suitability. Kolb Claypeel has also proved suitable for taking epoxy faced laminates from clay.

Gel coats – Polydur Surface SGP/L

It is important that the powder (SGP) is added to the liquid (SGL) and is mixed mechanically. This will produce a creamy thixotropic mix, which should be applied with a soft longhaired brush (provided).

A 500gm mix covers approximately 0.4m.

It is only necessary to 'paint' a thin layer, as this is subsequently 'wet out' with the same material in the Polydur laminate. It is suggested that it be applied more liberally in corners to aid subsequent laminating. The main function of this surface (unlike conventional gel coats) is only to keep the glass layer from the surface of the tool.

This thin layer will cure (dependent upon temperature) within 30 minutes and will be observed to turn white uniformly. Laminating can be commenced at any time after this, giving ample time to prepare for the laminating procedure.

Epoxy Surface OH25 / KP25

It is recommended that during the application of OH25 a test area is gelled in order to determine de-mould time.

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Laminating

Prior to laminating, the Polydur gel coat SGP/L or KP25 / OH25 surface should be 'wet out' with the laminating mix, Polydur LG/EM25, to ensure bonding of the gel coat to the laminate.

Polydur Emulsion EM25 and Polydur LG are mixed by adding the powder to the liquid. It is suggested that a typical total mix should be

1500gm (1000gm LG / 500gm / EM25)

for larger laminates

3000gm (2000gm LG / 1000gm / EM25)

Mechanical mixing is recommended.

The result is a low viscosity mix, which will wet out fabrics, chopped strand mat or Neomat.

1500gm mix laminates 0.5m² using 300gm Neomat.

A typical laminate of two layers of 300gm Neomat should weigh approximately 8.0kg / m² maximum. Weights higher than this denote excess resin to glass ratio. 300gm Neomat is recommended for most applications and large areas can be covered quite quickly. It can be observed that Neomat has a looped side. When using two layers, it is suggested that the layers should be loop side to loop side. If three layers are used, the third layer should be loop side down in order to have a smooth back surface. Care should be taken as with any resin system not to 'over wet' the glass. Any excess should be rolled out, using a lamb's wool type roller, which can be washed out in water after use. Neomat should be 'wet out' off the job.

As Polydur adheres to itself at any time, there is not the usual constraint in timing when laminating the first layer. A uniform laminate thickness is important. Overlapping of laminates should be avoided because thick and thin sections may lead to distortion of the laminate, as with other resin systems. Whilst little or no exotherm occurs with the system using two layers, thick sections may cause local exotherm. Two layers of 300gm Neomat are considered suitable for most laminate requirements.

On laminates where added rigidity is required, local stiffening ribs can achieve this. These can be produced by laminating one strip of Neomat over pre-cut foam strips, to form a box section, again avoiding excess resin. Particular attention must be paid to flanges because these aid subsequent de-moulding and add rigidity and stability to the laminate. Denaco honeycomb foam sheet is ideal for this application.

The Polydur laminating system requires 20°C for optimum results. At this temperature, the laminate will be observed to cure within 2 to 3 hours by turning uniformly white and can be de-moulded at this stage. De-moulding is best achieved by using air pressure through holes or valves in the laminate to relieve the vacuum produced. To avoid damage to the model by drilling such holes, these are best provided during laminating. Suitable size pegs or valves can be placed on the model and laminated around, leaving valves in situ or pegs that can be removed. On de-moulding, it will be observed that the gel coat is no longer white. This requires a further 2 hours to cure, at which time the laminate can be considered cured and ready for use.

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Mould preparation and gel coat application



Preparation of clay model



Mixing of SGP/L



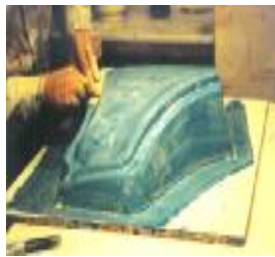
Application of SGP/L



Application of SGP/L



Application of epoxy on clay



Application of coupling coat



Application of mould release to Polydur

Mould preparation and gel coat application



Mixing Polydur LG



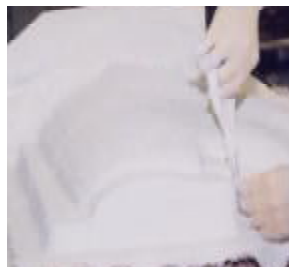
Rolling out Neomat



Application of LG



Application of LG



Trimming Neomat laminate



Final Polydur LG Laminate



Finished product