RACKET MANUFACTURE

Prepreg

Manufacture of today's composite rackets is labour-intensive, and involves many processes beginning with 'prepreg'.

Prepreg is a ready-to-mould tape, or sheet of fibres, impregnated with partially cured resin. This allows sheets to be stored (usually refrigerated) and used when necessary.

The sheets are cut to size and shape for hand lay-up.

Mould

Several sheets are laminated together with fibre alignment of successive sheets angled to provide multi-directional strength properties. The laminated sheet is then rolled around a plastic tube capable of being subsequently pressurised with air. Local areas are reinforced, and the assembly is fitted into a mould to form the main 'key-hole' shape of the frame together with a 'bridge-piece' to complete the loop of the head. The mould is closed and heated at 150°C for several minutes while the plastic tube is inflated to provide moulding pressure until the resin is cured.

After removing from the mould, the surface of the frame must be sanded to remove excessive resin and to produce a smooth surface.

Drill holes

Once the frame is moulded, string holes are drilled into the raw frame. Different rackets have different string patterns and so each model of racket will have a slightly different configuration.

Cosmetics

The frames are then painted with the base colours and graphics (“decals”) are transferred onto the racket.

Fit butt

The butt cap is stapled to the end of the handle, prior to the grip being fitted.

A grommet strip and individual grommets are added and the frame is strung to complete the racket.