



Welding Technology

As the face sheets matrix material is polypropylene (PP), it is possible to weld the panel with PP welding rod using our patented technique (patent number WO2008119965). Buying our panels gives you a license to use our technique in the construction of your product.

Welding is the easiest method of joining the panels; as it is fast and extremely strong involving no metal parts. It also makes the joins water-tight, an advantage for many of the panels' applications.



Welding Extruder

A hand-held polymer extruder is used to join the panels as shown on the right. The extruder can either be bought or rented from Omnia (CS).

The Welding Extruder gun (5kg) – Mini CS has a welding capacity of max. 1.1 kg/h. This product is a preferred technique for joining material over 6mm thickness. The welding rod is inserted into a small hand held plastic extruder, plasticized and released to join the material. This is softened with a jet of hot air to allow bonding.



Shipment Includes:

- ▶ Build-in-stand
- ▶ Metal Protective case
- ▶ 2 Free Welding shoes (if required)

How is it done?

To weld, the extruder is first pre-heated to the desired melt flow temperature (between 240°C and 255°C for PP; the air temperature at the nozzle exit should be around 300°C). This requires the hot air blower to be set between 4 and 5 depending on the speed of welding and the conditions being used in (colder conditions will require a slightly higher setting).

Once the optimum temperature has been reached (the display will show what temperature the extruder is at), at this point the PP welding rod can be fed into the extruder.

The extruder works in a similar way to a drill in that squeezing the trigger spins the screw inside the extruder, causing the polymer to melt and pass out of the nozzle. The harder the trigger is squeezed, the faster the polymer is fed. The first bit of polymer that comes from the nozzle is normally contaminated and should be removed to ensure a clean weld. It is also best to heat the nozzle by extruding vertically onto a scrap surface for 10-15 seconds prior to beginning the weld.

Lace Market House, 54-56 High Pavement, Nottingham, NG1 1HW
Tel: +44 (0)115 937 6666 Fax: +44 (0)115 937 6622
sales@omnia-cs.co.uk www.omnia-cs.co.uk