

Instructions

Replas sheeting can be sawed, routed, drilled and machined using standard equipment used for timber, and can be heat welded using specialised plastic welding equipment. We can cut components out of full panels to the exact shape and size using our CNC router. Please supply a dimension sketch or CAD drawing (DWG or DXF), and details of material and quantity required, and we will provide a quotation to you during the next working day.

Cleaning sheeting

HDPE sheets, and parts made from HDPE sheets, should be cleaned using a high pressure washer or soap and water. In case of graffiti, use a commercial graffiti removal product according to the manufacturer's instructions, and rinse off thoroughly with water. Solvents are OK to use for cleaning, but DO NOT use any abrasive cleaners such as JIF or scouring pads / steel wool as the surface will be permanently scratched.

UV

Carbon black is added to all our black materials at the rate recommended by the manufacturer for protection against UV degradation. All coloured raw materials have UV-resistant pigments and a chemical UV stabilizer added during compounding at the maximum recommended addition rate for the best possible UV protection. All black and coloured sheets are covered by our 15 year warranty against structural failure when used outdoors. This structural warranty does not cover fading. If excessive fading or colour change is experienced within the first 12 months of outdoor exposure, we will replace the faulty parts.

Note: Natural materials are not suitable for long term use outdoors. Natural sheets are covered by our 15 year warranty against structural failure only when used indoors.

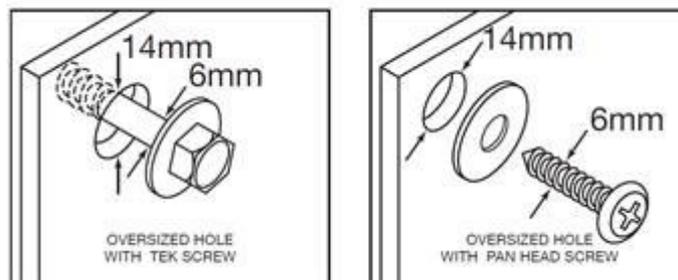
Thermal Properties

The coefficient of thermal expansion of HDPE is approx. 1.2 mm per metre of sheet length for every 10 degrees of temperature change.

A 2.4 m sheet will vary in length by roughly 12 mm over a 40 degree temperature range from approximately 10 degrees in winter to 50 degrees in the sun in summer.

To allow the 2.4x1.2 m sheet to expand and contract without restriction, we recommend pre-drilling clearance holes in the sheet that are 8 mm larger than the diameter of the screws or bolts.

If the screw shank is 6 mm diameter, the clearance hole in the sheet must be 14 mm diameter as shown below. All screws must be positioned at the top centre of their clearance holes. Pilot holes are not big enough to allow movement.



Screws must not be so tight that they restrict movement. Washers can be used to cover the clearance holes. Countersunk screws must not be used as they embed into the sheet and restrict movement.

At the edges of the sheet there must be an expansion gap of 8mm against a fixed object or 16mm between two sheets.

If the above recommendations are not followed, any damage to the sheets or the supporting structure will not be covered by our warranty.

Further Information

We compression mould sheets from both recycled and virgin HDPE and PP materials at our manufacturing facility in Carrum Downs. All coloured sheets are made from 97-98% recycled HDPE with the addition of UV resistant pigments and UV stabiliser that protects the polymer from UV degradation. Black sheets are made from 100% recycled HDPE or PP with the addition of carbon black for UV resistance. We also make to order virgin black HDPE sheets and virgin natural HDPE and PP sheets.

We buy only Australian made raw materials. Our virgin materials are supplied by the two local manufacturers QENOS (HDPE) and Lyondell Basell (PP). Our recycled materials are sourced from a number of companies around Australia that specialize in recycling of plastics.

All recycled materials are derived only from industrial sources (not post-consumer) to ensure product quality and consistency. We do not use any fillers or foaming agents in our raw materials to retain the original mechanical and chemical properties of the polymer. Each batch of material is tested for contamination before use. All scrap generated during trimming and machining of our sheets is recycled back into black material pellets and re-used. We also collect scrap from our sheets for recycling from a number of our customers.

In our production process we control the sheet thickness by accurately measuring the weight of raw material in each mould, which results in sheet thickness tolerance of +/-5% of nominal thickness. Each sheet is checked for thickness and defects after manufacture. Each sheet is trimmed to size or cut into parts on our CNC routers. CNC cutting tolerance is +/-0.5 mm.

PP is harder than HDPE and has better scratch resistance. PP is 20% more rigid than HDPE, but is also more brittle, easier to crack or break. PP has higher temperature resistance than HDPE (120 degrees Celsius vs 100 degrees Celsius). HDPE is about 20% more flexible than PP, but HDPE is almost unbreakable. HDPE is easier to machine and cut. HDPE has much better long term UV resistance.

There is no reliable adhesive suitable for gluing HDPE. We recommend using mechanical fasteners like screws or bolts. Brackets and wood screws could be used from underneath if visible fasteners on top are not acceptable. We make PP sheets only from recycled black and virgin natural materials. We make HDPE sheets from recycled black, recycled coloured, virgin black and virgin natural materials. Black and coloured materials are UV stabilised for long term outdoor use. They are covered by a 15 year structural warranty. Natural materials are not UV stabilised and will break down outdoors over time. Recycled materials are not approved for food contact applications, but virgin materials are.

We can make any custom colour subject to a minimum order of 1500 kg of raw material. The price is the same as standard colours. Weight per sheet is on the price list, which you can use to work out the MOQ of sheets of a given thickness. Lead time for custom colours can be up to 6 weeks. We can also mix any combination of standard colours as per the attached photos.

You can screw fix into the sheet. We recommend using coarse threaded galvanised or stainless steel self-tappers (wood screws). We recommend drilling a pilot hole equal to the minor diameter of the thread or the screw shank. It is possible to use screws designed for chipboard without pilot holes in HDPE, but screws should not be less than 10 mm from the edge of the sheet. Screws can be driven into the edge of the sheet if the sheet is at least 15 mm thick and a correct size pilot hole is used.

If attaching sheets to a rigid structure, e.g. a frame or posts, the holes in the sheet must be oversized to allow for thermal expansion and contraction. As a guide, the holes must be 8 mm larger than the screws or bolts used to attach a full 2.4x1.2 m sheet. Countersunk screws cannot be used. Washers should be used to cover the oversized holes. The screw spacing will depend on the sheet thickness. For 7 mm – 10 mm we recommend every 300 mm. For under 12 mm-15 mm we recommend every 400 mm. For 19 mm or thicker we recommend using a screw roughly every 600 mm.