

# VELSTONE THERMOFORMING

## EQUIPMENT REQUIRED

Convection Oven, Jig, Clamps, Gloves

Prepare a jig of the required radius. Plywood / MDF / Hardboard combination is preferred material for the jig. For most thermoforming jobs, only a male jig is necessary. However in some cases it may be necessary to place hardboard sheet/strip over hot Velstone, prior to clamping, to prevent the sheet curling during clamping or cooling.

Cut the strip of required size of from the VELSTONE sheet. Prepare the sheet by removing all nicks or cuts on the edge as any nick or cuts on the edge might develop in to crack during thermoforming.

Critical steps:

1. Stabilisation of the oven at 125C:

- a. Turn the oven on from cold start.
- b. Let the oven cut off at set temperature.
- c. Let the oven cut in automatically after temperature drops below the thermostat trigger.
- d. Allow steps b and c to repeat itself at least 3 times.
- e. The oven would have reasonably stabilised at the set temperature by now.

2. Heat stabilisation of the product:

Place the entire VELSTONE strip in the oven. Depending how big oven you have in your workshop the material should be in the oven between 12-30 minutes. If you got a powerful oven the heating time will only be 15 minutes. Variations of time are expected depending upon the ambient temperature and conditions. It is very important that the heat penetrates all of the way through the entire thickness as cold spots may result in the material breaking rather than bending. If the product is hot on the surface and cold inside, it may break during thermoforming.

The product must be flexible like medium to hard rubber as it comes out of the oven. The product temperature could be in the range of at 80~90C. If it is not flexible, allow more time in the oven at the set temperature. The product will be flexible if and only if the heat has penetrated through out the entire thickness of the material. One way of checking this is the flexibility. The other way is to check how slow it is cooling while clamping. The slower the cooling, the better it is.

When the material is sufficiently soft and flexible, take it out of the oven and lay it on the jig. Use gloves when handling hot material. Follow the jig curve gradually and clamp.

Allow the material to cool to room temperature before opening the jig clamps to prevent the material from springing back. Open the clamps and remove the strip from the jig. Practice and experience in thermoforming VELSTONE will achieve excellent results.

**It is very important that the stabilisation of the oven, average surface temperature of the sheet once been in the oven and the cooling times are very strictly followed!**

Notes:

1. Do not use excessive temperatures. It may discolour the material surface.
2. Minimum bending radius is dependent on the colour, width and the thickness of Velstone strip.
3. Large granule Velstone colours may show a "Stretched" effect on grain pattern when thermoformed to a tight radius.