



BULLETIN

FABRICATION GUIDANCE FOR ZOTEK[®] F 40 HT, KYNAR[®] PVDF FOAMS

These materials can be fabricated using conventional methods and equipment as used for Plastazote[®] and Evazote[®] foams.

In all operations, special attention should be paid to prevent overheating of the material and local exhaust extraction is recommended for butt welding and lamination operations where higher temperatures are typically employed. For further details on safety precautions the user should refer to the Material Safety Data Sheet for the material or direct to Zotefoams Technical Dept.

1. CUTTING, SAWING, ROUTING etc.

Standard hand and powered tools can be used to cut PVDF foams. All tools should be kept sharp to ensure clean cutting with the minimum generation of swarf. The wearing of suitable eye protection and a dust mask is recommended when using power sanders, routers etc.

2. SPLITTING

PVDF foams can be split using standard roller feed or vacuum table horizontal blade splitting machines. A linear speed of 10-15 m/min (33-49 ft/min) is recommended. A sharp blade and minimum feed roller pressure must be used to avoid excessive drag on the blade which can cause the surface of the material to melt.

High static electrical charges can be generated when splitting PVDF and machines should be fitted with a working static charge elimination system.

3. COMPRESSION MOULDING & VACUUM FORMING

The recommended temperature for moulding and vacuum forming is 130-150°C (266-302°F). The material may be heated using both hot-air ovens or infra-red heaters. Care should be taken to ensure that the material does not touch the heater elements or overheat, if this risk exists then exhaust extraction should be utilised. Heating cycles are the same as for Plastazote[®] materials of equivalent thickness and foam density.

4. BUTT WELDING

A good weld can be produced using a fixed heated blade welding machine with the blade temperate set to 420°C (788°F), and a heating dwell time of 5 seconds. Under these conditions the weld should be as strong under tension as the base material. The use of travelling blade welders which typically operate at higher temperatures is not recommended, but if these machines are used then adequate exhaust extraction should be considered as mandatory.

5. LAMINATION

Lamination can be achieved by use of a proprietary (eg Zotefoams plc) heated blade laminating machine. Recommended conditions are :

Blade temperature : 360°C (680°F)
Roller Speed : 8 m/min (26ft/min)

Minimum roller pressure consistent with producing a good weld should be used.

Since the temperature of the blade is above the decomposition temperature of the material it is essential that adequate exhaust extraction is fitted and that the exhaust gas is directed to a safe place.

6. WASTE DISPOSAL

Scrap arising from fabrication should be disposed of in accordance with local regulations. The foam should not be incinerated unless facilities exist for the removal of Hydrogen Fluoride from the flue gas.

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