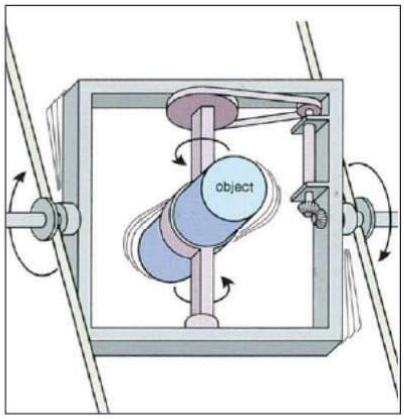

ETFE ROTOMOULDING

ALMARC ENGINEERING PTE LTD Singapore is able to provide ETFE Rotomoulding services that is done in our manufacturing facility in Singapore. The main advantage of Rotomoulding is that it is a seamless lining without welding joints.

The Rotomoulding Process

The computer-controlled machine developed is a significant improvement in the standard rotomoulding lining for ETFE. The development is centered around a special computer controlled machine tool that is able to ensure an even temperature of about 430°C to generate.

The object is clamped in a holder which rotates around two axes. More objects of a different size or shape can be processed at the same time. The object is then subjected to a certain rotary motion, and a specific temperature profile for the entire duration of the process. A special computer controls and monitors the entire process. The input data and the individual stages of the processing are extensively documented. This documentation also allows a comparison between the set points and actual values for all individual items. A significantly larger number of processing stages can be performed using the computer, compared to the manual operation of other methods. Rotomoulding can be used for any shape and complexity. Therefore, a uniform coating is achieved without any problems on the eccentric components, such as adapters, fitting pieces, branching, curved pieces, pumps and valves, flow meters, and on with a size of 1.90 x 1.90 meters.

Processing of ETFE

ETFE is a fluorine-based high performance coating that is designed to provide high resistance to corrosion.

ETFE has a very high melting point with further excellent chemical and electrical properties. Also, ETFE at operating temperature (from -185°C to 150°C) are used in full vacuum because of the excellent adhesion to the wall of the coated piece.

The tensile strength of ETFE is 42N/mm (6100 psi).

Min Properties	ETFE
Specific Weight (g/cm^3)	1.74
Max. Elongation (%)	350 - 450
Tensile Strength (MPa)	40 - 54
Rockwell Hardness	R50 - R58
Melting Point (°C)	220