

Polyetherketone

Welding

Victrex plc: Victrex PEK

Victrex PEK can be welded to itself using conventional ultrasonic and friction welding techniques. When using these techniques it should be borne in mind that because Victrex PEK has a higher melting point than most polymers, considerable amounts of energy must be put into the polymer during welding to achieve a good bond.

Reference: *Victrex PEK Properties And Processing*, supplier design guide (VP2/ October 1987) - ICI Advanced Materials, 1987.

Adhesive and Solvent Bonding

Victrex plc: Victrex PEK

Many types of adhesive can be used for bonding Victrex PEK either to itself or to other materials. The bond strength will be very dependent on the surface preparation prior to bonding.

Surface Preparation

Surfaces to be bonded must be clean, dry and free from grease. Genklene (1,1,1-trichloroethane) or a similar degreasing solvent may be used to degrease the surface. More aggressive surface activation procedures such as surface roughening, flame treatment, plasma etching (especially in argon), or chromic acid etching may help to increase bond strengths. Using a general purpose Araldite 100 epoxy adhesive, flame oxidation improves the bond strength by 20% and chromic acid etching by about 30% over the bond strengths of degreased surfaces.

Adhesive Types

Epoxy, cyanoacrylate, anaerobic and silicone adhesives will all bond Victrex PEK. The epoxy adhesives, however, give by far the strongest bond. In all cases, the relevant adhesive manufacturer should be consulted to ensure that the optimum bonding techniques and the most appropriate adhesive are being used.

Reference: *Victrex PEK Properties And Processing*, supplier design guide (VP2/ October 1987) - ICI Advanced Materials, 1987.