

RECENT DEVELOPMENTS IN PTFE RESINS.

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Polytetrafluoroethylene, PTFE, was the first fluorocarbon polymer and still is the one made in the largest quantities. It goes into uses that affect all of our lives. Current ways to characterize PTFE will be discussed. Differential Scanning Calorimetry (DSC) is a powerful tool and use of dynamic mechanical analysis offers promise. Advances in infrared analysis have given new insight into aspects of structure. There is, however, still no reliable, explicit procedure for determining molecular weight. Understanding the particulate nature of granular PTFE has permitted such easier preparation of molded products, both with and without fillers. Creep behavior is correlated well with the Nutting equation. Invention of a higher melting form of PTFE (385° v $327\text{-}345^{\circ}$ for earlier polymer) has permitted preparation of higher strength porous or non-porous products. Several inventions in polymerizing the dispersion type of PTFE provide base polymers that contribute to production of the new, high strength PTFE and specialty products for fine wire and tubing applications.

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