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COVER ILLUSTRATION Structure and properties of polytetrafluoroethylene (PTFE) fibers were characterized thoroughly by SEM, fourier transform infrared spectrometer (FT-IR), differential scanning calorimeter (DSC), thermogravimetric analyzer (TG) and water contact angle measurement. It was found that the longitudinal surface of the fiber was not smooth and full of grooves. The cross sections of fibers were sheet-like and irregular. The infrared spectrum of PTFE fibers was same as that of PTFE films except the 626 cm⁻¹ bands associating with the helix-reversal defect. The range of fineness distribution (2.09–11.50 dtex) was wide and the average strength was 1.37 cN/dtex. PTFE fibers started to be decomposed at 508.6°C and showed the excellent thermal stability. The water contact angle of fibers layers was 120° indicating it a hydrophobic material. All this results would provide a theoretical foundation for applications of PTFE fibers.

For more information on this topic please read the article on “Structure and properties of polytetrafluoroethylene (PTFE) fibers “ by Ruiliu Wang, Guangbiao Xu, and Yuechao He on pages 215–220 of this issue. Copyright holders of the image are the authors of this article.



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