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(54) Title: **CROSSLINKED POLYETHYLENE ELASTIC FIBERS**

(57) **Abstract:** The present invention relates to crosslinked, olefin elastic fibers where the olefin materials are specifically selected to provide a more robust fiber with higher tenacity and greater temperature stability. Such fibers will be less subject to breakage during fiber spinning and post-spinning (downstream processing) operations including spool formation and unwinding. The specific olefin material used is a blend having an overall melt index (I2) of less than 2.5 g/10 min before crosslinking with a density in the range of 0.865 to 0.885 g/cm³. One component of the blend will be characterized as having either a density in the range of from 0.855 to 0.88 g/cm³ or a residual crystallinity at 80 °C of greater than 9 percent but not both. The at least one other component will meet at least whichever characteristic the first component does not meet.



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