Title (en)

A NEUTRON-SHIELDING COMPOSITE FIBER AND A METHOD OF MANUFACTURING SAME

Publication

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Application

EP 82107384 A 19820813

Priority

JP 12669481 A 19810814

Abstract (en)

[origin: EP0072550A1] The invention relates to new fibrous neutron-shielding material in the form of composite or bicomponent fibers having a core-and-sheath structure, comprising a fiber-forming polymer (A) as the core component, which contains at least 5% by weight of neutron-absorbing particles of up to 25 mu m, preferably 15 mu m and less in diameter, and at least one kind of fibre-forming polymer (B) as the sheath component, said polymer (B) being compatible with said polymer (A). The polymers (A) and (B) are preferably polyethylene or copolymers containing a major amount of polyethylene. The neutron-absorbing particles contain <6>Li and/or <1><0>B. The new fibers are conventionally melt spun bicomponentially, the ratio of the melt viscosities under the spinning conditions being from 0.2 to 0.9 of the sheath polymer to the core polymer. The fibers obtained are highly flexible and do not show any significant generation of secondary radioactive radiation so that they are highly advantageous with respect to being manufactured into protective clothing.

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G21F 1/10; D01F 1/10

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CPC (source: EP)

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Citation (examination)

- US 4254182 A 19810303 - YAMAGUCHI SHINJI, et al
- Report: Kurri-TR-198, 1980

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