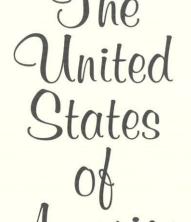
# The United States America



## The Director of the United States Patent and Trademark Office

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

## United States Patent

*Grants to the person(s) having title to this* patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, or importing into the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.

Land J. Kappas

Director of the United States Patent and Trademark Office



## (12) United States Patent Öhrle et al.

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(54) LAMINATE MEMBRANE

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(\*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35 U.S.C. 154(b) by 559 days.

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F16J 3/02 (2006.01)(52) U.S. Cl. .......... 92/103 R; 92/96; 92/98 R; 417/395; 417/474; 428/64.1; 428/66.6

(58) Field of Classification Search ...... 428/66.6, 428/64.1, 411.1, 473.5, 137; 92/5, 96, 98,

92/103; 417/53, 474, 395

See application file for complete search history.

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#### **ABSTRACT**

A laminate membrane having an elastomer body and a contact layer applied to the elastomer body. The contact layer is made of polytetrafluoroethylene (PTFE). A barrier layer configured as a permeation barrier is additionally provided, which is disposed between the contact layer and the elastomer body, or applied to the side of the contact layer that faces away from the elastomer body.

### 4 Claims, 5 Drawing Sheets

