

3M[™] MicroPES[™] Flat Membrane Type 4F toa

Chemical Composition	
Polymer	Polyethersulfone
Wetting property	Hydrophilic
Physical Properties	
Thickness	110 ± 10 μm (4.3 ± 0.4 mil)
Tensile strength	
Longitudinal	≥ 900 cN/15 mm
Transversal	≥ 800 cN/15 mm
Elongation at break	
Longitudinal	≥ 25%
Transversal	≥ 30%
Change of length (steam, 121 °C)	≤ 3 %

Membrane Performance Characteristics	
Bubble point (in water, 25 °C)	3.0 ± 0.25 bar (43.5 ± 3.6 psi)
Transmembrane flow (water, 25 °C)	≥ 60 ml/(min cm² bar) (≥ 3843 ml/(min ft² psi)) (≥ 26.69 ml/(min in² psi))
Retention of yeast (Serratia marcenscens)	\geq 7 log/cm ² reduction value

Available Make-up Configurations

All specifications are based on 3M internal test procedures.

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

Product Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR WASGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

3M and Membrana are trademarks of 3M Company. © 2019 3M Company. All rights reserved.

3M Separation and Purification Sciences Division 13840 South Lakes Drive Charlotte, North Carolina 28273 USA Phone: +1 704 587 8888 Fax: +1 704 587 8610 3M Deutschland GmbH Separation and Purification Sciences Division Öhder Straße 28 42289 Wuppertal Germany Phone: +49 202 6099 – 0 Fax: +49 6099 - 241

IM-1012 Rev. 02/2020 www.3m.com/membrana

Rolls