



# Materials Technology

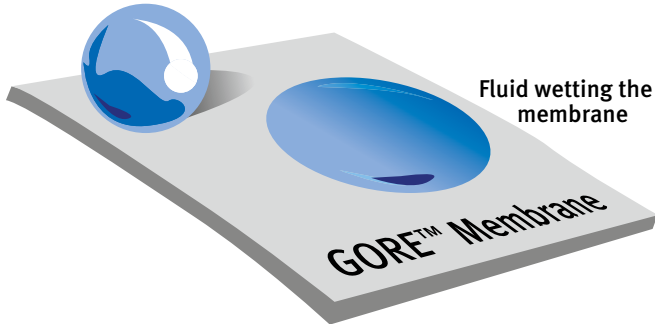
## Oil Repellency

### CONFORMS TO QATM 708.

While all PTFE is hydrophobic, or “water-fearing,” Gore has a full a line of oleophobic or “oil fearing” membranes. This enables GORE™ Oleophobic Membranes to resist the penetration of low surface tension contaminants such as cleaning agents, detergents, oils and chemicals. It also gives the membrane better roll-off characteristics so that dirt and oil will not block the airflow, even after repeated exposures.

Oil repellency is tested according to the American Association of Textile Chemists and Colorists (AATCC) test standard 118-1989. A drop of fluid with a known surface tension is placed on the material and observed for 30 seconds for “wetting,” which is the process of the liquid moving into the membrane structure. The oil rating is the number of the fluid with the lowest surface tension that did not wet out the membrane.

Clear, well-rounded drop



OIL RATING	TEST FLUID	SURFACE TENSION (dynes/cm)
3	Hexadecane	29
4	Tetradecane	27
5	Dodecane	24.5
6	Decane	24
7	Octane	21
8	Heptane	19.5
9	Hexane	18

### SURFACE TENSIONS OF SOME TYPICAL FLUIDS:

FLUID	SURFACE TENSION (dynes/cm)
Water	73
10% Methyl Alcohol in Water	59
Castor Oil	36
Benzene	29
Ethyl Alcohol	24
Acetone	24
Methanol	24
IPA	22

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