

Low Cost, Durable Seal  
(Topic 4)

**UTC Fuel Cells**

- Funding

<b>DOE Cost Share</b>	<b>Recipient Cost Share</b>	<b>TOTAL</b>
\$1,979,838	\$1,319,892	\$3,299,730
60%	40%	100%

- Project Description: The objectives of this collaborative effort are to use chemical and mechanical characterization data to develop a polymer electrolyte membrane (PEM) fuel cell seal material and to use accelerated life and single cell testing to verify the ability of the selected seal material to achieve long life. A seal material specification will be developed and will contain chemical and mechanical material properties required to prevent degradation when the seal material is exposed to the environmental conditions of a PEM fuel cell stack. Candidate seal materials will be synthesized and then extensively characterized for both chemical and mechanical properties. After a downselection of materials, further accelerated testing will be conducted and prototype seals will be produced, characterized, and ultimately evaluated in a fuel cell for at least 2,000 hours under a test protocol simulating automotive conditions.
- Timeframe: 2 years, starting in FY07

Sub-Contractors

<b>Institutions</b>
Virginia Polytechnic Institute
Henkel Technologies
Freudenberg-NOK