

Halar®



SOLVAY

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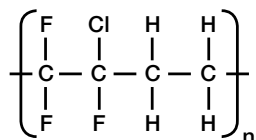
Halar® XPH-800

Thermal Aging Study

**SPECIALTY
POLYMERS**

Thermal Aging Study of Halar® XPH-800

Halar® ECTFE is a partially fluorinated, semi-crystalline, melt-processable thermoplastic manufactured by Solvay Specialty Polymers at its ISO-certified plant in Orange, Texas. ECTFE is produced via the copolymerization of ethylene and chlorotrifluoroethylene monomers and has the following chemical formula:

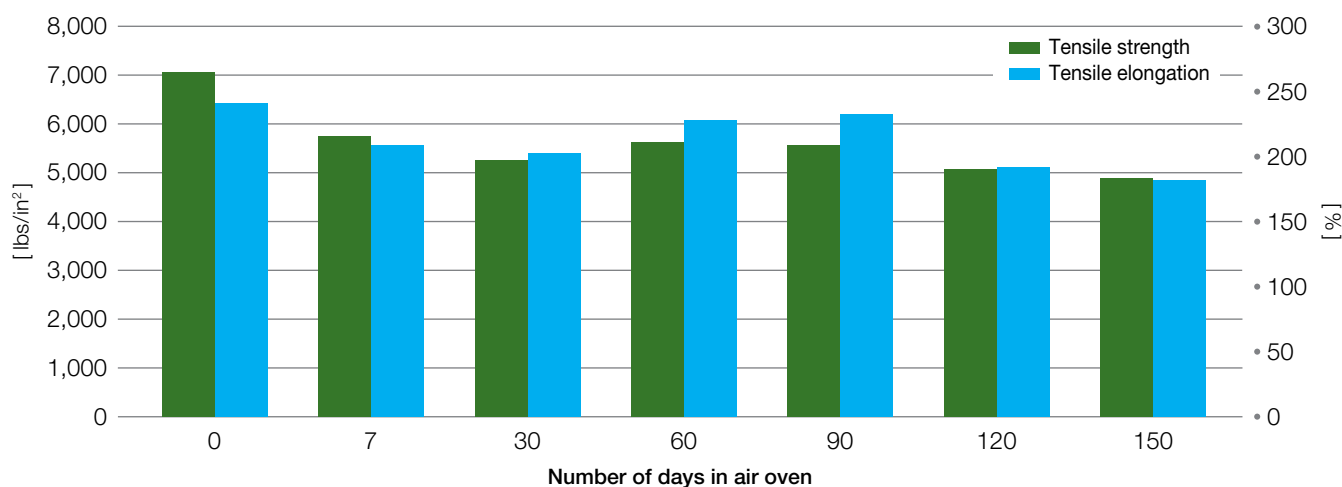


1:1 alternating copolymer

This chemical structure gives Halar® ECTFE a unique combination of properties including excellent chemical resistance and a high thermal rating, thanks to the strength of its carbon-fluorine chemical bonds. It also has excellent mechanical properties as a result of the strong inter-chain interactions of hydrogen bonding.

Halar® XPH-800 delivers enhanced stress cracking performance due to chain structure modifications of the ECTFE polymer.

Tensile properties of Halar® XPH-800 thermally aged at 189 °C (372 °F)



Tensile strength & elongation of thermally aged Halar® XPH-800*

	Units	Number of Days in Air Oven						
		0	7	30	60	90	120	150
Tensile strength at 23 °C (73 °F)	lbs/in ²	7,033						
Tensile strength after aging at 189 °C (372 °F)	lbs/in ²		5,730	5,243	5,622	5,568	5,049	4,874
Tensile strength after aging at 200 °C (392 °F)	lbs/in ²		5,077	5,201	3,759	3,938	3,575	3,780
Elongation at 23 °C (73 °F)	%	267						
Elongation after aging at 189 °C (372 °F)	%		209	201	227	233	191	181
Elongation after aging at 200 °C (392 °F)	%		158	150	4	4	5	5

* Cable insulation was tested for the dry temperature rating of new materials (long-term aging test) according to UL 2556 and the material received a 180 °C (356 °F) rating.

www.solvay.com

SpecialtyPolymers.EMEA@solvay.com | Europe, Middle East and Africa

SpecialtyPolymers.Americas@solvay.com | Americas

SpecialtyPolymers.Asia@solvay.com | Asia Pacific



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