Solef® | Halar®

SOLVAY

asking more from chemistry®

Solef® PVDF
Halar® ECTFE

for High Performance Films

SPECIALTY POLYMERS

Solef® PVDF and Halar® ECTFE Films
for Photovoltaic Applications

Solef® PVDF for Extruded Frontsheets and Backsheets

PVDF has a long history of outdoor weather usage due to an excellent combination of properties.

Thanks to UV stability, water vapor permeation resistance and transparency, films based on Solef® PVDF are ideally suited as a component in backsheets and frontsheets.

They can be laminated to PET to provide the traditional fluoropolymer - PET - fluoropolymer structure currently available in the marketplace.

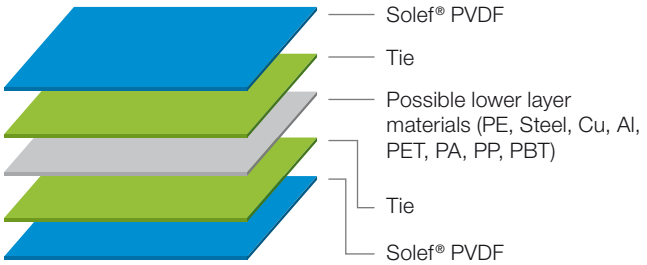
Thanks to the large range of offered grades, Solef® PVDF films can be produced and/or applied through cast extrusion, blown extrusion, co-extrusion or extrusion coating processes.

Solef® PVDF for Co-Extruded Film Solutions

Solvay Specialty Polymers has developed a new Solef® PVDF material designed to increase adhesion to plastics and metals, allowing the construction of thin films, sheets and all applications where multilayer solutions are required.

It has been proven to give good adhesion to various tie layers available in the market such as Maleic anhydride grafted polyolefins, Ethylene - Glycidyl Methacrylate copolymers, Ethylene - Acrylic Esters - Maleic Anhydride terpolymers or Ethylene - Acrylic Esters - Glycidyl Methacrylate terpolymers.

Mainly dedicated to photovoltaic backsheets manufacturing, these films also suit for construction (weatherability), transportation (anti-graffiti), packaging (barrier layer) and a number of asymmetrical construction needs.



Halar® ECTFE for Frontsheets

Films based on Halar® 500LC ECTFE are a premium solution for frontsheets used in photovoltaic modules when flexibility, light weight reduction, light transmission, fire resistance, weatherability and competitive processing are required.

The Halar® ECTFE films produced for photovoltaic applications show:

- UV stability
- Optical clarity (> 94 %* total light transmission)
- Fire resistance (LOI > 52 %)
- Very low permeation to water vapor (WVTR = 1.6 g/m²·day for a 50 µ thick film at 38 °C and 90 % RH)

**measured for a 50µ film according with ASTM D1003 in air*

Halar® ECTFE for UV Blocking

This new solution has been developed in order to add long lasting UV blocking resistance (the full lifetime of the module), with no reduction in performance over time.

This feature helps to protect EVA and other encapsulants from degradation in photovoltaic modules if used as frontsheet and in all potential plastic composites exposed to sunlight.

As a result, photovoltaic modules made with Halar® ECTFE film are durable and meet the toughest industry requirements in terms of lifetime and flexibility.

Solef® PVDF Protective Films

Thanks to their outstanding chemical resistance, high temperature endurance, purity, anti-graffiti and excellent weathering behavior, the films based on Solef® PVDF resins are already used in a variety of applications including capstocks, road signs protection, gas sampling bags, wind mills, E&E, or green houses, as a single layer or in combination (through co-extrusion, coating, etc.) with other polymeric materials.

Halar® ECTFE Films for Demanding Industries

Based on Halar® ECTFE, a variety of films (8 µ up to 250 µ) can be extruded to be used in extremely demanding applications:

- **aircraft**, thanks to the Halar® ECTFE fire resistance, chemical resistance and moisture barriers properties
- **architectural** and **outdoor**, where the weatherability, weldability, fire and tear resistance of ECTFE films offer sustainable opportunities to design innovative light weight solutions
- **release**, due the low and uniform surface tension and the high temperature resistance

Halar® ECTFE for UV blocking – Patent pendings
EP Appl N° 10187726.4, filed 15/10/2010, EP Appl N° 10187732.2, filed 15/10/2010

www.solvay.com

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

SOLVAY
asking more from chemistry®

R 04/2014 | Version 2.1 Brochure design by ahlersheinel.com