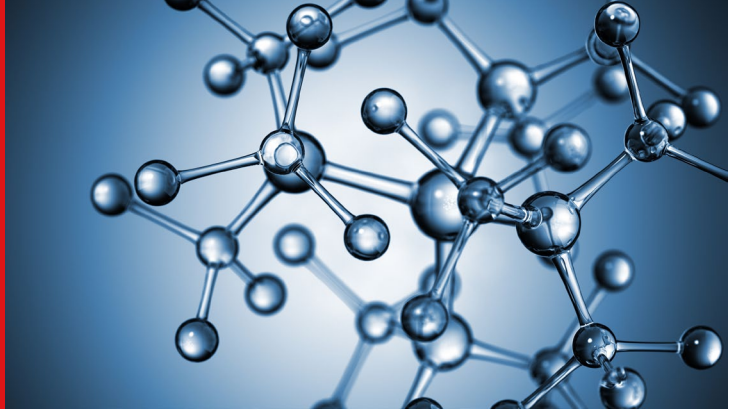


CyclAFlor® Shield

Amorphous Fluoropolymers



Unlock the Full Potential of Amorphous Fluoropolymers with Chromis Technologies

At Chromis Technologies, we specialize in the development and application of advanced amorphous fluoropolymers, designed to meet the rigorous demands of modern industries. Our polymers are not only chemically inert and stable at high temperatures but also exhibit superior UV transparency and resistance, and permeability and selectivity for mixed gases. The exceptional processability of our materials into thin films via spin coating, dip coating, and other standard methods makes them ideal for a wide range of high-performance applications.

Application Examples

CyclAFlor® amorphous fluoropolymers are perfect for:

- **Anti-reflective and Protective Coatings:** Enhance durability and performance with our tailor-made coatings.
- **Gas Separation Membranes:** Achieve efficient and effective separation with coatings engineered for specific gas mixtures.
- **Optical and Sensing Fibers:** Support improved transmission and increased sensitivity with custom cladding polymers.

Innovative Solutions Beyond Standard Offerings

Traditionally, amorphous fluoropolymers were restricted to a limited range of formulations. Chromis Technologies breaks this mold by offering customized solutions engineered to optimize performance in specific applications. We've pioneered new synthesis and processing technologies without the need for fluorosurfactants to tailor polymer properties such as:

- **Functional Groups Customization:** Modify chemical functionality to enhance interaction with other materials.
- **Molecular Weight and Polydispersity Control:** Fine-tune the polymer's durability and processing characteristics.
- **Viscosity Adjustment:** Optimize the flow properties in solution or melt to suit your processing requirements.
- **Surface Property Modification:** Adjust adhesion, surface energy, and contact angles for unique application needs.
- **Solubility Control:** Enhance application versatility with custom-engineered solubility for selective solvents.

Case Study: CyclAFlor® Shield

Our CyclAFlor® Shield polymer offers basic properties similar to Chemours Teflon™ AF 2400 but excels in processability and versatility. With feasible solution concentrations up to 3 wt.%, compared to just 1 wt.% for Teflon™ AF 2400, CyclAFlor® Shield provides a significant processing advantage. Moreover, our capability to modify polymer composition ensures optimal performance for specific applications.

Challenge Us with Your Technical Needs

If your project faces a challenge that could benefit from enhanced amorphous fluoropolymer properties, reach out to us. Whether we have an existing solution or need to innovate one, our team is ready to deliver precisely what you need.

At Chromis Technologies, we engineer fluoropolymers to do exactly what you want.



Engineering fluoropolymers to do exactly what you want.

Chromis Technologies

732-764-0900

info@chromistechnologies.com

30 Technology Drive, Suite 1J

Warren, NJ 07059

www.chromistechnologies.com

CyclAFlor® Shield Details

Properties	CyclAFlor® Shield	Chemours Teflon™ AF 2400	CyclAFlor® Shield Options
Polymer composition	PDD-PBVE copolymer	PDD-TFE copolymer	custom monomer-ratios available
Molecular structure with high free volume and ultrahigh gas permeability			
Standard functional group	-COOH	not specified	custom end-groups available
Density	1.78 g/cm ³ @ 25°C	1.78 g/cm ³ @ 25°C	
Oxygen permeability	1600 barrer @ 25°C	900 barrer @ 25°C	
Retains strong physical properties at elevated temperatures			
Glass transition temperature (T _g)	250°C	240°C	customizable from 150-250°C
Onset of thermal decomposition	>400°C		
Ultralow refractive index and high optical clarity, suitable for optical cladding and high-UV environments			
Refractive index	1.29 (589 nm at 20°C)	1.29 (589 nm at 20°C)	customizable from 1.29-1.32
Ideal properties for water- and oil-repellent applications			
Contact angle with water	113° @ 20°C	113° @ 20°C	customizable to hydrophilic
Contact angle with mineral oil	75° @ 20°C	not specified	
Can be easily applied as a solution to a wide variety of substrates as a very thin (sub-micron) coating			
Solvents	PFC, HFE, HFC	PFC	custom solvents available
Solvent boiling points	100 – 180°C	165°C (PFC)	
Solution concentration	3 %	1 %	custom concentrations available
Filtration	5.0 µm	not specified	custom filtration available

The properties and performance of CyclAFlor® Shield in its standard formulation are comparable to Chemours Teflon™ AF 2400 and can be customized to better meet your needs.