



## » PRODUCT BULLETIN

# Colorant Chromatics™ Cross-linkable Formulations

Developed to improve the mechanical and physical properties of Ethylene Tetrafluoroethylene (ETFE) and Polyvinylidene Fluoride (PVDF) resins.

Fluoropolymers excel with exceptional dielectric properties and continuous service temperatures, making them suitable for demanding environments such as wire and cable applications. These solutions can withstand high-heat, corrosive environments, and extreme cold temperatures, offering reliable performance in a wide range of conditions.

Within the full spectrum of fluoropolymers, ETFE—especially in its radiation crosslinked form (X-ETFE)—offers unique advantages for aerospace applications that demand lightweight materials and reduced thickness without compromising excellent high-temperature resistance. This combination makes X-ETFE a strong choice when both performance and weight savings are essential.

Avient's range of Colorant Chromatics™ cross-linkable formulations, produced with X-ETFE and X-PVDF, deliver superior cut-through resistance and reliable durability in demanding environments. These materials offer enhanced protection against abrasion and wear for ETFE, combining strength with longevity. Through a carefully engineered blend of additives, high-temperature fluoropolymers such as ETFE can be cross-linked using electron beam radiation, unlocking improved performance for challenging applications.

Avient's cross-linkable formulations are available in both small and large quantities, as off-the-shelf or custom-tailored solutions. They offer multi-functional performance in a single product.

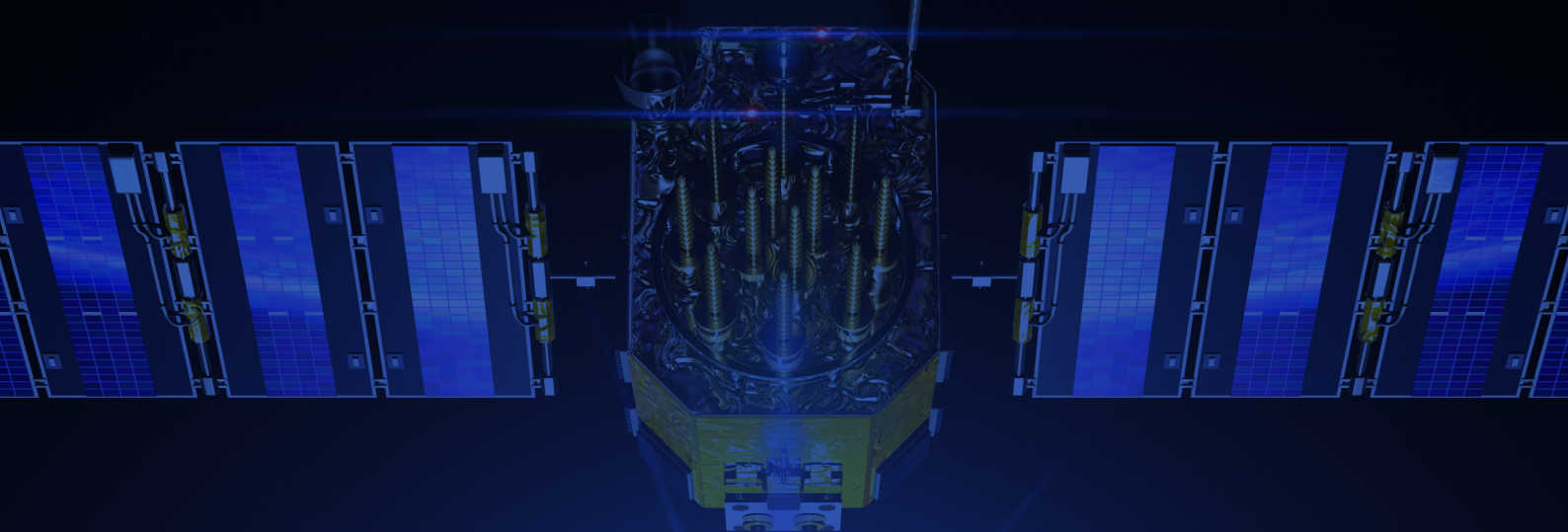
These solutions come ready to use and can be provided in pre-colored, or custom-colored options for both ETFE and PVDF resins.

## KEY CHARACTERISTICS

- **High temperature resistance:** for long-term use at up to 200 °C for X-ETFE
- **Chemical resistance:** withstands harsh environments
- **Radiation resistance:** suitable for space applications
- **Flame retardant:** can be compliant with stringent defense standards, including MIL-W-22759
- **Improved mechanical properties:** improved toughness and abrasion resistance

## BENEFITS OF X-ETFE

- **High and low-temperature applications:** suitable for environments with extreme temperature variations
- **Lightweighting:** allows for weight reduction, making parts lighter
- **Extended lifetime:** enhanced mechanical properties, such as abrasion resistance, lead to a longer service life
- **Melt-processible alternative:** provides a viable alternative to traditional polytetrafluoroethylene (PTFE) solutions, making the manufacturing process easier
- **Demanding industries:** suitable for use in sectors with stringent requirements, such as aerospace, automotive, and defense



## CURRENTLY AVAILABLE X-ETFE SOLUTIONS

- Fully formulated functional compound solutions, ready for use
- Colored solutions, including white and specific aeronautics colors: green, red, blue, violet, gray, yellow, and more
- Flexible X-ETFE, developed to pass bending tests
- Low-fluoride outgassing X-ETFE available to prevent corrosion and extend lifespan
- High-quality standards for all applications
- Thinner cables possible without sacrificing manufacturing speed or quality

## TYPICAL APPLICATIONS

- Aircraft wiring
- Satellite applications
- Aerospace
- Defense

## TYPICAL AEROSPACE STANDARDS THAT CAN BE FULFILLED BY AVIENT'S X-ETFE SOLUTIONS

- MIL-W-22759
- NASA-SPR-0022
- Boeing BMS13-48
- Airbus ABS 0820-0826
- GJB773B-2015

**1.844.4AVIENT**  
**www.avient.com**



Copyright © 2025, Avient Corporation. Avient makes no representations, guarantees, or warranties of any kind with respect to the information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. Some of the information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the information. Avient makes no warranties or guarantees respecting suitability of either Avient's products or the information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the information and/or use or handling of any product. AVIENT MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the information or products reflected by the information. This literature shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner.