Introduction to Fluon+™ Melt Processable Compounds

AGC Chemicals Americas, Inc.

Fluon+™ Enhanced Material Science

Your Dreams, Our Challenge

Smart Chemistry Solutions

- U.S. headquarters & manufacturing near Philadelphia
- Certified ISO 9001:2015 and 14001:2015
- Custom compounds and formulations for high-quality fluorochemicals and specialty chemicals
- Short production lead times, system-controlled specifications, product consistency
- Onsite physical, analytical and wear testing
- Compression and injection molding equipment to optimize product

Why Fluoropolymer Compounds?

- Fluoropolymer resins impart unique characteristics.
- Performance is further increased by the use of various fillers.
- AGC offers filled PTFE compounds and melt processable compounds.

Fluon™
Enhanced Material Science

Introduction to Fluon+ Melt Processable Compounds

Fluon+™ MPC
Melt Processable Compounds

Fluon+™ ADHESIVE
Chemical Bonding Polymers

Fluon+™ mPLASTICS
Fluoropolymer Modification Science

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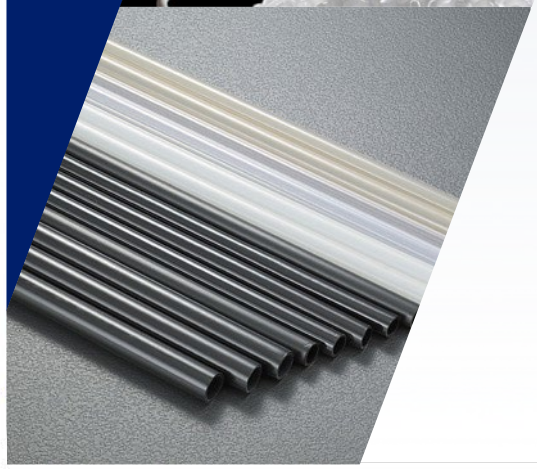
Introduction to Melt Processable Compounds

- Ten different groups of melt processable compounds
- Fillers include but are not limited to pigments, glass, fluoropolymer resins, carbon, mineral, elastomers
- Fillers and content can be customized to precise specifications
- RoHS and REACH compliant: compounds are formulated without lead, hexavalent chromium, and cadmium
- Resins used: ETFE & PFA vertically integrated through AGC; ECTFE, FEP, PEEK, PPS, PVDF



Product Groups

Compounds

- Cross-linkable compounds
- Reinforced compounds
- Conductive compounds
- Lubricated compounds
- Flexible compounds
- Adhesive compounds
- Modified PEEK and PPS compounds

Masterbatches

- Color
- Foam
- UV and infrared laser markable

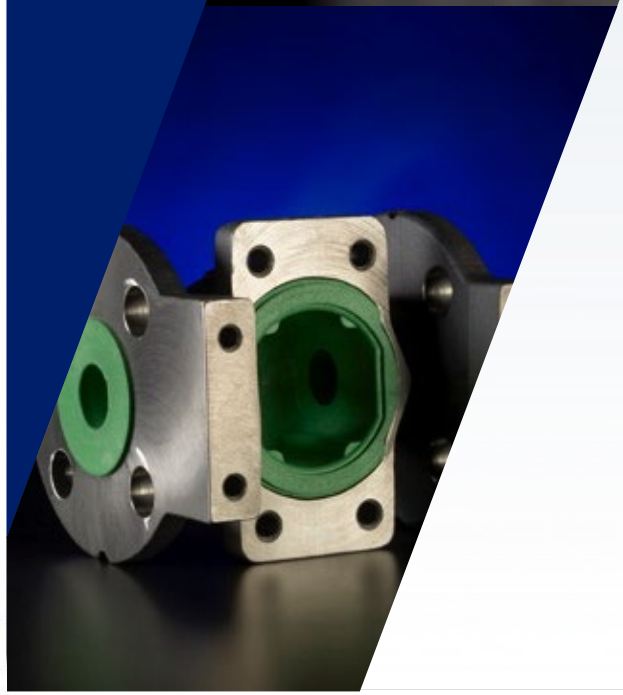
Cross-linkable Compounds: Features and Applications

Cross-linkable Features

- Resins used: ETFE, PVDF
- Processed through electron-beam or gamma radiation
- Improve thermal stability, abrasion and cut-through resistance

Cross-linkable Applications

- Airframe wire insulation
- Industrial and shipboard wire insulation
- Automotive wire insulation



Reinforced Compounds: Features and Applications

Reinforced Features

- Resins used: ETFE, PFA, FEP, PVDF, PEEK
- Incorporate glass, carbon, mineral fillers
- Enhance dimensional stability
- Improve toughness, abrasion and shrinkage resistance
- Increase thermal conductivity

Reinforced Applications

- Pump housings
- Valve linings
- Cable protection
- Column packings

Conductive/Anti-static Compounds: Features and Applications

Conductive/Anti-static Features

- Resins used: ETFE, PFA, FEP, ECTFE, PVDF, PEEK
- Carbon-filled, can customize melt flow and conductivity
- Control of heat and static electricity
- Batch-to-batch consistency

Conductive/Anti-static Applications

- Heater cable
- Valve and pump liners
- Static dissipative fuel lines
- Electrical components

Lubricated Compounds: Features and Applications

Lubricated Features

- Resins used: ETFE, PFA, ECTFE, FEP, PVDF
- Fillers include FEP or PTFE
- Low friction, abrasion resistance

Lubricated compounds

- Abrasion-resistant surfaces or linings
- Push-pull cable for car or truck brakes

Flexible Compounds: Features and Applications

Flexible Features

- Resins used: ETFE, PFA, PEEK, PPS
- Maintains desired resin properties with added flexibility
- Heat resistance of ETFE compounds can be enhanced by irradiation

Flexible Applications

- Wire and cable – industrial, transportation, aerospace, appliance
- Film and sheet
- Tubing and pipe

Adhesive Compounds: Features and Applications

Adhesive Features

- Resins used: ETFE, PFA, PEEK, PPS
- Strong adhesion to a wide range of polymers and metals
- High permeation resistance to fluids and gases

Adhesive Applications

- Film and sheet
- Tubing and hose
- Electronic components
- Wire and cable insulation

Modified Plastics Compounds: Features and Applications

mPEEK and mPPS Features

- Incorporates proprietary fluoropolymer and compounding technology
- Improves wear and impact resistance
- Improves physical and electrical properties
- Can be processed via extrusion, injection and pressure molding techniques

mPEEK and mPPS Applications

- Film for electrical insulation
- Wire and cable
- Tubing
- Gears
- Bearings
- Casings

Color Masterbatches: Features and Applications

Color Masterbatch Features

- Resins used: ETFE, PFA, ECTFE, FEP, PVDF
- High-melt flow and low-melt flow types available
- Superb surface finish, color consistency and dispersion
- Consistent pellet size and integrity
- Standard colors and custom match to various color standards such as Munsell, RAL and Pantone

Color Masterbatch Applications

- Color-coded wire insulation, tubing
- Release films
- Injection-molded parts

Foam Masterbatches: Features and Applications

Foam Masterbatch Features

- Resins used: ETFE, PFA, FEP
- High-melt flow and low-melt flow types available
- Can be customized to meet specifications
- Minimize signal loss, enhance high-speed transmission
- Save weight and material

Foam Masterbatch Applications

- Thin-walled applications – LAN cable
- Thick-walled applications – Coaxial cable

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UV Laser Mark Masterbatches: Features and Applications

UV-MARK Features

- Resins used: ETFE, PFA, FEP
- Will result in permanent brown marking
- High contrast ratios are achievable
- Mixes well into existing resins and color masterbatches
- Can be produced as a ready-to-use compound

UV-MARK Applications

- Wire jackets or insulations where a laser-markable surface is required

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Infrared Laser Mark Masterbatches: Features and Applications

IR-MARK Features

- Resins used: ETFE, PFA, FEP
- Will result in permanent dark brown to black marking
- High contrast ratios are achievable
- Mixes well into existing resins and color masterbatches
- Can be produced as a ready-to-use compound

IR-MARK Applications

- Wire jackets or insulations where a laser-markable surface is required

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Contact Us for More Information

Fluon+™

Enhanced Material Science

Learn more

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