



**Fluorinated Material
Science Solutions
for the Chlor-alkali Industry**

AGC

Your Dreams, Our Challenge

When it comes to chlor-alkali production, AGC has you covered.

AGC Chemicals boasts a remarkably integrated product chain, starting with basics obtained by electrolysis of brine and extending to a full array of fluorinated compounds. From FORBLUE™ FLEMION fluorinated ion exchange membranes to high performance fluorinated resins, compounds and coatings components, we offer a broad range of material science solutions for safe and efficient chlor-alkali production to meet our customers' needs.



CREATION THROUGH SEPARATION

FORBLUE™ FLEMION™ is a fluorinated ion exchange membrane used to produce caustic soda and caustic potash in electrolysis plants. The membranes are designed to achieve substantial energy savings due to a reduced electrical current needed to decompose the purified brine.

Advantages

- Resistant to chlorine & caustic soda
- Energy savings from low electric resistance
- High current efficiency
- More stable performance; minimizes the impact of brine impurities
- High quality NaOH & KOH production

Features

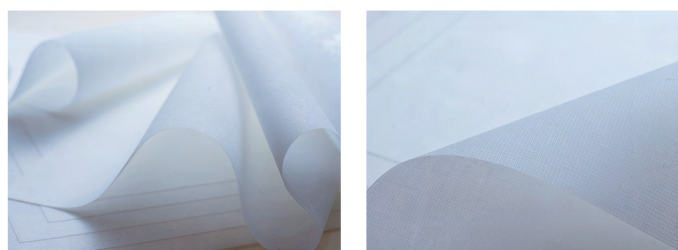
- High resistance to both chemicals & acids
- High mechanical strength & stability
- Highly efficient at dissociation of strong acids
- Achieves both high ionic conductivity & ionic selectivity
- Flexible, even though it is an ion exchange membrane

Applications

- Manufacture of caustic soda (sodium hydroxide)
- Manufacture of caustic potash (potassium hydroxide)
- Manufacture of chlorine

Technical Capabilities

- Brine/membrane analysis
- Total organic carbon (TOC) testing
- Induced couple plasma (ICP) testing
- Ion chromatography (IC)
- Automated titration



Product Name	Features
F-9060	Next generation membrane Lowest voltage (Lowest power consumption) Highest current efficiency Higher current density (Improved) Less impurity influence (Improved) Suitable for Zero-Gap Electrolyzer operation
F-9010A	Highest current efficiency Lower voltage (Lower power consumption) Higher current density (Improved) Less impurity influence (Improved) Suitable for Zero-Gap Electrolyzer operation
F-9010	Lower voltage (Lower power consumption) Higher current density (Improved) Less impurity influence (Improved) Suitable for Zero-Gap Electrolyzer operation
F-8080A	Lower power consumption Higher current density Less impurity influence Suitable for Zero-Gap Electrolyzer operation
F-8080	Lower power consumption Higher current density Less impurity influence
F-8081	Lower power consumption Higher current density Less impurity influence High robustness (reduced pinching issue)
F-8080HD	Lower current density High caustic quality (less NaCl in NaOH) Higher durability (fewer salt blisters)
F-8081HD	Lower current density High caustic quality (less NaCl in NaOH) Higher durability (fewer salt blisters) High robustness (reduced pinching issue)
F-8080K	Lower power consumption Higher current density Less impurity influence
F-8081HDK	Lower current density High caustic quality (less NaCl in NaOH) Higher durability (fewer salt blisters) High robustness (reduced pinching issue)

Fluorinated resins, elastomers, compounds and coatings components have many different applications and uses within the chemical processing industry. This is because of the presence of fluorine that gives the added performance that other polymer chains cannot when critical parts and systems are exposed to harsh environments.



- For use as flange gaskets and sodium chlorate electrolyzer gaskets
- No hexafluoropropylene or vinylidene fluoride
- Excellent compression set and chemical resistance
- High operating temperatures at 200°C continuous use
- Peroxide-cured AFLAS® allows for retention of physical properties over time
- High temperature FFKM resins also available



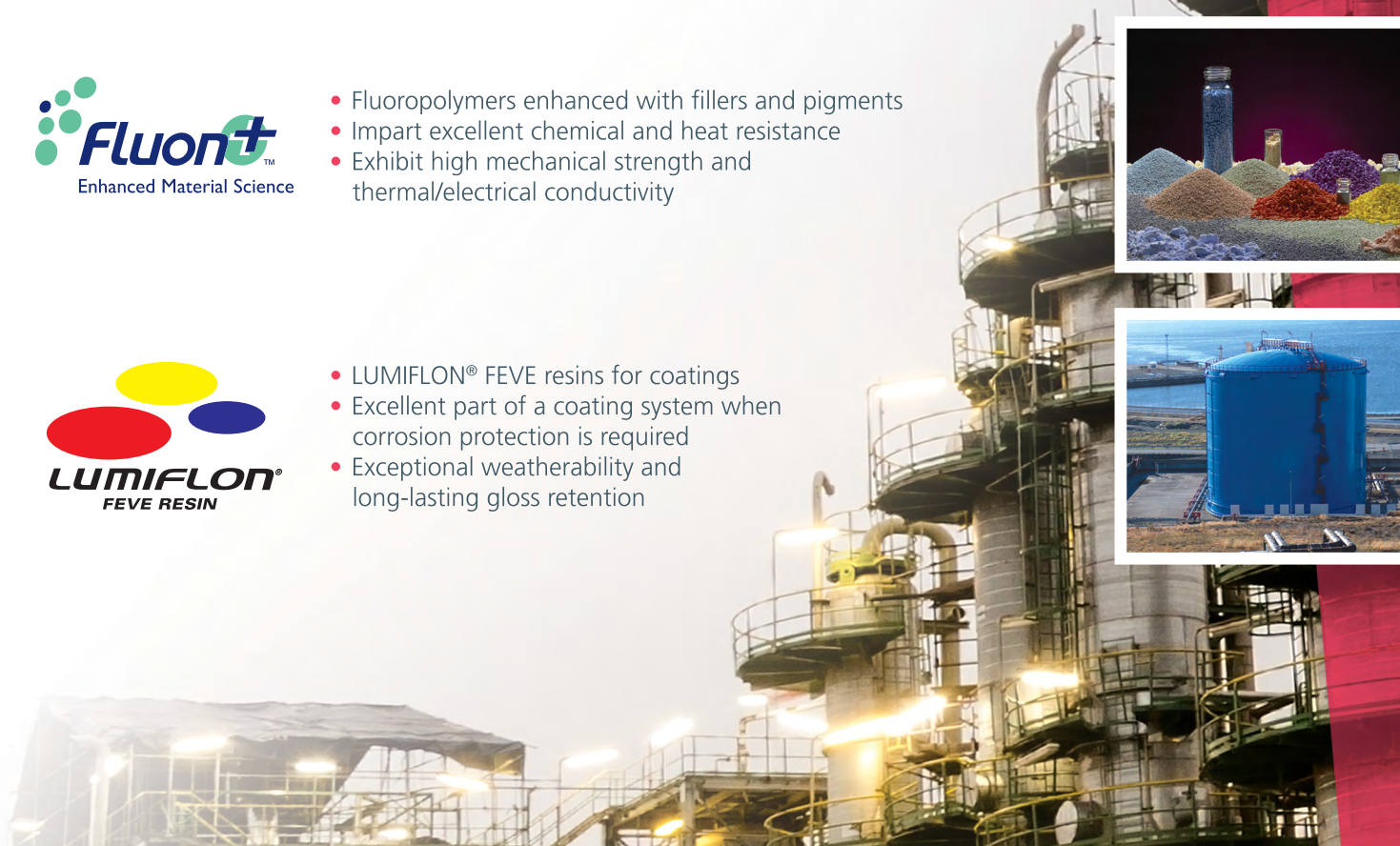
- ETFE, PFA and PTFE resins
- Outstanding physical toughness
- Highly suitable for various chemical processing parts
- Connector hose, valve liners, seals, packings & more



- Fluoropolymers enhanced with fillers and pigments
- Impart excellent chemical and heat resistance
- Exhibit high mechanical strength and thermal/electrical conductivity



- LUMIFLON® FEVE resins for coatings
- Excellent part of a coating system when corrosion protection is required
- Exceptional weatherability and long-lasting gloss retention



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