AGC Chemicals Americas, Inc.

Your Global Source for Fluorochemicals

Your Dreams, Our Challenge
Our Mission

We’re committed to supplying our customers high-performance material solutions through our motivated employees, innovative technologies and responsiveness.

Your Dreams, Our Challenge
AGC Global Operations

A world-leading fluorochemical manufacturer

US $14.2 billion net sales

56,000 employees

206 consolidated subsidiaries in 30 countries

Your Dreams, Our Challenge
AGC Global Operations

Americas
4,500 employees
US $1.52 billion

Europe
17,000 employees
US $3.47 billion

Asia & Japan
34,500 employees
US $9.79 billion
Smart Chemistry Solutions

• U.S. headquarters & manufacturing near Philadelphia
• 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
Glass Products

- Low-E for insulated glass
- Heat-treated for safety glass
- Laminated and pattern glass
- Mirrors
- Solar glass - cover plate/anti-reflective
- Polycarbonate resin sheets (rail tracks)

- Automotive laminated/tempered
- Automobile lights
- Railway glass
- Fluorescent lamps
- Heat-resistant glassware
- Glass and plastic products for physical, chemical and medical use
Electronics and Display Products

• Flat-panel display (plasma & LCD)
• Backlight tubes for LCD
• Optical planar devices
• Projector materials
• Optical filters for plasma displays
• Glass frit paste
• Glass substrates for hard disks
• Micro glass for digital cameras
Performance Polymers and Specialty Chemicals

- Caustic soda – soaps
- Sodium bicarbonate – household detergents
- Sodium hypochlorite – fungicides, bleach
- Urethanes/polyols – CASE apps
- Fluorinated resin films – solar cells/architectural
- Fluorinated resins/elastomers – coatings/additives
- Fluorinated water/oil repellents – textile/non-woven
- Fluorinated intermediates – pharmaceuticals/agrochemicals
- Fluorinated solvents – precision cleaning
- Reinforced fluorinated compounds – auto/electronics/other apps
- Fine silica gels – personal care products/chromatography/catalysts supports/3D print
Global Product Reach

- #1 global supplier of flat and auto glass
- #1 global supplier of ETFE
- Largest global glass supplier to NISSAN, HONDA, TOYOTA
AGC Group’s Mid-term Management Plan

“Vision 2025”
By 2025, the AGC Group’s Core Businesses will serve as solid sources of earnings, and Strategic Businesses will become growth drivers and lead further earnings growth.

In 2025, the AGC Group will continue being a highly profitable, leading global material and solution provider.

<table>
<thead>
<tr>
<th>Core Strategy 1</th>
<th>Core Strategy 2</th>
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<tbody>
<tr>
<td>Core businesses</td>
<td>Strategic businesses</td>
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<tr>
<td>Establishing long-term, stable sources of earnings through the portfolio management</td>
<td>Establishing highly profitable businesses through expansion of high value-added businesses</td>
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<tr>
<td>Architectural glass</td>
<td>Mobility</td>
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<tr>
<td>Automotive glass (existing)</td>
<td>Electronics</td>
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<tr>
<td>Display glass</td>
<td>Life science</td>
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<tr>
<td>Essential chemicals</td>
<td>Performance chemicals</td>
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<tr>
<td>Ceramics</td>
<td>IOT</td>
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The AGC Group’s competitive advantages:
- Wide-ranging customer base
- Varieties of material technologies in the field of glass, electronics, chemicals and ceramics
- Production technology development capability and operational excellence
Chemicals Company Global Network

AGC Chemicals Japan
- Headquarters – Tokyo
- Factories – Chiba and Kashima
- Sales offices – Tokyo, Osaka, Fukuoka, Nagoya
- R&D – Yokohama

AGC Chemicals Asia
- AGC Chemicals Trading Co. Ltd. – Shanghai, China
- P.T. Asahimas Chemical – Jakarta, Indonesia
- AGC Chemicals Co. Ltd. – Bangkok, Thailand
- AGC Chemicals Asia Pacific Pte. Ltd. – Singapore

AGC Chemicals Europe
- Head Office and Production Plant Thornton Cleveleys, UK
- Chemicals Commercial Center – Amsterdam, The Netherlands
- Sales office in Russia

AGC Chemicals Americas
- Production Plant – Thorndale, Pa.
- Formed in 2004 through a merger with AGA Chemicals and AG Fluoropolymers USA
- Sales office in Guaratinguetá Brazil
Chemical Company Business Overview

Industries
- Resource Recovery
- Chemical Processing
- Life Sciences & Agrochemicals
- Construction & Architectural
- Transportation
- Coatings, Solvents, & Additives
- Alternative Energy
- Electronics & Semiconductor

Major Products
- Fluoropolymer Resins/Compounds
- Specialty Chemicals
- Fluoroelastomers

Core Strengths
- Custom Manufacturing
- Research/Development
- Technical Support
A Collaborative Approach

Integrated communications processes unite all key stakeholders to create complete solutions for our customers based on industry input and expertise.
# The AGC Advantage

## Supply

<table>
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<tr>
<th>Fluoropolymers</th>
<th>Custom Compounds</th>
<th>Specialty Chemicals</th>
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</thead>
<tbody>
<tr>
<td>Breadth of Offering</td>
<td>Stock and MTO products Available</td>
<td>Direct Shipment Option</td>
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<tr>
<td>Regional Warehousing</td>
<td>Local Manufacturing Facility</td>
<td>On-Site International Logistics Experts</td>
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<td>throughout USA</td>
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<tr>
<td>World-Class Delivery</td>
<td>Short Production Lead Times/Same-Day Shipping</td>
<td>Distributors/Local Stock</td>
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<td>Performance</td>
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## Quality

## Innovation
### The AGC Advantage

**Supply**

- Fluoropolymers: Consistent Quality & Reliable Performance, Lot to Lot
- System-Controlled Specifications
- Quality and Conformance Certifications Available

**Quality**

- Custom Compounds: Extensive Manufacturing Experience, Product Consistency
- Custom Formulations
- System-Controlled Specifications

**Innovation**

- Specialty Chemicals: Consistent Quality & Reliable Performance, Lot to Lot
- Detailed COAs Available
- Field Support

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<td>Lot</td>
<td>Consistency</td>
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# The AGC Advantage

## Supply
- Onsite Extrusion/Molding Equipment
- DOE and NDA
- Technical Support/On-Site Test Equipment

## Quality
- On-Site Compression/Injection Molding Equipment
- Physical/Analytical Testing
- Wear Testing

## Innovation
- Product Enhancement
- Application Development
- Aging Testing (30+ years)
Technical Expertise

Application Development

Physical Testing

Analytical Testing

Product Development

Environmental Studies

Technical Support

Material ID/Color Analysis
Team Approach

Field Sales
• Creates unmatched value by understanding customers’ requirements
• Creates solutions through active listening and collaborative account planning

Customer Service
• Experienced, cross-functional organization
• Solves complex supply chain problems

Leadership
• Visionary, active facilitators
• Committed to customers

Your Dreams, Our Challenge
Team Approach

Quality Assurance
- ISO 9001 and 14001 certified
- We value your feedback to improve our processes, products and, ultimately, your satisfaction.

Corporate Social Responsibility
- Chemistry for a Blue Planet Program
- We will ensure that all our activities are safe for our employees, our customers and the public

Technical Services Team
- A network of experts
- We will solve your challenges quickly using high-quality, environmentally compatible materials
Resins and Fluoroelastomers

Fluon® ETFE Resins
- Low-melt, pellets, beads grades
- Rotomolding powders
- Can be custom compounded

Fluon® PTFE Resins
- Coagulated dispersions – fine powder grades
- Granular grades and aqueous dispersions
- Micropowders for lubricants/additives

Fluon® PFA Resins
- Pellet and bead grades
- Powder grades as additives to other polymers
- Can be custom compounded

AFLAS® Fluoroelastomers
- FEPM fluoroelastomers and Latex Series;
  FKM and FFKM/pre-compounds;
- Engineered to withstand harsh environments
Fluon+ Custom Compounds

Fluon+™ Filled PTFE Compounds
- Low flow – non-pelletized
- Highest mechanical properties

Fluon+™ Filled PTFE Compounds
- Free flow – pelletized
- Automatic molded for seals/gaskets

Fluon+™ Melt Processable Compounds
- Made with ETFE, FEP, PFA, ECTFE, MFA, PVDF
- Color concentrates/foam concentrates/conductives/reinforced/cross-linked/lubricated compounds

Fluon+™ Adhesive, Fluon+™ mPLASTICS & Fluon+™ Modifiers
- Incorporates a functional adhesive monomer
- Fluorinated resins added to non-fluoros for enhanced performance characteristics and flexibility
Specialty Chemicals

AsahiKlin and AMOLEA™ Fluorosolvents
- 100% VOC-Free
- For precision cleaning and drying

AsahiGuard E-SERIES™
- Oil/water and stain repellents
- For food packaging, nonwovens and technical textiles

Fluon® ETFE Film/F-CLEAN® Greenhouse Film
- Architecture/solar cells/greenhouse coverings
- Excellent transparency, weatherability, strength

Fine Silica Gels
- Five types of silica gel products
- Personal care products / chromatography / peptides / catalysts support / 3D printing resins
Specialty Chemicals (continued)

**FORBLUE™ Membranes**
- Separation technology and membrane gas dryers
- For caustic soda production, desalination and purification; electrolysis and electrodialysis and hydrogen production

**Polyols for Polyurethanes & Foam Blowing Agents (HFO-1224yd)**
- Specialty (high MW) and hybrid foam grades
- Flexible/rigid foams, adhesives/sealants

**Intermediates**
- For pharmaceutical/agrochemical compounds
- Fluoro Intermediates – perfluorohexyl chemistry

**LUMIFLON® FEVE Resins for Coatings**
- Coatings with excellent weather and corrosion resistance
- Lower life cycle costs