Cable Components Group (CCG), heading into its 19th year, designs, engineers and manufactures extruded products for wire and cable, fiber optic cables and industrial non-wovens. CCG’s 6-LAN™ crosswebs are foamed and include patented designs for Category 6, 6e, and 6A LAN cables. FluoroFoam® is CCG’s flagship line of chemically foamable fluoropolymers such as fluorinated ethylene propylene (FEP) or perfluoro methyl alkoxy (MFA) for use in insulations, tapes and 6-LAN™ crosswebs. Foamed fluorine-based products are particularly suited for the evolving Power over Ethernet (PoE) standards. These standards require enhanced thermal stability materials, and foamed FEP or MFA insulation offers an added safety margin. Halgone Lite®, CCG’s line of chemically foamable engineered resins, allows insulations and jackets to be foamed in non-halogenated applications.

In conjunction with the evolving PoE standard for Limited Power (LP), CCG offers these new jacketing materials:

- 200°C-Rated FluoroFoam® FEP or MFA Jacket with FluoroFoam® insulation for 1.0 AMP POE
- 150°C-Rated PVDF Limited Combustible FluoroChar® Jacket with FluoroFoam® insulation
- 90°C and 75°C-Rated Low Smoke PVC Jacket with FluoroFoam insulation

The newest products include a Fluoro-Alloy™ of FEP that is foamable with specific gravities as low as 1.20; tensile strength greater than 3,000 psi, and for jacketing applications, ink jet printable. Fluoro-Alloy PVDF® for fiber optic jacketing and Power Limited CL-2P, as well as Fire Alarm Cabling FPLP applications.

All of these new materials are compounded by CCG in an effort to vertically integrate materials to service their customers with innovative, temperature-rated, fire-retardant and foamable materials. CCG will use this compounding capability to service in-house extrusion needs for their core products of crosswebs, tapes, tubes, and monofilaments, as well as offer for sale these new foamable compounds that are especially designed for copper wire and cable and fiber optic cabling. Compounding also opens the door to broadening CCG’s commitment to highly thermally stable insulation and jacketing grades for both riser (CMR) and plenum (CMP) cable applications.

Compound development activity is focused on lightweighting materials through foaming technology, enhancing fire retardancy for halogenated and non-halogenated materials and offering higher temperature-rated materials with increased thermal stability.

The 2017 National Electric Code, which has adopted the new LP Standard, is a classic example of the challenges to which CCG’s materials rise. Based on the Underwriters Laboratory (UL), 192-bundled cable test for LP; 4-Pair CMP cables will be tested to validate their thermal stability from .5 Amps to 1 Amp to gain the LP rating.

CCG has tested and has developed compounds specifically to meet the Power over Ethernet standard for the most severe 1 Amp LP requirement.

Key CCG Contacts:
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Dan Messmer Sales Engineer

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**Tomorrow’s Lightweight Materials Today**

<table>
<thead>
<tr>
<th>Temperature Rating</th>
<th>Materials</th>
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<tbody>
<tr>
<td>250°C</td>
<td>PFA</td>
</tr>
<tr>
<td>200°C</td>
<td>PEKK, PEEK</td>
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<tr>
<td>150°C</td>
<td>MFA, PPS</td>
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<td>125°C</td>
<td>FEP, PPSU</td>
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<td>90°C</td>
<td>PVDF, Fluoro-Alloy, PVDF Copolymer</td>
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<tr>
<td>75°C</td>
<td>LSHP, PP, LSHF, PE</td>
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</tbody>
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**Foamable Pellets for Insulation, Crosswebs, Tapes, Tubes and Jackets**

- FLUOROFoAM® JACKETS
- FLUOROFoAM® INSULATION
- FLUOROFoAM® CROSSWEBS
- FLUOROFoAM® TUBES
- FLUOROFoAM® TAPES