

Evolving (and investing) to meet changing cable producer needs

As the wire and cable industry evolves, so must the companies that supply it. For Cable Components Group (CCG), a U.S. supplier of extruded profiles that was closely following trends, it has responded by undertaking a \$3 million investment to become a vertically integrated compound supplier. Below, CCG President Charlie Glew discusses the impetus that led to this direction.

WJI: CCG started out in 1998 to manufacture extruded profiles for the copper wire and cable, and the fiber optic cable market: what happened that led to your decision to also become a compounder?

Glew: CCG started up to manufacture extruded profiles with a focus on Ethernet cabling which was rapidly evolving to enhance data speeds over twisted pair cables. Extruded profiles were needed to improve the electrical performance of the newest Cat. 6 designs. CCG produced a range of designs to include crosswebs, tubes and tapes. Materials selection was also crucial to meet the higher and higher data speeds as well as enhancement in fire retardancy and low smoke characteristics. CCG's patented FluoroFoam® was introduced, the first chemically foamable perfluoropolymer, i.e., FEP, MFA or PFA, which met all of the aforementioned material selection criteria. It also fit the ultimate goal of lightweighting materials.

Environmentally, less material for flame and smoke generation or less combustibles; and better electrical properties for improved dielectric constant for data cables.

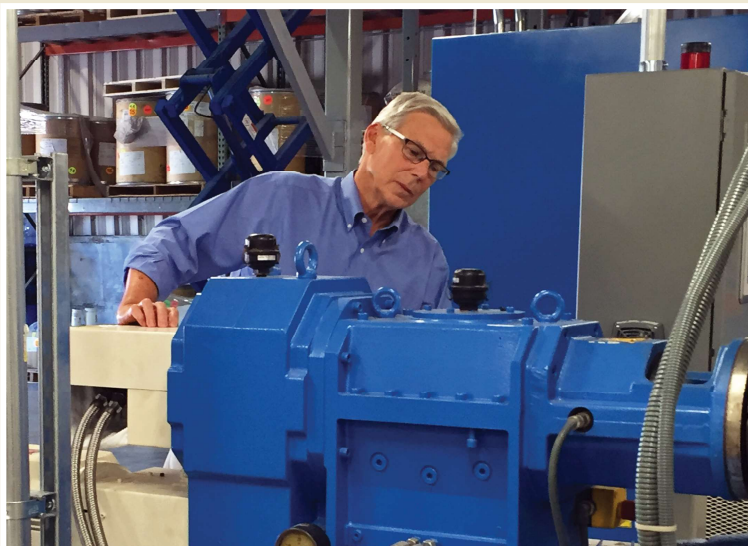
WJI: When do you hope to start supplying compounds, and what is your strategy?

Glew: CCG will be compounding materials on the two new Buss Kneader lines this September. These two lines have the unique capability of compounding materials at lower temperatures enabling the chemical foaming agents and high fire retardancy loading to be incorporated without degradation. This \$3 million capital investment gives CCG the latest computerized compounding technology, and the ability to enter a range of new markets to include aerospace, automotive and the newest materials for power over

Local Area Network (LAN) cables are being formulated with higher performance incorporated in foamable pellets. These new pelletized materials optimize chemical foam rates and fire retardancy characteristics.

WJI: How many new lines will you have, and are you able to fit them in your plant or does it have to be expanded to make this possible?

Glew: CCG has had high temperature twin-screw compounding lines at its facility in Pawcatuck, CT and manufactured FluoroFoam® in a joint collaboration with LEHVOSS North America. A new high temperature twin-screw line is being installed dedicated to the manufacture of FluoroFoam®. This dedication will ensure the highest quality chemically foamable FEP or MFA and mitigate any cross contamination and also support CCG's extrusion of crosswebs, tubes, and tapes, as well as customer demand for



Cable Components Group President Charles Glew by one of the company's two new Buss Kneaders.

chemically foamable pellets for insulation or jackets. The aforementioned two Buss Kneader Lines, along with this high-temperature, twin-screw line, will be CCG's initial full scale compounding capability.

A new materials laboratory has been set up and a LAB twin screw is also being added. This line will be used to qualify materials and allow CCG to manufacture 250 to 500 lb lots for customer evaluation.

WJI: Are you confident you have the expertise you need to do this? Have you made a key hire to head this initiative?

Glew: Unequivocally, we are ready and have some strong talent to support material science innovation. CCG holds 20 patents and half of those patents relate to CCG's formulation for a wide range of foamable pelletized materials.

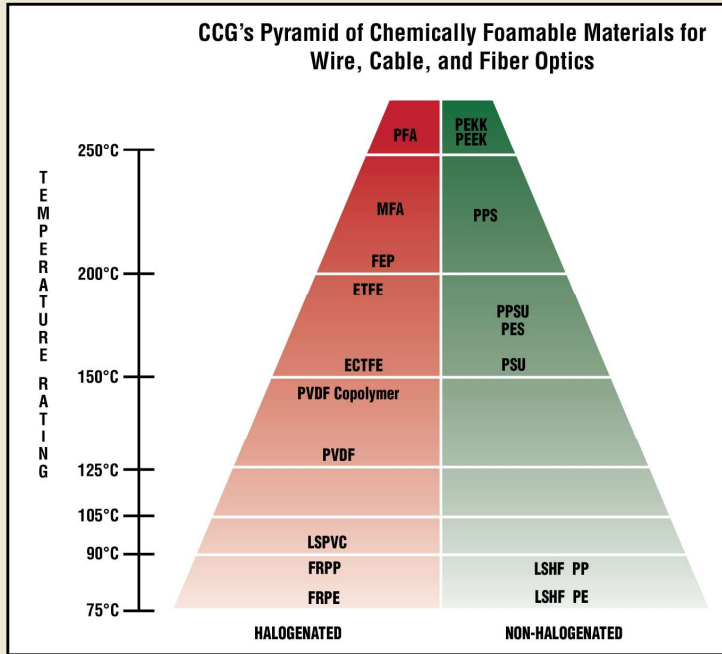
There has been a singular focus towards chemically foaming materials with a vision toward “lightweighting plastics.”

CCG has hired six new people to staff the new compounding area, and two new laboratory technicians. Heading up the team is Kevin Slusarz, M.S., chemical engineering. We are pleased to say our two newest employees are June graduates, Lyle Topa, a mechanical engineer from URI, and David Connor, a chemical engineer from RPI.

WJI: Just how strong do you see the high-end data cable market?

Glew: Currently, the strongest growth market segment in copper cables is for high-speed 4-pair Local Area Network cables (LAN), Cat. 6 and 6A. In 2016, Cat. 6A has grown 55% over 2015, and the expectation is that it will continue that exponential growth rate for several years. Approximately, 500 million feet of Cat. 6A will be sold this year, and an estimated five billion feet of category cable, i.e., Cat. 5e, 6, 6e and 6A, will be sold and installed in North American commercial buildings this year.

WJI: What will future LAN cables have to be able to do?
Glew: New power over LAN cables are now being developed to power communication cables to simultaneously transmit 1 Amp and 200 watts of power, along with the 10 gigabits of data. An array of new devices, from wireless hubs to security cameras to LED lighting, require power that cannot be supplied by fiber optic cables. This duality of function, i.e., (data and wattage) will dramatically increase demand for higher temperature, more thermally stable materials like FluoroFoam® FEP or MFA for insulation, crosswebs and tapes. LAN jackets today have traditionally been rated to 60°C jackets, but that’s not going to be thermally stable enough to withstand the added heat generation with the



CCG is covering a “pyramid” of material needs for the industry.

use of 24, 23 and even 22 AWG wire. The Underwriter Laboratory Limited Power (LP) listing, with 192-cable energized at 1 Amp in a bundle, will be the definitive safety test for these cables and this solid and/or foamed combination of 200°C rated insulation, crossweb, and jacket will be needed to meet this rigorous 2017 National Electric Code safety standard for Power over LAN. ■

Innovations is an occasional section where companies can discuss new technology, going beyond “the specs” to cover aspects such as the real-world need for innovative technology. Companies that would like to be considered for future submissions can send an e-mail to editor@wirenet.org.



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