



## **Rethinking Wire & Cable Filler**

# Not All Wire & Cable Filler Is Created Equal. Neither Are The Suppliers.

Are you giving your datacom, telecom, control, or power & energy cable fillers the love and attention they deserve?

If you are like most cable designers, the last time you gave your filler a second thought was when you first specified it for your product.

Yet filler is critical to your cable's performance and marketability, and it warrants the same engineering attention and considerations as your conductors, configurations, insulation, shielding, and jacketing. Filler makes your cables robust and helps them retain their shape and appearance.

Filler manufacturers have brought a new generation of products to market in recent years. These higher-performing cable fillers are better equipped to address trends now prominent in modern cables, such as the need for greater resilience, the increasing use of superconductors in MRIs and power cables, and market demand for smaller, more economical cable sizes. Additionally, flame-retardant fillers exist that meet emerging regulations covering stronger fire controlling performance for datacom, telecom, and power & energy cables.

In short, filler is a strategic component in your high-performance cables. Upgrading to newer cable filler types, such as fibrillated polypropylene, can deliver benefits you might not have previously considered. These include improved product performance and, equally important, service offerings that have outpaced those that many cable producers have come to accept as standard.

Despite the advantages that newer cable fillers offer, the protocols, spec work and approvals necessary for cable manufacturers to change out this relatively small component in existing products are often perceived as weightier than the potential benefits associated with making the change. Also, there is an inherent risk in replacing a cable component that may have never caused a problem. The "If it isn't broken, don't fix it" mindset comes into play.



But that convenient adage overlooks the risk of being content with what very well might be an inferior alternative when newer solutions that present supply chain and costing efficiencies exist. The fact is, with superior filler products and expert business services now available to minimize risk and maximize benefits, it's time to seriously rethink your wire and cable filler.

## Fibrillated versus monofilament

Let's take a look at the performance of newer generations of fillers, such as fibrillated polypropylene fillers, versus legacy fillers like monofilaments:

One key difference is in the fillers' composition. Fibrillated polypropylene fillers are manufactured into yarns and tapes. They are often customized according to users' specs for fibrillation levels, fiber diameter/density, tensile strength, toughness and elongation. These yarn and tape fillers are highly flexible, making them especially effective at filling a cable's interstices and withstanding the twists and turns that cables may experience in certain conditions, such as emergency cable replacement situations following natural disasters. Without a proper filler, emergency cables can get twisted, damaged and even spin uncontrolled in undesired directions.

Based on a cable's particular application, fibrillated polypropylene fillers offer greater resistance to acids, alkalis and mildew, prevents wicking and water absorption more effectively, and are often 10 percent lighter than monofilament fillers. Their smaller diameters and improved fill rates reduce the need for costly jacketing materials, and they can permit additional cables to fit in existing conduits.

Monofilament polypropylene fillers can be pumped into cables as beads or foams or extruded into a round profile. These products can be customized, but their foamed, beaded, or circular formats often cannot fill cable voids as effectively as fibrillated fillers, and they deliver less resiliency under challenging conditions.

## A new paradigm for service, and a total solution

Along with refinements to filler performance, modern cable filler producers offer a host of powerful service offerings that reduce product performance risk, streamline inventories and speed deliveries. These service providers can help cable manufacturers select a filler that may be more cost-effective than the one currently in use or pre-specified for a new cable design. Product performance plus supplier service combine for a total filler solution.

- **Engineering assistance**

Among the most compelling services offered by a total filler solution provider is the expert applications engineering assistance available to cable designers. When brought into the design process early, filler specialists can specify the optimum filler size, filler type and specs for virtually any new cable design. The benefits to this include expert assurance that your filler will meet all legal requirements and tolerances.

When evaluating existing cable designs for cost saving opportunities, these same specialists employ plotting technology to determine how many conductors are in your cable, the composition, sizes and gauges of those conductors, and how they are twisted together. With this information, these experts can often recommend a less-expensive filler that still meets every engineering requirement. For example, your existing filler may have been "over engineered" with tolerances or properties that are unnecessary for its assigned application. A new filler might be brought in to perform the same function but at a lower overall cost.

- **Inventory services**

Total filler solution providers can shorten your supply chain by holding critical inventory in-stock at all times. Under Guaranteed Customer Inventory programs, for example, warehoused filler product is drop-shipped immediately when surges in demand arise. This service eliminates the order/manufacturing/fulfillment dependency chain, cutting product delivery time from weeks to a single day.

- **Packaging services**

Fibrillated filler manufacturers are now able to provide filler yarn and tape on larger format spools that support longer production runtimes. This reduces downtime for cable manufacturers who would otherwise need to stop production more often to replace or splice in filler supplied on smaller spools.

- **One stop for multiple needs**

Sourcing from filler manufacturers that have a wide-ranging "portfolio approach" to their product offerings can save cable makers' purchasing managers the time and cost of issuing multiple purchase orders to multiple vendors for a single cable. Other cable components produced by some filler manufacturers include binders, core wraps, shields and separators. By presenting a supermarket shopping experience for their customers, these filler companies often deliver several components ordered from a single source and serve as a single point of accountability.

## A case in point

The value of "rethinking your wire and cable filler" was recently made evident at a large offshore manufacturer of P&E cable products. After a collaborative evaluation of the cable company's existing processes, on-site testing showed that using fibrillated cable filler supplied on larger spools would streamline production and increase productivity without impacting cable performance. With the manufacturing gains self-evident, the decision to change cable fillers was an easy one to make.



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The world's top wire & cable manufacturers trust our innovative engineering, converting, and manufacturing solutions to improve their products and their bottom lines.

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