Plastic Optical Fiber

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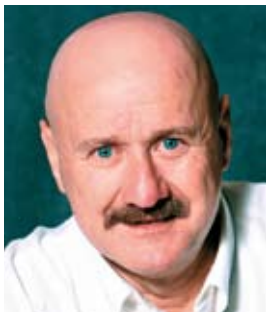

OPASTCO Technical Director John McHugh receives a steady stream of calls and e-mails from OPASTCO members looking for answers to their technical questions. McHugh & A shares some of these questions and answers with the *OPASTCO Roundtable* readership.

Q: Can Plastic Optical Fiber (POF) be used as an option for home networking?

A: If you are thinking of pre-wiring or rewiring your customer's home or business for a home network, there are many alternatives to consider. In the past we have talked about CAT-5 or CA-T6 copper, COAX (MoCA), using existing telephone and/or electrical wiring (HNPA). Another option is the use of Plastic Optical Fiber (POF), which has emerged as an alternative to these other options.

If you google POF, you may come back with "Plenty of Fish," an online dating service, or the "Patriot Ordnance Factory," a rifle manufacturer. To reach a Website that is a good source of information on POF, try the Plastic Optical Fiber Trade Organization (www.pofto.com.)

What makes this option interesting is that POF isn't new, but there are new uses for it. The original use of PolyMethyl MethAcrylate (PMMA), which most POF is made from, is as a transparent plastic could be used as a replacement for glass. The product produced from PMMA that we are most familiar with is Plexiglas. Developed in the late 1920s, and first brought to market in the early 1930s, PMMA has been used in products such as the impact resistant glass used around hockey rinks, helmet visors and the windows in most aircraft. There obviously are many more uses for PMMA, but POF is one the telecommunications industry is focusing on as a cost-effective replacement for copper-based solutions.

So what makes POF a viable option? First, the cost of the cable and connectors is inexpensive, and as more equipment manufacturers of TVs, set top boxes, and various modems and terminal devices integrate the fiber optic transceiver capability into their products, the cost and convenience of using POF will continue to decline. POF is currently being used in many different ways, such as automobile wiring and local area networks.

With POF's ease of installation, safety features (it is non-metallic, non-conductive), flexibility and rapid troubleshooting capability from its use of a 650 nano meter red light to transport the data the signal is visible to the eye, this means a red light on insures connectivity while the absence of a visible red light indicates no signal. Pretty simple.

Typical ranges for POF use would be around 100 meters (approx 330 feet) with data transfer rates of around 100Mbps. POF appears to be yet another option for home networking connectivity if the gateways and the devices that attach to them are capable of supporting this technology. Converters are available to interface with existing RJ45 ports but this would add to the cost and ease of installation.

Have a technical question about any aspect of your telco business? Your name will not be revealed, but please include it in your e-mail. Questions may be edited in order to provide more relevance to a larger audience. Send your question to roundtable@opastco.org.