

When Indiana State University (ISU) decided to renovate its Sycamore Dining Hall, it had a small window of opportunity – from late April, around the time the Spring 2019 semester ended, through the opening of the Fall semester in September. The fast-paced project was helped in part by an innovative delivery system for the GenSPEED® 10 Category 6A cables supplied by General Cable, a Prysmian Group Company.



The goals of the renovation: To update the structure, modernize its appearance, and provide more services, greater accessibility and comfort, all in a few months – a tall order for the contractors and suppliers working on the 35,000-square foot facility located on the school's Terre Haute campus.

To provide voice and data communications, the school specified GenSPEED 10 Category 6A cable for a network that would provide 10 Gigabit per second transmission over a wide range of devices including phones, computers, security cameras, time clocks and an AV system in the building's conference room.

The GenSPEED solution: GenSPEED 10, the first in the industry to offer a 0.250-inch overall diameter, features a revolutionary design that provides the optimal blend of product performance and size. Combined with enhanced performance and maneuverability, GenSPEED 10's innovative technology and reduced size is perfect for migrating to a Cat 6A infrastructure, enabling improved cable management, installation and handling.

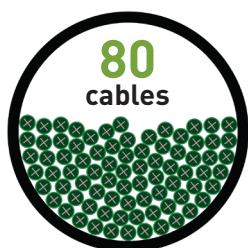
General Cable recommended providing the cable in packaging that used REELEX® tangle-free technology. REELEX is a patented method of winding cord, wire, cable or tubing into a figure-eight coil. Known to General Cable as a Pull-Pac®, the method results in a reel-less, self-supporting coil that dispenses from the inside-out without twists, tangles, snags or overruns. Because the coil does not rotate during payout, there is no inertia and, therefore, no need for payoff stands or brakes. And since the coil does not require any moving parts as a means of dispensing the product, it may be packaged in a wide variety of shapes and materials, or simply placed in a cardboard box.

The cable installation was performed by C-CAT, an Indianapolis-based contractor specializing in infrastructure and low-voltage cabling services for government, educational and commercial facilities. Kaley Davis, Operations Manager, for C-CAT, said the delivery of GenSPEED cable in Pull-Pac packaging offered several significant advantages for the four-person crew working in a very demanding environment.

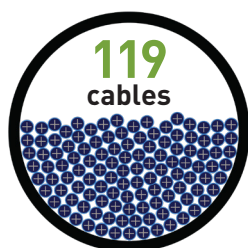
“With Pull-Pac boxes, once you get the pull started, that person can leave the staging area and work somewhere else. That's like having an extra member of the crew.”

– Kaley Davis, Operations Manager, C-CAT

“Because of the aggressive schedule for the project, the job site was a little rougher than we're used to for a cable pull,” Davis said. **“There was a lot of construction still going on, and people from several different trades working around us.”** Davis said the project was especially challenging because of the open ceiling called for by the renovation: **“This job was unusual because we had to deal with lots of ceiling space due to design. We had to find ways to conceal the cable, and we did that by working with, and around, the other trades involved in the project.”**



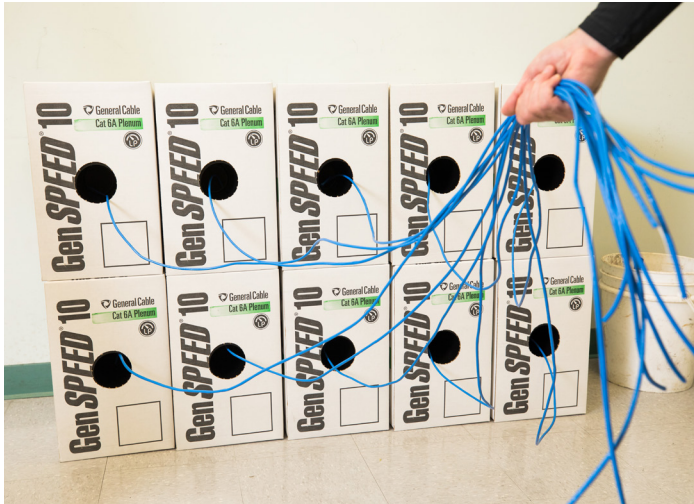
4 inch conduit with
0.300" OD cable



4 inch conduit with
GenSPEED 10
(0.250" OD)



The reduced diameter of GenSPEED 10 helped simplify the cable management: it is the only cable to allow up to 119 cables in a 4-inch conduit compared to 80 cables in a traditional Cat 6A product. The delivery of the cable in Pull-Pac boxes, rather than on reels, also made a big difference to the crew. In addition to being easy to carry, stack and store, the sturdy boxes protected the GenSPEED cable in the busy work environment.



"Our crews are used to working with both packaging types - spools and boxed cable - but we highly prefer boxed cable," Davis said. "If the cable is on a reel, it's much more vulnerable than it is in a cardboard box, especially on a busy job site like this one," she added. "Of course, the boxes aren't bullet-proof, but we felt confident they wouldn't get damaged, dinged or gashed by the workers and equipment around them."

The boxed cable can be transported into the work site by hand or by skid, if allowed. Because of their shape, pallets can be double stacked (reels cannot), resulting in **11 percent more volume per truckload**.

In the ISU facility, cable runs were from a network closet in the basement to multiple phone and data points within the food services area. The Pull-Pac boxes were placed as close as possible to the data closet, which became the staging area, from which the cable ran to pull points throughout the site. Unlike spools, which require a reel stand at the pull point, the boxes just sit on the floor, so no extra equipment is needed.

The result, based on transportation and installation, can be an average labor savings of 20-30 percent for the contractor over the length of the project.

"On a typical project, we'll pull eight to twelve boxes at a time. We number each box and keep an eye on the footage," Davis said. "We liked the way that the cable wanted to stay straight when it came out of the box," she added, noting that cable in other packaging options tends to coil once off the spool. By comparison, the cable out of a Pull-Pac package requires less straightening that needs to be done by the installer as the cable is being pulled.

Describing the job set-up, she added, *"Whether the cable is on a reel or in a box, we put one worker at the staging area, another at the pull point, and one at the connection. With a reel, you need that first person to stay at the staging area throughout the job. The pull point is 150-200 feet from the reel. With 10 cables going, there's too much tension on the reel. With Pull-Pac boxes, once you get the pull started, that person can leave the staging area and work somewhere else", she noted. "That's like having an extra member of the crew."* C-CAT installed an average of about 100 cables a day, with the longest run at just under 300 feet and a total for the project of 40,000 feet. The result, based on transportation and pulling, can be an **average labor savings of 20-30 percent for the contractor over the length of the project**.

And once the job is over, the contractor also benefits from less waste and more recyclability. Compared with other packaging methods, Pull-Pac allows the greatest opportunity to use recyclable, reusable, compostable, and reclaimed materials. Empty Pull-Pac packages take **up to 39 percent less volume when broken down compared to spools**.

Combined with the improved design, lighter weight and increased flexibility of the GenSPEED 10 cable, the use of the Pull-Pac translated to simplified cable handling, optimized cable management and lower overall project costs for this quick turn-around project.