

# CASE STUDY: BRINGING MORE FIBER TO COTTON

Using fiber optic cable to improve connectivity at two Texas cotton gins.

When discussing fiber and audio/video installation, one usually thinks of fiber optic cable, not the fibers that go into thread or cloth. Some installations, however, involve both.

For two installations by West Texas Data-Comm, fiber optic cable was needed to keep a different kind of fiber operation up and running: cotton.

## A Different Kind of Fiber Technology

When picked, cotton fibers are intermixed with seeds. These seeds must be completely removed before fibers can be used, historically a major problem of mass cotton production. The cotton gin's development in 1793 allowed much faster processing, and, as might be imagined, technology has only improved over time. Today's high volume cotton gins can often produce 60 bales per hour, with the most advanced facilities processing as many as 120 bales per hour. For reference, the average bale weighs about 500 pounds, with a volume of 17 cubic feet. That's a lot of cotton fibers!

Today in the United States, these masses of cotton are only produced in a few places. According to the National Cotton Council, over the last 30 years, the number of cotton gins has decreased by 75%. As of 2020, there were reportedly

only 208 cotton gins running in Texas. The combination of high volume and limited locations, plus a short operational season (approximately October through April), means that cotton gin facilities have little room for error.

How do they stay up and running? Through data and automation. Advanced software helps track detailed information like bale and seed weights, crucial for making sure farmers are paid correctly. Additional monitoring software ensures that operators know immediately of any machine faults. All of this data requires high bandwidth and high-speed connections, which is where another type of fiber comes in: fiber optic cable.

## West Texas Data-Comm

When Joel Peterson, Partner at West Texas Data-Comm, got the call that a cotton gin needed to get new equipment online, he knew the installation solution need to be robust and, most importantly, fast to install and maintain. Peterson has been working in the audio/video industry since the late '80s, and, with his business partner, launched West Texas Data-Comm in 2007. Over the last 14 years, West Texas Data-Comm has worked in almost every low



voltage environment, from residential to commercial and industrial installations. Their experience has also made them the go-to network contractors for a major cotton marketing cooperative.

To meet the cotton gin’s needs, Peterson knew he needed a product that could handle large amounts of data and hold up under industrial conditions. The gin’s operational team already had existing fiber in a conduit, but it was part of a different network. New fiber was needed to bring the new components online. A Snap One dealer, Peterson thought immediately of a product he had seen on several webinars hosted by the group: Cleerline SSF™ fiber. Cleerline SSF™ is constructed using a patented polymer coating at the glass level, making it stronger and far faster to terminate than traditional glass fibers. On the recommendation of Cleerline’s sales team, Peterson chose 1000 feet of 6 strand Cleerline SSF™ Rugged Micro Distribution in single mode.

Cleerline SSF™ Rugged Micro Distribution features a riser-rated PVC outer jacket around an inner 3.0 millimeter subunit. An additional layer of fiberglass yarns within the outer jacket adds strength and helps to resist any rodents that might investigate the cable. The cable is ideal for installations that transition from conduits to indoor environments. Paired with Cleerline SSF™ LC connectors, Rugged Micro Distribution was the perfect solution for West Texas Data-Comm’s installation.

### Speed is Key

“SSF” stands for Stronger, Safer, Faster. As Peterson notes, “It’s “SSF” for a reason. The key to this is *faster*.” West Texas Data-Comm was able to get the cotton gin up and running quickly. Cleerline SSF™ fiber and connectors are designed for easy termination, making installation simple. The glass’s polymer coating keeps it protected, meaning that handling is much easier (no dangerous glass shards and no extensive hard acrylate removal).



Even though West Texas Data-Comm had not used Cleerline SSF™ before, Peterson was able to get up to speed thanks to Cleerline’s online instructional videos. The process, Peterson notes, was “about as close as you can get” to foolproof. The ease of the termination also allowed West Texas Data-Comm to work without a dedicated fiber contractor, reducing delays related to scheduling and coordination.

Cleerline technology also provided the benefit of easy repair. Given the simplicity of installation, Peterson knew that, in case of future damage to fiber or connectors, re-termination would also be simple. If problems were to occur in the future, downtime would be limited.

The cotton gin’s new equipment was online rapidly, and West Texas Data-Comm ended up with fiber to spare! This turned out to be fortuitous, because another cotton gin installation was soon on the way.

In this case, the cotton gin operators needed to replace a wireless link between buildings 300 feet away from each other. West Texas’ high winds were periodically wreaking havoc on the signal, and a more reliable solution was





needed. Peterson suggested two options: install Cleerline SSF™ Armored Direct Burial cable (no conduit required), or choose SSF™ Rugged Micro Distribution plus additional conduit. In this case, the facility’s managers opted to install conduit and SSF™ Rugged Micro Distribution. There was only one snag: time.

**“It’s “SSF” for a reason. The key to this is faster.”**

**- Joel Peterson**

The call for this installation came in almost at the beginning of cotton gin season. In such a time-sensitive environment, no one can afford to wait for cabling, and in this case, they did not have to! West Texas Data-Comm was able to start fiber termination on a Friday morning and finish that afternoon, ready for system testing on Saturday.

Peterson notes that Cleerline technology was a major aid in the two installations. Equipment locations in the facilities, especially the first, were not all easily accessible. While this might have been a deal-breaker (or fiber-breaker) for

traditional fibers, he was even able to successfully install Cleerline connectors while 6 feet up on a ladder. Peterson also used Cleerline accessories like one-click type fiber optic cleaners and outdoor terminal boxes to keep cotton fibers out of the optical fibers.

“It’s easy,” says Peterson. “It’s an easy product to use.”

Another benefit? Cost savings. West Texas Data-Comm was able to complete the second installation for under 50% the cost quoted by a competitor.

Peterson hopes that the ease of termination and maintenance, coupled with the cost savings, will help West Texas Data-Comm bring even more fiber to cotton gins over the coming seasons.

“Cleerline,” Peterson concludes, “was obviously the clear choice.” ■

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## About Cleerline

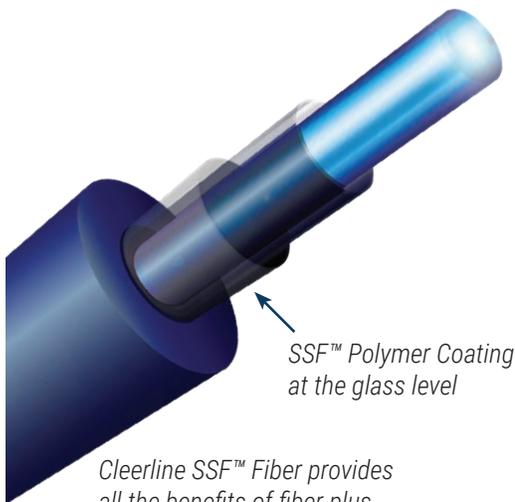
Cleerline Technology Group provides complete solutions for every fiber optic application. Whether your installation is in a commercial environment or a residential dwelling, Cleerline has the fiber optic components you need. From our unique fiber optic cable to connectors, termination tools, enclosures, and more, Cleerline is Fiber Optics Redefined.

Cleerline SSF™ Stronger, Safer, Faster-to-terminate optical fiber uses an innovative Glass, Glass, Polymer design. The integral SSF™ polymer coating dramatically improves the bend insensitivity and strength of the glass, allowing fiber termination in as little as one minute.

**Stronger** - SSF™ fiber has up to 10,000 times the bend capacity of other bend insensitive fibers on the market.

**Safer** - SSF™ polymer protects installers from glass shards and helps prevent glass contamination.

**Faster** - The SSF™ termination process requires far less training than traditional fiber, saving time and labor.



*Cleerline SSF™ Fiber provides all the benefits of fiber plus increased strength and safety.*

## KEY DETAILS

### SCOPE OF WORK:

Improve connectivity at two cotton gin facilities

### DISTANCE:

Installation 1: 320 feet; Installation 2: 650 feet

### CHALLENGES:

Limited time, industrial environment

### FIBER TYPE:

Single Mode

### FIBER CONFIGURATION:

6 strand Rugged Micro Distribution

### CLEERLINE SSF™ TOOLS USED:

SSF™ LC Connectors, Termination Kit, Patch Cables, One-Click Type Cleaners, Outdoor Terminal Box

### RESULT:

Fast and successful installation, cost savings

## Citations

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**BULK FIBER**



**CONNECTORS**



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