Gates

Case Study

Fiber Optic Network Provides Unlimited Bandwidth for Voice and Data Services between Two Manufacturing Plants

Summary

Gates needed a solution to connect two buildings for data/network connectivity without the added expense of an internet servive provider (ISP) for phone and internet. These two plants located in Jefferson, NC, Gates manufactures hydraulic tubes for brakes and serpentine/fan belts for use on cars, trucks and military vehicles.

Challenge

The Gates' tube manufacturing plant, which was located in a nearby town, was destroyed in a tornado. The city of Jefferson, NC, owned a building next to the Gates' serpentine/belt manufacturing facility and sold it to Gates to keep jobs locally. The challenge was that there was no pole access between the two buildings and a road to cross. Gates wanted to install a six-strand OM3 50 µm fiber and required the installation to be done within a three-week time frame in order to get the new facility up and running.

Solution

AFL conducted a survey with the customer to discuss options on how to achieve their goals. The distance between the two main distribution frames (MDF) was measured and it was determined that the OM3 50 um fiber would be out of specification due to distance between the two facilities. AFL recommended that Gates upgrade to OS2 single-mode, 24-strand fiber which provides an unlimited amount of bandwidth and speed for communication between users in both buildings.

AFL designed a solution for the transportation of the fiber from MDF to MDF utilizing outside plant (OSP) fiber construction. AFL also recommended and installed between the two buildings, a two-inch, OSP-rated conduit that was directly bored underground and under the road.

Additionally AFL designed a solution to take the OSP fiber once it entered the buildings. Using two-inch EMT conduit, AFL made sure that at each 90-degree turn that the electrical contractor installed factory-made 90-degree sweeping bend. After the sweeping bend, the electrical contractor installed a pull box for the ease of pulling the fiber through the conduit.

Results

Currently Gates is only using two-to-four of the single-mode fibers for their voice and data needs. As future applications become more bandwidth intensive, Gates already has the network capacity in place without the expense of having to put in more fiber or additional network upgrades.

AFL