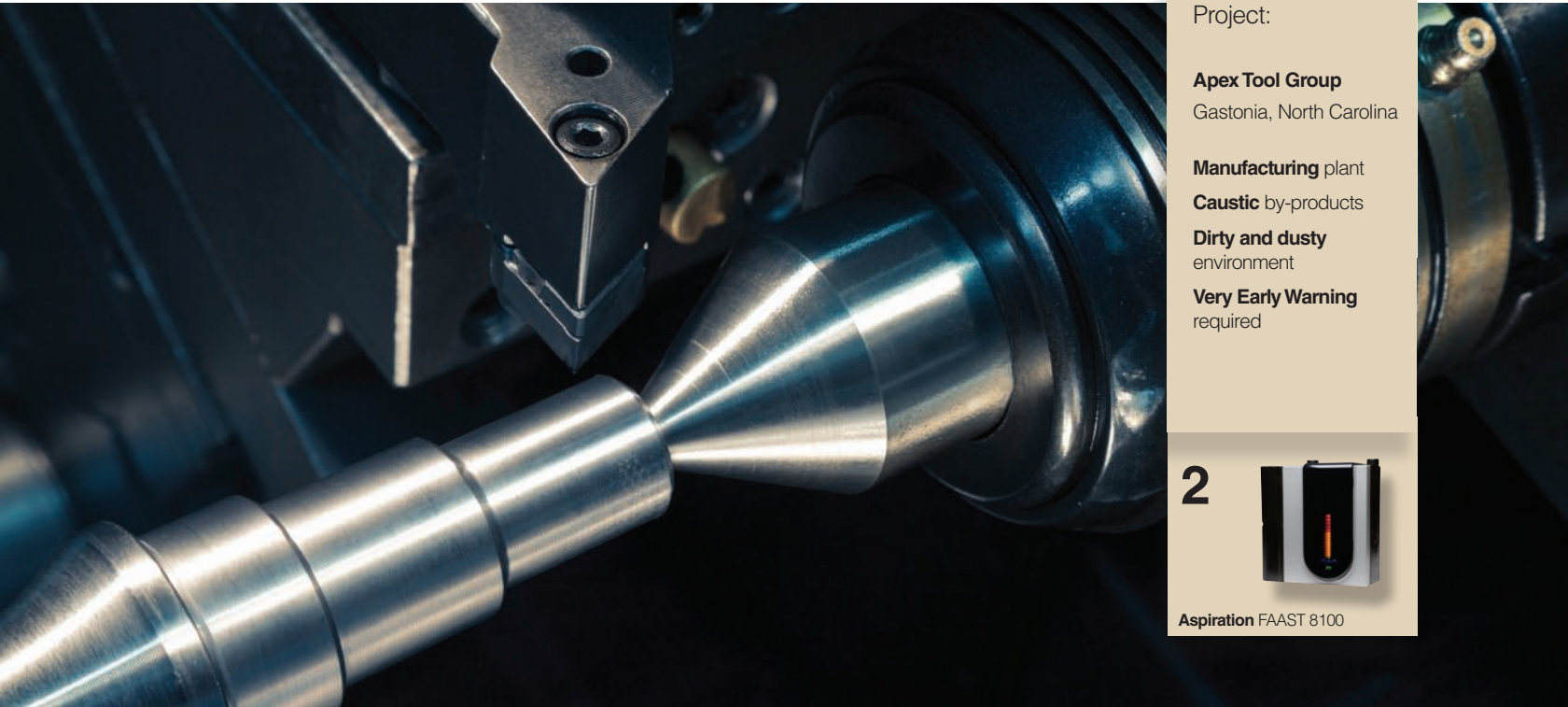




Case Study: **Apex Tool Group**

# FAAST Handles Plant's Dirty Work



Project:

**Apex Tool Group**  
Gastonia, North Carolina

**Manufacturing plant**  
**Caustic** by-products

**Dirty and dusty**  
environment

**Very Early Warning**  
required

2



Aspiration FAAST 8100

The aspiration detection system is an ideal fit in Apex Tool Group's hand-tool manufacturing facility because it **rejects nuisance alarms** caused by dirt and dust.

The Apex Tool Group is a billion-dollar tool manufacturing company with over 90 manufacturing facilities worldwide. One such facility is its hand tool manufacturing plant in Gastonia, North Carolina. This particular plant specializes in processing raw metal into well-known brands of hand tools and sockets for industrial, commercial and do-it-yourself customers. The manufacturing process to make 30 brands of hand tools creates caustic by-products and an extremely dirty environment.

This posed difficult challenges for Integrated Technical Services, LLC, the company that designed, installed and now maintains Apex's fire system at the Gastonia facility. "The Apex plant is processing latex and other chemicals, causing particles to constantly flow through the air. There's a fine layer of powder (residue) everywhere in the basement that gets into everything," says Jamie Colley, president of Integrated Technical Services.

This type of environment causes many



hazards the company must address, including the difficulty to detect smoke and ultimately a fire. “There was a switchgear room in the basement and a compressor room next to the production floor that were not as clean as an environment should be for smoke detection,” Colley adds.

Apex’s insurance company required the company to install smoke detection in two of its switchgear rooms. “Conventional smoke detectors in those rooms were counterproductive. They would be having nuisance alarms and dirty detector warnings every couple of months,” says Colley.

Colley, who has been working with aspiration systems for over 10 years, looked into the System Sensor FFAST Fire Alarm Aspiration

was well-suited for this project because of its ability to reject nuisance conditions. “We were pretty sensitive to the company not having nuisance alarms. FFAST was the better option for this application.” he says.

Colley programmed FFAST to monitor four stages of smoke and trouble conditions. “The way we set it up,” he explains, “everything except *fire2* is set up as a supervisory condition. So we tied to the various relays for the various stages of alert – *action1*, *fire 1*, *fire 2*, and *trouble contact* with addressable modules. There were no equipment cabinets, just sampling points in the PVC pipe. There were two sampling points added to the basement room and four installed into the upstairs compressor room. There was an addressable

“Conventional smoke detectors in those rooms were counterproductive. They would be having **nuisance alarms** and **dirty detector warnings** every couple of months.”

— **Jamie Colley**, president of Integrated Technical Services

Sensing Technology® as an option.

The FFAST 8100 aspirating smoke detector is designed to provide early or very early warning fire detection while minimizing false alarms – both required for a safer working environment in the Apex facility. To achieve this, the detector utilizes a unique dual vision sensing technology that uses a high-sensitivity blue LED to detect incipient fire conditions (with particulate levels as low as 0.00046 %/ft obscuration) and an infrared laser to detect larger nuisance particulate. Advanced algorithms process data from both sensors to provide the earliest and most accurate fire detection available.

“I like the concept and benefit of the FFAST dual technology as a safeguard against false alarms,” says Colley. “Any time you are sucking particulates into a unit that sensitive, you want to make sure you are actually creating an alarm when an alarm is needed, not creating nuisances. The dual sensor is a more effective means of filtering out the actual smoke.”

Colley, who has worked with aspiration detection in the past, determined that FFAST

fire alarm panel we put in last year, so we were able to connect to it.”

The fire panel is at the guard station. When there is an alert, the guard can view the camera monitor to see if there is any smoke in the area and dispatch someone to investigate the area in question without calling the fire department or evacuating the building. If the system would alarm at a *fire 2*, it would set off the horns and notify the fire department – treating it as a building fire.

Soon after installation at the manufacturing facility, FFAST was put to the test. Colley received a call from Apex when FFAST alarmed at an *action 1*. “There was an actual smoke event on the production floor,” Colley explains. “Smoke had seeped from the production floor into the compressor room next door, where FFAST was installed, creating an alert. When they went out to investigate it, they determined there was smoke in the area. It didn’t initiate in the control room, but it still picked up the early stages of smoke in the area.

“FAAST really did exactly what it was supposed to do,” says Colley.



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