

Performance and Safety Issues

Found in Offshore Communications Cable Products

Improvements Needed

to Conformance Testing Programs in North America

October 28, 2008

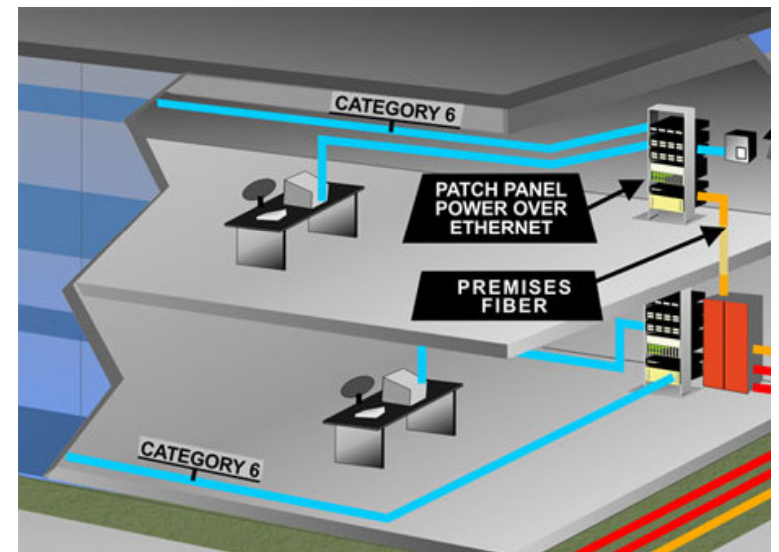
Background

- The North American market is being flooded with very inexpensive communications cable products that utilize low grade materials and manufacturing processes.
- CCCA members were concerned that these products do not meet industry safety and performance standards.
- The CCCA commissioned an independent lab to verify its concern by testing nine different samples to industry standards.



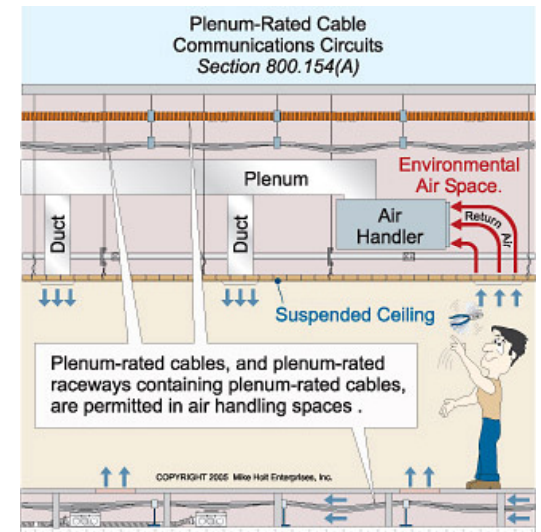
Communications Cable Products

- The cables of concern are local area network (LAN) cables. Also known as copper data cables.
- LAN cables are the primary media used for interconnecting wired computer networks and telephones.
- Over 6 billion feet of Category 5e and Category 6 cables is sold in North America annually.
- LAN cables are typically hidden behind walls and ceilings.



Samples Selected

- All 9 samples were manufactured in either China or Taiwan.
- Samples consisted of Category 5e and 6 cables with CMR (riser) and CMP (plenum) safety ratings.
- CMR rated cables are used in commercial buildings and in multi-tenant residences. CMP cables are used in plenum air spaces in commercial buildings.
- All samples were obtained through various North American distribution companies, who typically sell to contractors. Contractors, in turn, install the cables into homes and workplaces.
- All samples had brand names that would largely be considered “unknown” in North America.



Summary of Test Results

- 9 out of 9 failed to meet all minimum physical requirements for communications cable (per specification TIA 568-B.2).
- 4 out of 9 failed to meet all minimum electrical test requirements for communications cable (per specification TIA 568-B.2).
- 8 out of 9 failed to meet the minimum flame/smoke safety requirements specified by the National Electrical Code (specifications UL 1666 and NFPA 262)
- We believe that the manufacturers of these failing products are using substandard materials for profit motives, without regard to the safety of building inhabitants.

Many Catastrophic Results

- 4 out of 5 CMR (riser) rated cables failed the UL 1666 flame test
 - all 4 failing cables burned the entire length of the test chamber
 - The worst performing cable burned beyond the maximum length allowed in only 45 seconds and reached a temperature of 2000 deg F
- 4 out of 4 CMP (plenum) rated cables failed the NFPA 262 plenum test
 - All 4 samples showed peak smoke levels that were at least 3X higher than maximum allowable levels
 - The worst performing cable had disastrous results
 - Peak smoke levels were >4X higher than maximum allowable levels
 - Average smoke levels were >5X higher than maximum allowable levels
 - Flame spread reached maximum length of the chamber within 6 minutes

Safety Risk

- LAN cables are typically hidden from site (behind walls, ceilings, plenum spaces).
- Cables which fail minimum flame/smoke standards pose a dangerous safety risk because combustion would not be evident to building inhabitants until it had progressed significantly.

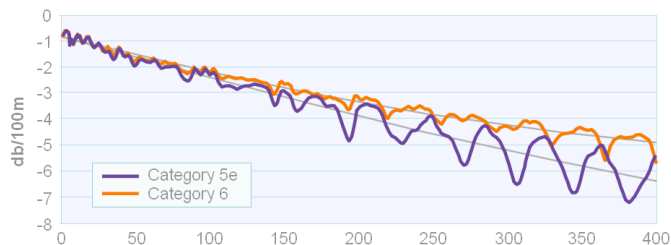


Liability Issue

- The Consumer Products Safety Act makes it illegal to knowingly *“manufacture for sale, offer for sale, distribute in commerce, or import into the United States any consumer product which is not in conformity with an applicable consumer product safety standard under this chapter...”* .
- The Consumer Products Safety Improvement Act (signed into law on August 14th, 2008) increased the penalties for violations to a maximum of \$15 million .
- Distributors and Contractors should be concerned about reselling cable products that fail to meet safety standards.

Performance Issues

- Safety is the #1 concern, but sub-standard electrical and physical performance is also an issue for customers.
 - Cables that fail to meet minimum performance standards can slow down network performance
 - Very poor cable performance can result in network failures, which leads to lost productivity and expensive corrective actions
- Products that fail to meet minimum industry standards could be subject to false advertising claims.
- Customers of these products are being deceived by false claims on packaging.



Current Testing Programs are Failing the Industry

- All of the 9 product samples were marked with the name of the compliance testing agency that is supposed to assure product performance.
- The compliance testing agency typically selects products from manufacturing site location and tests it to industry specifications.
- No field testing is performed by the testing agency
- Our sample test results strongly imply that different products are being shipped to North America than those that are being tested by the testing agency.

New Certification Program Needed

- A new certification program is needed to restore confidence that communications products perform as advertised
- Testing of products taken from the marketplace is a critical component that is currently missing
- The CCCA plans on working with the two major testing agencies in North America to develop a program that will provide better assurance of safety and quality
- Program will initially include copper communications cables, but will be extended fiber cable, patch cords and other communications infrastructure products

