

## Consequences of Using Non-Conforming Electrical Building Wire

Over the past several years the North American electrical products industry has experienced an influx of products produced in various parts of the world that do not meet the safety and performance standards established for our market. These non-conforming products span the entire product range of our industry, including aluminum building wire. Non-compliant electrical products are of great concern because of the serious safety implications they can have to the entire industry.

In North America, we use a consensus process to develop rigorous standards for product manufacture. In the United States, these safety standards are maintained by Underwriters Laboratories, Inc. (UL).

Unfortunately, some manufacturers are misusing the UL marking and applying it to inferior products, which do not meet industry standards. This mislabeling has the potential to create serious safety and reliability issues for those distributing and installing these products.

Alcan Cable is committed to providing education to the marketplace and to informing key stakeholders about the risks associated with non-conforming products, as well as the current situation in the market. The following information is intended to answer questions that are becoming more urgent for anyone buying electrical products in North America.

### 1. How does product non-conformance relate to building wire?

This is a product quality issue. Products that do not meet the recognized product industry standards in North America may not meet the performance and safety expectations we have all come to depend on for our homes and buildings.

Recent sample testing of suspected substandard electrical cable found the cable was not in compliance with UL 44 or UL 1581 product requirements.

### 2. What products are most often appearing with the UL label and are non-compliant?

To date, to our knowledge, there have been reports of non-compliance of both XHHW-2 and MC Cable products.

### 3. What are some ways non-conforming products can be inferior to those meeting the required standards?

Based on concerns expressed to Alcan Cable from members of the building construction industry, we have completed internal testing and commissioned third party testing of building wire products thought to be non-conforming. Our testing program has yielded some startling results.

Samples of suspected substandard XHHW-2 conductors tested have shown that these conductors failed the required flame tests, do not meet UL standards for tensile strength, have insulation material that does not meet minimum wall thickness, and have conductor material that exceeds maximum UL diameter requirements.

Initial testing of MC Cable products suspected as non-conforming has shown that the cable armoring does not comply with crush standards, fails the horizontal flame test, fails the tightness standard, and the conductor material does not meet the minimum UL standard for tensile strength.

Yet, these samples exhibit the UL Regulatory approval mark indicating compliance with applicable product safety standards.

### 4. How does the UL Mark for product certifications work?

The UL website ([www.ul.com](http://www.ul.com)) has an excellent description of how the process works.

### 5. Can a contractor be liable for damages and losses arising from a non-compliant product?

Yes. Contractor liability arises from damage caused by the product. Contractors need to understand the risk they undertake as the installer of non-compliant building wire products. By purchasing and installing non-compliant products, contractors risk exposing themselves to liability for product failures and any resulting safety issues. In the event of long-term product reliability issues, there may be no recourse for building owners and contractors who have issues with electrical product quality or performance.

Alcan Cable understands that the electrical contractor may be legally responsible and consequently should be wary of any product that is not produced by an approved manufacturer, certified by a nationally recognized testing service and sold by a wholesale electrical distributor.

### 6. How can buyers identify non-conforming aluminum building wire products?

It can be very difficult to visually detect non-conformance issues. Alcan Cable recommends that you ask your supplier about the plant location, manufacturing process integrity and process controls in place before making a purchase commitment. Contractors can also request a Certificate of Origin from your supplier. This will help clarify exactly where the material you are purchasing was produced. Every applicant using the UL mark must use the UL Mark or the letters "UL" and must include the Company Name. Each Company holding certification will be listed by UL in the Certifications directory. Contractors or Buyers can trace the Company Name by accessing the certification listing using <http://www.ul.com/about>. Click on "Certifications" and enter the manufacturer name. If that manufacturer is approved to use the UL mark the product descriptions will be listed as shown in figure 1.

Figure 1

Company Name	Category Name	Link to File
ALCAN CABLE, DIV OF ALCAN ALUMINUM CORP	Aluminum Wire Stock, Conductor Material - Component	<a href="#">QVUSP_E60334</a>
ALCAN CABLE, DIV OF ALCAN ALUMINUM CORP	Power and Control Tray Cable	<a href="#">QPOR_E179238</a>
ALCAN CABLE, DIV OF ALCAN ALUMINUM CORP	Processed Wire	<a href="#">ZGUL_E174990</a>
ALCAN CABLE, DIV OF ALCAN ALUMINUM CORP	Service-entrance Cable	<a href="#">TJAZ_E32725</a>

### 7. Are non-compliant products priced the same as locally manufactured products?

No, non-compliant cable is often priced lower than compliant product. If the price appears too good to be true, you should be extra vigilant in your research of the product's quality and manufacturing process. Contractors should always ask their supplier about the manufacturing plant location before they buy because with these non-compliant products there is no guarantee of quality or safety.

### 8. Is there anything I can write into my purchasing specification to protect myself?

We highly recommend going with wholesale distributors because it is our understanding that non-compliant products are being sold through specialty distributors. You can change your purchasing standard to require legitimate UL approved products. Also, you can ask your vendor to produce a Certificate of Origin and a Certificate of Compliance including reference to the manufacturer UL Follow-Up Service Procedure file number which can be used as traceability back to the UL approval. Ultimately, use the UL web site to look up certified manufacturers.

For aluminum alloy building wire products, you can specify STABLOY®, an Alcan Cable brand, to ensure you will always have a quality product that meets or exceeds industry standards and is produced by a company that has stood behind our products for over 100 years. Alcan Cable tests every foot of its aluminum building wire to ensure quality and defect free materials. You should ask your suppliers to provide similar assurances.

### 9. What is UL doing about the rapid influx of electrical conductors produced by unapproved suppliers arriving in the U.S. market?

We have provided our test results to UL, and it is our understanding that UL is aware of non-conformances. We believe that UL is addressing it directly with those manufacturers whose products have shown non-conformance. At this point, we are relying on UL's internal procedures to address these situations.

### 10. If I suspect I have non-conforming aluminum building wire what should I do? Whom do I report it to?

You can go to [www.ul.com/contact.html](http://www.ul.com/contact.html) and fill in the available information and a UL representative will contact you to follow-up on your request. If you have product samples, save them until you are asked to submit them to UL.

This non-compliant product quality issue really does affect the entire industry, from manufacturers to distributors and contractors to building owners. At Alcan Cable, we care about the reputation of our industry and strongly believe it is important to raise awareness of non-compliant products and the misuse of the UL mark.

#### Alcan Cable

Three Ravinia Drive, Suite 1600, Atlanta, Georgia 30346 | Tel (770) 392-2307 Toll Free (800) 347-0571 Ext. 2307

