Low Voltage Wires and Cables: New Applications for Thermoplastics

Chapter 1 of 3: A Global Mini Database of Constructions

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ANALYSIS OUTLINE: Chapter 1

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ANALYSIS OBJECTIVES

The Chapter 1 database of constructions . . .

- Identifies common cable constructions used in low voltage electrical/electronic applications
- Identifies low voltage cable sectors and applications using thermoplastics
- Provides a graphic depiction of the cross-section
- Identifies the typical materials of construction for the insulation, jacket, and sheathing
- Identifies specifications and regulatory requirements for each cable

DATABASE EXAMPLE

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<th>WIRE/CABLE COMMON NAME</th>
<th>APPLICATION</th>
<th>CROSS-SECTION</th>
<th>TYPICAL CONSTRUCTION</th>
<th>SPECIFICATION/REGULATORY REQUIREMENTS</th>
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<td>UL 20855 Halogen-free Digital Video Interface (DVI) Cable</td>
<td>Digital video interface between a PC and VGA monitor</td>
<td>Multiple shielded twisted pairs cores (4-7) with a braid shield</td>
<td>Foamed PE/FRPE - Tinned copper braid - Aluminum-Mylar</td>
<td>UL 20855, DDWG Rev 1.0, IEC 60754-2 - Rated temp.: 80°C - Rated voltage: 30 V - Vertical flame test: UL VW-1 &amp; CSA FT1</td>
</tr>
<tr>
<td>UL 21088 Halogen-free IEEE 1394 High Speed Serial Interface</td>
<td>Plug-and-play technology - Windows operating system support - Standard feature in new chipsets - Connecting consumer electronic A/V device</td>
<td>2 shielded pairs with 2 cores (optional) with aluminum-Mylar shield with optional spiral or braid shield</td>
<td>Tinned copper spiral or braid shield - Aluminum-Mylar</td>
<td>UL 21088, IEEE 1394-1995 &amp; P1394a, IEC 60754-2 - Rated temp.: 80°C - Rated voltage: 30 V - Vertical flame test: UL VW-1 &amp; CSA FT1</td>
</tr>
<tr>
<td>UL 21099 Halogen-free Serial ATA (SATA) High Speed Cable</td>
<td>PC storage device (hard disk, CD, CD-RW, DVD, DVD-RW drives, Storage Area Network (SAN)</td>
<td>Foamed PE/FRPE</td>
<td>Aluminum-Mylar</td>
<td>UL 21099, UL 758, UL 1581, Serial ATA, IEC 60754-2 - Rated temp.: 80°C - Rated voltage: 30 V - Vertical flame test: UL VW-1 &amp; CSA FT1</td>
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Low Voltage Wires and Cables: New Applications for Thermoplastics

Chapter 1: A Global Mini Database of Constructions

Robert Eller Associates LLC (REA) is pleased to present for your consideration this prospectus for a global mini database of constructions for low voltage wires and cables.

European regulations for RoHS and WEEE are impacting material choices for wire/cable in other global regions. Technologies for replacing PVC with halogen free, flame retardant (HFFR) compounds are moving beyond the first generation candidates. In addition, low smoke, halogen free (LSHF) compounds and cable constructions are also being commercialized, driven by fire safety pressures. The REA study is comprised of three chapters (each offered separately or in combination). Chapter 1 examines the constructions, applications, and regulatory/specification requirements used in the first generation of HFFR and LSHF compounds in the low voltage thermoplastic wire and cable market (including PVC). The Chapter 3 analysis profiles low voltage wire/cable manufacturers in each of the global regions and lists their product lines and material offerings (see profile contents on previous page). The producers' product lines, sectors served, as well as material offerings are summarized in databases for each region. The analysis will be helpful in establishing specific targets for those compounders, wire and cable producers, additive suppliers, and OEMs seeking to understand intermaterials competition and selecting amongst the wire and cable constructions.

REA QUALIFICATIONS

REA is a strategic, technology, and market consulting resource specializing in providing decision-quality analysis in support of management decision-making, investment, manufacturing technology, and acquisition support in the global plastics and rubber sectors.

REA associates have carried out pioneering technical, economic, and market multiclient and single-client studies in most major plastic and rubber sectors. We have completed multiclient analyses of automotive interior soft trim, new generation nonwovens in auto applications, and thermoplastic elastomers in N. America, Europe and China. Recent strategy, market, technology, and acquisition analyses have included:

- Analysis of long-glass fiber reinforced PP compound markets and technologies
- Characterization of halogen free, flame retardant (HFFR) market structure in China
- Identifying technologies for HFFR wire and cable
- Several characterizations of the engineering thermoplastic compound market in China
- Analysis of TPE opportunities in building/construction glazing seals
- Growth prospects for TPEs in consumer and medical markets
- Numerous product positioning studies for new TPEs
- Analyses for several major acquisitions and mergers in the global plastics industry
- Automotive PP resins and compounds in the U.S., Europe and Asia
- Compounding strategy for TPE and resin suppliers
- Compounding, fabrication cost analyses, and supply chain management
WHO SHOULD SUBSCRIBE

This REA Chapter 1 mini database provides a visualization of the construction of the types of wire and cable competing in the low voltage sector and the materials used for the wire and cable types likely to be affected by HFFR legislation and mandates. It is intended to support management decisions and formulation of strategy for the participants listed below seeking or defending a position in the global low voltage wire and cable sectors:

- Incumbent polymer suppliers (resins, elastomers) targeting the low voltage wire and cable sectors
- Compounders
- Challenger resin and elastomer suppliers
- Additive suppliers
- Surface coating and adhesives suppliers
- OEM manufacturers using low voltage wire and cable

HOW TO SUBSCRIBE

An order form outlining costs, terms, and conditions for purchasing Chapter 1, Chapter 3, or a combination of both is enclosed with this prospectus. To subscribe, fill out the form, indicate your chapter selection, and return it to REA with the subscription payment and the email coordinates for the recipient.
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Chapter 1: A Global Mini Database of Constructions
Chapter 3: Profiles and Product Line Summary of Global Wire/Cable Manufacturers

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