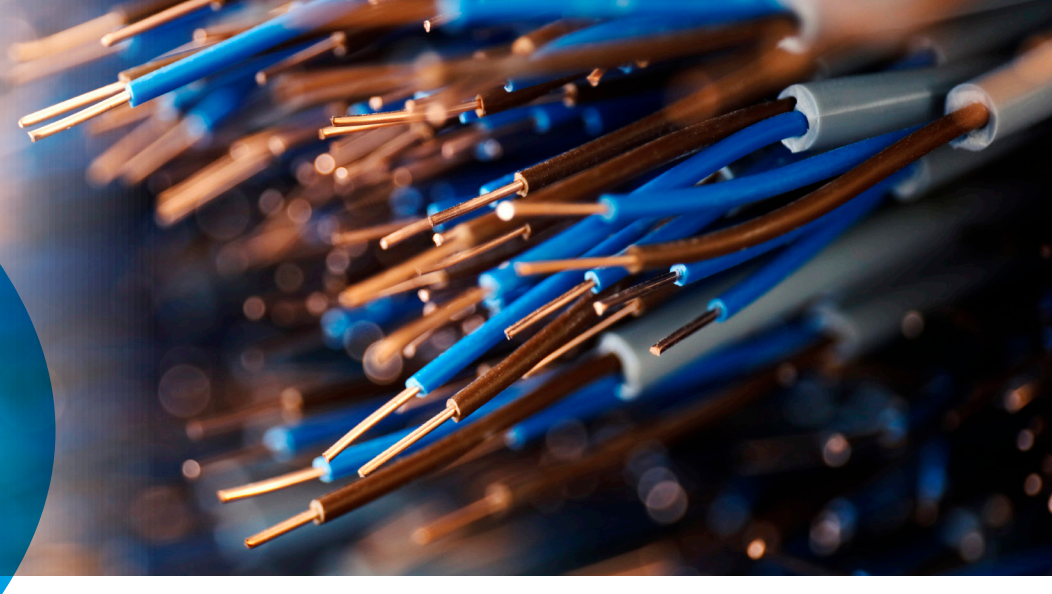
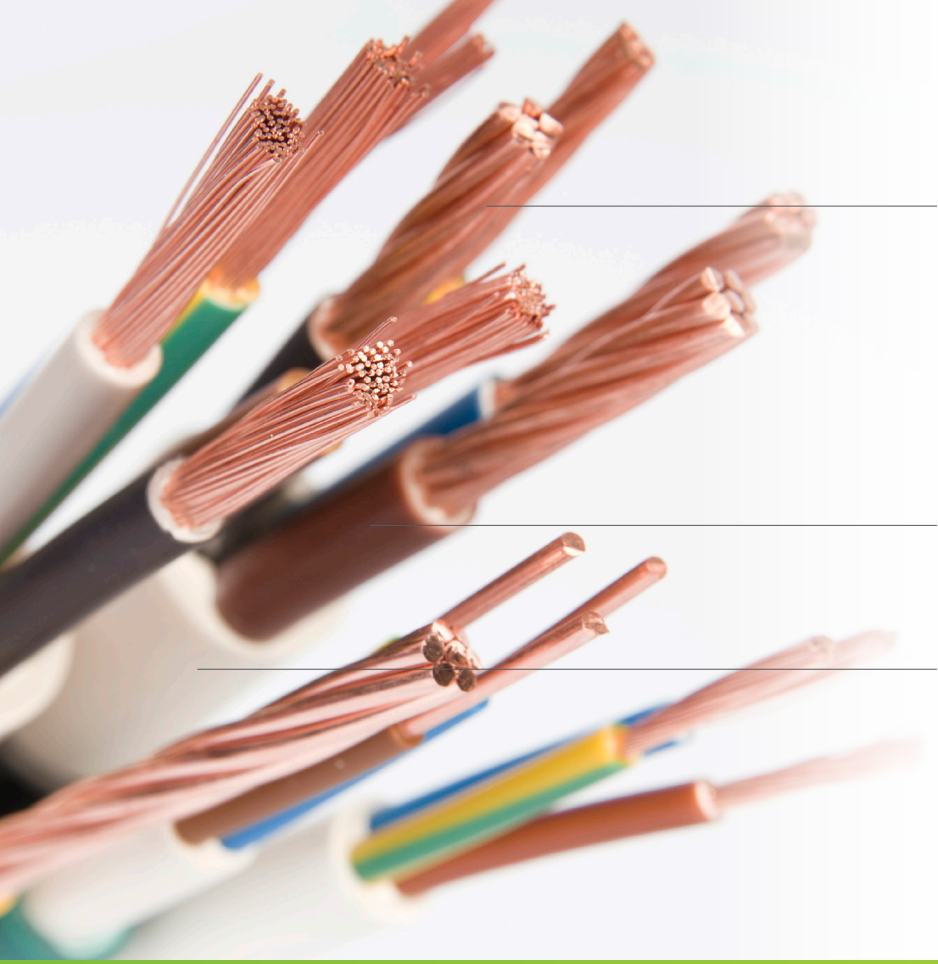
ChasePlastics®
Redefining Resin Distribution®



# Wire and Cable

Demanding wire and cable applications, including electric wiring, cable insulation, and cable jacketing, need materials that help you meet even the most stringent requirements. Chase Plastics will help you navigate through a range of materials with properties having ideal performance in flame retardancy, chemical and thermal resistance, cut-through resistance, and flexibility to find the right solution for your application.

| Type of Material | Abbreviation(s) | Tradenames | Hardness Range (If Applicable) | UL Flame Rating | Advantages |
|---|---|---|---|---|---|
| Copolyester Elastomer | COPE, TEEE, TPC, TPE-E | ENVALIOR ARNITEL®<br>LG Chem Keyflex®<br>SK Chemicals Skypel® | 65A-72D | Up to V-0 | • Ideal for high end applications that require improved chemical resistance, high heat resistance, and great mechanical properties<br>• UV stabilized grades available |
| Flexible Polyvinyl Chloride | FPVC, PVC | Americhem PVC<br>Alphagary, an Orbia business | 38A-60D | Up to V-0 | • Inherent flame retardancy, clarity, and cost make them ideal for wire and cable applications<br>• FDA, Non-DOP, Non-phthalate grades available |
| Polyamide | PA | Custom Resins Nylene PA6®<br>Ascend Performance Materials HiDura™ PA 6/12<br>Ascend Performance Materials Vydyne® PA 6/6<br>ENVALIOR AKULON® PA 6<br>ENVALIOR DURETHAN® PA 6<br>ENVALIOR ECOPAXX® PA 4/10<br>Evonik Industries VESTAMID® L PA 12 | N/A | N/A | • Strong abrasion, cut-through, and chemical resistance<br>• Tough and flexible, well suited for thin-wall extrusions over softer insulation materials<br>• Available in grades well suited for abrasive wear, chemical resistance, and flexibility for a wide range of jacketing applications |
| Polyetherimide + Siloxane Copolymer | SI+PEI | SABIC'S s Specialties business SILTEM™ resin | 62D-80D | Up to V-0 | • Halogen-free flame retardancy<br>• High temperature resistant (up to 150°C continuous)<br>• Excellent mechanical properties with varying impact performances based on siloxane content |
| Polyolefins | PP, PE | Formosa Plastics Corporation Formolene®<br>Rhetech Polyolefin Compounds<br>Washington Penn Plastics Polyolefin Compounds<br>INVISTA INVISTA™ Polypropylene | N/A | HB | • Ideal for applications requiring cable protection vs insulation or flexibility like fiber optic sheathing<br>• Available in mineral and glass filled grades for improved mechanical performance<br>• Low specific gravity, faster processing, and improved abrasion resistance |
| Polyphenylene Ether + Thermoplastic Elastomer | PPE+TPE | SABIC'S s Specialties business FLEX NORYL™ resin | 92A-63D | Up to V-0 | • Smaller carbon footprint while retaining the flexibility and processing performance of PVC<br>• Low specific gravity, faster processing, and improved abrasion resistance |
| Thermoplastic Elastomer | TPE, TPE-S | Elastron Elastron G & D | 30A-99A | Up to V-0 | • PVC and phthalate-free<br>• Low specific gravity, low-temperature flexible<br>• UV stabilized and engineering material (ABS, PC, POM, etc.) bondable grades available |
| Thermoplastic Urethane | PUR, TPU | Huntsman Irogran® | 56A-70D | Up to V-0 | • Best-in-class abrasion resistance<br>• Transparent with great cold temperature impact performance<br>• Hydrolysis resistant and non-phthalate grades available |
| Thermoplastic Vulcanizate | PP+EPDM, TPV | Elastron Elastron V | 23A-47D | HB | • Improved tensile and compression properties over standard TPEs<br>• Rubber-like appearance that bonds to PP/PE<br>• UV stabilized and nylon bondable grades available |



Conductor (Copper, Aluminum, etc.)

Insulation (PVC, PE, etc.)

Jacket (Nylon, TPU, etc.)

**Typical Applications:**

- Cable insulation
- Cable jacketing
- Electronics wiring
- Plug molding
- Grommets
- Mining cables
- Some applications will involve several wires, each with different jacketing materials, enclosed in one encapsulation or jacket
- Applications meet many industry testing standards such as UL 94, UL 746, UL 756, IEC, and ISO

**Additional Additives:**

- Colorants to help achieve the desired color or effect
- Lubricants like MULTIBASE™ Siloxane to aid with processing and in-application assembly of wires and cables

## Wire and Cable Markets

- Building and construction (residential, commercial, etc.)
- Communications (telecom, fiber optics, etc.)
- Power generation (nuclear, wind, solar, etc.)
- Mobility (automotive, recreational, heavy truck, etc.)
- Mass transit (aerospace, rail, etc.)

## Acronyms to Know

- NEC - National Electrical Code
- UL - Underwriters Laboratories
- CSA - Canadian Standards Association
- IEC - International Electrotechnical Commission
- ISO - International Organization for Standardization



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