



# Wire and Cable Solutions for Transit Applications

 **SHAWFLEX**





# Ensure electrical and mechanical reliability with the engineered products and solutions of Shawflex

## INTEGRITY IS BEHIND EVERYTHING WE DO.

Shawflex is committed to leading the industry with innovative solutions that are proven to be dependable, tested to the highest standards, and precisely manufactured to our customer's specifications. It is our focus to be the one stop-shop, for all your requirements from product design to manufacturing.

Our customers rely on our unique in-house design capability and expertise to tackle projects of all scopes and sizes. We provide comprehensive services, advanced in-house materials engineering, product research and development as well as pre-qualification testing. We offer customers much more than a catalog of products. We provide the technical leadership and service responsiveness needed to meet all of your project deadlines and your performance requirements to produce a dependable and superior product.

## KEY MARKETS

- Nuclear Power
- EV Infrastructure
- Industrial & Commercial
- Communications
- Marine & Shipboard
- Utilities
- Aerospace & Defense
- Mining
- Custom Cable Solutions
- Renewable Energy
- Transit & Railway

# Operational protection through reliable connections

## TRANSIT PRODUCT OFFERING

Shawflex is a leading supplier of cables and accessories solutions for the transit market. We offer innovative products that cover a variety of needs of our customers in this challenging and advancing urban transportation market.

Our product offerings cover:

- Signaling Cable
- Control Cable
- Power Cable
- Heat Shrink Cable Accessories
- Cold Shrink Cable Accessories

Our products are designed in adherence to industry specific standards; AREMA, CP-100, CSA, UL, ICEA, IEEE, ANSI and NFPA providing superior quality and safety. Safety is of the utmost importance to Shawflex and our products are designed with that in mind. With superior materials for fire resistance and/or Low Smoke Zero

## SHAWFLEX HAS SUPPLIED NEARLY 2 MILLION METERS OF TRANSPORTATION CABLE TO THE NORTH AMERICAN TRANSPORT INDUSTRY

Over the past 10 years we have supplied cables for several major North American transportation projects. We have the ability to design, develop, qualify and manufacture custom cables, whether it is built to an engineering specification or a national specification such as CSA, AREMA or CP-100. Below is a summary of the major projects that we have worked on in this time period.

Project List

- Toronto Transit Commission (TTC) Spadina Extension
- Toronto Transit Commission ATC project
- Waterloo LRT
- Edmonton LRT
- Calgary LRT
- STM (Montreal)
- Vancouver RAV & Skytrain
- Vancouver Evergreen Line
- PATCO Rail Project



# SIGNAL AND CONTROL CABLES

## 22 AWG to 2000 kcmil, 300 V - 5000 V

### Application

Transmission of digital and analog signals for train management and control.

### Features

- Low Smoke, limited toxic and corrosive gases emission compound provides a safe environment for personnel and equipment during a fire.
- Sunlight - and weather-resistant
- Direct burial rated
- Meets cold bend test at -40°C
- Rodent Repellant Additive

### Approval and Reference

- AREMA
- CP-100
- CSA C22.2 No. 38
- CSA C22.2 No. 230
- CSA C22.2 No. 239
- CSA C22.2 No. 131
- CSA C22.2 No. 174
- CSA FT4 - ST1
- NFPA 130
- IEEE1202
- UL1685
- UL1559
- ICEA S-73-532
- ICEA S-95-686
- UL44
- UL1277
- UL13

### Construction

#### Conductor

- Soft/Annealed, bare/tinned copper in accordance with ASTM B3/B33/B8, Class B, C or higher class stranding

#### Insulation: (vary by construction)

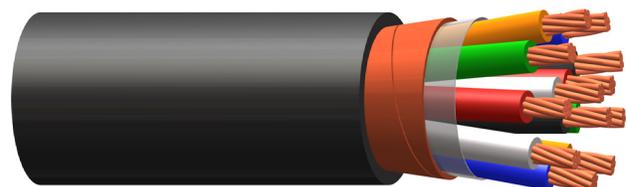
- Cross-Linked Polyethylene (XLPE), RW 90/XHHW-2 Rated Insulation
- High Performance Linear Low Density Polyethylene (LLDPE)
- Ethylene-Propylene Rubber (EPR), RHW-2, AREMA Part 10.3.19
- Cross-Linked Polyolefin Low Smoke, Zero Halogen (XLPO LSZH) (insulated conductor only)

#### Armouring (vary by construction)

- Helically Applied Bronze Tape
- Steel Interlock Armour

#### Jacket: (vary by construction)

- Low Smoke Zero Halogen Thermoplastic Polyethylene (TP LSZH), AREMA Part 10.3.13
- High Performance Linear Low Density Polyethylene (LLDPE) AREMA 10.3.21
- Flame retardant, Low Smoke Zero Halogen Cross-Linked Polyolefin (LSZH XLPO), AREMA Part 10.3.13
- Chlorinated Polyethylene (XL CPE)



# TRACTION POWER CABLE

1/0 AWC to 2000 kcmil / 600 V - 2000 V

## Application

For using as positive power delivery, negative return, and bonding cables in transit traction power systems.

## Features

- High performance on oil, moisture, abrasion, sunlight resistant and crush and impact in harsh environment, typically for traction power circuit.
- Superior low smoke and flame retardant performance: CSA FT4-ST1, IEEE 1202, UL1685
- Jacket compound meets halogen content and smoke generation requirements of ICEA S-95-658, Table 4-2
- Excellent in Cold bend: -40°C
- Super ozone resistance can withstand prolonged outdoor exposure
- Rodent Repellant Additive

## Approval and Reference

- AREMA
- CP-100
- CSA C22.2 No.38, Type RW90
- CSA C22.2 No.230
- UL 44, Type RHW-2
- ICEA S-95-686
- NFPA-130

## Construction

### Conductor

- Soft/Annealed, bare/tinned copper in accordance with ASTM B3/B33/B8, Class B, C or higher class stranding

### Insulation

- EPR, Rated 90°C wet or dry with continuous operation, 600 V - 2000 V

### Jacket

- Flame retardant, Low Smoke Zero Halogen Cross-Linked Polyolefin (LSZH XLPO)



# CABLES FOR STATION, CONTROL & POWER

22 AWG to 2000 kcmil, 300 V - 5000 V



## Application

Power distribution for lighting installations, power receptacles and battery backups in the general station or anywhere that there is a concern of damage caused by smoke to instruments in your installation.

## Features

- Low Smoke, limited toxic and corrosive gases emission compound provides a safe environment for personnel and equipment during a fire.
- Sunlight - and weather-resistant
- Direct burial rated
- Meets cold bend test at -40°C

## Approval and Reference

- AREMA
- CP-100
- CSA C22.2 No. 38
- CSA C22.2 No. 230
- CSA C22.2 No. 239
- CSA C22.2 No. 131
- CSA C22.2 No. 174
- CSA FT4 - ST1
- NFPA 130
- IEEE1202
- UL1685
- ICEA S-73-532
- ICEA S-95-686
- UL44
- UL1277
- UL13

## Construction

### Conductor

- Bare/Tinned Copper Conductor ASTM B8/B33 Class B Stranding

### Insulation: (vary by construction)

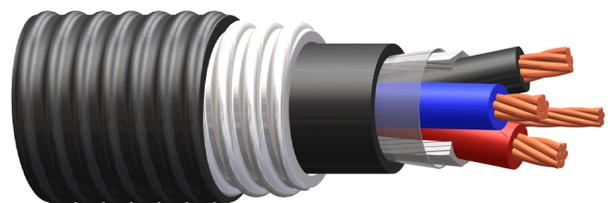
- Cross-Linked Polyethylene (XLPE), RW90/XHHW-2 Rated
- Ethylene-Propylene Rubber (EPR), RWU90/RHW-2
- Low Smoke, Zero Halogen Cross-Linked Polyolefin (LSZH XLPO), RW90 (insulated conductor only)

### Armouring: (vary by construction)

- Aluminum Interlock Armour
- Steel Interlock Armour

### Jacket: (vary by construction)

- Low Smoke Zero Halogen Thermoplastic Polyethylene (TP LSZH)
- Flame retardant LAG PVC
- Chlorinated Polyethylene (CPE)



# GROUNDING CONDUCTOR

## 8 AWG to 750 kcmil / 600 V - 2000 V

### Application

Grounding metallic parts to ensure the integrity of electrical system and safety of people.

### Features

- Solid green or green with dual yellow SAFE-TSTRIPES which resist installation wear and provide safe identification
- Meets CEC 22.1-15 Section 2-130 flame spread requirements
- Easily installed for equipment bonding/grounding
- Suitable for use in cable trays (as per the CEC)

### Approval and Reference

- CSA C22.2 No. 230
- CSA C22.2 No. 38
- CSA FT4
- UL1685
- XLPE (RW90 rated)
- 90°C wet/dry
- Direct burial rated
- Vertical Tray Flame Test Rated
- -40°C cold bend/impact rated
- UV sunlight resistant "SUN RES"

### Construction

#### Conductor

- Bare/Tinned Copper Conductor ASTM B8/B33 Class B Stranding

#### Insulation

- UV Resistant Cross-Linked Polyethylene (XLPE), RW90 Rated Insulation

#### Jacket

- FR PVC LAG outer green jacket



# ACCESSORIES FOR LV/MV VOLTAGE CABLES

## Heat Shrink & Cold Shrink, 600 V - 35 kV

### Application

Accessories for power networks, terminations and joints for low and medium voltage cables, such as the application in transformers and switch gear equipment.

### 600 V - 1000 V Heat Shrink Products

- CFM: Medium Wall Cross-Linked Polyolefin Tubing, 3:1 Shrink Ratio
- CFW: Heavy Wall Cross-Linked Polyolefin Tubing, for electrical insulation and mechanical protection of cable joints and terminations
- CFW: Heavy Wall Cross-Linked Polyolefin Tubing, for protecting electrical splices and terminations where maximum flame retardancy and exceptional installation and sealing characteristics are required

### 600 V - 1000 V Cold Shrink Products

- CSS: Cold applied splice sealing products offer excellent insulation and moisture proof sealing for inline cable connector systems or elbow to cable jacket applications

### Zero Halogen Heat Shrink Tubing

- CZT 200: Thin Wall Halogen Free XLPE tubing, low smoke generation for excellent fire safety characteristics, flame retardance.

### 600 V Professional Grade Vinyl Electrical Tape

- CET: All weather, professional grade pressure sensitive vinyl tape, 7 mil thickness, cold and weather resistant, flame retardant





# Integrity Drives Everything We Do

Ensure electrical and mechanical reliability with the engineered products and solutions of Shawflex.

We are a trusted manufacturer of engineered wire, cable and assemblies products globally. With our resources, expertise and technologies, we're able to offer a complete range of custom cable and advanced cable accessories to simplify installation and to protect your electrical systems.

To know more about our products and service capabilities, contact our team today or visit [shawflex.com](http://shawflex.com).

## Head Office

25 Bethridge Rd.  
Toronto, ON M9W 1M7, Canada

**Tel:** +1-416-743-7111

**Email:** [info@shawflex.com](mailto:info@shawflex.com)

**[www.shawflex.com](http://www.shawflex.com)**