

VOLINSU TUBING

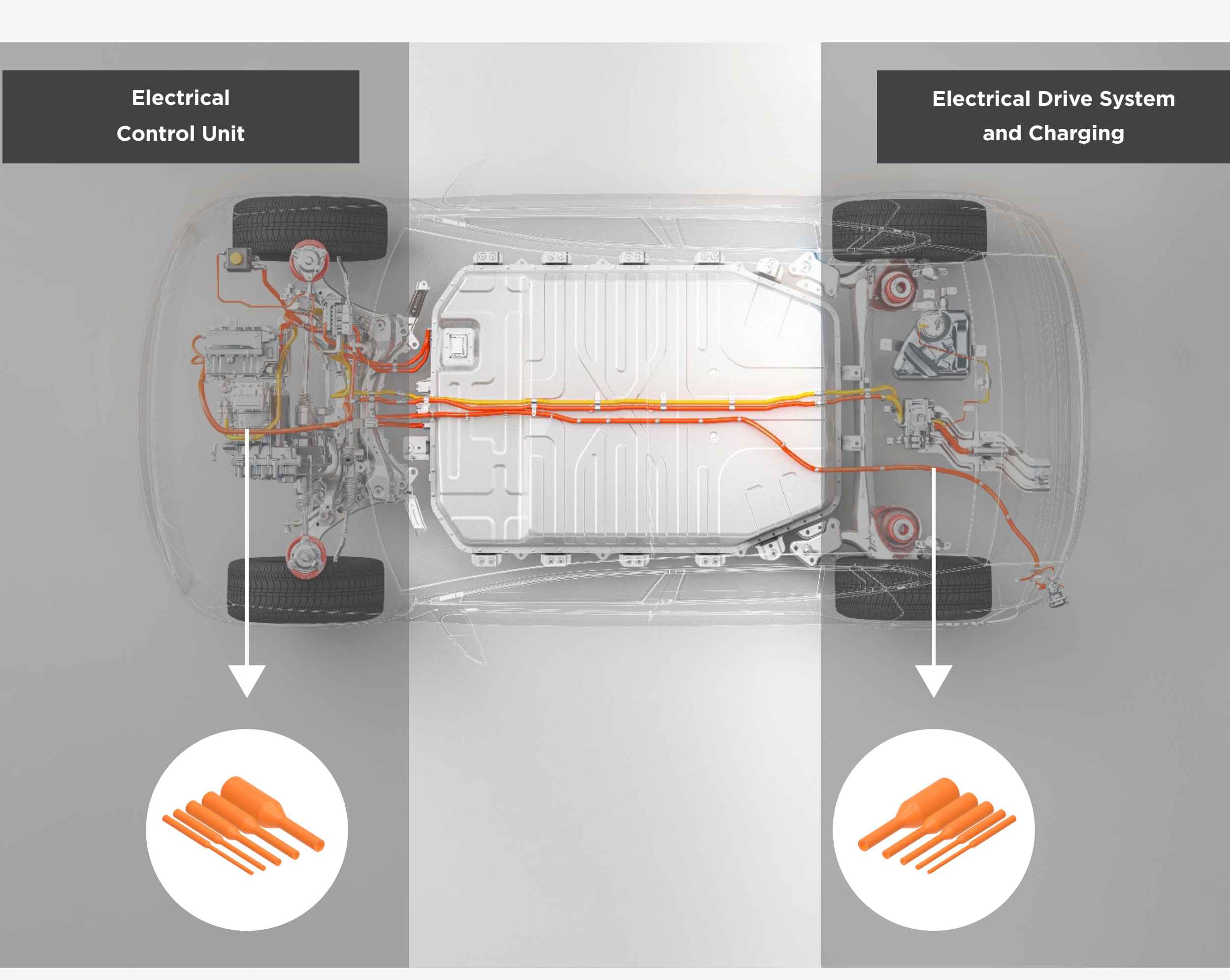
INTRODUCING EVDW: DUAL WALL HEAT SHRINK TUBING FOR EV APPLICATIONS: SUPERIOR HIGH VOLTAGE PROTECTION FOR MAXIMUM PERFORMANCE

As governments around the world pass stronger emission standards, the demand for hybrid and electric vehicles (EV) continues to grow. This trend, in turn, leads to the rapid increase in the use of large gauge wire and cables.

The new **Electric Vehicle Dual Wall Heat Shrink tubing (EVDW)** is engineered with a meltable inner layer (double-wall heat-shrink tubing) to protect splices and connections in wiring harness connections with high adhesion. Due to its easy handling and environmental resilience, the application of the tube has expanded to the field of automotive wiring harnesses, and the demand for tubes that can be used in complex wiring harness configurations is increasing. To meet this market need, we have developed a new type of double-wall heat shrink tubing ideal for high-voltage application including EV market.

ELECTRIC VEHICLE DESIGN REQUIREMENTS

 <p>Efficient Charging Protect and optimize high voltage components allowing fast and efficient charging and operations.</p>	 <p>Durability Protecting components and connectors from exposure to harsh elements and high voltage architecture.</p>	 <p>Safety Protect components from flame propagation and fire hazards.</p>
 <p>Weight Management Lightweight components to optimize performance of electric vehicles.</p>	 <p>Signal Integrity Throughput and signal integrity are key to optimize performance uptime all the time</p>	 <p>Thermal Management Manage heat dissipation to improve reliability and prevent premature failure.</p>



PROTECTION WHERE YOU NEED IT

- Insulation**
Excellent electrical insulation strength up to 2500V, with continuous operating temperatures ranging from -40°C to +105°C
- Strain Relief**
Allows for greater flexibility in areas where stress can cause failures such as connector pins and splices, enabling a reliable connection
- Protection**
Against the harshest environments with heat aging, abrasion, water emission, chemical, and anti-fungal resistance
- Bonding**
Providing bonding on multiple type of substrates materials including Aluminum, Copper, XLPE, and PVC
- Identification and Safety**
Helps identify wires for grounding and color coding capabilities to reduce safety hazards

VOLINSU DUAL WALL EV HEAT SHRINK TUBING FEATURES & BENEFITS

<p>FEATURES</p> <ul style="list-style-type: none"> EV orange color Meets UL224 VW-1 Flame retardant requirements 3:1 shrink ratio High dielectric strength and good thermal stability Flexible, robust and lightweight material design 	<p>BENEFITS</p> <ul style="list-style-type: none"> Easy identification of higher voltage circuits in electric vehicles Does not propagate burning to support vehicle operator's and passengers' safety Can fit both components and cables and be used on more than one design Easy to install while maintaining cable flexibility Achieve lightweight requirements and delivers optimum thermal stability, electrical resistivity and high voltage performance
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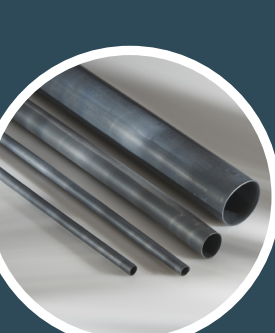

APPLICATIONS

 <p>Cable Termination Insulation</p>	 <p>Wire Grouping and Jacketing</p>
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DO AND DON'TS WHEN SELECTING THE CORRECT SIZE HEAT SHRINK TUBING

<p>DO'S</p> <ul style="list-style-type: none"> Always use the specified expanded ID dimension. Use the specified dimensions for the recovered internal diameter of the tube. Sometimes the tube will shrink more than the recovered ID, but it will ALWAYS meet the maximum specified dimension. Follow the installation instructions, especially temperature guidelines: <ul style="list-style-type: none"> Too cold-tubing may not fully recover. Too hot-tubing may show burn marks or split. 	<p>DON'Ts</p> <ul style="list-style-type: none"> Do not force the tube over something by stretching as it can tear during recovery. Do not cut the tube to the required final length. The tube changes length during recovery. The more it shrinks, the greater the longitudinal change. Do not recover the tubing over anything with sharp edges.
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LEARN MORE ABOUT OUR RAYCHEM HEAT SHRINK TUBING PORTFOLIO

 <p>SINGLE WALL TUBING</p> <ul style="list-style-type: none"> Bundling protection Abrasion resistant Strain relief Quick installation Variety of colors available for coding 	<ul style="list-style-type: none"> Low shrink temperature Mil-Spec compliant Meets UL VW1 - flammability Meets UL/CSA - electrical insulation Cost effective 	<ul style="list-style-type: none"> UL rating - minimize catastrophic failure of a system Rapid production time Flexible
 <p>DUAL WALL TUBING</p> <ul style="list-style-type: none"> Waterproof - submersion Cable repair - bonding & sealing Splice sealing Direct burial water - proofing Underground water protection Strain relief 	<ul style="list-style-type: none"> Meets UL VW1 flammability Electrical insulation Mil-Spec compliant UL rating - minimize catastrophic failure of a system 	<ul style="list-style-type: none"> Protect from harsh environments Superior abrasion and chemical resistant Color differentiation Flexible and shiny tubing options
 <p>SPECIALTY TUBING</p> <ul style="list-style-type: none"> Abrasion protection Greater than 150°C rated - high temperature environments Fungal and mold protection 	<ul style="list-style-type: none"> UL rating - minimize catastrophic failure of a system Flame retardant Water, heat and humidity resistant Mil-Spec compliant 	