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> Radix 18 AWG High Temperature Wire Instruction Manual

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INTRODUCTION

This manual provides essential information for the safe and effective use of your Radix 18 AWG High Temperature Wire. Please read these instructions thoroughly before installation and operation to ensure proper handling and performance. This wire is designed for applications requiring resistance to high temperatures.

IMPORTANT SAFETY INFORMATION

WARNING: Electrical work should only be performed by qualified personnel. Failure to follow these safety guidelines may result in electric shock, fire, or personal injury.

- Always disconnect power before installing or working with electrical wiring.
- Ensure the wire's voltage and temperature ratings are suitable for your specific application. This wire is rated for 600 Volts.
- Do not exceed the specified current carrying capacity for 18 AWG wire.
- Protect wire from physical damage, sharp edges, and excessive bending.
- Use appropriate personal protective equipment (PPE) such as insulated gloves and safety glasses.
- Consult local electrical codes and regulations for proper installation practices.

SETUP AND INSTALLATION

The Radix 18 AWG High Temperature Wire is a single-strand copper conductor designed for specific high-temperature environments. Proper installation is crucial for its performance and longevity.

1. **Preparation:** Before beginning, ensure all power to the circuit is off. Gather necessary tools including wire strippers, cutters, and appropriate connectors.

2. **Wire Routing:** Plan the wire path to minimize bends and avoid areas where it could be subjected to abrasion or excessive heat beyond its rating.
3. **Stripping:** Carefully strip the insulation from the wire ends using a wire stripper set to the correct gauge (18 AWG). Avoid nicking the copper conductor.
4. **Connection:** Connect the wire to terminals or other conductors using appropriate methods (e.g., crimping, soldering) ensuring a secure and low-resistance connection. For high-temperature applications, ensure connectors are also rated for the expected temperatures.
5. **Securing:** Secure the wire along its path using appropriate fasteners or conduits to prevent movement and damage.
6. **Verification:** After installation, visually inspect all connections and the wire path for any potential issues before restoring power.



Image 1: A segment of Radix 18 AWG High Temperature Wire. The image displays a single strand of wire with its protective insulation, highlighting the exposed copper conductor at one end. This illustrates the product's physical appearance and construction.

OPERATING PRINCIPLES

This Radix 18 AWG High Temperature Wire is designed to conduct electrical current reliably in environments where standard wires would degrade due to heat. Its key operating characteristics include:

- **High Temperature Resistance:** The insulation material is engineered to withstand elevated temperatures, maintaining its integrity and insulating properties under thermal stress.
- **Voltage Rating:** Rated for 600 Volts, making it suitable for various low to medium voltage applications.
- **Copper Conductor:** Utilizes a single strand of copper for efficient electrical conductivity.
- **Gauge:** 18 AWG (American Wire Gauge) specifies its cross-sectional area, which dictates its current carrying capacity.

Ensure that the operational environment's temperature and voltage do not exceed the wire's specified limits to prevent premature failure or safety hazards.

MAINTENANCE

The Radix 18 AWG High Temperature Wire requires minimal maintenance due to its robust design. However, periodic inspection is recommended, especially in demanding applications.

- **Visual Inspection:** Regularly check the wire for any signs of physical damage, such as cuts, abrasions, or discoloration of the insulation, which could indicate overheating or degradation.
- **Connection Integrity:** Ensure all connections remain tight and free from corrosion. Loose connections can generate heat and lead to failure.
- **Environmental Review:** Verify that the operating environment continues to be within the wire's specified temperature and voltage ratings. Changes in environmental conditions might necessitate re-evaluation.

TROUBLESHOOTING

If you encounter issues with your electrical system involving the Radix 18 AWG High Temperature Wire, consider the following common troubleshooting steps:

- **No Power/Intermittent Power:**
 - Check all connections for tightness and proper contact.
 - Inspect the wire for visible damage or breaks in the conductor.
 - Verify that the power source is active.
- **Overheating/Discoloration:**
 - Ensure the wire's current load does not exceed the recommended capacity for 18 AWG.
 - Confirm that the ambient temperature is within the wire's high-temperature rating.
 - Check for loose connections, which can cause localized heating.
- **Insulation Degradation:**
 - Verify that the wire is not exposed to chemicals or physical stresses beyond its design limits.
 - Ensure the temperature exposure is not consistently at the extreme upper limit of its rating.

If problems persist or you are unsure about any electrical work, consult a qualified electrician.

SPECIFICATIONS

Feature	Detail
Brand	Radix
Gauge	18 AWG
Material	Copper
Number of Cable Strands	Single Strand
Voltage Rating	600 Volts

Feature	Detail
Length	100' roll
ASIN	B001ALK990
Date First Available	June 1, 2008

WARRANTY AND SUPPORT

For specific warranty information or technical support regarding your Radix 18 AWG High Temperature Wire, please refer to the documentation provided at the point of purchase or contact Radix customer service directly. Keep your purchase receipt for warranty claims.