

# BDI Technical Bulletin: #2026-01

## Understanding Compliance: NEMA TC7 vs. UL 651A for Power Applications



### Introduction

In the complex landscape of electrical infrastructure, specifying the correct HDPE conduit is critical for both safety and code compliance. While **NEMA TC7** and **UL 651A** are often discussed interchangeably, they serve different roles in a project’s lifecycle. This bulletin clarifies those differences to ensure your project meets National Electrical Code (NEC) requirements without compromising on physical performance.

### The Fundamental Difference

**NEMA TC7** is an **industry performance standard**. It ensures that the conduit is manufactured consistently and will perform as expected in the field.

**UL 651A** is a **safety listing**. It is a third-party certification that verifies the product meets the safety mandates of the **National Electrical Code (NEC) Article 353**.

### Comparison Matrix

Feature	NEMA TC7	UL 651A
<b>Certification</b>	Manufacturer Self-Certified	Independent Third-Party Audited
<b>NEC Article 353</b>	General Guidelines	Required for “listed” Installations
<b>Audit Frequency</b>	Periodic Internal Review	Continuous, Unannounced Site Audits
<b>Wall Specifications</b>	Broad (includes SDR 11)	Specific (Sch 40, Sch 80, SDR 13.5)
<b>Resin Control</b>	F2160 Standards	UL “Fingerprinted” Verified Resins

### Engineering Alert: The SDR 11 vs. UL Gap

A common point of confusion occurs when an engineer specifies SDR 11 for a UL-Listed project. UL does not currently recognize SDR 11. The BDI Solution: \* For 3/4” to 4” diameters: Specify UL EPEC-80 (Schedule 80). It provides a wall thickness comparable to SDR 11 while maintaining the required UL Listing.

- **For 4” and above:** Use SDR 13.5 (EPEC-B), the heaviest wall available under UL 651A.

When public safety and code inspections are on the line, UL 651A is the non-negotiable standard. Blue Diamond Industries is a certified UL manufacturer, providing the “Listed” products your project requires with the regional availability you need.

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