TECHNICAL SERVICES DEPARTMENT

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Reinforced Thermosetting Resin Conduit (RTRC) and Fittings Installed on Rooftops

Reinforced Thermosetting Resin Conduit (RTRC) and Fittings, as defined in Section 355.2 of the National Electrical Code (NEC®), is permitted for installation on rooftops, including where exposed to sunlight in accordance with NEC Section 310.15(B)(3)(c). This includes Dry and Damp (Section 355.10(E)) and Wet (Section 355.10(D)) locations as well as in exposed areas (Section 355.10(F)), all of which are characteristics of outdoor rooftop installations.

Note: NFPA 70®, *National Electrical Code®*, and NEC are registered trademarks of the National Fire Protection Association, Quincy, MA.

According to NEC Section 355.12, RTRC has an ambient temperature limitation of 50ºC (122ºF) unless listed otherwise. UL 2515/CSA C22.2 No. 2515/ NMX-J-759-ANCE (tri-national standard), *Aboveground Reinforced Thermosetting Resin Conduit (RTRC) and Fittings*, states that Type AG RTRC is listed for use at -40°C (-40°F) to 110°C (230°F).

Temperature extremes inevitably lead to expansion and contraction of any conduit systems. The use of appropriate expansion and expansion-deflection fittings designed to compensate for such expansion in raceway systems is intended to mitigate damage or breakage of conduit joints and separation of fittings from boxes when installed per the NEC. NEMA FB 2.40 defines the installation guidelines for expansion and expansion/deflection fittings. RTRC should be securely fastened to supports but not so tightly as to prevent movement due to expansion and contraction.

In accordance with UL 2515, listed RTRC must comply with weather resistance test requirements. This test subjects the conduit to 1000 hours of a xenon-arc light source, an accelerated method that represents a number of years of actual sunlight exposure. Compliance indicates that the conduit material can withstand sunlight exposure in accordance with UL 2515 listing and RTRC fully complies with the construction specifications of NEC Section 355.100.

In summary, Reinforced Thermosetting Resin Conduit and Fittings provide a safe wiring method permitted by the NEC for use on rooftops. Contractors and Authorities Having Jurisdiction can be confident that listed Reinforced Thermosetting Resin Conduit and Fittings will perform as intended in rooftop installations when installed per the NEC.

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