



TECHNICAL SERVICES DEPARTMENT

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Rigid PVC Conduit Installed on Rooftops

Among the uses of Rigid PVC Conduit that are permitted according to the National Electrical Code® (NEC®), Section 352.10 Uses Permitted, states that Rigid PVC Conduit can be used in wet locations per 352.10(D), dry and damp locations per 352.10(E) and in exposed areas per 352.10(F), all of which are characteristic of outdoor rooftop installations.

According to NEC 352.12, Rigid PVC Conduit has an ambient temperature limitation of 50°C (122°F). NEMA members have not received any reports of sagging of Rigid PVC Conduit on rooftops in areas with intense sunlight and heat such as Florida, Arizona and other locations with similar climatic conditions.

Extreme weather undoubtedly leads to expansion and contraction of conduit; however, the use of appropriate expansion and expansion-deflection fittings, designed to compensate for such expansion in raceway systems, are intended to mitigate damage or breakage of conduit joints and separation of fittings from boxes when installed as per NEMA PRP 4. Rigid PVC Conduit on rooftops is commonly supported using 4 x 4 blocks. The conduit should be securely fastened to these supports but not so tightly as to prevent movement due to expansion.

In accordance with UL 651, *Standard for Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings*, listed PVC conduit must comply with Sunlight Resistance test requirements. This test subjects the conduit to 720 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 vs. materials that crack in similar test conditions.

In summary, Rigid PVC Conduit is a safe wiring method permitted by the NEC for use on rooftops. Contractors and Authorities Having Jurisdiction can be confident that listed rigid PVC conduit will perform in rooftop installations as intended provided it is installed as per the NEC.

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