

*A NEMA Polymer Raceway Products Document  
PRP 3-2009 (R2016, R2020)*

## **Expansion Epoxy Based Fittings for RTRC Rigid Nonmetallic Conduit**

*Published by*

**National Electrical Manufacturers Association**

1300 North 17<sup>th</sup> Street, Suite 900  
Rosslyn, Virginia 22209

[www.nema.org](http://www.nema.org)

© 2021 National Electrical Manufacturers Association. All rights, including translation into other languages, reserved under the Universal Copyright Convention, the Berne Convention for the Protection of Literary and Artistic Works, and the International and Pan American copyright conventions.

## NOTICE AND DISCLAIMER

The information in this publication was considered technically sound by the consensus of persons engaged in the development and approval of the document at the time it was developed. Consensus does not necessarily mean that there is unanimous agreement among every person participating in the development of this document.

NEMA Standards and guideline publications, of which the document contained herein is one, are developed through a voluntary consensus Standards development process. This process brings together volunteers and/or seeks out the views of persons who have an interest in the topic covered by this publication. While NEMA administers the process and establishes rules to promote fairness in the development of consensus, it does not write the document and it does not independently test, evaluate, or verify the accuracy or completeness of any information or the soundness of any judgments contained in its Standards and guideline publications.

NEMA disclaims liability for any personal injury, property, or other damages of any nature whatsoever, whether special, indirect, consequential, or compensatory, directly or indirectly resulting from the publication, use of, application, or reliance on this document. NEMA disclaims and makes no guaranty or warranty, expressed or implied, as to the accuracy or completeness of any information published herein, and disclaims and makes no warranty that the information in this document will fulfill any of your particular purposes or needs. NEMA does not undertake to guarantee the performance of any individual manufacturer or seller's products or services by virtue of this Standard or guide.

In publishing and making this document available, NEMA is not undertaking to render professional or other services for or on behalf of any person or entity, nor is NEMA undertaking to perform any duty owed by any person or entity to someone else. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances. Information and other Standards on the topic covered by this publication may be available from other sources, which the user may wish to consult for additional views or information not covered by this publication.

NEMA has no power, nor does it undertake to police or enforce compliance with the contents of this document. NEMA does not certify, test, or inspect products, designs, or installations for safety or health purposes. Any certification or other statement of compliance with any health or safety-related information in this document shall not be attributable to NEMA and is solely the responsibility of the certifier or maker of the statement.



## Expansion Epoxy Based Fittings for RTRC Rigid Nonmetallic Conduit

---

All construction materials expand and contract with fluctuations in temperature. These temperature changes affect Reinforced Thermosetting Resin Conduit (RTRC) differently than other common materials such as steel or PVC. For example, the coefficient of thermal expansion for RTRC ( $1.5 \times 10^{-5}$  in./in./°F or  $2.7 \times 10^{-5}$  cm/cm/°C) is slightly more than twice that of steel and is 50% that of PVC.

Thermal expansion and contraction have a significant effect on long straight runs of conduit. For this application, O-ring expansion fittings are used to accommodate changes in length. This prevents potentially harmful thermal stresses in the conduit itself or in any supporting structures.