NEMA Standards Publication

NEMA WC 73-2000 (R2012)

# Wire Selection Guidelines for Wires Rated at 200 degrees to 450 degrees C

National Electrical Manufacturers Association

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*Wire Selection Guidelines for Wires Rated at 200-450$^{o}$ C*

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## FOREWORD

This standard has been developed by the WC 73 task force under the Electronics/Communications and Control Cable Subcommittee (members as listed below) of the High Performance Wire and Cable Section of NEMA in close coordination between manufacturers, users, third party certifying agencies and others having specialized experience. The High Performance Wire and Cable Section of NEMA periodically reviews this standard for any revisions necessary to keep it up to date. Proposed revisions or comments should be submitted to:

Senior Technical Director, Operations
National Electrical Manufacturers Association
1300 North 17th Street
Rosslyn, VA 22209

At the time of reaffirmation, the section comprised the following companies:

| | |
|---|---|
| AFC Cable Systems | New Bedford, MA |
| Apical Division, Kaneka Texas Corporation | El Dorado, AR |
| Belden Inc. | St. Louis, MO |
| Cable USA LLC. | Naples, FL |
| Champlain Cable Corporation | Colechester, VT |
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| TE Connectivity | Menlo Park, CA |
| WireMasters, Inc. | Columbia, TN |

This standard was developed with the participation of members from The Committee on Mold Safety of the Society of the Plastics Industry, Washington, D.C.

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# Section 1
# SCOPE

This standard contains guidelines for calculating amperages and selecting wires for temperatures from $200^{o}$ to $450^{o}$ C and for voltage ratings up to and including 1000 volts rms.

Ampacity charts, temperature correction factors, and derating factors are provided along with extensive examples of calculations.

This information is provided to assist the user in their selection of a wire or cable for a particular application. This guideline contains the best engineering estimates for calculation, but it cannot guarantee a successful performance. It is recommended that a trial installation be prepared and appropriate evaluations be conducted to assure acceptable performance of the completed systems.