

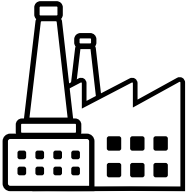


EDITION C1

VOLUME 1

# 15 THINGS YOU DIDN'T KNOW ABOUT SOUTHWIRE'S ROMEX® BRAND SIMpull® NMD90 CABLE

Written by Dr. Yuhsin Hawig, VP of Applications Engineering and Erika Akins, Chief Applications Engineer



## SINGLE MANUFACTURER

All aspects of production for Romex® Brand NMD90 cable, from drawing, annealing, extruding, and cabling, to jacketing, printing, testing, and packaging take place at one of Southwire's ISO-registered facilities.



## PRODUCED VIA SCR®

Southwire Continuous Rod (SCR®) Systems provide more than half of the copper rod continuous-casting capacity in the world. For Romex® Brand SIMpull® NMD90 cable, this copper rod is transformed into fully annealed, pure copper conductors. We have

been using a high purity and high quality Electrolytic Tough Pitch (ETP) copper via the SCR® system since 1965.



## CSA CERTIFIED

Romex® Brand SIMpull® NMD90 is listed in accordance with CSA C22.2 No 48 for Nonmetallic Sheathed Cables and can be

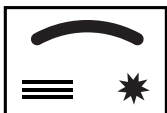
utilized in accordance with the Canadian Electrical Code Part I Rules 12-502 to 12-526.



## CONSTRUCTION

NMD90 is made with soft drawn bare copper. NMD90 is rated 90°C compared to UL rated NM-B which is only rated for 60°C. The low temperature rating is -25°C and can operate in damp locations for Class 2 circuits and fire alarm systems\* according to the CEC®.

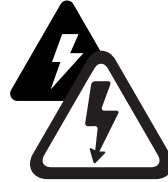
\*See Rule 32-100 and 32-102 for more specifics



## OVERLOAD CURRENT TESTED

Southwire's 300V rated 14 AWG Copper NMD90 can withstand an AC voltage of 1500 volts or 4500 volts DC after being subjected to 40 amps of

current for 15 minutes, with no dielectric breakdown after the overload current qualification test.

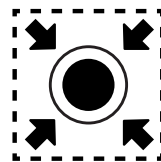


## ELECTRICAL CONDUCTIVITY

Pure copper yields the highest electrical conductivity and the lowest DC resistance. Higher conductivity generates a greater ampacity for a given wire size.

The Unified Numbering System (UNS) for all Southwire's copper wires is C11000, which has an electrical conductivity of 100% at 20°C per International Annealed Copper Standard (IACS) in the annealed condition.

It is better to use pure copper conductor in residential circuits, which are classified as low frequency applications, as the AC current flows through the entire area conductor without the "skin effect."



## PHYSICAL COMPACTNESS

Copper NMD90 allows for the smallest conductor size to be used to carry the highest desired current rating. Installers can use the most compact electrical box

size which will allow for pigtail wiring. Copper NMD90 cable has established physical characteristics with consistent tensile & elongation properties.



## MECHANICAL DURABILITY

Romex® Brand SIMpull® NMD90 cable made of pure copper experiences less damage during backstabbing of dry wall boxes, installation of receptacles, splicing, and termination.

The cable has excellent resistance to metal fatigue that can occur with repeated and reverse bending. The cable's durability helps to minimize call-back frequencies and prevent rework.



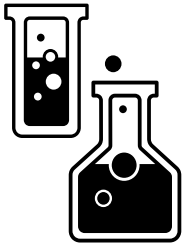


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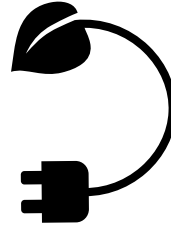
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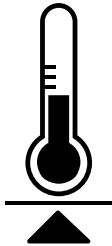
## CHEMICAL BENEFITS

A patented formulation is used for the lead-free PVC sheath to help reduce the coefficient of friction during installation. This SIMpull® technology supports a safe and efficient cable pull. The pure copper conductor also minimizes the risks for bimetallic galvanic corrosion under damp conditions.



## RECYCLABILITY AND SUSTAINABILITY

Romex® Brand SIMpull® NMD90 cable is environmentally friendly due to the full recyclability of pure annealed copper. The product also meets the global sustainability criteria because of its full compliance with RoHs and REACH.



## THERMAL STABILITY

Romex® Brand SIMpull® NMD90 cable made of pure copper conductors exhibits an excellent thermal stability under repeated thermal cycling. Aluminum has a lower melting point and a linear thermal expansion coefficient that is 41% higher than that of copper.



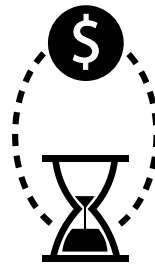
## DECADES OF BRAND AND FIELD FEEDBACK

Approximately 2 million feet of Southwire's Romex® Brand SIMpull® cable is installed in residential branch circuits in North America each day. Southwire's Romex® Brand is one of the most recognized & trusted brand names in the electrical industry.



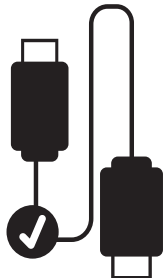
## BURNING CHARACTERISTICS

Both the inner conductors and finished cable have passed an FT1 vertical flame propagation test to minimize the impact of fire for residential applications.



## OVERALL PROJECT AND LIFE CYCLE COST

The use of Romex® Brand SIMpull® NMD90 cable results in the lowest overall project and life cycle cost when considering materials & labor, ease of backstabbing, fewer errors during termination or splicing, use of common devices, and reduced risk of rework.



## COMPATIBLE DEVICES

Many low-cost, commercially available devices are compatible with Romex® Brand SIMpull® NMD90 cable. Installers do not need to worry about using mismatched devices or choosing the wrong twist-on wire connectors (commonly referred to as a Wire-Nut®) or screw types.



**Southwire®**