



COPPERWELD[®]
BUILDING WIRE



Copperweld NM-B for Temporary Circuits

600V | Premium Building Wire

Copperweld Electrical Conductors



Defined by
CODE

Conductors drawn from a copper-clad aluminum rod, with the copper metallurgically bonded to an AA 8000 series aluminum core, where oxygen-free copper forms a minimum of 10 percent of the cross-sectional area of a solid conductor or each strand of a stranded conductor.

ARTICLE 590 Temporary Installations

Feeders. Section 590.4(B)(1) Type NM, Type NMC and Type SE cables shall be permitted to be used in any dwelling, building or structure without any height limitation or limitation by building construction type and without concealment within walls, floors or ceilings.

Branch Circuits. Section 590.4(C)(1) Type NM, Type NMC and Type SE cables shall be permitted to be used in any dwelling, building or structure without any height limitation or limitation by building construction type and without concealment within walls, floors or ceilings.

ARTICLE 334 Nonmetallic-Sheathed Cable: Types NM and NMC

Section 334.104 Conductors: The 600-volt insulated power conductors shall be sizes 14 AWG through 2 AWG copper conductors or sizes 12 AWG through 2 AWG Aluminum or Copper-Clad Aluminum conductors. Control and signaling conductors shall be no smaller than 18 AWG copper.



- 1) PVC jacket
- 2) Craft paper sleeve
- 3) Listed THHN conductors rated at 90°C
- 4) Listed Copperweld bimetallic conductor

Identification, Applications and Usage

Copperweld Copper-Clad Aluminum NM-B conductors are referenced by Article 310 of the National Electrical Code for use in general wiring. OSHA safety listed: UL E492024.

Wiring Methods: Per Article 334 section 104 of the National Electrical Code (NEC) referencing Non Metallic Sheathed Conductors, Type NM-B cables can be made with Copper-Clad Aluminum conductor material. Per Article 590 of the NEC for Temporary Installations, for both feeders and branch circuits, Type NM, Type NMC, and Type SE cables shall be permitted to be used in any dwelling, building, or structure without any height limitation or limitation by building construction type and without concealment within walls, floors, or ceilings.

Copperweld NM-B is identified for use with Wiring Devices, Splice Connectors and Equipment Terminals Rated for Cu, Cu/Al and CO/ALR. When terminating with twist-on splice connectors, pre-twisting is not recommended. Torque until the wires are tight under the cap and visibly twisted together to ensure safe electrical contact. Do not over-torque nor exceed the number of wires per the manufacturer's instructions. Per UL Guide Information RTRT and WJQR, Copperweld® NM-B can terminate with any wiring device (receptacle or switch) rated copper-only or CO/ALR. Copperweld® NM-B satisfies Article 110.14 Electrical Connections as being SAFE for termination with ALL Copper-Only, Cu/AL or CO/ALR terminal connectors (Push-In, Crimp and Twist-On Types) and equipment. Copperweld® NM-B may be pigtailed to single-metal copper wire in dry, damp and wet locations; however, proper termination methods must be applied for each location. Listed connection equipment is required for damp and wet locations for all conductor material types, where oxide inhibitor must be applied. Copperweld® NM-B should not be terminated with single-metal Aluminum wire without the application of an oxide inhibitor along with a terminal or connector specifically listed for the termination of dissimilar metals.

Copperweld® Temporary NM-B Specifications

Type	Size (AWG or KCMIL)	Strands	Standard Jacket Color	Ground Wire Size (Solid AWG)	Insulation Thickness (in)*		Allowable Amperage at 60°C	Outside Diameter (in)	Approx. Weight (lbs/1000 ft)	Standard Packaging	Standard 48x48 Pallet Qty
					PVC	Nylon					
NM-B	12/2-G	1	Yellow	12	0.015	0.004	15	0.191 x 0.403	45.51	250' Coil, 1000' Wood Reel	108/12
NM-B	12/3-G	1	Yellow	12	0.015	0.004	15	0.191 x 0.522	61.25	250' Coil, 1000' Wood Reel	81/12
NM-B	10/2-G	1	Orange	10	0.020	0.004	25	0.222 x 0.487	67.21	250' Coil, 1000' Wood Reel	81/12
NM-B	10/3-G	1	Orange	10	0.020	0.004	25	0.222 x 0.637	89.84	250' Coil, 1000' Wood Reel	54/12
NM-B	8/2-G	7	Orange	8	0.030	0.005	35	0.277 x 0.693	123.64	1000' Wood Reel	10
NM-B	8/3-G	7	Orange	8	0.030	0.005	35	0.582	160.67	1000' Wood Reel	10

Ampacity of NM-B conductors are based on NFPA 70 (NEC) Table 310.15(B)(16) for a temperature rating of the conductors of 60°C according to article 334.80 (Ampacity for NM Cable).

See 110.14 (C), 240.4(D), 310.15(B) and 334.80 for other limitations where applicable. Note: Additional ampacity limitations, adjustments or corrections may apply per 310.15, 334.80 and 240.4 of the NEC

* Jacket thickness for NM-B cable is 30 mils



Know the facts about wire heating, insulation ratings, and ampacity

Test data confirmed by the Electrical Divisions of two nationally recognized testing labs: NSF and ETL

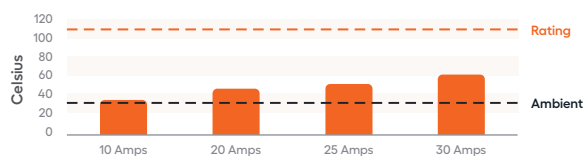


12 AWG NM-B

Only 15 degrees of heat rise at full 20 Amps

Amperage	Core Temp of Wire	Heat Rating of Wire Insulation	Ambient
10 Amps	35.09° C	105° C	30° C
20 Amps	45.56° C	105° C	30° C
25 Amps	51.67° C	105° C	30° C
30 Amps	59.54° C	105° C	30° C

Heat Rise of Copperweld NM-B (from Ambient 30° C)



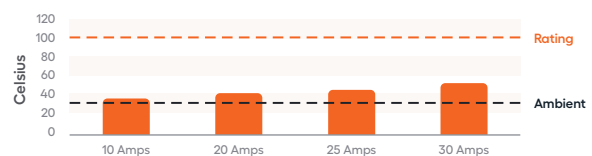
Core Heating at Distinct Amperages

10 AWG NM-B

Only 20 degrees of heat rise at full 30 Amps

Amperage	Core Temp of Wire	Heat Rating of Wire Insulation	Ambient
10 Amps	33.59° C	105° C	30° C
20 Amps	40.02° C	105° C	30° C
25 Amps	44.38° C	105° C	30° C
30 Amps	49.96° C	105° C	30° C

Heat Rise of Copperweld NM-B (from Ambient 30° C)



Core Heating at Distinct Amperages