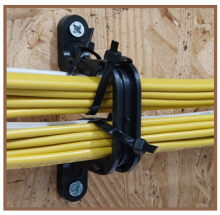
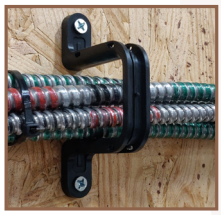
Southwire™

WIREBRACKET™

The 1st dual purpose line voltage and low voltage cable supporting device. Install fewer staples and reduce the possibility of increased resistance that may trip Arc Fault & GFI breakers. Made of nonconductive polyethylene, our WireBracket™ Cable Support Device is approved for bundling current carrying conductors with cable ties, if needed. Cable ties separate groups of cables allowing more cables to be installed in a single device. Each corner of the device has a hole that allows a cable tie to be installed. A smooth interior surface is suitable for wire pulling, especially for long distance pulls. Mounting holes accept tap cons, 1/4 bolts for beam clamps and light hilti loads (1.5" nail with fender washer). Patented.





FOR RESIDENTIAL & COMMERCIAL USE

ALLOWS FLEXIBLE AND CUSTOM RACEWAY DESIGN

QUICK INSTALLATION IN CONCRETE USING LIGHT HILTI LOAD (1.5" NAIL WITH FENDER WASHER)

MC DOES NOT REQUIRE CABLE TIES WHEN 10 OR LESS CABLES ARE IN DEVICE

LOW VOLTAGE CABLES DO NOT REQUIRE CABLE TIES

We've got it MADE IN AMERICA™

MODEL #	UPC	DESCRIPTION	TRADE SIZE	MASTER QTY	MASTER WEIGHT
WB200	784297024108	Cable Support Device	2"	25	2.10 lbs.

BUILT FOR DURABILITY.
BUILT FOR RELIABILITY.
BUILT FOR WORK.™

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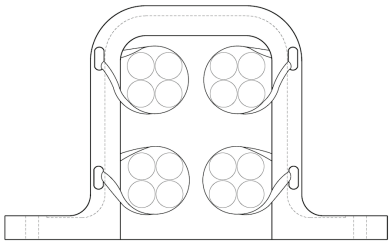

CAPACITY GUIDE

NON-METALLIC SHEATHED CABLE WITH GROUND	
12/2 and 14/2	16 cables in each device
12/3 and 14/3	12 cables in each device
10/2 and 10/2	8 cables in each device
8/2 and 8/3	5 cables in each device
6/2 and 6/3	4 cables in each device
SERVICE ENTRANCE CABLE	
#4, #2 SER	4 cables in each device
#1 SER	3 cables in each device
1/0 SER	2 cables in each device
2/0 and 4/0 SER	1 cables in each device
METAL CLAD CABLE WITH GROUND (NO CABLE TIES)	
12/2 and 12/3	10 cables in each device
10/2 and 10/3	8 cables in each device
LOW VOLTAGE CABLE (NO CABLE TIES)	
100% fill	

NEC® CODE COMPLIANCE

334.80 Calculation ex., 2011 & 2014 NEC Handbook
334.112 Insulation note
310.15 (B) (3) (A) Adjustment factors for more than 3 current carrying conductors (7-9 conductors = 70%)
310.15 (B) (16) Allowable ampacities of insulated conductors
310.15 (B) (2) (b) (4) (d) Not more than 20 current carrying conductors are installed without maintaining spacing, are stacked, or supported on 'bridle rings' = MC cables
110.2 UL Listing Local Authority approvals

NEC® HANDBOOK 2014*

ARTICLE **334.80** Page 327

CALCULATION EXAMPLE

Four 2-conductor, size 12 AWG, copper with ground, Type NM cables are installed in direct contact with thermal insulation without maintaining spacing. Calculate the ampacity of the conductors according to the requirements of 334.80, and determine the maximum overcurrent protection permitted for the four circuits.

SOLUTION

Step 1. Determine the number of current-carrying conductors.

4 cables x 2 conductors per cable=
8 current-carrying conductors

Step 2. Determine the initial conductor ampacity. Using the 90ºC copper ampacity from Table 310.15(B)(16) for derating purposes, the initial ampacity of 12 AWG is 30 amperes.

Step 3. Determine the adjusted conductor ampacity. Due to the direct contact with thermal insulation, use Table 310.15 (B)(3)(a). Eight current-carrying conductors require an adjustment factor of 70 percent.

30 A x 0.7 = 21 adjusted A

Step 4. Determine the maximum permitted overcurrent device for each circuit. Section 334.80 does not allow an ampacity greater than given in the 60ºC column of Table 310.15(B)(16). And according to the footnote of Table 310.15(B)(16), conductor sizes of 14 AWG through 10 AWG must also comply with 240.4(D). Section 240.4(D) limits a 12 AWG copper conductor to a maximum of 20 amperes. Therefore, the 21 amperes of adjusted ampacity must be further reduced or limited by being protected by an overcurrent device not to exceed 20 amperes.

CONCLUSION

The final ampacity for each current-carrying conductor is 20 amperes, and the maximum overcurrent device permitted for each of the four circuits is 20 amperes.

This example points out that the 14 AWG to 10 AWG NM cable typically used for branch circuits can be installed without spacing and placed within thermal insulation with little impact on most installations. For similar installations, as long as the bundle is limited to not more than nine current-carrying conductors, the adjusted ampacity will not be below the small conductor limit set in 240.4(D).

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