

Safety and Working Load Factors for Wire Mesh Grips

There are many variables associated with the use of wire mesh cable grips. Working load is an estimation of several factors including tension, cable diameter, number of cables gripped, gripping surface and more. Safety factors associated in the product’s use must be considered together with the effects of abrasion, corrosion, prior use and abuse and other variables specific to the application.

The appropriate breaking strength of a Bryant Economy Cable Grip represents an average calculation based on data established from actual testing performed in our engineering laboratories. Under normal usage conditions, our recommended factor of

safety is five for pulling grips and ten for support grips.

Any warranty as to quality, performance of fitness-for-use of the grips is always premised on the condition that the published strengths apply only to new, unused grips, and that such products are properly stored, handled, used, maintained and inspected by the user at a frequency appropriate for the use and condition of the grip.

**WARNING**

Under normal conditions, Bryant recommended factor of safety is five for catalog listed pulling grips, and ten for catalog listed support grips.

Example

Grip Style	Approx. Breaking Strength (Lbs.)	Safety Factor	Max. Recommended Load (Lbs.)	Catalog Number
Pulling	27,200	5	5,440	<b>PHS200</b>
Support	1,610	10	161	<b>SPS125U</b>

*Note: The maximum recommended working load is the greatest tension to be exerted on a grip for any application, with a margin of safety to protect against unforeseen and unusual circumstances.*

Wire Mesh Grip Materials

Material	Features	Product Group
Galvanized steel wire	High strength	Pulling grips
	Not subject to continuous outside environment	Splicing grips and bus drop grips
Tin-coated bronze wire	Corrosion-resistant for normal outside areas Non-magnetic Moderate strength	Support grips
Stainless steel wire (302/304)	High strength	Support grips
	Corrosion-resistant	Strain relief grips

Applicable Code Requirements:

- Bryant Economy Cable Grips meet the following requirements:
- NEC® 300.19      Support of conductors in vertical raceways
  - NEC® 350          Liquidtight flexible metal conduit termination
  - NEC® 400.14      Flexible cord and cable protection
  - NEC® 400.10      Strain relief at joints and terminals
  - NEC® 501.10 (B)    Class I, Division 2, Tensile stress avoidance at termination fittings
  - NEC® 502.10 (A) and (B)    Class II, Division 1 and 2, Tensile stress avoidance at termination fittings
  - NEC® 503.10 (A) and (B)    Class III, Division 1, Tensile stress avoidance at termination fittings

Selection Table for Multiple Cables of Different Diameters Inches (cm)

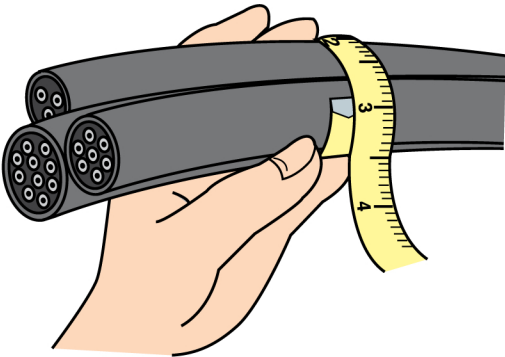
How to choose the correct grip size:

- 1. Find the grip circumference range by measuring the circumference of the bundle of different diameter cables to be gripped (see illustration).
- 2. Divide the bundle circumference by 3.14 to determine the diameter.
- 3. Choose a grip offering a range of cable diameters the same as the cable diameter.

For cables of equal diameters

Under “number of cables in one grip”, find the diameter of your single cable in vertical column, see page M-27. Read the grip diameter range to the right. If your diameter is the maximum of the range shown, go to the next larger size for split grips, stay with the same size for closed grips.

**Example:** 3 cables, each with .89 (2.26) diameter, for a closed grip select the 1.50-1.74 (3.81-4.42) range, for a split grip select the 1.75-1.99 (4.44-5.05) range.



**CAUTION**

When a grip is used on multiple cables, the tail end of the grip should be banded after positioning on the cables.

NEC® is a registered trademark of the National Fire Protection Association (NFPA).