

Technical Data

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® cable grip

represents an average calculation based on data established from actual testing performed in our engineering laboratories. Under normal usage conditions, the recommended factor of safety is 5 for pulling grips and 10 for support grips.

Any warranty as to quality, performance or 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.

Example

Grip Style	Part Number	Approximate Breaking Strength	Safety Factor	Max. Recommended Load
Pulling	PA075	4000 lbs.	5	800 lbs.
Support	SPC150U	1610 lbs.	10	161 lbs.

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	Bus drop grips
		Strain relief grips
Tin-Coated bronze wire	Corrosion-resistant for normal outside areas	Support grips
	Non-magnetic	
	Moderate strength	
Stainless steel wire (302/304)	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

Operating Temperatures

Material	Temperature Range
Aluminum	-40°F to +300°F (-40°C to +149°C)
Aluminum Deluxe Cord Grips	-30°F to +240°F (-34°C to +115°C)

Flammability (Non-metallic deluxe cord Grips will not support combustion)

Component	Rating
Mesh Grip	UL 94HB
Fitting	UL 94V-2

Hazardous Locations

	Product Categories
The product categories listed on the right are suitable for use in hazardous locations per Class I Div. 2, Class II Div. 1 & 2, Class III Div. 1 & 2	Deluxe cord grip, aluminum fitting Dust-tight strain relief grips

Wet Locations

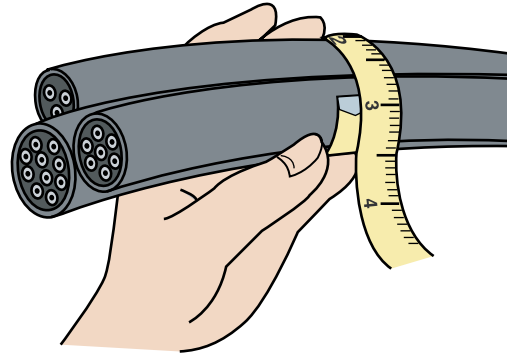
	Product Categories
The products noted to the right are suitable for use in wet locations when a listed sealing ring is used between box and fitting	Deluxe cord grip, aluminum fitting

Multiple Cable/Grip Selection Chart

Multiple Cable Selection Charts for Cables and Wires of Unequal Diameters

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.



Selection Chart for Determining Grip Size for Multiple Equal Diameter Cables Held in a Single Grip

- ❶ Under "Number of Cables in One Grip", find the diameter range of your cables in vertical column. Read Grip Size and Grip Diameter Range to the left.
- ❷ If your diameter is the maximum of the range shown, stay with the same size grip.
- ❸ Example: 3 cables, each with 0.89" (2.26 cm) diameter, select a 1.50" - 1.74" (3.81 cm - 4.42 cm) range or 150 Grip Size.

		Number of Cables in One Grip							
	Grip Size	Grip Dia. Range Inches (cm)	2	3	4	5	6 / 7	8	9
Pulling and Support	50	0.50-0.61 (1.27-1.55)	0.30-0.38 (0.76-0.97)	0.25-0.31 (0.63-0.79)	0.22-0.27 (0.56-0.69)	0.19-0.24 (0.48-0.61)	0.17-0.22 (0.43-0.56)	0.15-0.19 (0.38-0.48)	0.14-0.18 (0.36-0.46)
	62	0.62-0.74 (1.57-1.88)	0.38-0.44 (0.97-1.12)	0.31-0.36 (0.79-0.91)	0.27-0.31 (0.69-0.79)	0.24-0.29 (0.61-0.74)	0.22-0.26 (0.56-0.66)	0.19-0.23 (0.48-0.58)	0.18-0.21 (0.46-0.53)
	75	0.75-0.99 (1.90-2.51)	0.44-0.59 (1.12-1.50)	0.36-0.49 (0.91-1.24)	0.31-0.42 (0.79-1.07)	0.29-0.38 (0.74-0.97)	0.26-0.34 (0.66-0.86)	0.23-0.31 (0.58-0.79)	0.21-0.28 (0.53-0.71)
	100	1.00-1.24 (2.54-3.15)	0.59-0.75 (1.50-1.90)	0.49-0.63 (1.24-1.60)	0.42-0.54 (1.07-1.37)	0.38-0.48 (0.97-1.22)	0.34-0.43 (0.86-1.09)	0.31-0.39 (0.79-0.99)	0.28-0.35 (0.71-0.89)
	125	1.25-1.49 (3.17-3.78)	0.75-0.90 (1.90-2.29)	0.63-0.76 (1.60-1.93)	0.54-0.65 (1.37-1.65)	0.48-0.58 (1.22-1.47)	0.43-0.52 (1.09-1.32)	0.39-0.46 (0.99-1.17)	0.35-0.42 (0.89-1.07)
	150	1.50-1.74 (3.81-4.42)	0.90-1.07 (2.29-2.72)	0.76-0.89 (1.93-2.26)	0.65-0.77 (1.65-1.96)	0.58-0.67 (1.47-1.70)	0.52-0.60 (1.32-1.52)	0.46-0.54 (1.17-1.37)	0.42-0.49 (1.07-1.24)
	175	1.75-1.99 (4.44-5.05)	1.07-1.22 (2.72-3.10)	0.89-1.02 (2.26-2.59)	0.77-0.88 (1.96-2.24)	0.67-0.77 (1.70-1.96)	0.60-0.69 (1.52-1.75)	0.54-0.62 (1.37-1.57)	0.49-0.56 (1.24-1.42)
	200	2.00-2.49 (5.08-6.32)	1.22-1.53 (3.10-3.89)	1.02-1.28 (2.59-3.25)	0.88-1.10 (2.24-2.79)	0.77-0.96 (1.96-2.44)	0.69-0.86 (1.75-2.18)	0.62-0.77 (1.57-1.96)	0.56-0.71 (1.42-1.80)
	250	2.50-2.99 (6.35-7.59)	1.53-1.83 (3.89-4.65)	1.28-1.53 (3.25-3.89)	1.10-1.32 (2.79-3.35)	0.96-1.16 (2.44-2.95)	0.86-1.03 (2.18-2.62)	0.77-0.93 (1.96-2.36)	0.71-0.85 (1.80-2.16)
	300	3.00-3.49 (7.62-8.86)	1.83-2.14 (4.65-5.44)	1.53-1.79 (3.89-4.55)	1.32-1.54 (3.35-3.91)	1.16-1.35 (2.95-3.43)	1.03-1.20 (2.62-3.05)	0.93-1.08 (2.36-2.74)	0.85-0.99 (2.16-2.51)
	350	3.50-3.99 (8.89-10.13)	2.14-2.44 (5.44-6.20)	1.79-2.05 (4.55-5.21)	1.54-1.76 (3.91-4.47)	1.35-1.54 (3.43-3.91)	1.20-1.37 (3.05-3.48)	1.08-1.24 (2.74-3.15)	0.99-1.13 (2.51-2.87)
	400	4.00-4.49 (10.16-11.40)	2.44-2.75 (6.20-6.98)	2.05-2.30 (5.21-5.84)	1.76-1.98 (4.47-5.03)	1.54-1.74 (3.91-4.42)	1.37-1.55 (3.48-3.94)	1.24-1.39 (3.15-3.53)	1.13-1.27 (2.87-3.23)
450	4.50-4.99 (11.43-12.67)	2.75-3.06 (6.98-7.77)	2.30-2.56 (5.84-6.50)	1.98-2.20 (5.03-5.59)	1.74-1.93 (4.42-4.90)	1.55-1.72 (3.94-4.37)	1.39-1.55 (3.53-3.94)	1.27-1.41 (3.23-3.58)	