Cord Grips Family Overview

Strain Relief Grips

Strain Relief Grips are used to connect cable enclosures and industrial equipment. These grips prevent cable pullout at the point of termination due to tension, vibration, flexure or motion. Used in conjunction with bus drop support grips and safety springs, they are an integral part of an overall support and strain relief system. These grips are suitable for indoor or outdoor use where subject to moisture, splash or washdown. Examples are crane hoist and pendant drop stations, hand tools, pumps, and processing equipment.

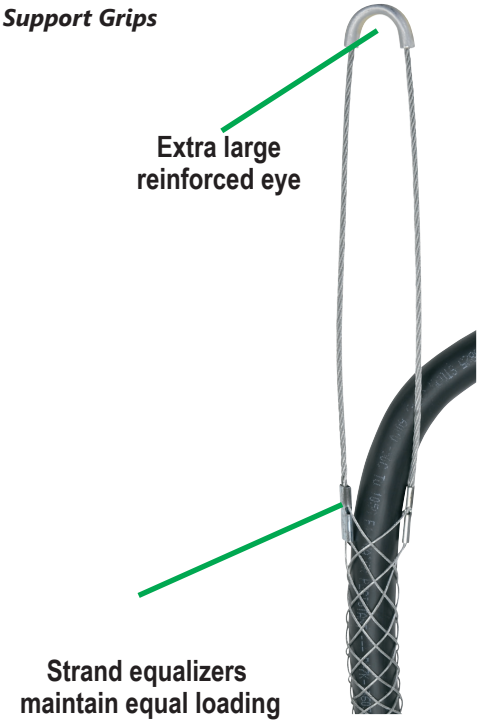
Deluxe Cord Strain Relief Grips

- Endless weave for easy installation
- Indoor and outdoor applications
- Provides arc-of-bend control
- Stainless steel mesh
- Corrosion resistant
- Liquid-tight and dust-tight
- Range 0.187 – 1.687 inches

Dust-tight Strain Relief Grips

- Dust-tight
- Galvanized steel mesh
- For indoor applications only
- Ideal for use in bus drop systems, motor connections, panel boards, and internal wiring of machines
- Range 0.32 – 1.70 inches

Support Grips



Support Grips are applied to the vertical or horizontal runs of cable or service lines to support dead weight and reduce potential damage due to breakage or stress. These grips are designed to be used indoors for cable support where flexible cable connects electrical equipment to bus duct. Applications also include support for air hoses and water hoses.

Standard Duty Support Grips

- Single U eye closed mesh fits over cable end
- Indoor and outdoor applications
- Split mesh is used when cable end is inaccessible
- Strand equalizers reinforce gripping strength and position; distributes load equally
- Range 0.54 – 1.74 inches

Bus Drop Support Grips

- Light duty
- Strand equalizers position wires for equal loading
- Single variable weave
- Indoor use only
- Range 0.24 – 1.25 inches

BRYANT® Standard Duty Support Grips - Closed Mesh

E = Eye Length
M = Mesh Length

Features

- Closed grips with U eye
- Single weave variable mesh
- Tin-coated bronze grips are non-magnetic minimizing hysteresis and resultant heat build-up which can lead to cable degradation and reduced life
- Uniform gripping power
- Endless weave
- Strand equalizers position wires for equal loading

Applications

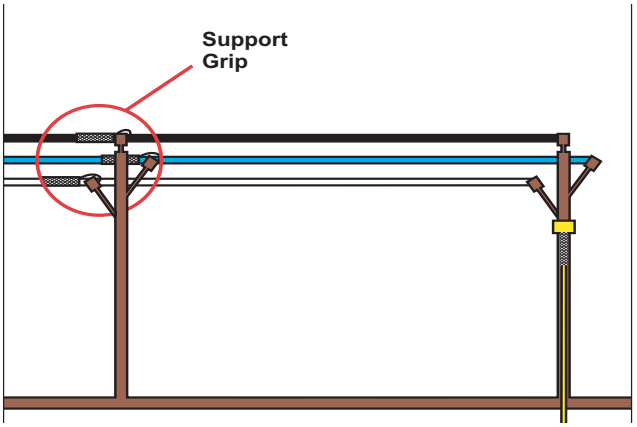
- Commercial towers
- Elevator shafts
- Buildings
- Utility poles - telephone and power
- Construction
- Factories

Agency Approvals

- CSA Certified File LR701228

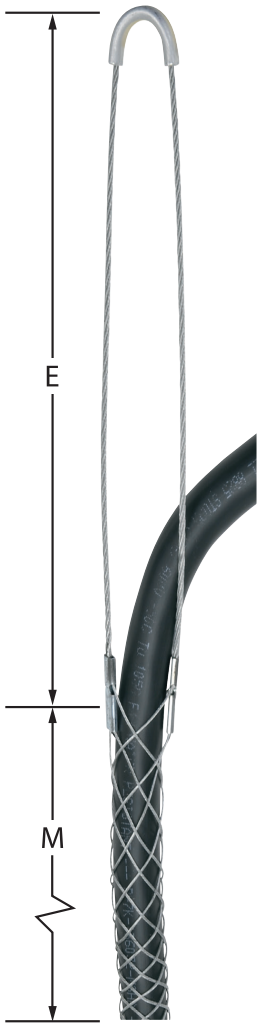
Bryant® Single Eye, Closed Mesh Support Grips

Part Number	*Price*	*Drawing Link*	*Cable Diameter Range Inches (cm)*	*Approximate Breaking Strength Pounds (Newtons)*	*Eye Length Inches (cm)*	*Mesh Length Inches (cm)*	*Weight (lbs.)*
SPC050U		PDF	0.50-0.62 (1.27-1.57)	530 (2,357)	7.0 (17.78)	10.0 (25.40)	0.1
SPC062U		PDF	0.63-0.74 (1.60-1.88)	790 (3,514)	8.0 (20.32)	10.0 (25.40)	0.2
SPC075U		PDF	0.75-0.99 (1.90-2.51)	1,020 (4,537)	8.0 (20.32)	13.0 (33.02)	0.2
SPC100U		PDF	1.00-1.24 (2.54-3.15)	1,610 (7,161)	9.0 (22.86)	14.0 (35.56)	0.3
SPC125U		PDF	1.25-1.49 (3.17-3.78)	1,610 (7,161)	10.0 (25.40)	15.0 (38.10)	0.4
SPC150U		PDF	1.50-1.74 (3.81-4.42)	1,610 (7,161)	12.0 (30.48)	17.0 (43.18)	0.4



CAUTION: Never use grip to approximate breaking strength. Refer to technical data page for safety and working load factors. Banding is necessary to guard against accidental release of grip and provide maximum reliability.

BRYANT® Bus Drop Support Grips



BDS56U

E = Eye Length
M = Mesh Length

Features

- Single variable weave
- Galvanized steel for additional holding power in abrasive environments
- Strand equalizers position wires for equal loading
- Light-duty support
- Indoor only, permanent support
- Easily installed
- Single eye

Applications

- All factory equipment
- Cable drops for electrical connections

Agency Approvals

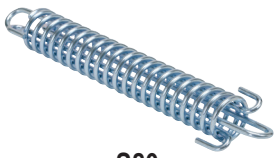
- UL Listed File E167220
- CSA Certified File LR701228

Bryant® Single Eye, Closed Mesh Bus Drop Support Grips

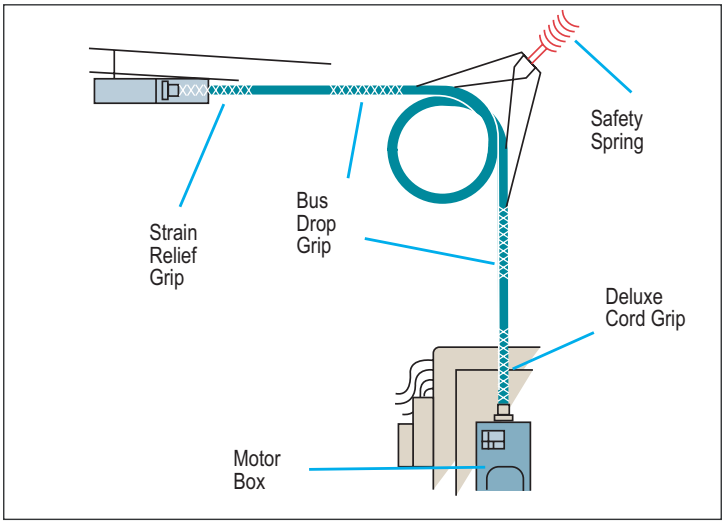
Part Number	Price	Drawing Link	Cable Diameter Range Inches (cm)	Approximate Breaking Strength Pounds (Newtons)	Eye Length Inches (cm)	Mesh Length Inches (cm)	Weight (lbs.)
BDS24U		PDF	0.24-0.32 (0.61-0.81)	350 (1,557)	3.0 (7.62)	3.50 (8.89)	0.1
BDS32U		PDF	0.32-0.43 (0.81-1.09)	450 (2,002)	4.0 (10.16)	4.00 (10.16)	0.1
BDS43U		PDF	0.43-0.56 (1.09-1.42)	550 (2,446)	6.0 (15.24)	4.75 (12.06)	0.1
BDS56U		PDF	0.56-0.73 (1.42-1.85)	1,000 (4,448)	7.0 (17.78)	6.00 (15.24)	0.1
BDS73U		PDF	0.73-0.85 (1.85-2.16)	1,400 (6,227)	7.0 (17.78)	6.75 (17.14)	0.1
BDS85U		PDF	0.85-1.00 (2.16-2.54)	1,400 (6,227)	8.0 (20.32)	8.00 (20.32)	0.1
BDS100U		PDF	1.00-1.25 (2.54-3.17)	1,500 (6,672)	9.0 (22.86)	9.50 (24.13)	0.2

Bus Drop Safety Springs

Part Number	Price	Drawing Link	Diameter Inches (cm)	Approximate Breaking Strength Pounds (Newtons)	Length Inches (cm)	Maximum Deflection	Weight (lbs.)
S40		PDF	0.75 (1.90)	500 (2,224)	8.25 (20.95)	2¾ inch at 40 lbs. (6.67 cm at 178 N)	0.2
S80		PDF	1.00 (2.54)	850 (3,781)	8.25 (20.95)	31/8 inch at 80 lbs. (7.94 cm at 356 N)	0.4



S80



CAUTION: Never use grip to approximate breaking strength. Refer to technical data page for safety and working load factors. Banding is necessary to guard against accidental release of grip and provide maximum reliability.

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 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.

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 Not subject to continuous outside environment	Pulling grips Bus drop grips Strain relief grips
Tin-Coated bronze wire	Corrosion-resistant for normal outside areas Non-magnetic Moderate strength	Support grips
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)

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

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

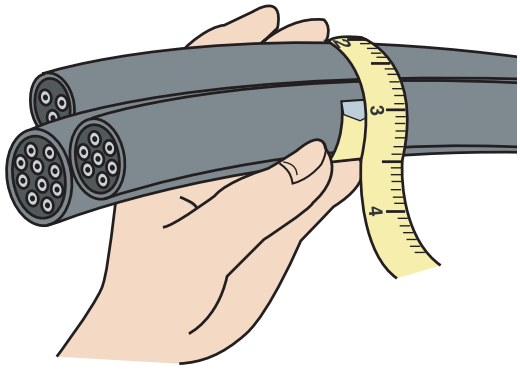
Component	Rating
Mesh Grip	UL 94HB
Fitting	UL 94V-2

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

1. 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.

2. If your diameter is the maximum of the range shown, stay with the same size grip.

3. 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)