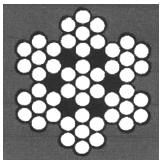
Cable Grippers & Cable Strength Info

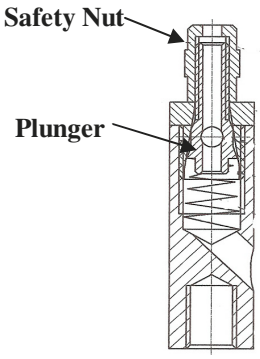
Cable Strength Relationships between Gripper & Cable Diameter for Loading Requirements



7 X 7 Cable

Information

Cable (also known as wire rope) is available in many different types of construction. Wire rope consists of a number of strands laid helically around a supporting core. Individual strands are composed of a number of wires laid helically around a center (core) of wire. The lay of a cable is defined by the direction in which the strands are laid into the rope, and, also by the direction in which the wire are laid into the strands. Regular lay cable in which strand lay direction in the rope is opposite to the wire lay direction in strands. Regular lay is preferred where additional resistance to crushing, rotating or distortion is required. 7 X 7 refers to the number of strands (7) which have (7) wires each. The center strand (core) , with 6 strands laid around the core. See illustration on the left.



Cable Gripper Designs

Within each cable gripper is a plunger that the cable slides through. There are 3 balls which surround the outside diameter of the cable as it passes through the gripper. When weight is applied to the gripper which is mounted usually in the lighting equipment, the tension forces the 3 balls to grab the cable in a pinching movement. In normal operation the more the tension, the more the gripping. Some grippers come with a safety nut which locks the movement in both directions, which eliminates the potential for a release if the plunger is accidentally depressed by an end user.

Diameter: Note 1	Description: Note 2	Break Strength: Note 3	Gripper Slippage: Note 4	Maximum Safe Load: Note 5
3/64”	Micro / MGR	270	227	30
1/16”	MGR-SE Side Exit	480	268	50
1/16”	MGR / GR	480	345	50
3/32”	7X7 Steel	920	532	100

Notes:

1. Cable diameter is expressed in fractions of an inch and relates to the US standard of referring to cable. diameters. Foreign cable measurements are expressed in millimeters (mm).
2. Describes series of Gripper Part#. The cables used in all test conducted for Pendant Systems were 7 x 7 Galvanized steel cables.
3. The break strength is the minimum breaking force in pounds for that particular diameter of cable.
4. Gripper Slippage is the average force in pounds when the testing equipment sensed slippage within the gripper. Normally the cable slips, and the gripper holds again within a very small distance of cable.
5. Maximum safe load is based on 20% (percent) of the lowest observed force for that diameter cable. For multiple cables, add the weights together. Example for a linear fixture using 2 each 1/16” cables, 2 X 40 = 80 pounds of fixture with an 80% (percent) safety factor.
6. The Pendant Systems Grippers are not recommended for outdoor use or exposed to water, wind, chemical environments such as a swimming pool or continuous movement such as in front of a HVAC vent.
7. Use only uncoated 7 x 7 or 7 x 19 uncoated stainless or galvanized steel aircraft cable.
8. Weight guidelines are for static loads at 5% or less of angle. For angled suspension, use our CC-Slot cable coupler or ADJ foot adjustable grippers.
3. Always allow at least 1” of cable to pass beyond the body of the gripper

Disclaimer:

The information shown in the chart above is based on independent tests conducted for Pendant Systems. The information shown may vary with gripper model and cable diameter. Pendant Systems recommends each customer determine their individual specific requirements. Please contact Pendant Systems for additional information if required.