

## How It Works, Technical & Quality Control

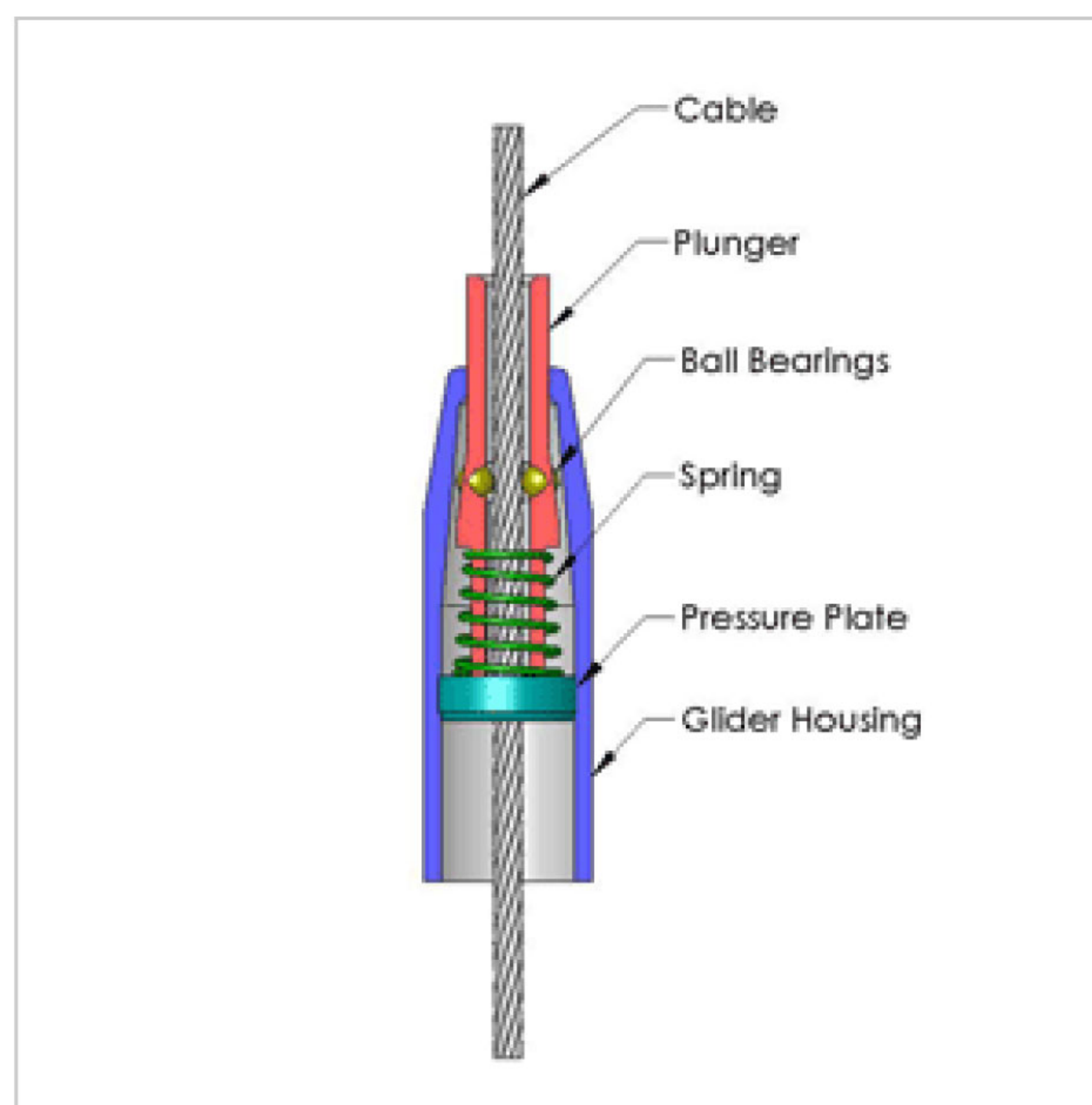
### How It Works

Griplock Gliders (also known as cable grippers) are sophisticated in design but simple to use:

- Insert the cable into the plunger and slide the Glider to the desired position. Where it stops it locks.
- To re-adjust, simply depress the plunger with your fingertip and move the Glider to a new position. Release the plunger to lock.

The 3- or 6-ball gripping mechanism is spring-loaded and allows the Glider to move freely up the cable, but it cannot move down unless the plunger is depressed manually.

While there is any weight at all on the Glider, the plunger cannot be depressed. An optional “safety nut” or “safety cap” can be added to completely lock the mechanism in both directions. The Greater The Weight, The Stronger It Grips.



### Materials & Finishes

Griplock Gliders are made of nickel-plated brass with a few exceptions: the 15-1420 series and the 18-1032 are made of nickel-plated steel. Internal mechanisms are comprised of brass and stainless steel. Type-50 and Type-80 Gliders are also available in a black zinc finish. Our Store Display Gliders are finished in satin-chrome. Other finishes such as chrome and gold are available upon request. Griplock Keyrings are made of anodized aluminum and come in several colors.





# Thread Sizes

Most Griplock and CableFast Gliders have either internal or external threads to attach them to the object being suspended. The following chart contains thread and KO (Knock-Out) size information that may be useful, particularly to our Lighting Industry customers.

Thread Size	Thread Diameter	Fixture KO Size	Thread Size	Thread Diameter	Fixture KO Size
1/8IPS = 1/8-27 NPSM	3/8"	7/16"	M4	5/32"	3/16"
1/4IPS = 1/4-18 NPSM	1/2"	9/16"	M6	7/32"	1/4"
3/8IPS = 3/8-18 NPSM	5/8"	11/16"	M8	5/16"	3/8"
12IPS = 1/2-14 NPSM	13/16"	7/8"	M10	3/8"	7/16"
10-32	0.19"	3/16"	M13	1/2"	9/16"
1/4-20	0.24"	1/4"	M16	5/8"	11/16"
3/8-16	0.38"	7/16"	M20	25/32"	13/16"

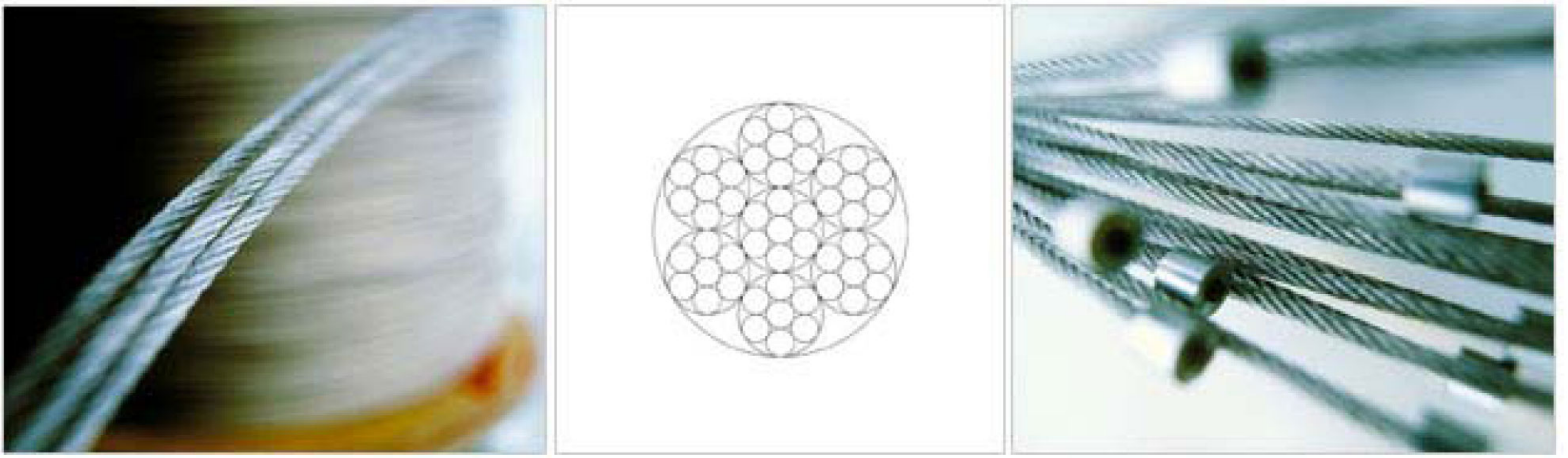
# About Aircraft Cable

Aircraft Cables are wire ropes with diameters ranging from 1/32" to 1/4" and are composed of six steel strands wound around a seventh steel stranded core.

This stranded steel core adds strength and crush-resistance to the cable. Aircraft cable is classified by the number of strands in the rope multiplied by the number of wires in each strand. For example, the notation 7 x 7 indicates that the rope has seven strands made up of seven wires in each strand. Similarly, the notation 7 x 19 indicates that the rope has seven strands made up of nineteen wires in each strand. The greater the number of wires, the greater the flexibility of the cable. Griplock Cables are 7 x 7 galvanized or stainless steel medium-to-high tensile strength aircraft cable.

NOTE: Aircraft cable was developed, and is still used today, to provide a direct mechanical link between an aircraft's controls and its crucial and hard-to-reach control functions.





## Galvanized & Stainless Steel Aircraft Cable

Galvanized Aircraft Cable (also known as GAC) is composed of wires that, prior to stranding, have been zinc-plated to prevent corrosion. These cables are an effective and economical alternative to stainless steel in mild environments. Griplock's standard stainless steel cable is constructed of 304 Stainless Steel. 316 Stainless Steel is also available to add extra corrosion resistance, but it has lower break strength than 304 Stainless Steel cable. Both 304 Stainless Steel and Galvanized Aircraft Cable have approximately the same break strengths.

NOTE: Griplock's 1/16" cables are true 1/16", not 1.5mm as supplied by most manufacturers and distributors.

## Cable Terminals

Terminals (also known as sleeves, stop-sleeves, stops, crimps and swages) are molded or crimped to the end of a cable, allowing the cable to be captured by a cable coupler or other non-mechanical holder which attaches the cable to a structure or fixture.

Zinc Die-Cast (ZDC) Terminals are molded to a cable end that has been "bird-caged", allowing the molten zinc to adhere to each individual wire. This relatively new technology has proven itself in the automotive and aviation industries.

Griplock Systems can now offer a comprehensive range of ZDC terminals.

Swaged Terminals can be made of steel, stainless steel, aluminum or copper and come in a variety of shapes and sizes.

Both types of Griplock terminal are guaranteed to hold the full published break weight of the cable.

NOTE: Griplock Systems does not recommend field-installing swaged terminals onto cable. Griplock Systems waives any liability for accidents resulting from field- or non-factory-installed swages and terminals.

## Griplock vs. CableFast Gliders

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Griplock Gliders are built for Griplock by **Reutlinger GmbH** of Frankfurt, Germany. The shells and moving parts are machined to three decimal point specifications. Reutlinger's technical sophistication, combined with its stringent quality control program, assures 100% reliability of performance. The product line ranges from Micro-Gliders for 1/32" cable to the new Type-200 Gliders for 3/4" cable, and encompasses over 400 different designs.

CableFast Gliders are born from our long experience in the cable suspension field and are built in Asia to Griplock's specifications. The product range is limited to the most commonly used grippers in the industry. They are designed and priced to compete in an increasingly budget-driven market, while giving engineers & specifiers more pounds of reliable pull-strength per dollar than any other gripper on the market. CableFast Gliders are designated by "ZF" at the beginning of their part numbers. Most CableFast Gliders also carry a "CF" logo and show the cable diameter for which they are designed. CableFast Type-25 Gliders are designed for 2.5mm or 3/32" and 5/64" cable ONLY. In no circumstance should Type-25 CableFast Gliders be used with 3/64" or 1/16" cables. NOTE: Our **Weight Load Guidelines** for CableFast Gliders are NOT applicable to Griplock Gliders or any other cable-gripping products.

## Quality Control

As all manufacturers and installers know, suspending objects safely over people's heads is their first and most critical responsibility. At Griplock Systems Safety is our number one concern. In our eyes each and every Glider is a precision-built machine and failure is not an option.

Griplock Gliders: Prior to assembly in Frankfurt, Germany, all individual Griplock Glider components are tested to meet ISO 9002 quality control standards. Before shipping to the U.S., every single assembled unit is inspected. Every production run, whether of existing parts, new designs or design revisions, undergoes its own meticulous testing regimen.

Furthermore, to maintain our **Global Liability Insurance**, most Griplock products are subjected to the rigors of TUV Germany, the world's most exacting testing facility.

CableFast Gliders are built to Griplock's specifications by several different Asian manufacturers and undergo similar Quality Control procedures either at manufacture or upon arrival at our facility. All Cablefast Gliders are checked 100% and Griplock stands behind every one of them.

## Quality Assurance

All Griplock and Cablefast Gliders undergo a second rigorous inspection upon arriving at our U.S. facility. A percentage of every shipment, regardless of the vendor, is pull-tested to destruction and ongoing records of these tests are maintained and reviewed.

Griplock Cables are proof-loaded at manufacture to 60% of their published break strength. Upon arrival at our facility all cable batches are sampled and several cables out of each batch are pull-tested to destruction.

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## Custom Designs

Our engineers will design and build products to fit your specific application. In all cases of product and application development, line drawings and 3-dimensional interactive models from our SolidWorks drawing program are available.

NOTE: There may be consultation and/or engineering fees in addition to other set-up charges associated with such development.

## Custom Kits

Any combination of Griplock products can be pre-assembled, packaged and labeled according to the customer's specifications. Customers may supply their own parts and instruction material for inclusion in these kits. Pre-packaged kit prices are often lower than the cost of the individual components purchased "a la carte". SolidWorks drawings of customer kits are available at no charge. For more information **contact** the Sales Team.

## Weight Load Guidelines

Weight Load Guidelines are located below and in the back pages of our catalog. They show minimum break-strengths for Griplock and CableFast Gliders in indoor chemical-free static-load and static-air applications. Only use cable & Glider combinations for which a minimum break-strength has been specified, eg. 1/16" cable with Type-15 Glider.





## The following figures are for **Griplock Gliders ONLY**

**WARNING: This chart does not apply to CableFast or to any other cable-gripping products**

Each figure below represents a safe working load for a specific glider / cable combination

Safe working loads are 20% of the minimum break strength of the glider / cable combination

Inches	Mms.	Type 10	Type 12	Type 15	Type 18	Type 20	Type 25	Type 30	Type 50		Type 80		Break Strength
								6-Ball	3-Ball	6-Ball	3-Ball	6-Ball	
1/32"		13											67
	1.0mm	22	22										112
3/64"	1.2mm		33	33	33								165
	1.5mm			56	56	56							280
1/16"	1.6mm			60	60	60	60						300
5/64"	2.0mm				90	90	90						450
3/32"	2.4mm						126	126					630
	2.5mm						134	134					674
	3.0mm							200					1012
1/8"								225					1125
	4.0mm								400				2000
3/16"									500				2500
	5.0mm								540				2700
5/16"	8.0mm										1300		6500

## The following Figures are for **CableFast Grippers Only.**

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Each figure below represents a safe working load for a specific glider / cable combination

Safe working loads are 20% of the minimum break strength of the glider / cable combination

Inches	Mms.	Type 10	Type 12	Type 15	Type 18	Type 20	Type 25	Type 30	Type 50		Type 80		Break Strength
								6-Ball	3-Ball	6-Ball	3-Ball	6-Ball	
3/64"	1.2mm		25	25			X						125
1/16"	1.6mm			40			X						200
5/64"	2.0mm						65						325
3/32"	2.4mm						95						475

Tests on German-made Griplock Gliders were conducted with Reutlinger's medium-to-high tensile strength galvanized aircraft cable (1.0mm-8.0mm). Tests on CableFast Gliders were conducted with medium-to-high tensile strength galvanized aircraft cables from three independent U.S. suppliers. Weight load figures represent the breakage points in pounds when cables and Gliders were pulled from opposite ends by a tension-testing machine under controlled conditions. Please note that weight load figures for GRIPLOCK GLIDERS ARE NOT APPLICABLE TO CABLEFAST GLIDERS OR ANY OTHER CABLE-GRIPPING PRODUCT. In addition, even though Griplock Systems supplies medium-to-high tensile strength cable, it recognizes that its Gliders may be used with lower tensile strength cables, flawed cables, plastic-coated cables or cables of the incorrect diameter or construction. Therefore, Griplock Systems strongly urges users to read, understand and abide strictly by the Weight Load Guidelines and other published warnings at all times. If in doubt, **Contact us.**

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NOTE: Galvanized aircraft cable performs slightly better than stainless steel cable when tested with Griplock and CableFast Gliders. The numbers in the Weight Load Guidelines are deliberately conservative and do not differentiate between galvanized and stainless steel cable.

NOTE: Weight Load Guidelines and other specifications are for illustration purposes only. They should not be construed as a warranty that the product or system will conform. Each purchaser is solely responsible for determining that (1) the product and/or system is suitable for the intended application and (2) that it complies with all federal, state and local safety and trade laws and regulations.

For more information,

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