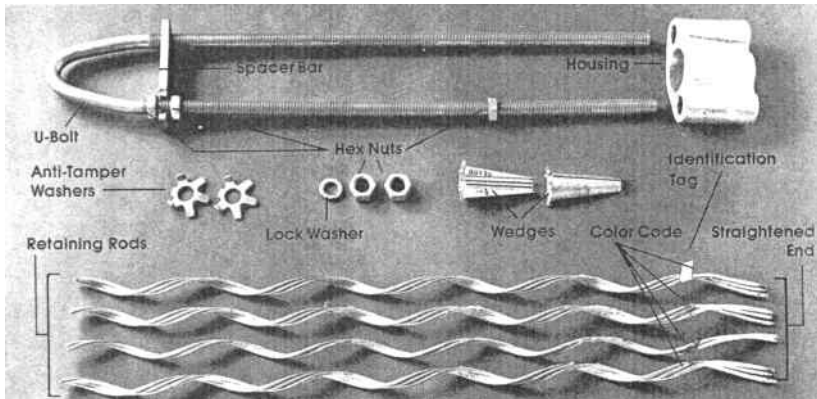


## VARI-GRIP™ Dead-End



**U-Bolt:** Galvanized Steel

**Housing:** Galvanized Iron or Aluminium

**Wedges:** Galvanized Steel or Aluminium

**Spacer Bar:** Galvanized Steel (supplied with adjustable models only)

**Nuts & Washers:** Galvanized Steel

**Retaining Rods:** Galvanized Steel for Galvanized Strand, Aluminium covered Steel for Aluminium covered Steel Strand.

**Colour Code:** Identifies Strand Size Rods are designed for.

### General Information:

1. VARI-GRIP™ dead-ends are designed for use on Transmission, Antenna, Communications and other types of guyed structures that require use of large guy strand. VARI-GRIP™ components such as the housing, U-Bolt and hex nuts allow for adjustment in guy tensions.
2. Where guy requirements on strand 16 mm and larger call for the Big-Grip dead-end refer to Section “BIG-GRIP”. Big-Grip dead-ends may be used in conjunction with VARI-GRIP™ dead-ends on the same guy.
3. **Rated Holding Strenght (RHS):** VARI-GRIP™ dead-ends are designed to develop the maximum loads published on the catalogue pages of only those specific strands listed.
4. **Material Selection:** VARI-GRIP™ dead-end retaining rods are made from material which is compatible with the strand they are designed to be used with.

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## INSTALLATION GUIDELINES:

1. **Strand Compatibility:** VARI-GRIP™ dead ends should be used only on the size and strand for which they are designed and must have the same lay as the strand for which they are applied. When ordering VARI-GRIP™ dead-ends specify the strand on which it is to be used and the strand lay.

When using types of strand and/or sizes of strand not mentioned in these catalogue pages consult Preformed for compatible VARI-GRIP™ designs.

2. When installing VARI-GRIP™ dead-ends care should be taken not to damage the protective coatings on the hardware, rods, or fittings.
3. VARI-GRIP™ dead-ends should not be used as tools, i.e. come-alongs, pulling-in grips, etc.
4. Preformed recommends guy tensions be maintained at a minimum of approximately 10% of the Strand's Rated Breaking Strength (RBS).
5. Guy tension may be roughly determined by measuring the torque on the hex nuts (during initial installation with threads well lubricated).

If this method is to be used, an anti-sieze compound applied liberally on the threads of the U-Bolt and anti-tamper washers will permit more accurate measurements.

The anti-sieze compound will also make the nut tightening procedure easier.

Consult PREFORMED™ for torque/tension information or for any unusual installations.

- 6a. The VARI-GRIP™ dead-end housing, U-Bolt, spacer bar (where applicable), hex nuts, lock washer (where applicable) and wedges may be removed and reapplied as necessary provided there have been no damages sustained.
- 6b. The anti-tamper washers (where applicable) may be reused until the lips show signs of fatigue breaks; new anti-tamper washers should then be used.
- 6c. The VARI-GRIP™ dead-end retaining rods may be removed and reapplied only twice within 90 days after initial installation. If after 90 days, from the initial installation, a reapplication or removal of the retaining rods is required; use new retaining rods.
- 7a. When installing a VARI-GRIP™ to a structure plate, special considerations must be made regarding the plate dimensions and the plate hole design. Table 1 gives an example of a plate that can be used. This information will facilitate the ease of installation and minimize interference between the U-Bolt and the plate. The use of a chamfer on the hole is beneficial because it improves the cyclic loading performance of the U-Bolt.

## VARI-GRIP™ Dead-End

- 7b. Refer to Table 2 for additional plate dimensions when using a plate that conforms with the dimensions of the example plate in Table 1. This will ensure correct installation. Installation clearance represents the maximum distance between the outer edge of the plate and the plate hole. Use this information to be certain that the U-Bolt can be rotated into the plate hole.
- 7c. When installing a 1.00 mm take-up model, refer to Table 3 for swing clearance between the plate and the VARI-GRIP™ unit. (Installed according to the VARI-GRIP™ Application Procedure). An exception to those clearances may occur if the strand being used is flexible enough to bend around the plate while maintaining the 50 mm strand extension.
- 7d. If a plate with dimensions other than those listed in Table 1 is to be used, the dimensions in Table 2 are invalid and new clearances must be calculated. The minimum and maximum plate thicknesses the U-Bolt will accept are shown in Table 3. However, these dimensions are dependent upon 1) proper chamfer, and 2) the distance from the edge of the hole. As the plate thickness changes, so does the proper chamfer. If the user supplies 1) the plate thickness and 2) the plate hole diameter of the plate to be used,
- Preformed will calculate the proper chamfer and distance between the edge of the plate and the plate hole. This information will enable the U-Bolt to have adequate installation and swing clearance.
8. When installing VARI-GRIP™ dead-ends to a pin or other linkage refer to Table 3 for minimum and maximum diameters. The minimum dimension indicates the smallest fitting that will ensure support of the U-Bolt, while the maximum dimension indicates the largest fitting that will fit through the U-Bolt.
9. The Spacer bar and hex nuts (supplied with the 457 mm take-up model) should be installed as close to the interior radius of the U-Bolt as possible.

### SAFETY CONSIDERATIONS:

1. This catalogue section is not intended to supersede any utility construction, safety, or design standards. Preformed's recommendations are offered only to illustrate safe use of VARI-GRIP™ dead-ends. Failure to follow these guidelines and restrictions may result in personal injury.
2. When installing VARI-GRIP™ dead-ends in the proximity of energized lines, extra care should be taken to prevent accidental contact.
3. For proper performance and personal safety be sure to select the proper size VARI-GRIP™ before installation.

# VARI-GRIP™ Dead-End

**Ordering Instructions:**

Examples are Shown in Parenthesis:

QUANTITY	CATALOGUE NO.	PRODUCT NAME
(500 Units)	(VG-18-0400)	(Vari-Grip DE)

**For Accuracy, Specify:Strand**

TAKE-UP	SIZE	TYPE	GRADE	STRANDING LAY
(457mm)	(32mm)	(Galv.)	(1 400 mPa)	(37/4,58 mm) (Right)

**Table 1:**

**Acceptable Pin Diameters and Plate Thicknesses**

STRAND RANGE	U-BOLT DIAMETER	MINIMUM	MAXIMUM
.495" - .550"	5/8"	7/8"	1-7/8"
.562" - .646"	3/4"	7/8"	2-3/8"
.712" - .754"	7/8"	1-1/8"	2-1 1/2"
.800" - .888"	1"	1-1/8"	3-1/8"
.893" - 1,010"	1-1/8"	1-3/8"	3-1/8"
1,00" - 1.010"*	1-1/4"	1-1/2"	3-1/8"

\*Bridge Strand.

Note: For a given plate thickness (other than those in Table 2), proper chamfer and installation clearance must be calculated. Supply 1) Plate Thickness and 2) Plate hole diameter, and Preformed will calculate the proper chamfer and installation clearance.



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**Table 2:**

Example of nominal structure plate

STRAND RANGE	U-BOLT DIAMETER	PLATE THICK.	HOLE DIAM.†	CHAMFER
.495"-.550"	5/8"	1-1/16"	1"	1/8" x 450
.562"-.646"	3/4"	1-1/8"	1-1/4"	1/8" x 450
.712"-.754"	7/8"	1-3/8"	1-1/2"	1/8" x 450
.800"-.888"	1"	1-5/8"	1-1/2"	3/16" x 450
.893"-1.010"	1-1/8"	1-7/8"	1-3/4"	1/4" x 450
1,00"-1.010"*	1-1/4"	2-1/8"	1-3/4"	1/4" x 450

\* Bridge Strand.

†Hole diameter is a minimum, a larger diameter is satisfactory.

Note: Example of nominal plate dimensions is given. If a plate of different dimensions is to be used, refer to paragraph 9D, Page 2,

**Table 3:**

Installation & Swing Clearances

STRAND RANGE	U-BOLT DIAMETER	INSTALLATION CLEARANCE	SWING CLEARANCE
.495" - .550"	5/8"	1-15/16"	2-19/32"
.562" - .646"	3/4"	2-9/16"	3-1/32"
.712" - .754"	7/8"	2-5/8"	3-5/16"
.800" - .888"	1"	3-1/4"	4-15/32"
.893" - 1,010"	1-1/8"	3-5/16"	4-7/8"
1,00" - 1.010"	1-1/4"	2-21/32"	5-1/16"

\*Bridge Strand.

- Note: The clearances listed in this table are based on the example plate given in Table 2. If a plate of other dimensions is to be used, the dimensions of Table 3 are not valid and other dimensions must be calculated. Consult Preformed for assistance.
- Note: Swing clearance is shown for the 0" Take-up Model. Adjustable models have slightly more clearance.