

MATERIALS

Cast clamps: Aluminum Alloy.

Forged steel parts: Steel

PROTECTION AGAINST CORROSION

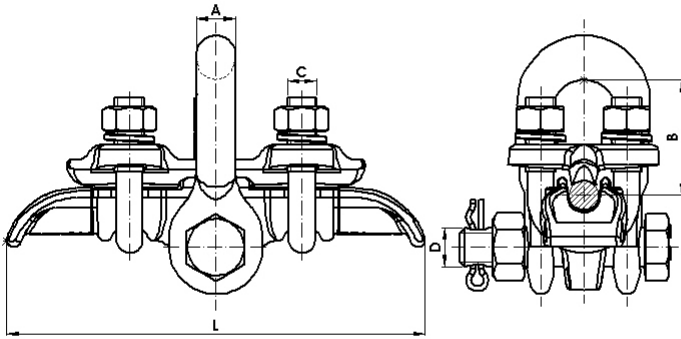
Hot dip galvanizing according to CSA-G164 and ASTM A153 standards.

STANDARDS

All clamps are manufactured according to standard IEC 61284.
Fasteners: galvanized steel as per ASTM A325 and ASTM A563 standards.
Forged steel material: EN-10083 equivalent to ASTM A576.
Cast aluminum alloy materials: EN-1706 equivalent to ANSI A413.0.

SUSPENSION CLAMPS

SUSPENSION CLAMPS FOR GALVANIZED STEEL CABLES



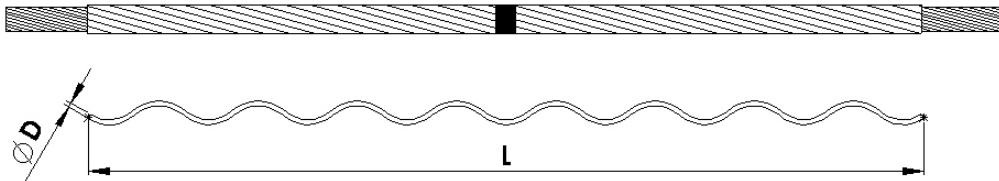
Material: Forged steel according to EN-10083 equivalent to ASTM A576.
Steel parts finish: Hot dip galvanizing CSA-G164 / ASTM A153.

Bolt: ASTM A325.
Nut: ASTM A563.

| Reference | Ø Conductor (inch) | | Dimensions (inch) | | | | | U-Bolts Nº | Tightening Torque (in-lb) | Ultimate Strength (lb) | Weight (lb) |
|-------------|--------------------|------|-------------------|------|-----|-----|------|---------------|------------------------------|---------------------------|----------------|
| | Min. | Max. | A | B | C | D | L | | | | |
| GS-AC-12/AM | 0.20 | 0.47 | 0.63 | 1.85 | 1/2 | 5/8 | 6.69 | 2 | 440 | 18,000 | 3.42 |
| GS-AC-18/AM | 0.47 | 0.71 | 0.63 | 2.56 | 1/2 | 5/8 | 7.87 | 2 | 440 | 25,000 | 4.94 |

NOTE: The clamps can be provided with stainless steel fasteners (except connection screw to fitting string).

ARMOR RODS FOR GALVANIZED STEEL CABLES



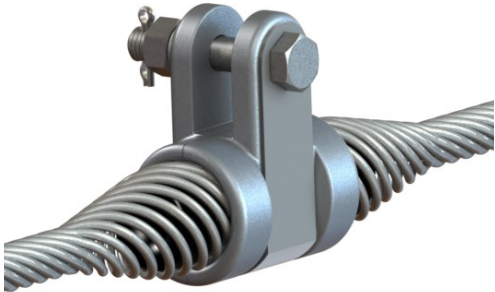
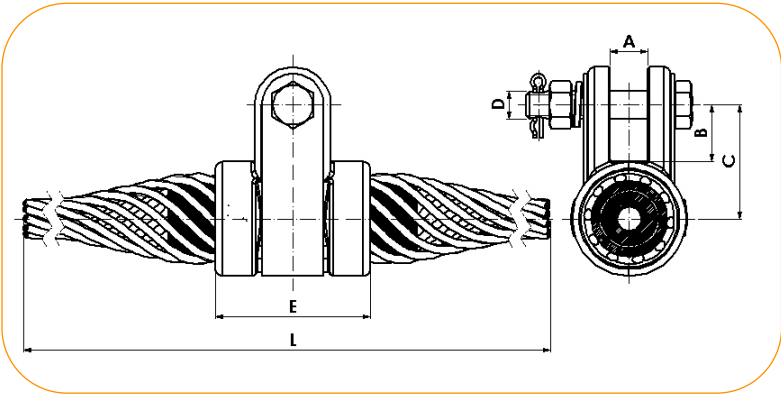
Application: Galvanized steel ground cables.
Material: Hot dip galvanizing CSA-G164 / ASTM A153.

| Reference | Ø Conductor (inch) | | Dimensions (inch) | | Nº Armor rods | Identification color | Weight (lb) |
|--------------|--------------------|------|-------------------|-------|---------------|----------------------|----------------|
| | Min. | Max. | Ø D (Thread) | L | | | |
| VPAC 039-042 | 0.16 | 0.17 | 0.07 | 33.86 | 8 | ORANGE | 0.32 |
| VPAC 046-049 | 0.18 | 0.19 | 0.09 | 35.83 | 8 | GREEN | 0.51 |
| VPAC 054-058 | 0.21 | 0.23 | 0.09 | 38.19 | 9 | BLUE | 0.62 |
| VPAC 059-062 | 0.23 | 0.24 | 0.09 | 40.16 | 10 | YELLOW | 0.72 |
| VPAC 062-065 | 0.24 | 0.26 | 0.09 | 40.16 | 10 | WHITE | 0.72 |
| VPAC 073-077 | 0.29 | 0.30 | 0.10 | 44.09 | 10 | BLACK | 1.07 |
| VPAC 079-083 | 0.31 | 0.33 | 0.10 | 44.09 | 11 | GREEN | 1.17 |
| VPAC 083-088 | 0.33 | 0.35 | 0.10 | 46.06 | 11 | BLUE | 1.22 |
| VPAC 089-093 | 0.35 | 0.37 | 0.10 | 48.03 | 12 | ORANGE | 1.39 |
| VPAC 093-097 | 0.37 | 0.38 | 0.10 | 50.00 | 12 | WHITE | 1.46 |
| VPAC 097-101 | 0.38 | 0.40 | 0.12 | 51.97 | 11 | YELLOW | 1.95 |
| VPAC 104-108 | 0.41 | 0.43 | 0.12 | 51.97 | 12 | GREEN | 2.13 |
| VPAC 108-112 | 0.43 | 0.44 | 0.12 | 53.94 | 12 | BLUE | 2.20 |
| VPAC 117-121 | 0.46 | 0.48 | 0.14 | 55.91 | 11 | RED | 2.84 |
| VPAC 125-131 | 0.49 | 0.52 | 0.14 | 55.91 | 12 | YELLOW | 3.11 |
| VPAC 139-146 | 0.55 | 0.57 | 0.16 | 59.84 | 12 | BLACK | 4.41 |
| VPAC 146-152 | 0.58 | 0.60 | 0.16 | 61.81 | 13 | RED | 4.94 |

NOTES: State conductor lay direction. Code according to lay direction.
 Rods for other conductor Ø upon request.

SUSPENSION CLAMPS

ARMOR GRIP SUSPENSION CLAMP FOR GALVANIZED STEEL CABLES



Application: Galvanized steel ground cables.

Material: Body: Alloy A1. EN-1706 equivalent to ANSI A413.0.

Bolt: ASTM A325.

Locking pins: Stainless steel.

Steel parts finish: Hot dip galvanizing CSA-G164 / ASTM A153.

Nut: ASTM A563.

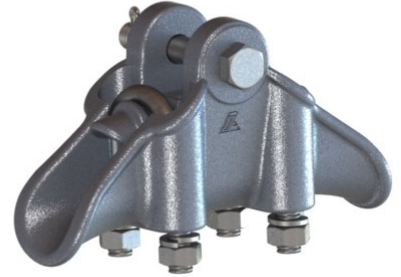
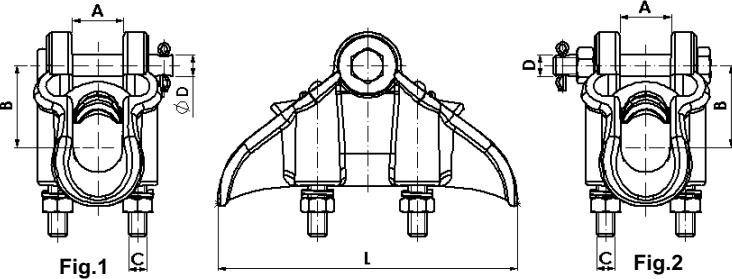
Hinge: Stainless steel.

| Reference | Ø Conductor (inch) | | Dimensions (inch) | | | | | | Armor Rods | | Ultimate Strength (lb) | Weight (lb) |
|------------------|--------------------|------|-------------------|------|------|-----|------|-------|------------|----|------------------------|-------------|
| | Min. | Max. | A | B | C | D | E | L | Ø Rods | Nº | | |
| GAS-1/8-AC/AM | 0.31 | 0.33 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 43.31 | 0.12 | 9 | 11,000 | 2.58 |
| GAS-1/8,5-AC/AM | 0.33 | 0.35 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 43.31 | 0.12 | 9 | 11,000 | 2.59 |
| GAS-1/9-AC/AM | 0.35 | 0.37 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 43.31 | 0.12 | 10 | 11,000 | 2.73 |
| GAS-1/9,5-AC/AM | 0.37 | 0.38 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 49.21 | 0.12 | 10 | 11,000 | 2.91 |
| GAS-1/10-AC/AM | 0.38 | 0.40 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 51.97 | 0.12 | 11 | 11,000 | 3.32 |
| GAS-1/10,5-AC/AM | 0.40 | 0.43 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 53.94 | 0.12 | 12 | 11,000 | 3.57 |
| GAS-1/11-AC/AM | 0.43 | 0.44 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 53.94 | 0.12 | 12 | 11,000 | 3.57 |
| GAS-1/11,5-AC/AM | 0.44 | 0.46 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 53.94 | 0.14 | 11 | 11,000 | 4.01 |
| GAS-1/12-AC/AM | 0.46 | 0.48 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 55.91 | 0.14 | 11 | 11,000 | 4.21 |

NOTES: State conductor lay direction. Code according to lay direction.
Other fasteners upon request.

SUSPENSION CLAMPS

SUSPENSION CLAMPS FOR ALUMOWELD CABLES



Application: Galvanized steel ground cables covered in aluminum.

Material: Body: Alloy A1 . EN-1706 equivalent to ANSI A413.0.

Steel parts finish: Hot dip galvanizing CSA-G164 / ASTM A153.

Bolt: ASTM A325.

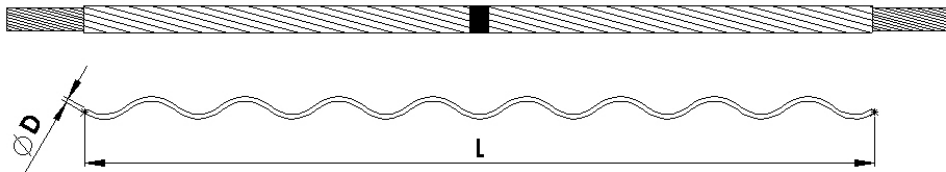
Nut: ASTM A563.

Locking pins: Stainless steel.

| Reference | Figure | Ø Conductor (inch) | | Dimensions (inch) | | | | | U-Bolts Nº | Tightening Torque (in-lb) | Ultimate Strength (lb) | Weight (lb) |
|----------------|--------|--------------------|------|-------------------|------|------|-----|------|---------------|------------------------------|---------------------------|----------------|
| | | Min. | Max. | A | B | C | D | L | | | | |
| GS-1/AM | Fig.1 | 0.20 | 0.47 | 0.75 | 1.61 | 3/8 | 5/8 | 5.51 | 2 | 260 | 5,500 | 1.01 |
| GS-1T/AM | Fig.2 | 0.20 | 0.47 | 0.75 | 1.61 | 3/8 | 5/8 | 5.51 | 2 | 260 | 5,500 | 1.01 |
| GS-2/AM | Fig.1 | 0.47 | 0.67 | 0.75 | 1.97 | 1/2 | 5/8 | 6.69 | 2 | 260 | 13,000 | 1.83 |
| GS-2T/AM | Fig.2 | 0.47 | 0.67 | 0.75 | 1.97 | 1/2 | 5/8 | 6.69 | 2 | 260 | 13,000 | 1.83 |
| GS-3/AM | Fig.1 | 0.67 | 0.91 | 1.06 | 2.13 | 1/2 | 5/8 | 7.48 | 2 | 350 | 17,000 | 2.20 |
| GS-3T/AM | Fig.2 | 0.67 | 0.91 | 1.06 | 2.13 | 1/2 | 5/8 | 7.48 | 2 | 350 | 17,000 | 2.20 |
| GS-4T/AM | Fig.2 | 0.91 | 1.10 | 1.16 | 2.01 | 1/2 | 5/8 | 7.48 | 2 | 310 | 18,000 | 2.43 |
| GS-5T/AM | Fig.2 | 0.98 | 1.42 | 1.54 | 2.44 | 9/16 | 5/8 | 8.86 | 2 | 530 | 22,000 | 4.41 |
| GS-5T/AM (EST) | Fig.2 | 0.98 | 1.42 | 1.54 | 2.44 | 9/16 | 5/8 | 8.86 | 2 | 530 | 27,000 | 4.41 |

NOTES: The clamps can be provided with stainless steel fasteners (except connection screw to fitting string).
Other of fasteners upon request.

ARMOR RODS FOR ALUMOWELD CABLES



Application: Galvanized steel ground cables covered in aluminum

Material: Steel covered in aluminum

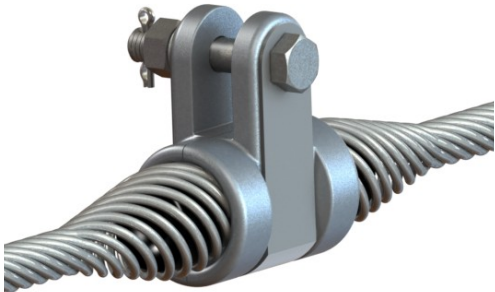
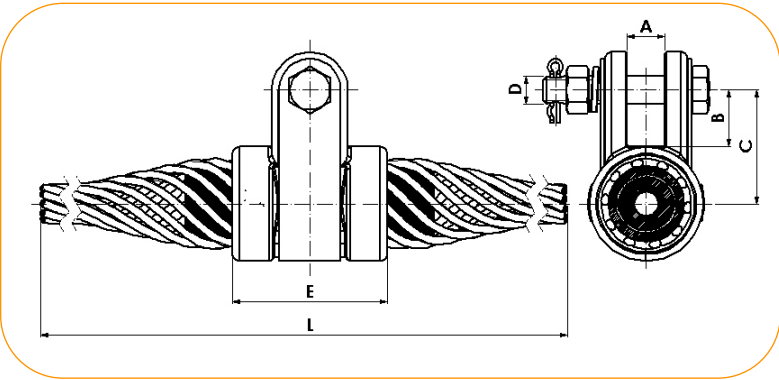
| Reference | Ø Conductor (inch) | | Dimensions (inch) | | Nº Armor rods | Identification color | Weight (lb) |
|--------------|--------------------|------|-------------------|-------|---------------|----------------------|----------------|
| | Min. | Max. | Ø D (Rods) | L | | | |
| VPAW 080-084 | 0.31 | 0.33 | 0.11 | 48.03 | 10 | GREEN | 1.29 |
| VPAW 084-089 | 0.33 | 0.35 | 0.11 | 50.00 | 10 | BLUE | 1.34 |
| VPAW 089-094 | 0.35 | 0.37 | 0.13 | 50.00 | 10 | RED | 1.70 |
| VPAW 094-099 | 0.37 | 0.39 | 0.13 | 50.00 | 10 | GREEN | 1.70 |
| VPAW 099-103 | 0.39 | 0.41 | 0.13 | 51.97 | 11 | YELLOW | 1.94 |
| VPAW 103-108 | 0.41 | 0.43 | 0.13 | 53.94 | 11 | RED | 2.03 |
| VPAW 108-114 | 0.43 | 0.45 | 0.13 | 55.91 | 12 | BLUE | 2.31 |
| VPAW 114-121 | 0.45 | 0.48 | 0.14 | 55.91 | 11 | BLACK | 2.65 |
| VPAW 121-128 | 0.48 | 0.50 | 0.14 | 55.91 | 12 | GREEN | 2.89 |
| VPAW 128-137 | 0.50 | 0.54 | 0.16 | 57.87 | 11 | YELLOW | 3.46 |
| VPAW 137-146 | 0.54 | 0.57 | 0.16 | 57.87 | 12 | RED | 3.75 |
| VPAW 146-155 | 0.58 | 0.61 | 0.18 | 59.84 | 12 | BLUE | 4.89 |
| VPAW 155-165 | 0.61 | 0.65 | 0.18 | 61.81 | 12 | GREEN | 5.07 |

NOTES: State conductor lay direction. Code according to lay direction.

Rods for other conductor Ø upon request.

SUSPENSION CLAMPS

ARMOR GRIP SUSPENSION CLAMPS FOR ALUMOWELD CABLES



Application: Galvanized steel ground cables covered in aluminum.

Material: Body: Alloy A1. EN-1706 equivalent to ANSI A413.0.

Bolt: ASTM A325.

Locking pins: Stainless steel.

Nut: ASTM A563.

Collar: Stainless steel.

Steel parts finish: Hot dip galvanizing CSA-G164 / ASTM A153.

| Reference | Ø Conductor (inch) | | Dimensions (inch) | | | | | | Armor Rods | | Ultimate Strength (lb) | Weight (lb) |
|------------------|--------------------|------|-------------------|------|------|-----|------|-------|------------|----|------------------------|-------------|
| | Min. | Max. | A | B | C | D | E | L | Ø Rods | Nº | | |
| GAS-1/8,5-AW/AM | 0.33 | 0.35 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 43.31 | 0.13 | 9 | 11,000 | 2.69 |
| GAS-1/9-AW/AM | 0.35 | 0.37 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 50.00 | 0.13 | 10 | 11,000 | 3.03 |
| GAS-1/9,5-AW/AM | 0.37 | 0.39 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 50.00 | 0.13 | 10 | 11,000 | 3.03 |
| GAS-1/10-AW/AM | 0.39 | 0.43 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 44.88 | 0.13 | 11 | 11,000 | 3.02 |
| GAS-1/11-AW/AM | 0.43 | 0.44 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 44.88 | 0.13 | 11 | 11,000 | 3.02 |
| GAS-1/11,5-AW/AM | 0.44 | 0.46 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 55.91 | 0.14 | 11 | 11,000 | 3.99 |
| GAS-1/12-AW/AM | 0.46 | 0.48 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 55.91 | 0.14 | 11 | 11,000 | 4.03 |

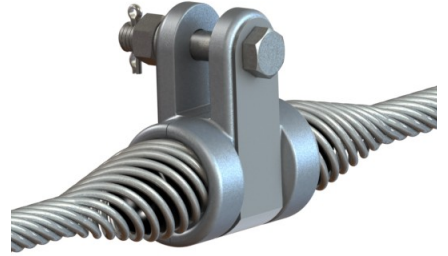
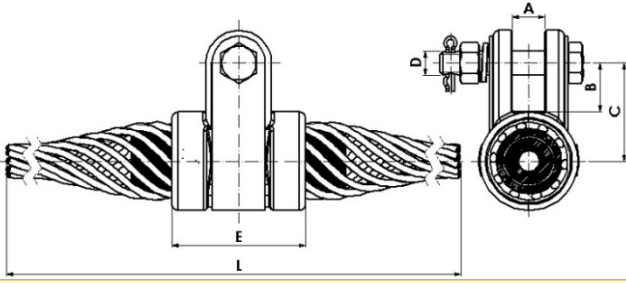
NOTES: State conductor lay direction. Code according to lay direction.

Other fasteners upon request.

SUSPENSION CLAMPS

ARMOR GRIP SUSPENSION CLAMP FOR OPGW AND ADSS CABLES

ARMOR GRIP SUSPENSION CLAMP-HINGE



Application: Fibre optic cables.

Material: Body: Alloy A1. EN-1706 equivalent to ANSI A413.0.

Steel parts finish: Hot dip galvanizing CSA-G164 / ASTM A153.

Bolt: ASTM A325.

Nut: ASTM A563.

Locking pins: Stainless steel.

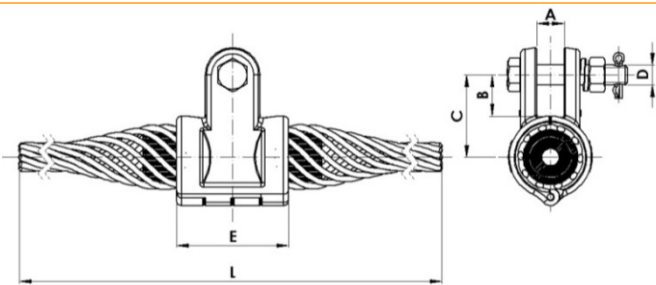
Hinge: Stainless steel.

| Reference | Ø Conductor (inch) | | Dimensions (inch) | | | | | | Armor Rods | | Ultimate Strength (lb) | Weight (lb) |
|------------------|--------------------|------|-------------------|------|------|-----|------|-------|------------|----|------------------------|-------------|
| | Min. | Max. | A | B | C | D | E | L | Ø Rods | Nº | | |
| GAS-1/FO/8/AM | 0.31 | 0.32 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 70.87 | 0.15 | 8 | 11,000 | 2.47 |
| GAS-1/FO/8,5/AM | 0.33 | 0.34 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 70.87 | 0.15 | 9 | 11,000 | 2.58 |
| GAS-1/FO/9/AM | 0.34 | 0.38 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 70.87 | 0.15 | 9 | 11,000 | 2.58 |
| GAS-1/FO/10/AM | 0.38 | 0.42 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 70.87 | 0.15 | 10 | 11,000 | 2.73 |
| GAS-1/FO/11/AM | 0.42 | 0.46 | 0.79 | 1.18 | 2.20 | 5/8 | 2.56 | 70.87 | 0.15 | 10 | 11,000 | 2.73 |
| GAS-3/FO/12/AM | 0.46 | 0.48 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 9 | 17,000 | 4.17 |
| GAS-3/FO/12,5/AM | 0.48 | 0.50 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 10 | 17,000 | 4.37 |
| GAS-3/FO/13/AM | 0.50 | 0.54 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 10 | 17,000 | 4.41 |
| GAS-3/FO/14/AM | 0.54 | 0.57 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 10 | 17,000 | 4.45 |
| GAS-3/FO/15/AM | 0.57 | 0.61 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 11 | 17,000 | 4.63 |
| GAS-3/FO/16/AM | 0.61 | 0.65 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 12 | 17,000 | 4.83 |
| GAS-4/FO/17/AM | 0.65 | 0.68 | 0.87 | 1.30 | 2.68 | 5/8 | 3.78 | 70.87 | 0.20 | 11 | 19,000 | 5.49 |
| GAS-4/FO/17,5/AM | 0.68 | 0.69 | 0.87 | 1.30 | 2.68 | 5/8 | 3.78 | 70.87 | 0.20 | 11 | 19,000 | 5.49 |
| GAS-4/FO/18/AM | 0.69 | 0.72 | 0.87 | 1.30 | 2.68 | 5/8 | 3.78 | 70.87 | 0.20 | 12 | 19,000 | 5.78 |
| GAS-4/FO/18,5/AM | 0.72 | 0.73 | 0.87 | 1.30 | 2.68 | 5/8 | 3.78 | 70.87 | 0.20 | 12 | 19,000 | 5.78 |
| GAS-4/FO/19/AM | 0.73 | 0.77 | 0.87 | 1.30 | 2.68 | 5/8 | 3.78 | 78.74 | 0.20 | 13 | 19,000 | 6.39 |

NOTES: State conductor lay direction. Code according to lay direction.

Other fasteners upon request.

ARMOR GRIP SUSPENSION CLAMP (HINGE)



Application: Fibre optic cables.

Material: Body: Alloy A1. EN-1706 equivalent to ANSI A413.0.

Steel parts finish: Hot dip galvanizing CSA-G164 / ASTM A153.

Bolt: ASTM A325.

Nut: ASTM A563.

Locking pins: Stainless steel.

| Reference | Ø Conductor (inch) | | Dimensions (inch) | | | | | | Armor Rods | | Ultimate Strength (lb) | Weight (lb) |
|-------------------|--------------------|------|-------------------|------|------|-----|------|-------|------------|----|------------------------|-------------|
| | Min. | Max. | A | B | C | D | E | L | Ø Rods | Nº | | |
| GAS-3B/FO/12/AM | 0.46 | 0.48 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 9 | 17,000 | 3.92 |
| GAS-3B/FO/12,5/AM | 0.48 | 0.50 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 10 | 17,000 | 4.12 |
| GAS-3B/FO/13/AM | 0.50 | 0.54 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 10 | 17,000 | 4.17 |
| GAS-3B/FO/14/AM | 0.54 | 0.57 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 10 | 17,000 | 4.21 |
| GAS-3B/FO/15/AM | 0.57 | 0.61 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 11 | 17,000 | 4.41 |
| GAS-3B/FO/16/AM | 0.61 | 0.65 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 12 | 17,000 | 4.59 |

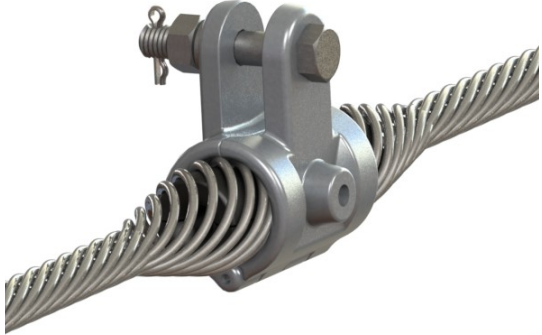
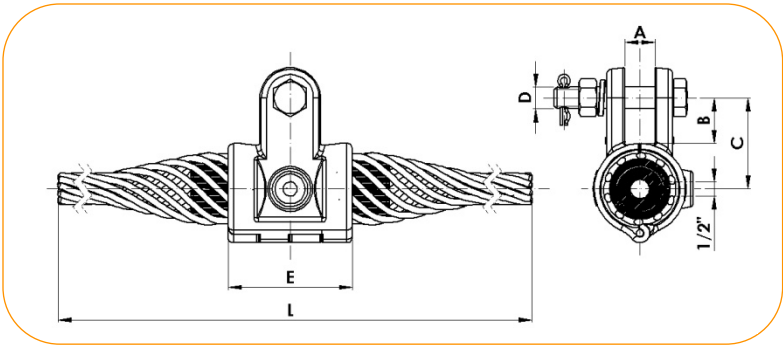
NOTES: State conductor lay direction. Code according to lay direction.

Other fasteners upon request.

SUSPENSION CLAMPS

ARMOR GRIP SUSPENSION CLAMPS FOR OPGW AND ADSS CABLES

ARMOR GRIP SUSPENSION CLAMP (EARTHING HINGE)



Application: Fibre optic cables.

Material: Body: Alloy A1. EN-1706 equivalent to ANSI A413.0.

Bolt: ASTM A325.

Locking pins: Stainless steel.

Nut: ASTM A563.

Steel parts finish: Hot dip galvanizing CSA-G164 / ASTM A153.

| Reference | ∅ Conductor (inch) | | Dimensions (inch) | | | | | | Armor Rods | | Ultimate Strength (lb) | Weight (lb) |
|----------------------|--------------------|------|-------------------|------|------|-----|------|-------|------------|----|------------------------|-------------|
| | Min. | Max. | A | B | C | D | E | L | ∅ Rods | Nº | | |
| GAS-3B-TT/FO/12/AM | 0.46 | 0.48 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 9 | 17,000 | 3.95 |
| GAS-3B-TT/FO/12,5/AM | 0.48 | 0.50 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 10 | 17,000 | 4.14 |
| GAS-3B-TT/FO/13/AM | 0.50 | 0.54 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 10 | 17,000 | 4.19 |
| GAS-3B-TT/FO/14/AM | 0.54 | 0.57 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 10 | 17,000 | 4.23 |
| GAS-3B-TT/FO/15/AM | 0.57 | 0.61 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 11 | 17,000 | 4.41 |
| GAS-3B-TT/FO/16/AM | 0.61 | 0.65 | 0.87 | 1.30 | 2.60 | 5/8 | 3.54 | 70.87 | 0.18 | 12 | 17,000 | 4.63 |

NOTES: State conductor lay direction. Code according to lay direction.

Other fasteners upon request.