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Ivey et al.

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(54) **CABLE PROTECTOR**

(71) Applicant: **DISH Wireless L.L.C.**, Englewood, CO (US)

(72) Inventors: **Greg Ivey**, Highlands Ranch, CO (US); **Jerome A. LaPalme**, Aurora, CO (US); **Charles Iversen**, Lakewood, CO (US); **Steven Allen Nedved**, Littleton, CO (US)

(73) Assignee: **DISH Wireless L.L.C.**, Englewood, CO (US)

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(52) **U.S. Cl.**
CPC ***H01B 7/282*** (2013.01)

(58) **Field of Classification Search**
CPC H01B 7/282; H02G 15/013; H02G 15/10
USPC ..... 174/70 R
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(56) **References Cited**

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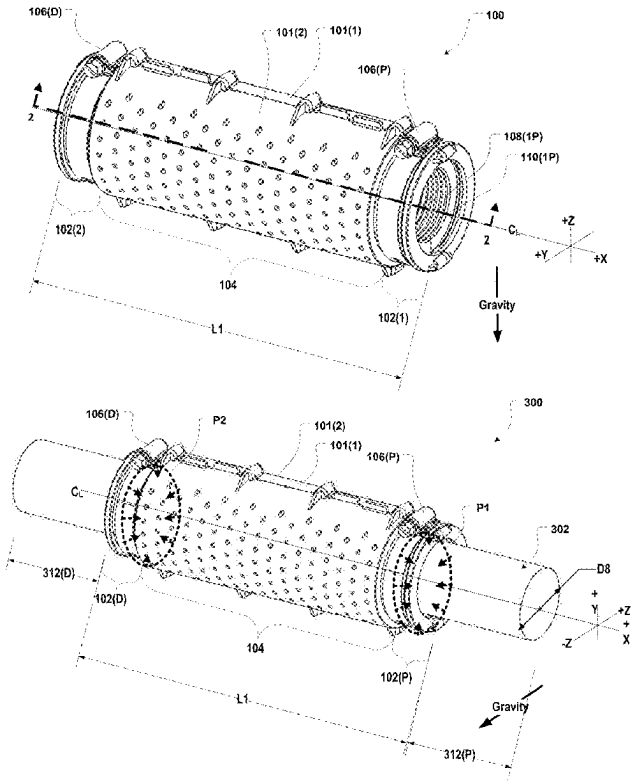
Primary Examiner — Timothy J Thompson
Assistant Examiner — Guillermo J Egoavil
(74) *Attorney, Agent, or Firm* — Wash Park IP Ltd.; John T Kennedy

(57) **ABSTRACT**

An assembly, devices and processes for protecting electrical equipment may include a first sleeve hemisphere, a first sleeve proximal gasket positioned within the first sleeve hemisphere, a second sleeve hemisphere which mates with the first sleeve hemisphere to form a full sleeve and a second sleeve proximal gasket positioned within the second sleeve hemisphere. A cable protector may be formed by the mating of the first sleeve hemisphere with the second sleeve hemisphere and around at least a cable center section of a cable. The cable center section may be coupled to a cable proximal portion which is further coupled to a cable external proximal portion. When the cable protector is formed, the first sleeve proximal gasket combined with the second sleeve proximal gasket contact and surround the cable proximal portion and inhibit a proximal water inflow from the cable external proximal portion into the cable center section.

19 Claims, 7 Drawing Sheets



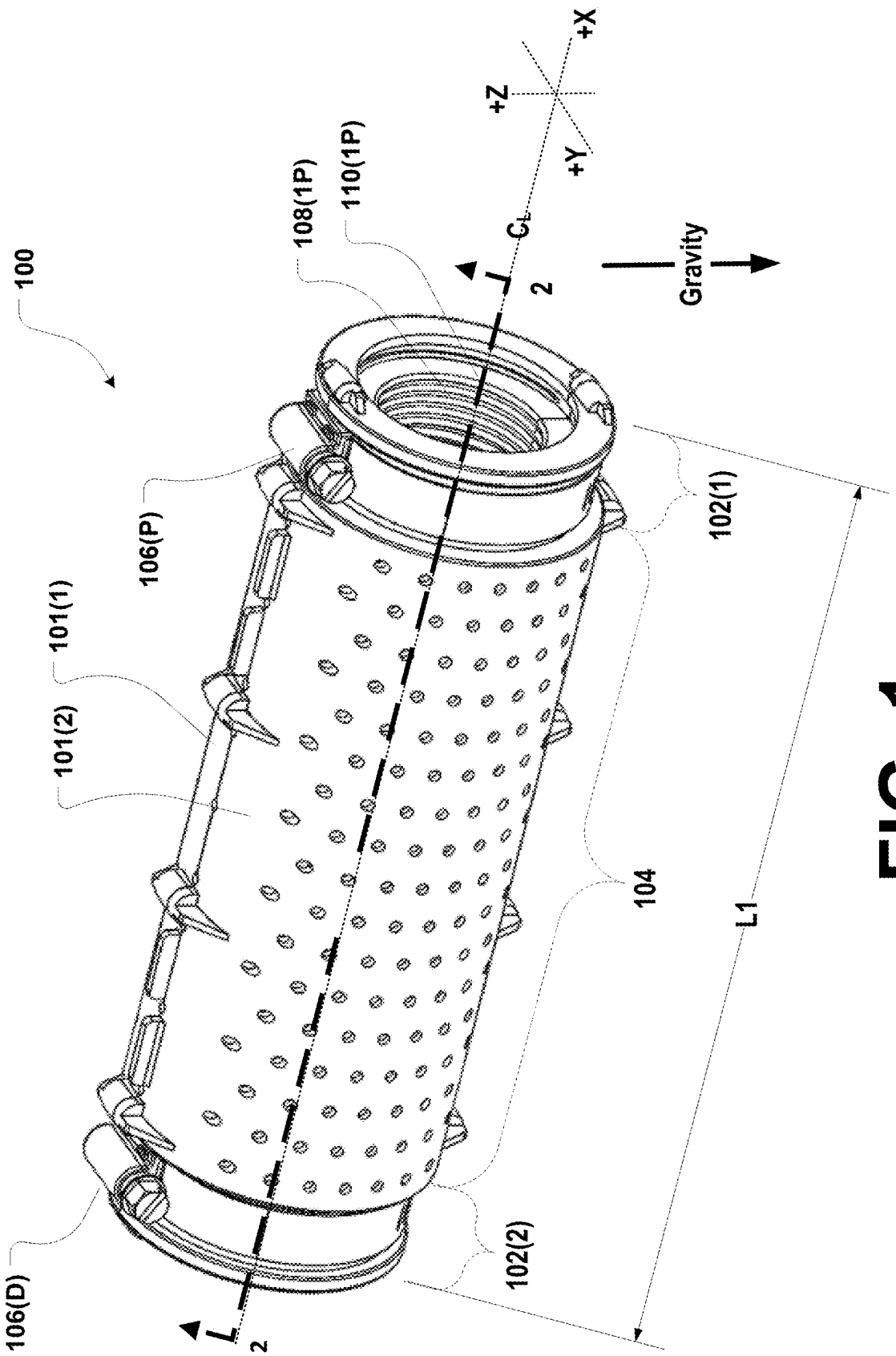

100
108(1P)
110(1P)
+X
+Z
+Y
C_L
2
Gravity
106(P)
101(1)
101(2)
102(1)
104
L1
102(2)
106(D)
2

FIG. 1

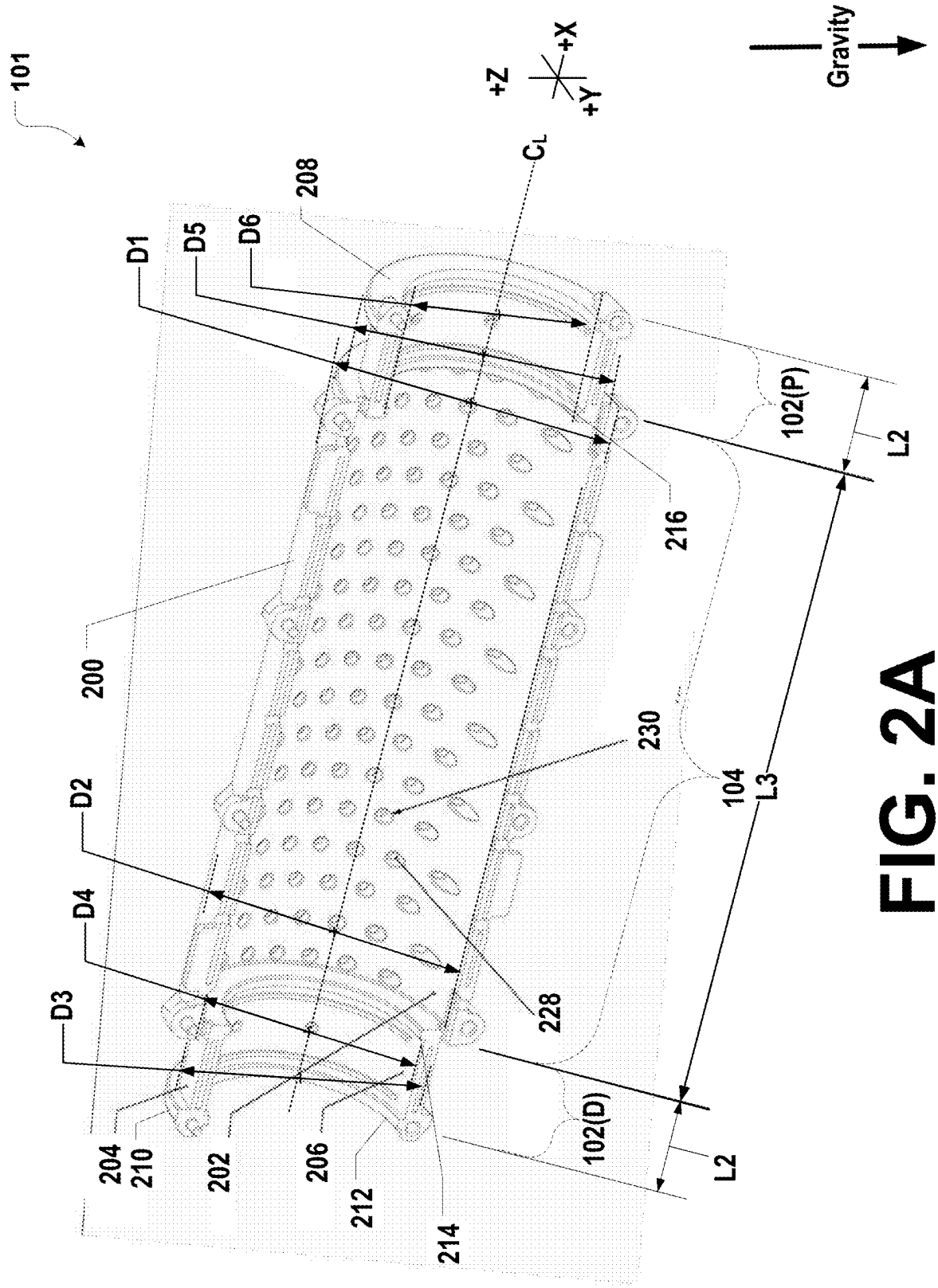

101
+Z
+X
+Y
Gravity
C_L
208
D1
D5
D6
102(P)
L2
216
200
230
D2
104
L3
D4
D3
228
204
210
202
206
212
214
102(D)
L2

FIG. 2A

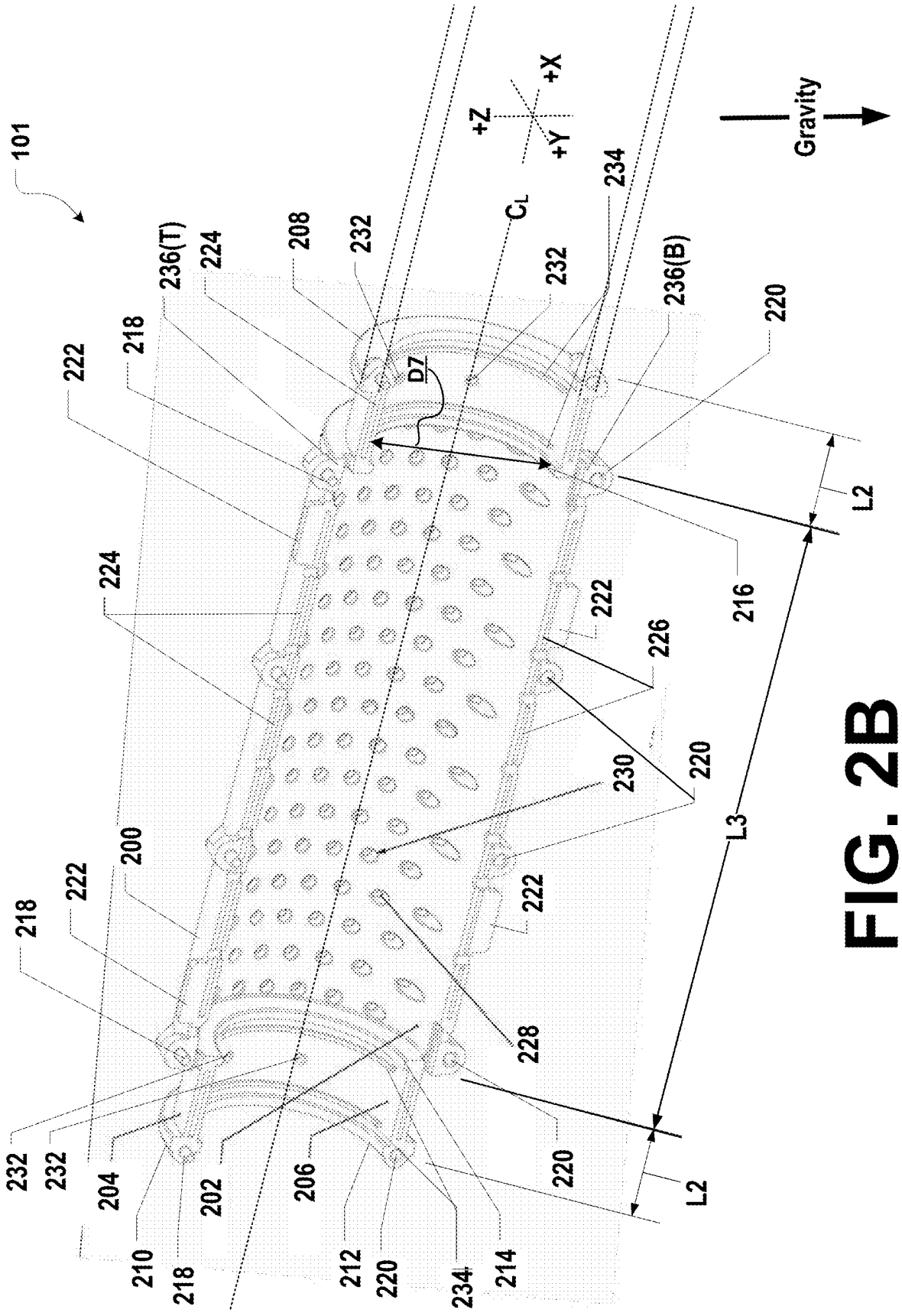

101
+Z
+X
+Y
Gravity
C_L
D7
L2
L3
L2
236(T)
224
208
232
232
234
236(B)
220
218
222
224
216
222
226
230
220
200
222
218
222
228
232
232
204
202
206
220
210
218
212
220
234
214

FIG. 2B

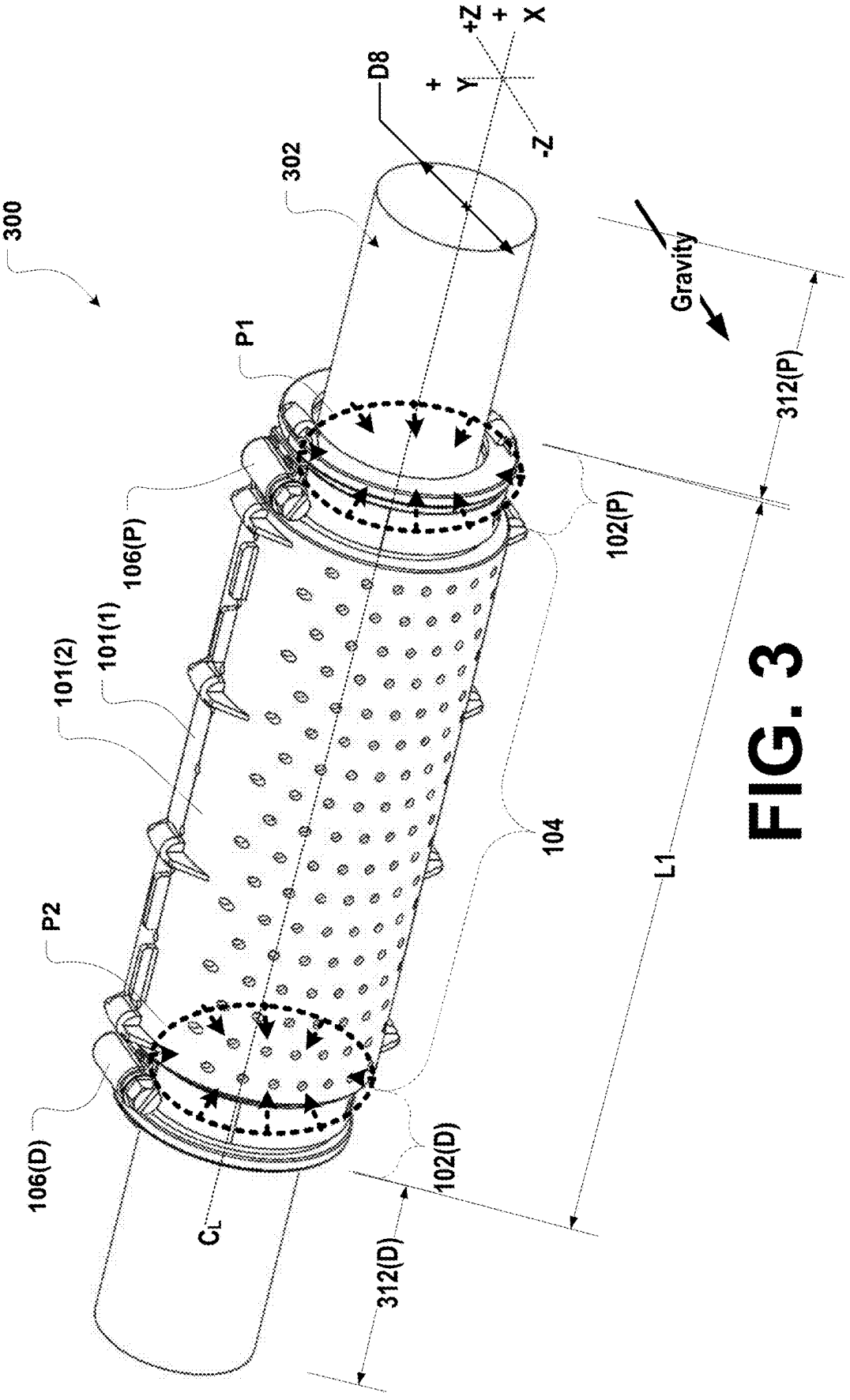

300
302
D8
+Z
+
X
+
Y
-Z
Gravity
P1
106(P)
101(1)
101(2)
102(P)
312(P)
104
L1
P2
106(D)
C_L
102(D)
312(D)

FIG. 3

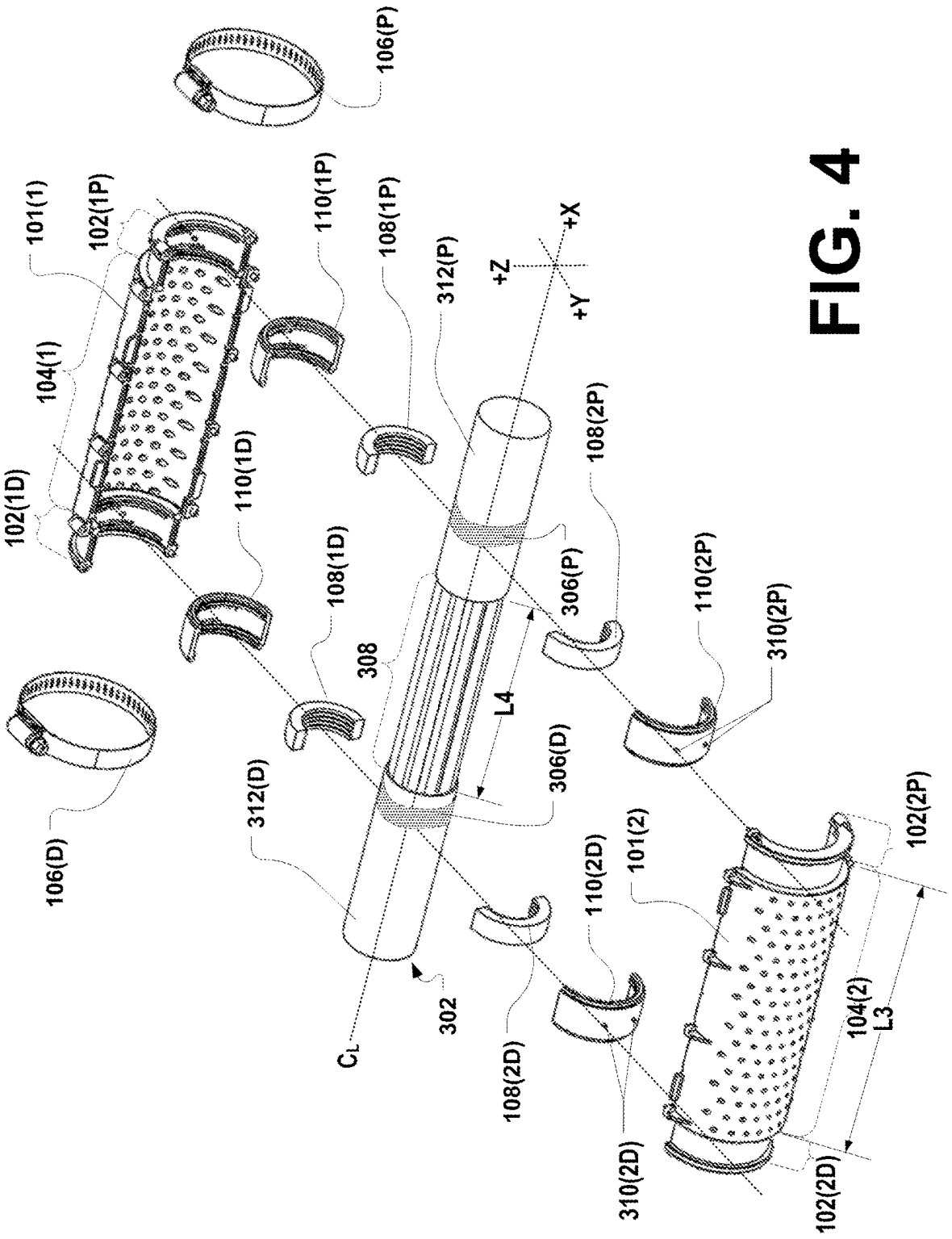

106(P)
101(1)
102(1P)
110(1P)
108(1P)
312(P)
+Z
+X
+Y
102(1D)
104(1)
110(1D)
108(2P)
108(1D)
306(P)
110(2P)
308
L4
310(2P)
106(D)
312(D)
306(D)
110(2D)
101(2)
102(2P)
302
C_L
108(2D)
104(2)
L3
310(2D)
102(2D)

FIG. 4

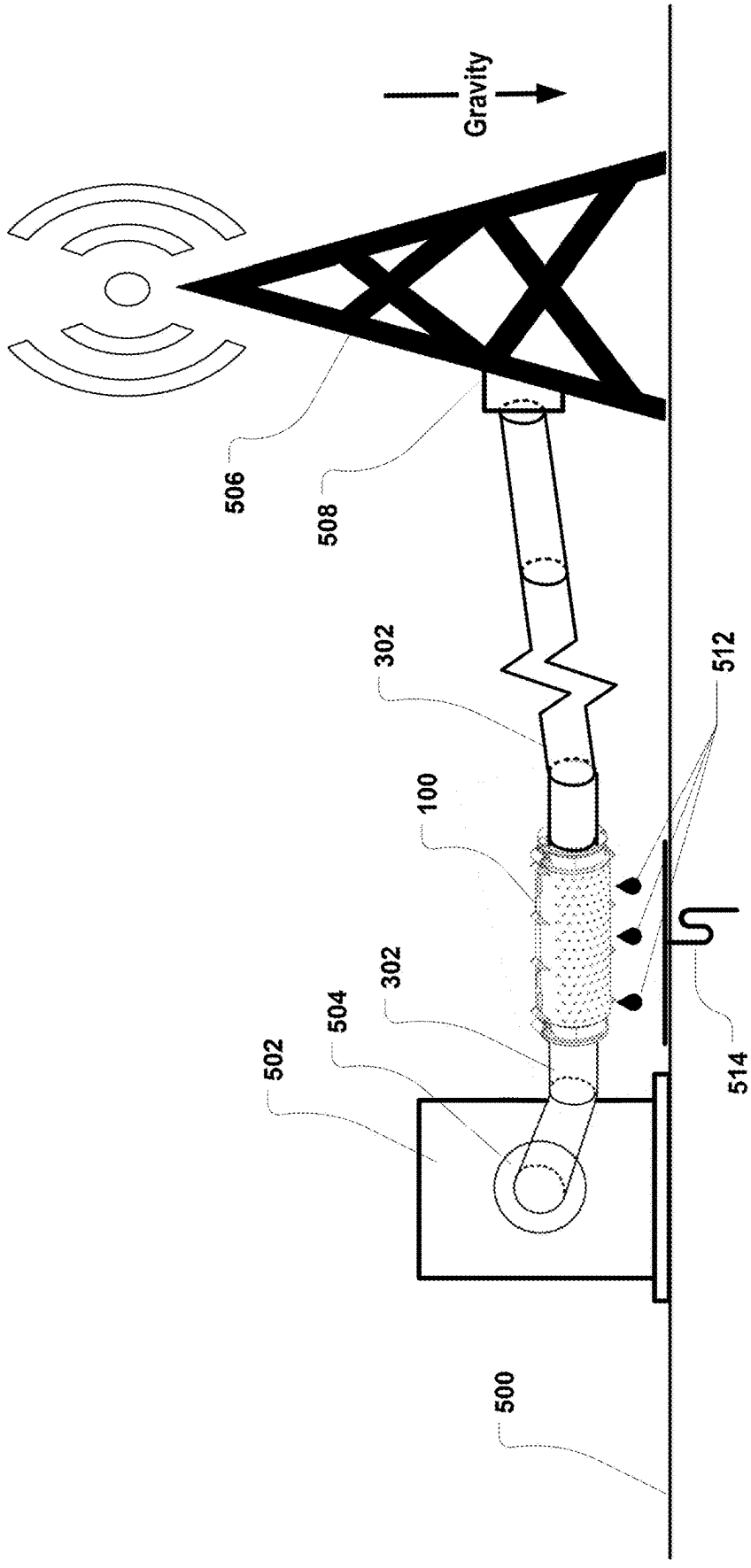


FIG. 5

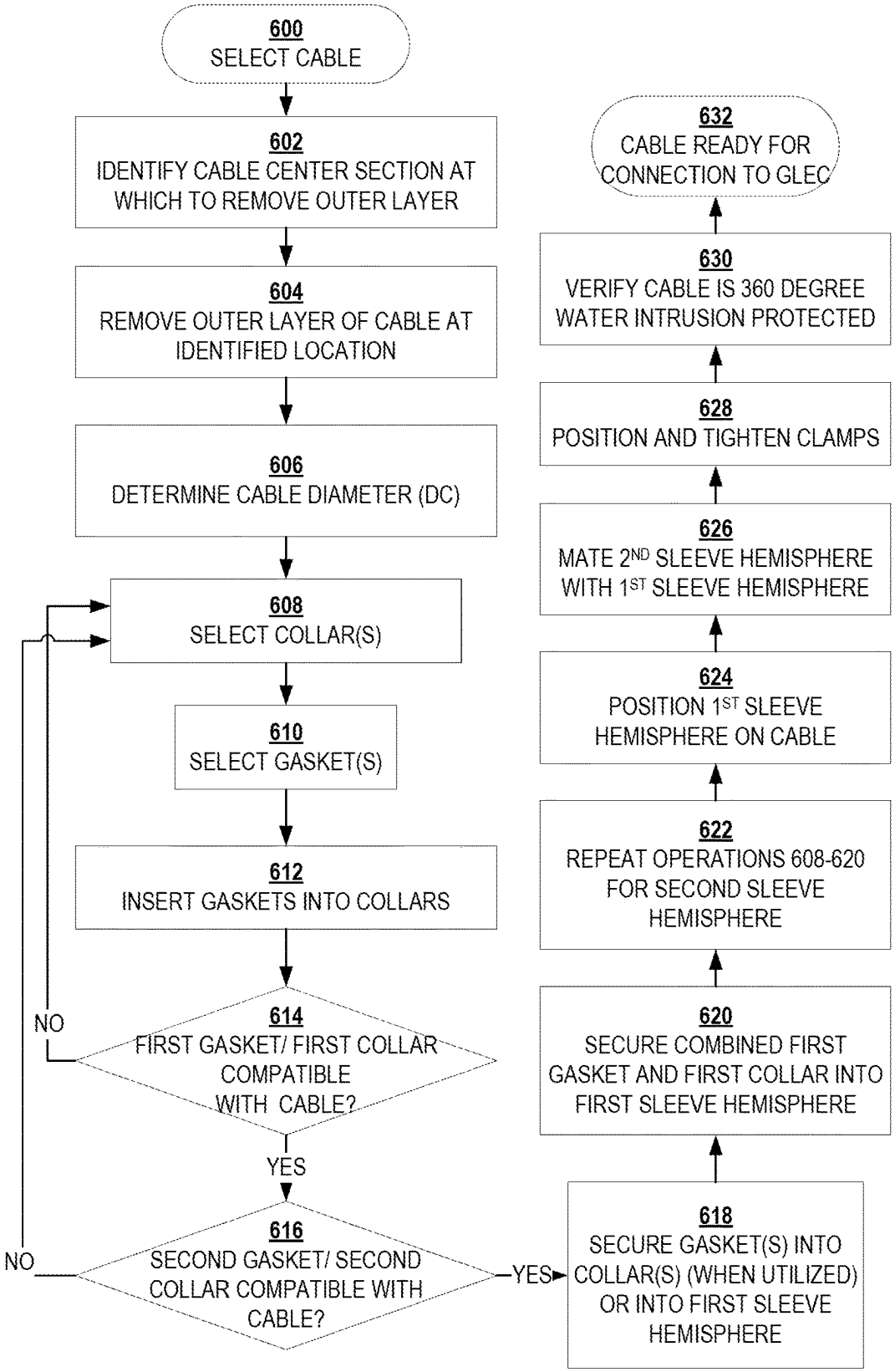

600
SELECT CABLE
602
IDENTIFY CABLE CENTER SECTION AT WHICH TO REMOVE OUTER LAYER
604
REMOVE OUTER LAYER OF CABLE AT IDENTIFIED LOCATION
606
DETERMINE CABLE DIAMETER (DC)
608
SELECT COLLAR(S)
610
SELECT GASKET(S)
612
INSERT GASKETS INTO COLLARS
614
FIRST GASKET/ FIRST COLLAR COMPATIBLE WITH CABLE?
NO
YES
616
SECOND GASKET/ SECOND COLLAR COMPATIBLE WITH CABLE?
NO
YES
618
SECURE GASKET(S) INTO COLLAR(S) (WHEN UTILIZED) OR INTO FIRST SLEEVE HEMISPHERE
620
SECURE COMBINED FIRST GASKET AND FIRST COLLAR INTO FIRST SLEEVE HEMISPHERE
622
REPEAT OPERATIONS 608-620 FOR SECOND SLEEVE HEMISPHERE
624
POSITION 1ST SLEEVE HEMISPHERE ON CABLE
626
MATE 2ND SLEEVE HEMISPHERE WITH 1ST SLEEVE HEMISPHERE
628
POSITION AND TIGHTEN CLAMPS
630
VERIFY CABLE IS 360 DEGREE WATER INTRUSION PROTECTED
632
CABLE READY FOR CONNECTION TO GLEC

FIG. 6

CABLE PROTECTOR

TECHNICAL FIELD

The technology described herein relates to protecting components inside equipment cabinets from moisture penetrations.

BACKGROUND

Electrical and electronic communications components for wireless and wired telecommunications facilities are commonly provided in an unprotected configuration in a ground level equipment cabinet (GLEC) or similar structure, or in a protected configuration in the form of an Outdoor Rated Component (ORC). An ORC may be mounted, placed, or otherwise disposed on telecommunications towers and otherwise. ORCs are commonly rated by the National Electrical Manufacturers Association (NEMA), at a NEMA 3 or higher rating. A NEMA 3 rating ensures a given component is protected against windblown dust, rain, sleet, and external ice formation. Contrarily, unprotected components are commonly not outdoor rated and may have NEMA rating lower than NEMA 3, if having any NEMA rating. While a GLEC may have features that provide some protection against water and/or other fluid penetrations therein, penetrations by water and/or other fluids (such fluids being individually and/or collectively referred to herein as "water") may occur via a cable. For example, water may proceed on and/or within a cable from an environment exterior to the GLEC into an environment within the GLEC, where one or more unprotected components are located.

As used herein, a "cable" refers to any form of cable including single cables, bundle of cables, hybrid and/or multipurpose cables, or otherwise. A cable may be configured of any material with non-limiting examples including aluminum, copper, steel, optical fibers, and the like. A cable may be used for any given purpose, such as conveying data, providing a ground source, providing electrical power, providing structural support, and/or otherwise.

Water penetration into an unprotected component may degrade, damage, and/or destroy the component, cause fires within a GLEC, and/or result in other undesirable conditions or potential conditions (e.g., electrical shocks, electrical shorts, slip and fall risks, and the like). Accordingly, devices and systems are needed for preventing water penetrations, via cabling, into GLECs.

The information included in this Background section of the specification, including any references cited herein and any description or discussion thereof, is included for technical reference purposes only and is not to be regarded subject matter by which the scope of the present disclosure or any claim arising therefrom is to be bound.

SUMMARY

For at least one implementation of the present disclosure, an assembly may include a first sleeve hemisphere; a first sleeve proximal gasket positioned within the first sleeve hemisphere; a second sleeve hemisphere which mates with the first sleeve hemisphere to form a full sleeve; and a second sleeve proximal gasket positioned within the second sleeve hemisphere. A cable protector may be formed by the mating of the first sleeve hemisphere with the second sleeve hemisphere and around at least a cable center section of a cable. The cable center section may be coupled to a cable proximal portion which may be further coupled to a cable external proximal portion. When the cable protector is formed, the first sleeve proximal gasket combines with the second sleeve proximal gasket contact to surround the cable proximal portion and inhibit a proximal water inflow from the cable external proximal portion into the cable center section.

For at least one implementation and when a cable protector is formed, the first sleeve proximal gasket combined with the second sleeve proximal gasket may inhibit a proximal water outflow from the cable center section onto the cable external proximal portion.

For at least one implementation, a first sleeve hemisphere may include at least one drain hole. When the cable protector is formed, the at least one drain hole facilitates water outflow from the cable center section to an external environment. Gravitational forces may further facilitate the water outflow from the cable center section to the external environment via the at least one drain hole.

For at least one implementation, the first sleeve hemisphere and the second sleeve hemisphere may have identical configurations. When the cable protector is formed about a cable, the cable protector may be oriented within an X-Y-Z coordinate system, where an X-axis of the X-Y-Z coordinate system corresponds to a center line of the cable protector, a Y-axis may be a pitch axis, and the second sleeve hemisphere may be rotated one-hundred and eighty degrees (180°) about the pitch axis to mate with the first sleeve and form the cable protector.

For at least one implementation, a cable has a cable diameter and a length that extends throughout and beyond a length of the cable protector. An assembly further may include a first sleeve proximal collar; and a second sleeve proximal collar. The first sleeve proximal collar and the second sleeve proximal collar may adapt the cable protector, when formed, for use with a second cable having a second cable diameter and without changing dimensions for at least one combination of: the first sleeve hemisphere with the second sleeve hemisphere; and the first sleeve proximal gasket with the second sleeve proximal gasket.

For at least one implementation, a proximal clamp may surround a proximal portion of the full sleeve. Upon tightening of the proximal clamp, a first pressure (P1) may be uniformly applied, by the proximal clamp, onto the cable proximal portion via a first combination of the first sleeve, the first sleeve proximal collar and the first sleeve proximal gasket, and a second combination of the second sleeve, the second sleeve proximal collar, and the second sleeve proximal gasket. The first pressure P1, as so applied, may further inhibit the proximal water inflow from a cable exterior proximal portion into the cable center section.

A cable center section may be further coupled to a cable distal portion. The cable distal portion may be further coupled to a cable external distal portion. For at least one implementation, the assembly further may include: a first sleeve distal gasket positioned within the first sleeve hemisphere; and a second sleeve distal gasket positioned within the second sleeve hemisphere. When the cable protector is formed, the first sleeve distal gasket combined with the second sleeve distal gasket contact surround the cable distal portion and inhibit a distal water inflow from the cable external distal portion into the cable center section.

For at least one implementation, a first sleeve distal collar and a second sleeve distal collar may adapt the cable protector for use with a second cable having a second cable diameter and without changing dimensions for at least one combination of: a first sleeve hemisphere with a second sleeve hemisphere; and a first sleeve distal gasket with a

second sleeve distal gasket. A distal clamp may surround a distal portion of the full sleeve. Upon tightening of the distal clamp, a second pressure (P2) may be applied by the distal clamp, through the full sleeve and further through the first sleeve distal gasket and the second sleeve distal gasket and onto the cable at a cable exterior distal portion. The second pressure (P2), when so applied, may further inhibit water flow from with the center segment of the full sleeve onto the cable exterior distal portion.

For at least one implementation, a first sleeve hemisphere further may include, in a linear sequence: a first sleeve distal end segment, a first sleeve center segment, and a first sleeve proximal end segment. The first sleeve distal end segment may include an first sleeve distal end segment outer collar and a first sleeve distal end segment inner collar. The first sleeve proximal end segment may include a first sleeve proximal end segment outer collar and a first sleeve proximal end segment inner collar. A first sleeve proximal gasket may be further positioned within a first cavity in the first sleeve proximal end segment formed between the first sleeve proximal end segment outer collar and the first sleeve proximal end segment inner collar. A first sleeve distal gasket may be further positioned within the first sleeve distal end segment in a second cavity formed between the first sleeve distal end segment outer collar and the first sleeve distal end segment inner collar. The first cavity may form a proximal hemisphere having a fourth diameter. The second cavity may form a distal hemisphere having the fourth diameter. The cable center section may be further coupled to a cable distal portion which is further coupled to a cable external distal portion.

For at least one implementation, the assembly further may include a first sleeve distal gasket positioned within the first sleeve hemisphere and a second sleeve distal gasket positioned within the second sleeve hemisphere. When the cable protector is formed, the first sleeve distal gasket combined with the second sleeve distal gasket may contact and surround the cable distal portion and inhibit a distal water inflow from the cable external distal portion into the cable center section.

For at least one implementation, a first sleeve hemisphere may include a plurality of first pins spaced along an upper portion of the first sleeve hemisphere and a plurality of first holes spaced along a lower portion of the first sleeve hemisphere. The second sleeve hemisphere may be provided in a mirrored configuration of the first sleeve hemisphere and further may include a plurality of second pins spaced along a lower portion of the second sleeve hemisphere and a plurality of second holes spaced along an upper portion of the first sleeve hemisphere. Mating of the first sleeve hemisphere with the second sleeve hemisphere may include insertion of the plurality of first pins into the plurality of second holes and insertion of the plurality of second pins into the plurality of first holes.

For at least one implementation, a first sleeve hemisphere may include a plurality of first channels spaced along an upper portion of the first sleeve hemisphere and a plurality of first ridges spaced along a lower portion of the first sleeve hemisphere. The second sleeve hemisphere may be a mirrored configuration of the first sleeve hemisphere and may include a plurality of second channels spaced along a lower portion of the second sleeve hemisphere and a plurality of second ridges spaced along an upper portion of the first sleeve hemisphere. Mating of the first sleeve hemisphere with the second sleeve hemisphere may include the insertion of the plurality of first ridges into the plurality of second channels and the insertion of the plurality of second ridges into the plurality of first channels. Implementations of the described techniques may include hardware, a method or process.

For at least one implementation of the present disclosure, a process for protecting a ground level equipment cabinet from water intrusion via a cable coupled thereto may include selecting a cable coupled to a ground level equipment cabinet (GLEC), identifying a cable center section, of the cable, at which to remove an outer layer of the cable, removing the outer layer of the cable along the cable center section, and determining a cable diameter for the cable. The process may further include, for each of a first sleeve hemisphere and a second sleeve hemisphere, operations including: first selecting, a proximal collar; second selecting a proximal collar based on the proximal collar and the cable diameter; first inserting the proximal gasket into the proximal collar; first determining if the proximal gasket and the proximal collar are compatible with the cable; when compatible, first securing the proximal gasket into the proximal collar to form a first combined proximal gasket and proximal collar combination; if not compatible, third selecting at least one of a second proximal gasket and a second proximal collar until a second proximal gasket and proximal collar combination are compatible with the cable. The process also may include second securing one of the first proximal gasket and proximal collar combination and the second proximal gasket and proximal collar combination into the first sleeve hemisphere; repeating the operations above for the second sleeve hemisphere, repeating the operations above for a second distal gasket and a second distal collar combination. The process may also include positioning the first sleeve hemisphere on the cable; mating the second sleeve hemisphere to the first sleeve hemisphere to form a full sleeve; positioning and tightening a proximal clamp around a proximal end of the full sleeve; and positioning and tightening a distal clamp around a proximal end of the full sleeve, where upon the tightening of the proximal clamp and the distal clamp inflows of water into the cable are inhibited and outflows of water from the cable are facilitated and thereby provide a substantially three-hundred and sixty degree (360°) water protected cable. The process may also include coupling the 360° water protected cable to the GLEC.

This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used to limit the scope of the claimed subject matter. A more extensive presentation of features, details, utilities, and advantages of implementations of the present disclosure as defined in the claims is provided in the following written description of various embodiments and implementations and illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The disclosure will be readily understood by the following detailed description in conjunction with the accompanying drawings, wherein like reference numerals designate like structural elements. It should be understood that the proportions and dimensions (either relative or absolute) of the various features and elements (and collections and groupings thereof) and the boundaries, separations, and positional relationships presented therebetween, are provided in the accompanying figures merely to facilitate an understanding of the various embodiments described herein and, accordingly, may not necessarily be presented or illus-

trated to scale, and are not intended to indicate any preference or requirement for an illustrated implementation of the present disclosure to the exclusion of other implementations described with reference thereto.

The features, aspects, advantages, functions, modules, and components of the devices, systems and processes provided by the various implementations of the present disclosure are further disclosed herein regarding at least one of the following descriptions and accompanying drawing figures. In the appended figures, similar components or elements of the same type may have the same reference number and may include an additional alphabetic designator, such as **108***a*-**108***n*, and the like, wherein the alphabetic designator indicates that the components bearing the same reference number, e.g., **108**, share common properties and/or characteristics. Further, various views of a component may be distinguished by a first reference label followed by a dash and a second reference label, wherein the second reference label is used for purposes of this description to designate a view of the component. When the first reference label is used in the specification, the description is applicable to any of the similar components and/or views having the same first reference number irrespective of any additional alphabetic designators or second reference labels, if any.

FIG. **1** is a perspective view of a cable protector and in accordance with at least one implementation of the present disclosure.

FIGS. **2**A and **2**B are sectional views of a sleeve hemisphere, taken along the line **2**-**2** of the cable protector of FIG. **1**, and in accordance with at least one implementation of the present disclosure.

FIG. **3** is a perspective view of the cable protector of FIG. **1**, rotated ninety-degrees (90°) about an X-axis of an X-Y-Z coordinate system and enclosing a portion of a cable and in accordance with at least one implementation of the present disclosure.

FIG. **4** is an exploded view of the cable protector enclosing the cable of FIG. **3** and in accordance with at least one implementation of the present disclosure

FIG. **5** is a schematic view of an implementation of the cable protector of FIG. **1** as utilized to protect one or more unprotected components provided in GLEC from moisture penetrations by a cable coupled to one more ORCs, such as those provided on or with a telecommunications tower or the like, and in accordance with at least one implementation of the present disclosure.

FIG. **6** is a flow chart illustrating a process for isolating an unprotected component from water via cable penetrations and in accordance with at least one implementation of the present disclosure.

DETAILED DESCRIPTION

Base stations at wireless towers for transceiver antenna cells house or support multiple pieces of equipment needed to support the transceiver antennas. Such equipment may include radio transceivers, switches, network connection cabinets, control systems, power protection cabinets (PPC) for electrical hookup, on-site generators (e.g., to meet backup power requirements). Often this equipment is housed within a GLEC near or adjacent to an antenna tower. In other installations, for example, when the antennas are mounted on the roof or exterior wall of a building, the related support equipment may be housed in unused mechanical areas of the building, for example, in a basement, or within a mechanical space dedicated to a floor; components situated within such a building interior area are also referred to herein, for purposes of conciseness, as arising within a GLEC.

In accordance with at least one implementation of the present disclosure, a three-hundred and sixty degree (360°) cable protector is utilized to isolate unprotected components from water penetrations that might otherwise occur, absent use of an implementation of the present disclosure, via fluids conducted on and/or within a cable.

As shown in FIGS. **1**-**4** and in accordance with at least one implementation of the present disclosure, a cable protector **100** having an overall length (L**1**) may include a first sleeve hemisphere **101**(**1**) that includes a first sleeve proximal end segment **102**(**1**P), a first sleeve distal end segment **102**(**1**D), and a first sleeve center segment **104**(**1**). Components inserted into the first sleeve hemisphere **101**(**1**) may include a first sleeve proximal gasket **108**(**1**P); a first sleeve distal gasket **108**(**1**D); a first sleeve proximal collar **110**(**1**P); and a first sleeve distal collar **110**(**1**D).

The cable protector **100** may further include a second sleeve hemisphere **101**(**2**) that includes a second sleeve proximal end segment **102**(**2**P), a second sleeve distal end segment **102**(**2**D), and a second sleeve center segment **104**(**2**). Components inserted into the second sleeve hemisphere **101**(**2**) may include a second sleeve proximal gasket **108**(**2**P); a second sleeve distal gasket **108**(**2**D); a second sleeve proximal collar **110**(**2**P); and a second sleeve distal collar **110**(**2**D). The gaskets **108** may be inserted into the collars **110** and/or inserted directly into the sleeve hemispheres **101**.

The cable protector **100** may further include a proximal clamp **106**(P) and a distal clamp **106**(D).

Sleeve Hemisphere **101**

As shown in FIGS. **2**A and **2**B and for at least first implementation (herein, a "mirrored implementation") the first sleeve hemisphere **101**(**1**) may be a mirror image of the second sleeve hemisphere **101**(**2**). When assembled into a cable protector **100**, the second sleeve hemisphere **101**(**2**) may be rotated one-hundred and eighty degrees (180°) about a "pitch axis" which is shown as the Y axis of an illustrative X-Y-Z coordinate system, wherein the X axis corresponds to "roll axis" aligned with a center line CL and the Z axis corresponds to "yaw axis" of the cable protector **100**. The X-Y-Z coordinate system may be rotated so as to be relative to a given orientation of the cable protector **100** in a given three dimensional space. The first sleeve hemisphere **101**(**1**) and second sleeve hemisphere **101**(**2**) may be configured to mate with each other to form a full sleeve by mating the first sleeve hemisphere **101**(**1**) with the second sleeve hemisphere **101**(**2**). The full sleeve, **101**(**1**) mated with **101**(**2**), about a cable **302** inhibits movement of water along and out of a cable **302** regardless of a then arising orientation (or rotation) of the respective sleeve hemispheres **101** relative to a given axis of the cable **302**.

For at least one, non-shown, second implementation (herein, a "non-mirrored implementation"), a first sleeve hemisphere **101**(**1**) may have a different configuration than a second sleeve hemisphere **101**(**2**). The first sleeve hemisphere **101**(**1**) may be configured for mating with the second sleeve hemisphere **101**(**2**) and to facilitate the expulsion of water from a cable when a cable protector **100** formed by the mating of the first sleeve hemisphere **101**(**1**) with the second sleeve hemisphere **101**(**2**) about the cable is within a given angle of rotation of the cable protector **100** about the X-axis. More specifically, for the non-mirrored implementation, a given sleeve hemisphere may be further configured to control the expulsion of water from a cable in one or more

directions and/or under one more conditions, while not expelling water from the cable in one or more second directions and/or under one or more second conditions. For a non-limiting example of a non-mirrored implementation, a given cable protector **100** may be configured to expel water from a cable in one or more combinations of the +Y and −Z directions and away from a GLEC while not expelling water in one or more combinations of the −Y and −Z directions (which may be towards a GLEC).

Sleeve Center Segment **104**

For both the mirrored implementation and the non-mirrored implementation, the first sleeve hemisphere **101**(**1**) includes a first sleeve center segment **104**(**1**) and the second sleeve hemisphere **101**(**2**) includes second sleeve center segment **104**(**2**). The sleeve center segments **104** may have a sleeve center segment length (L**3**), as shown in FIGS. **2**A and **2**B. For at least one implementation, L**3**=0.625 inches. Other lengths may be used for other implementations.

For at least one implementation, the sleeve center segment **104** may be configured to expel water from a cable in one or more of an upwards (+Z), downwards (−Z), frontwards (+Y), backwards (−Z), and along a left-right (−X to +X) length of the sleeve center segment length L**3**. As used herein, gravitational, centrifugal, surface tension, and/or other forces may be used to expel water from a cable in a given direction as provided for by a given implementation. For cables connecting to components in a GLEC (as shown in FIG. **5**) and where a cable protector **100** is aligned as shown in FIG. **1**, gravitational forces may align with the −Z direction. For other orientations of the cable protector **100**, gravitational forces are herein defined to arise in a "downward" direction which may align with any then arising orientation of the cable protector **100** in the X-Y-Z coordinate space.

As shown in FIGS. **2**A-**2**B and for at least one implementation, a sleeve center segment **104** may include a sleeve center segment external surface **200**, having a first diameter (D**1**), and a sleeve center segment internal surface **202** having a second diameter (D**2**), where D**1**>D**2**. For at least one implementation, D**1**=72 mm and D**2**=61 mm. Other diameters may be used for D**1** and D**2** in other implementations. For at least one implementation, the sleeve center segment **104** may be configured from an Acrylonitrile Styrene Acrylate (ASA) resin. Other materials may be used for other implementations. The sleeve center segment **104** may include a plurality of drain holes **228**, each having a drain hole diameter (D_H). Any quantity and arrangement of drain holes **228** may be used for a given implementation of the present disclosure. For at least one implementation, drain holes **228** may be located along a sleeve so as to direct water from a cable in one or more directions, such as away from another cable, away from a structure, or otherwise. For at least one implementation, D_H=2.5 mm. Other diameters may be used for other implementations for the drain hole diameter D_H. For at least one implementation, one or more of the drain holes may be configured to include a drain hole offset pattern **230**. For at least one implementation, the drain hole offset pattern **230** may be configured as a 9.5 mm longitudinal by 8.25 mm circular arc. Other dimensions may be used for other implementations for the drain hole offset pattern **230**.

For at least one implementation, the sleeve center segment **104** may include on the sleeve center segment internal surface **202** one or more alignment features including one or more pins **218** and holes **220**, a top seating plane **236**(T) which includes one or more tabs **222** and channels **224** and a bottom seating plane **236**(B) which include one or more tabs **222**, and ridges **226**. For at least one implementation, the pins **218**, holes, **220**, channels **224** and ridges **226** individually and/or collectively facilitate compression fitting and securing of a first sleeve hemisphere **101**(**1**) with a second sleeve hemisphere **101**(**2**) which may be rotated by 180 degrees for the mirrored implementation or not rotated for the non-mirrored implementation. As shown, four pins **218** and four holes **220** may be provided along the sleeve center segment **104**. Any number, including zero, of pins **218** and/or holes **220** may be used. As further shown, channels **224** and opposing ridges **226** may be provided along the length L**3** of the sleeve center segment **104**. Any number, including zero, of channels **224** and ridges **226** may be provided along the length L**3** of the sleeve center segment **104**.

Sleeve End Segments **102**

The sleeve center segment **104** may be enclosed by two sleeve end segments **102** which may be further identified as a sleeve proximal end segment **102**(P) and a sleeve distal end segment **102**(D). The sleeve center segment **104** may vary in one or more of size, shape, configuration, materials, and otherwise from a sleeve end segment **102**. For the mirrored implementation, the sleeve proximal segment **102**(P) and the sleeve distal end segment **102**(D) may have corresponding sizes, shapes, configurations, materials, and otherwise. For the non-mirrored implementation, the sleeve proximal end segment **102**(P) may vary in size, shape, configuration, material, or otherwise from the sleeve distal end segment **102**(D).

For at least one implementation, a sleeve end segment **102** may have a sleeve end segment external surface **204** having a third diameter (D**3**) and a sleeve (proximal or distal) end segment internal surface **206** having a fourth diameter (D**4**), where D**3**>D**4**. For at least one implementation, D**3**=61 mm and D**4**=53 mm. Other diameters may be used for D**3** and D**4** in other implementations. For at least one implementation D**2**<D**3**≤D**1**. For at least one implementation D**4**≤D**2**.

A sleeve end segment **102** may include a sleeve end segment outer collar **208** and a sleeve end segment inner collar **214**. The sleeve end segment outer collar **208** may have a sleeve end segment outer collar external surface **210**, having a fifth diameter (D**5**) (as shown in FIG. **2**A), and a sleeve end segment outer collar internal surface **212**, having a sixth diameter (D**6**) (as shown in FIG. **2**A). The sleeve end segment inner collar **214** may have a sleeve end segment internal surface **216** having a seventh diameter (D**7**) (as further shown in FIG. **2**B). For at least one implementation, D**5**=67 mm, D**6**=50 mm, and D**7**=50 mm. For at least one implementation, D**6**=D**7** and D**5**>D**6**>D**4**. For at least one implementation, D**2**<D**5**≤D**1**.

For at least one implementation, a sleeve end segment **102** may include on the sleeve end segment internal surface **216** one or more pins **218**, holes **220**, tabs **222**, channels **224**, and ridges **226** which individually and/or collectively facilitate compression fitting and securing of a first sleeve hemisphere **101**(**1**) with a second sleeve hemisphere **101**(**2**) which may be rotated by 180 degrees for the mirrored implementation or not rotated for the non-mirrored implementation. As shown, a pin **218** and a slot **220** may be provided one each of the sleeve first end segment **102**(**1**) and the sleeve second end segment **102**(**2**). As further shown, a channel **224** and an opposing ridge **226** may be provided along the respective lengths L**2** of the sleeve proximal end segment **102**(P) and the sleeve distal end segment **102**(D). Any number, including zero, of channels **224** and ridges **226** may be provided along a given length L**2** of a sleeve end segment **102**.

For at least one implementation, a sleeve end segment **102** may include one or more collar alignment indents **232** and/or collar alignment ridges **234**, with two of each being shown for purposes of illustration, in FIGS. **2**A and **2**B.

Clamps **106**

For at least one implementation, a cable protector **100** may include one or more clamps, such as a proximal clamp **106**(P) and a distal clamp **106**(D) (as shown in FIG. **1**). For purposes of description, the proximal clamp **106**(P) may be positioned so as to align with a sleeve proximal end segment **102**(P) and the distal clamp **106**(D) may be positioned so as to align with a sleeve distal segment **102**(D). The proximal clamp **106**(P) and distal clamp **106**(D), when tightened, secure the first sleeve hemisphere **101**(**1**) to the second sleeve hemisphere **101**(**2**) while the cable protector **100** is assembled for use about a cable **302** (as shown in FIG. **3**). For at least one implementation, one of the proximal clamp **106**(P) and the distal clamp **106**(D) may not be utilized.

One or both of the proximal clamp **106**(P) and the distal clamp **106**(D) may be configured as a stainless steel or other material, as a cable tie, or the like. For at least one implementation, the proximal clamp **106**(P) and the distal clamp **106**(D) have a width of thirteen millimeters (13 mm). For other implementations, other widths for one or both of the proximal clamp **106**(P) and the distal clamp **106**(D) may be used.

Gasket **108**

For at least one implementation, a cable protector **100** may include a proximal gasket **108**(P) and a distal gasket **108**(D). For purposes of description, a proximal gasket **108**(P) may be positioned so as to align with a sleeve proximal end segment **102**(P) while a distal gasket **108**(D) may be positioned so at align with a sleeve distal end segment **102**(D) (as further shown in FIG. **4**). As shown in FIG. **3** and when the cable protector **100** is assembled about the cable **302**, a first sleeve proximal gasket **108**(**1**P) and a second sleeve proximal gasket **108**(**2**P) may be aligned with the proximal clamp **106**(**1**) such that a tightening of the proximal clamp **106**(**1**) exerts a first pressure (P**1**) on both the first sleeve proximal gasket **108**(**1**P) and the second sleeve proximal gasket **108**(**2**P) and thereby further upon the cable **302**. A first sleeve distal gasket **108**(**1**D) and a second sleeve distal gasket **108**(**2**D) may be similarly aligned with the distal clamp **106**(D) such that a tightening of the distal clamp **106**(D) exerts a second pressure (P**2**) on the first sleeve distal gasket **108**(**1**D) and on the second sleeve distal gasket **108**(**2**D) and thereby further upon the cable **302**. The pressures P**1** and P**2** may be specified so as to prevent a protected cable assembly **300** from moving laterally (along the X-axis) along a cable **302**. For at least one implementation, the pressures P**1** and P**2** may also inhibit water on a cable exterior proximal portion **312**(P) or on a cable exterior distal portion **312**(D) from entering into a cable center section **308**, a first sleeve center segment **104**(**1**), and a second sleeve center segment **104**(**2**). For at least one implementation, the first pressure P**1** and the second pressure P**2** may be uniformly, directionally, or otherwise applied to cable **302**. For at least one implementation, P**1**~P**2**=1-40 PSI (pounds per square inch).

For at least one implementation, only one combination of the first sleeve proximal gasket **108**(**1**P) with the second sleeve proximal gasket **108**(**2**P) or the first sleeve distal gasket **108**(**1**D) with the second sleeve distal gasket **108**(**2**D) may be utilized.

For at least one implementation, a gasket **108** may have a width of thirteen millimeters (13 mm). For other implementations, other widths may be used for other implementations. For at least one implementation, a gasket **108** may have a gasket thickness (GT) of eight millimeters (8 mm). For other implementations, other thicknesses may be used. For at least one implementation, a gasket **108** may be configured from a material having a low density, good flexibility, high tensile strength, high resistance against heat and chemicals, including water, and the like with one non-limiting being a form of a synthetic rubber such as, but not limited to, an Ethylene Propylene Diene Monomer (EPDM) rubber, or the like. Gaskets formed from other materials may be used in other implementations, including gaskets formed from silicone, rubber, and other materials.

For at least one implementation, a gasket **108** may have an adhesive back with the adhesive being selected to permanently, temporarily, or otherwise adhere a gasket **108** to one of a collar **110** (when used) or a sleeve (proximal or distal) end segment internal surface **206**. For at least one implementation, the adhesive may have one or more of a tensile adhesion strength and/or a shear adhesion strength sufficient to retain a gasket within a collar **110** or on a sleeve end segment internal surface **206**. Other tensile adhesion strengths and/or shear adhesion strengths may be used for other implementations. For at least one implementation, a gasket **108** may not have an adhesive back and may be configured for setting within a collar **110** and/or a cavity formed by a sleeve (proximal or distal) end segment internal surface **206** and the opposing raised sides of a sleeve end segment outer collar **208** and a sleeve end segment inner collar **214**. For at least one implementation a sleeve (proximal or distal) end segment **102** includes a sleeve end segment outer collar **208** and a sleeve end segment inner collar **214**.

Collar **110**

For at least one implementation, a cable protector **100** may include a proximal collar **110**(P) and/or a distal collar **110**(D). For at least one implementation, only a proximal collar **110**(P) may be utilized. For at least one implementation, the first sleeve proximal collar **110**(**1**P) may be positioned proximal to and/or corresponding with the first sleeve proximal end segment **102**(**1**P) and the first sleeve proximal gasket **108**(**1**P), while the first sleeve distal collar **110**(**1**D) may be positioned proximal to and/or corresponding with the first sleeve distal end segment **102**(**1**D) and the first sleeve distal gasket **108**(**1**D). A corresponding configuration may be utilized for the second sleeve hemisphere **101**(**2**).

For at least one implementation, a collar **110** may be configured to receive a gasket **108**. The collar **110** may be configured to be adaptable, with a gasket **108** inserted therein, for securing a cable protector **100** about varying widths of cable **302** and without having to change a size and/or dimensions in a sleeve hemisphere **101**. As shown in FIG. **3**, a cable exterior portion **312** may have a cable diameter, herein an eighth diameter (D**8**). For at least one implementation, 34 mm<D**8**<45 mm.

For at least one implementation, a collar **110** may have an interior collar diameter (DCI) and an exterior collar diameter (DCE). For at least one implementation, DCI=44 mm and DCE=47 mm. For another implementation, DCI=47 mm and DCE=53 mm. Other dimensions of the DCI and the DCE may be used in other implementation of the present disclosure.

For at least one implementation, the collar diameter DC may be determined based on a ratio of a gasket thickness plus a cable thickness to achieve a given first pressure P**1** or second pressure P**2** upon a cable **302** by a cable protector **100** (as shown by a protected cable **302**), where:

$$DC = D8 + (GT \times R)$$

where R is compression percentage to be applied to a gasket **108**, upon tightening of a clamp **106**, such that a first pressure P**1** or a second pressure P**2** (as applicable) is applied by the gasket **108** upon a cable **302** proceeding trough an assemble cable protector **100**. For a non-limiting example, a gasket **108** having a gasket thickness (GT) of 8 mm may be compressed 60% upon a tightening of a clamp **106** so that a first pressure P**1** of 1-40 PSI is applied on the cable **302** by the as assembled protected cable assembly **300**. Other thicknesses for the collar diameter DC may be used in other implementations, as may be determined by experimentation, trial and error, field observations, mathematically, or otherwise.

As shown in FIG. **4**, a collar **110** may include one or more collar pins **310**, such as the as shown second sleeve proximal collar pins **310**(**2**P) and the second sleeve distal collar pins **310**(**2**D). The collar pins **310** may be configured to correspond to one or more collar alignment indents **232** provided by a sleeve end segment **102** (as shown in FIGS. **2**A and **2**B). For at least one implementation, a collar **110** may include one or more collar alignment ridges (not shown) which may correspond for mating with one or more collar alignment ridges **234** provided by a sleeve end segment **102** (as shown in FIGS. **2**A and **2**B).

As further shown in FIG. **4**, a cable **302** may have a cable center section **308**, a cable proximal portion **306**(P), a cable distal portion **306**(D), a cable external proximal portion **312**(P), and a cable external distal portion **312**(D), where the cable proximal portion **306**(P) and the cable distal portion **306**(D) represent areas of the cable **302** that are surrounded by the gaskets **108** when the cable protector **100** is utilized. For at least one implementation, an outer layer or jacket for the cable **302** may be removed when the cable **302** is to be used with a cable protector **100**. Removal of the outer layer along the cable center section **308** may facilitate drainage of water from within the cable **302** to an environment external to the cable protector **100** and thereby preventing and/or minimizing an intrusion of water into a Ground Level Equipment Cabinet (GLEC) **502** (as shown, for example, in FIG. **5**). For at least one implementation, the cable center section **308** (from which the outer layer is removed) may have a length of L**4**. For at least one implementation, L**4**=127 mm. For at least one implementation, L**4**≤L**3**.

As shown in FIG. **5**, an implementation of the present disclosure may include a cable protector **100** being assembled about a cable **302** connecting a GLEC **502** to a tower **506**. The GLEC **502** may be situated on a ground level **500**, such as the Earth surface, a building surface or otherwise. The cable **302** may be coupled to the GLEC **502** at GLEC port **504**. Various devices and approaches for coupling a cable **302** to a GLEC **502** via a GLEC port **504** are known in the art and any which may include any known or later arising components and/or methodologies may be used with an implementation of the present disclosure. The tower **506** may be similarly or otherwise situated relative to the ground level. The cable **302** may be further coupled to an outdoor rated component (ORC) **508** provided on, by, at, or near the tower **506**.

When the cable protector **100** is secured about a portion of the cable **302**, the cable protector **100** expels water, in the form of one or more water drops **512** (which may include a stream or flow of water) that would otherwise proceed along an exterior surface of the cable **302** and/or within the cable **302** into the GLEC **502** to the ground level **500** or other external environment, which may include (for one or more implementations) a drain **514**.

As shown in FIG. **6** and for at least one implementation, a process is provided for isolating an unprotected component, such as a GLEC **502**, from water penetrations via a cable **302**. The process may begin, per Operation **600** with selecting a cable **302** that is exposed to an "wet" environment (i.e., one that is either outdoors or otherwise passes by and/or through an area where water exists at a given time such as in a pool, car wash, or otherwise) and is to be protected.

As per Operation **602**, the process may include identifying a cable center section **308** from which an outer layer of the cable **302** is to be removed. For at least one implementation, the cable center section **308** may be identified based on a low point, in a span of the cable **302**, between a connection to a GLEC **502** and a connection to a tower **506** or other structure. For another implementation, the cable center section **308** may be selected based on a proximity of the location on the cable to a GLEC port **504**.

As per Operation **604**, the process may include removing a portion of an outer layer, or jacket, of the cable **302** at the identified cable center section **308**. For implementations where intra-cable water propagation into a GLEC is not a concern, Operation **604** may not be implemented.

As per Operation **606**, the process may include determining a diameter of the cable **302**.

As per Operation **608**, the process may include selecting one or more of: a first sleeve proximal collar **110**(**1**P) for holding a first sleeve proximal gasket **108**(**1**P); a first sleeve distal collar **110**(**1**D) for holding a first sleeve distal gasket **108**(**1**D); a second sleeve proximal collar **110**(**2**P) for holding a second sleeve proximal gasket **108**(**2**P); and a second sleeve distal collar **110**(**2**D) for holding a second sleeve distal gasket **108**(**2**D). For at least one implementation, the first sleeve proximal collar **110**(**1**P) and the second sleeve proximal collar **110**(**2**P) are the same. For another implementation, the first sleeve distal collar **110**(**1**D) and the second sleeve distal collar **110**(**2**D) are the same. For another implementation, different sizes may be used for the proximal collars **110**(P) and for the distal collars **110**(D). For an implementation, the proximal collars **110**(P) may be utilized while the distal collars **110**(D) are not utilized.

As per Operation **610**, the process may include selecting one or more of a first sleeve proximal gasket **108**(**1**P), a first sleeve distal gasket **108**(**1**D), a second sleeve proximal gasket **108**(**2**P) and a second sleeve distal gasket **108**(**2**D). It is to be appreciated that for implementations where intra-cable water propagation into a GLEC **502** is not a concern, the first sleeve distal gasket **108**(**1**D) and the second sleeve distal gasket **108**(**2**D) may not be needed.

As per Operation **612**, the process may include temporarily inserting a first sleeve proximal gasket **108**(**1**P) into a first sleeve proximal collar **110**(**1**P) and inserting a second sleeve proximal gasket **108**(**2**P) into a second sleeve proximal collar **110**(**2**P). This Operation may be repeated for the distal gaskets and distal collars (when utilized).

As per Operation **614**, the process may include verifying that the, as temporarily inserted, the gasket **108** and collar **110** combination has a diameter that is compatible with the cable diameter (DC). If "NO", the process may return to Operation **608** and the selection of another gasket **108** and/or collar **110**. If "YES", the process proceeds to Operation **616**.

As per Operation **616**, the process may include verifying that a, as temporarily inserted, given distal gasket **108**(D) and distal collar **110**(D) combination has a diameter that is

compatible with the cable diameter (DC). If "NO", the process may return to Operation **608**, with respect to the distal gasket **108**(D) and/or distal collar **110**(D) and the selection of another distal gasket **108**(D) and/or another distal collar **110**(D). If "YES", the process proceeds to Operation **618**. It is to be appreciated that Operation **616** may not be implemented when a distal gasket **108**(D) is not utilized and/or when the distal gaskets **108**(D) and distal collars **110**(D) are identical to the proximal gaskets **108**(P) and the proximal collars **110**(P) selected per Operation **610**.

As per Operation **618**, the process may include securing the respective gaskets **108** into the collars **110** (when a collar **110** is to be utilized) or into the first sleeve hemisphere **101**(**1**)(when a collar **110** is not to be utilized with a given gasket **108**). The securing of the gaskets **108** into the collars **110** or into a sleeve hemisphere **101** may utilize peel and press adhesives, screws, pins and holes, channels and ridges, compression, and/or any other known or later arising approaches for securing a gasket into another component.

As per Operation **620**, the process may include securing a gasket **108** and collar **110** combination into a given sleeve hemisphere **101**. The securing of the combined gasket **108** and collar **110** into a given sleeve hemisphere **101** may utilize peel and press adhesives, screws, pins and holes, channels and ridges, compression, and/or any other known or later arising approaches for securing a first component into a second component.

As per Operation **622**, the process may include repeating Operations **608**-**620** with respect to the second sleeve hemisphere **101**(**2**).

As per Operation **624**, the process may include positioning the first sleeve hemisphere **101**(**1**) on the cable **302**. The positioning may include aligning the first sleeve hemisphere **101**(**1**) relative to the cable **302** such that the first sleeve segment inner collar **214** on the first sleeve proximal end segment **102**(**1**P) and first sleeve distal end segment **102**(**1**D) respectively embrace a portion of the cable proximal portion **306**(P) and a portion of the cable distal portion **306**(D). For at least one implementation, such portions of the cable exterior include a one hundred and eighty degree (180°) portion of the cable **302** such that a given gasket **108** surrounds one hundred and eighty degrees (180°) of the corresponding cable exterior portion **306**.

As per Operation **626**, the process may include mating the second sleeve hemisphere **101**(**2**) with the first sleeve hemisphere **101**(**1**) such that the as mated sleeve hemispheres **101** surround the cable **302**.

As per Operation **628**, the process may include positioning and tightening each of the proximal clamp **106**(P) and the distal clamp **106**(D). With the tightening of the clamps **106**, the first pressure P**1** and the second pressure P**2** are respectively applied on the cable **302** thereby sealing the cable first and second exterior portions from water intrusions along the exterior of the cable **302** into the cable center section **308**.

As per Operation **630**, the process may include verifying the cable **302** is three-hundred and sixty degrees (360°) water intrusion protected. If "YES", the process proceeds to Operation **632**. If "NO", the process may continue with repeating Operation **628** and further tightening the clamps or, if after further tightening the cable **302** remains not water intrusion protected, returning to one of Operation **608**, and the selection of different gaskets, and/or Operation **610** and the selection of different collars and repeating, with the new gasket(s) **108** and/or collar(s) **110**, Operations **614**-**630**.

As per Operation **632**, the cable protector **100** is now installed about the cable **302** and thereby forms a protected cable assembly **300** which is determined to be suitable and ready for connection to a GLEC **502** and the process ends.

The various operations shown in FIG. **6** are described herein with respect to at least one implementation of the present disclosure. The described operations may arise in the sequence described, or otherwise and the various implementations of the present disclosure are not intended to be limited to any given set or sequence of operations. Variations in the operations used and sequencing thereof may arise and are intended to be within the scope of the present disclosure.

Although various implementations of the present disclosure have been described above with a certain degree of particularity, or with reference to one or more individual implementations, those skilled in the art could make numerous alterations to the disclosed implementations without departing from the spirit or scope of the claimed invention. The use of the terms "approximately" or "substantially" means that a value of an element has a parameter that is expected to be close to a stated value or position. As is well known in the art, there may be minor variations that prevent the values from being exactly as stated. Accordingly, anticipated variances, such as 10% differences, are reasonable variances that a person having ordinary skill in the art would expect and know are acceptable relative to a stated or ideal goal for one or more implementations of the present disclosure. It is also to be appreciated that the terms "top" and "bottom", "left" and "right", "up" or "down", "first", "second", "next", "last", "before", "after", and other similar terms are used for description and ease of reference purposes and are not intended to be limiting to any orientation or configuration of any elements or sequences of operations for the various implementations of the present disclosure. Further, the terms "coupled", "connected" or otherwise are not intended to limit such interactions and communication of signals between two or more devices, systems, components or otherwise to direct interactions; indirect couplings and connections may also occur. Further, the terms "and" and "or" are not intended to be used in a limiting or expansive nature and cover any possible range of combinations of elements and operations of an implementation of the present disclosure. Other implementations are therefore contemplated. It is intended that matter contained in the above description and shown in the accompanying drawings shall be interpreted as illustrative of implementations and not limiting. Changes in detail or structure may be made without departing from the basic elements of the invention as defined in the following claims.

What is claimed is:

1. An assembly comprising:

a first sleeve hemisphere;

wherein the first sleeve hemisphere includes at least one drain hole;

a first sleeve proximal gasket positioned within the first sleeve hemisphere;

a second sleeve hemisphere which mates with the first sleeve hemisphere to form a full sleeve; and

a second sleeve proximal gasket positioned within the second sleeve hemisphere; and

wherein, when a cable protector is formed by the mating of the first sleeve hemisphere with the second sleeve hemisphere and around at least a cable center section of a cable;

wherein the cable center section is coupled to a cable proximal portion which is further coupled to a cable external proximal portion; and

wherein, when the cable protector is formed,

the first sleeve proximal gasket combined with the second sleeve proximal gasket contact and surround the cable proximal portion and inhibit a proximal water inflow from the cable external proximal portion into the cable center section, and

the at least one drain hole facilitates water outflow from the cable center section to an external environment.

2. The assembly of claim **1**,

wherein, when the cable protector is formed:

the first sleeve proximal gasket combined with the second sleeve proximal gasket inhibit a proximal water outflow from the cable center section onto the cable external proximal portion.

3. The assembly of claim **2**,

wherein gravitational forces further facilitate the water outflow from the cable center section to the external environment via the at least one drain hole.

4. The assembly of claim **1**,

wherein the first sleeve hemisphere and the second sleeve hemisphere have identical configurations;

wherein, when the cable protector is formed, the cable protector is oriented within an X-Y-Z coordinate system;

wherein an X-axis of the X-Y-Z coordinate system corresponds to a center line of the cable protector;

wherein a Y-axis of the X-Y-Z coordinate system is a pitch axis; and

wherein, the second sleeve hemisphere is rotated one-hundred and eighty degrees (180°) about the pitch axis to mate with the first sleeve hemisphere and form the cable protector.

5. The assembly of claim **1**,

wherein the cable has a cable diameter and a length that extends throughout and beyond a length of the cable protector; and

wherein the assembly further comprises:

a first sleeve proximal collar; and

a second sleeve proximal collar;

wherein the first sleeve proximal collar and the second sleeve proximal collar adapt the cable protector, when formed, for use with a second cable having a second cable diameter and without changing dimensions for at least one combination of:

the first sleeve hemisphere with the second sleeve hemisphere; and

the first sleeve proximal gasket with the second sleeve proximal gasket.

6. The assembly of claim **5**, further comprising:

a proximal clamp;

wherein the proximal clamp surrounds a proximal portion of the full sleeve;

wherein upon tightening of the proximal clamp, a first pressure ("P**1**") is uniformly applied, by the proximal clamp, onto the cable proximal portion via a first combination of the first sleeve hemisphere, the first sleeve proximal collar and the first sleeve proximal gasket, and a second combination of the second sleeve hemisphere, the second sleeve proximal collar, and the second sleeve proximal gasket; and

wherein P**1** further inhibits the proximal water inflow from a cable exterior proximal portion into the cable center section.

7. The assembly of claim **6**,

wherein the cable center section is further coupled to a cable distal portion which is further coupled to a cable external distal portion;

wherein the assembly further comprise:

a first sleeve distal gasket positioned within the first sleeve hemisphere; and

a second sleeve distal gasket positioned within the second sleeve hemisphere; and

wherein, when the cable protector is formed, the first sleeve distal gasket combined with the second sleeve distal gasket contact and surround the cable distal portion and inhibit a distal water inflow from the cable external distal portion into the cable center section.

8. The assembly of claim **7**, further comprising:

a first sleeve distal collar; and

a second sleeve distal collar; and

wherein the first sleeve distal collar and the second sleeve distal collar adapt the cable protector for use with a second cable having a second cable diameter and without changing dimensions for at least one combination of:

the first sleeve hemisphere with the second sleeve hemisphere; and

the first sleeve distal gasket with the second sleeve distal gasket.

9. The assembly of claim **8**, further comprising:

a distal clamp;

wherein the distal clamp surrounds a distal portion of the full sleeve;

wherein upon tightening of the distal clamp, a second pressure ("P**2**") is applied by the distal clamp, through the full sleeve and further through the first sleeve distal gasket and the second sleeve distal gasket and onto the cable at a cable exterior distal portion; and

wherein P**2** further inhibits water flow from with the center segment of the full sleeve onto the cable exterior distal portion.

10. The assembly of claim **1**,

wherein the cable center section is further coupled to a cable distal portion which is further coupled to a cable external distal portion;

wherein the assembly further comprises:

a first sleeve distal gasket positioned within the first sleeve hemisphere; and

a second sleeve distal gasket positioned within the second sleeve hemisphere; and

wherein, when the cable protector is formed, the first sleeve distal gasket combined with the second sleeve distal gasket contact and surround the cable distal portion and inhibit a distal water inflow from the cable external distal portion into the cable center section.

11. The assembly of claim **10**, further comprising:

a proximal clamp;

wherein the proximal clamp surrounds a proximal portion of the full sleeve;

wherein upon tightening of the proximal clamp, a first pressure ("P**1**") is uniformly applied, by the proximal clamp, onto the cable proximal portion via a first combination of the first sleeve hemisphere and the first sleeve proximal gasket, and a second combination of the second sleeve hemisphere and the second sleeve proximal gasket; and

wherein P**1** further inhibits the proximal water inflow from a cable exterior proximal portion into the cable center section; and

a distal clamp surrounding a distal portion of the full sleeve;

wherein the distal clamp surrounds a distal portion of the full sleeve;

wherein upon tightening of the distal clamp, a second pressure ("P2") is applied by the second clamp, through the full sleeve and further through the first sleeve distal gasket and the second sleeve distal gasket and onto the cable at a cable exterior distal portion; and

wherein P2 further inhibits water flow from with the center segment of the full sleeve onto the cable exterior distal portion.

12. The assembly of claim 1,

wherein the first sleeve hemisphere further comprises, in a linear sequence:

a first sleeve distal end segment;

a first sleeve center segment; and

a first sleeve proximal end segment comprising:

a first sleeve proximal end segment outer collar; and

a first sleeve proximal end segment inner collar;

wherein the first sleeve proximal gasket is further positioned within the first sleeve proximal end segment between the first sleeve proximal end segment outer collar and the first sleeve proximal end segment inner collar.

13. The assembly of claim 6,

wherein the first sleeve hemisphere further comprises, in a linear sequence:

a first sleeve distal end segment comprising:

a first sleeve distal end segment outer collar; and

a first sleeve distal end segment inner collar;

a first sleeve center segment; and

a first sleeve proximal end segment comprising:

a first sleeve proximal end segment outer collar; and

a first sleeve proximal end segment inner collar;

wherein the first sleeve proximal gasket is further positioned within a first cavity in the first sleeve proximal end segment formed between the first sleeve proximal end segment outer collar and the first sleeve proximal end segment inner collar; and

wherein a first sleeve distal gasket is further positioned within the first sleeve distal end segment in a second cavity formed between the first sleeve distal end segment outer collar and the first sleeve distal end segment inner collar.

14. The assembly of claim 13,

wherein the first cavity forms a proximal hemisphere having a fourth diameter; and

wherein the second cavity forms a distal hemisphere having the fourth diameter.

15. The assembly of claim 1,

wherein the first sleeve hemisphere further comprises:

a plurality of first channels spaced along an upper portion of the first sleeve hemisphere; and

a plurality of first ridges spaced along a lower portion of the first sleeve hemisphere;

wherein the second sleeve hemisphere is a mirrored configuration of the first sleeve hemisphere and further comprises:

a plurality of second channels spaced along a lower portion of the second sleeve hemisphere; and

a plurality of second ridges spaced along an upper portion of the first sleeve hemisphere; and

and

wherein the mating of the first sleeve hemisphere with the second sleeve hemisphere includes the insertion of the plurality of first ridges into the plurality of second channels and the insertion of the plurality of second ridges into the plurality of first channels.

16. The assembly of claim 1,

wherein, when the cable protector is formed, the cable protector is oriented within an X-Y-Z coordinate system;

wherein an X-axis of the X-Y-Z coordinate system corresponds to a center line of the cable protector;

wherein a Y-axis of the X-Y-Z coordinate system is a pitch axis;

wherein the first sleeve hemisphere further comprises in an increasing sequence along the X-axis:

a first sleeve distal end segment;

a first sleeve center segment; and

a first sleeve proximal end segment;

wherein the first sleeve hemisphere and the second sleeve hemisphere have identical configurations;

wherein, the second sleeve hemisphere is rotated one-hundred and eighty degrees (180°) about the pitch axis and into a mirrored configuration to facilitate mating of the second sleeve hemisphere with the first sleeve hemisphere and to form the cable protector;

wherein the first sleeve proximal gasket is further positioned within the first sleeve proximal end segment;

wherein the second sleeve hemisphere, when rotated, further comprises in the increasing sequence along the X-axis:

a second sleeve distal end segment;

a second sleeve center segment; and

a second sleeve proximal end segment; and

wherein the second sleeve proximal gasket is further positioned within the second sleeve proximal end segment.

17. An assembly comprising:

a first sleeve hemisphere, further comprising:

a plurality of first pins spaced along an upper portion of the first sleeve hemisphere; and

a plurality of first holes spaced along a lower portion of the first sleeve hemisphere;

a first sleeve proximal gasket positioned within the first sleeve hemisphere;

a second sleeve hemisphere having a mirrored configuration of the first sleeve hemisphere, which mates with the first sleeve hemisphere to form a full sleeve, and further comprises:

a plurality of second pins spaced along a lower portion of the second sleeve hemisphere; and

a plurality of second holes spaced along an upper portion of the first sleeve hemisphere; and

a second sleeve proximal gasket positioned within the second sleeve hemisphere; and

wherein, when a cable protector is formed by the mating of the first sleeve hemisphere with the second sleeve hemisphere and around at least a cable center section of a cable;

wherein the cable center section is coupled to a cable proximal portion which is further coupled to a cable external proximal portion; and

wherein, when the cable protector is formed, the first sleeve proximal gasket combined with the second sleeve proximal gasket contact and surround the cable proximal portion and inhibit a proximal water inflow from the cable external proximal portion into the cable center section; and

wherein the mating of the first sleeve hemisphere with the second sleeve hemisphere includes insertion of the

plurality of first pins into the plurality of second holes and insertion of the plurality of second pins into the plurality of first holes.

18. A process, for protecting a ground level equipment cabinet from water intrusion via a cable coupled thereto, comprising:

selecting a cable coupled to a ground level equipment cabinet ("GLEC");

identifying a cable center section, of the cable, at which to remove an outer layer of the cable;

removing the outer layer of the cable along the cable center section;

determining a cable diameter for the cable;

for each of a first sleeve hemisphere and a second sleeve hemisphere, operations including:

first selecting, a proximal collar;

second selecting a proximal gasket based on the proximal collar and the cable diameter;

first inserting the proximal gasket into the proximal collar;

first determining if the proximal gasket and the proximal collar are compatible with the cable;

when compatible, first securing the proximal gasket into the proximal collar to form a first combined proximal gasket and proximal collar combination;

if not compatible, third selecting at least one of a second proximal gasket and a second proximal collar until a second proximal gasket and proximal collar combination are compatible with the cable;

second securing one of the first proximal gasket and proximal collar combination and the second proximal gasket and proximal collar combination into the first sleeve hemisphere;

repeating the operations above for the second sleeve hemisphere;

repeating the operations above for a second distal gasket and a second distal collar combination;

positioning the first sleeve hemisphere on the cable;

mating the second sleeve hemisphere to the first sleeve hemisphere to form a full sleeve;

positioning and tightening a proximal clamp around a proximal end of the full sleeve; and

positioning and tightening a distal clamp around a proximal end of the full sleeve;

wherein upon the tightening of the proximal clamp and the distal clamp inflows of water into the cable are inhibited and outflows of water from the cable are facilitated to form a substantially three-hundred and sixty degree ("360°") water protected cable.

19. The process of claim **18**, further comprising:

coupling the 360° water protected cable to the GLEC.

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