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OTHER PRODUCTS AVAILABLE

- Flange Isolation Gasket Kits
- Radolid® Nut & Bolt Protector Caps
- U-Bolt-Cote® & Atlas Pipe Support Pads
- Casing Spacers and End Seals
- Kleerband® Flange Protectors
- Kleerge® Corrosion Inhibiting Grease
- Safety Spray Shields
- Foreman Nite Cap Pipe Plugs
- Bore Spacers
- ISOJOIN® Monolithic Isolating Joint

HOW TO ORDER

- Project Reference
- Carrier Pipe OD
- Wall Sleeve or Core Drilled ID
- Medium for application or Innerlynx Model
- Hardware (Steel or Stainless)
- Pressure Plates (Composite, Steel or Stainless)
- Wall Thickness (if applicable)

OTHER PRODUCTS AVAILABLE

- Kleergel® Corrosion Inhibiting Grease
- Safety Spray Shields
- Foreman Nite Cap Pipe Plugs
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How to order

- Project Reference
- Carrier Pipe OD
- Wall Sleeve or Core Drilled ID
- Medium for application or Innerlynx Model
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- Pressure Plates (Composite, Steel or Stainless)
- Wall Thickness (if applicable)
**Innerlynx® Installation Instructions**

1. Center the pipe, cable or conduit in wall sleeve, casing or core drilled hole. Make sure the pipe will be adequately supported on both ends. Innerlynx® are not intended to support the weight of the pipe.

2. Connect both ends of the belt assembly around the pipe. Check to be sure all bolt heads are facing the installer.

3. Slide Innerlynx® assembly into annular space. Lubrication with thin soap/water solution may help if tight.

4. Assembly may fit tightly or be loose depending on fit designed for your annular space.

5. Use HAND tools only. DO NOT USE power or air driven tools. This not only voids your warranty, but does not let Innerlynx work to its full potential.

6. Start at the bolt located at 12 o’clock with 2-3 turns of wrench/ratchet. Continue clockwise. Do not tighten in a star pattern.

7. Repeat process until rubber begins to slightly bulge and bolt is tight. Make one more turn on each bolt around the entire assembly.

8. Installation is complete. If the seal doesn’t appear to be correct using the instructions provided, call Advance Products & Systems, Inc. at 800-315-6009.

---

**Innerlynx® Check List**

1. Make sure installation area is free of dirt or debris.
2. Make sure pipe is centered in sleeve or hole.
3. Make sure pressure plates and bolt heads are facing out.
4. Make sure that Innerlynx® are hand-tightened only.
5. Make sure that the carrier pipe is supported.
6. Make sure that you use an anti-seizing compound if using stainless steel hardware.

**Innerlynx® Don’ts**

1. Never use power tools or air tools on any Innerlynx® bolt.
2. Do not tighten bolts more than a couple of turns at a time.
3. Do not install Innerlynx® on uneven surfaces.
4. Do not tighten in a star pattern. Do go clockwise.

---

**Innerlynx® Applications**

**Industrial & Mechanical**
- Wall, Floor & Ceiling Penetrations
- Hospital Mechanical
- Quiet Rooms
- Electronic Equipment Rooms
- Fire Walls
- Boiler Rooms
- Aquariums
- HVAC Systems
- Plumbing - Commercial & Residential
- Swimming Pools
- Decorative Fountains
- Septic Tanks
- Parking Garage Column Protectors
- Vibrations, Shock & Sound Dampening
- Pumps & Tanks

**Ductile Iron**
- Copper Tubing
- SDR 35
- Glass Pipe
- Telecommunication Cable

**PVC & CPVC**
- Insulated Pipe
- Plastic Conduit
- Dual Containment
- Electrical Wire
- IPEX

**HDPE & STEEL WALL SLEEVES**

**What Is Innerlynx® & Why Is It Used?**

- Modular Mechanical Seal
- Made from synthetic rubber & industrial strength pressure plates
- offered in 21 different sizes for all pipe diameters ranging from 1/2” to 144”
- Forms hydrostatic seal up to 40 psig & up to 92.28 feet of head pressure
- Innerlynx® are used to seal the annular space between a inner/carrier pipe and the ID of a wall penetration
- Can be installed easily and quickly by on worker with no special tools
- Can be installed many times over the life of the installation
- Help absorb vibrations, shocks and sound waves and act a sound dampener and electrically isolate the inner/carrier pipe from the penetrated structure
- Manufactured and assembled in the U.S.A.

**Ductile Iron**
- Copper Tubing
- SDR 35
- Glass Pipe
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---

**Innerlynx® Applications**

**Industrial & Mechanical cont.**
- Power Plants
- Power Generation Dams
- Ship Bulkheads
- High-Pressure Tank Guards
- Water & Wastewater
- Cased Road Crossings
- Cased Railroad Crossings
- Bridge Pipeline Crossings
- Waste Water Treatment Plants
- Public Works
- Manholes & Precast Concrete Forms
- Oil & Gas
- Offshore Platforms
- Berms & Dikes around Tank Farms
- Electrical Isolation for Corrosion Protection

**Pipes & Tubing**
- Ductile Iron
- Copper Tubing
- SDR 35
- Glass Pipe
- Telecommunication Cable

**Plastic Conduit**
- PVC & CPVC
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**HDPE & STEEL WALL SLEEVES**

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4. Make sure that Innerlynx® are hand-tightened only.
5. Make sure that the carrier pipe is supported.
6. Make sure that you use an anti-seizing compound if using stainless steel hardware.

**Innerlynx® Don’ts**

1. Never use power tools or air tools on any Innerlynx® bolt.
2. Do not tighten bolts more than a couple of turns at a time.
3. Do not tighten bolts completely at one time.
4. Do not use Innerlynx® as a mean of pipe support.
5. Do not install Innerlynx® on uneven surfaces.
6. Do not tighten in a star pattern. Do go clockwise.

---

**Please Read Above Before Installing**
Centering Blocks-End Seals

Innerlynx® Centering Blocks
Around pipe of at least 14" in diameter, HDPE centering blocks are embedded into the bottom 25% of the Innerlynx® assembly to assist in centering the carrier pipe during installation. Unlike pipeline "boots", when used as end seals, on pipes during installation.

Layered Applications

Multiple layers of Innerlynx® assemblies can be successfully installed using intermediate sleeves between wraps when the annular space is wider than the expanded thickness of a single Innerlynx® assembly (as seen in the example below). Call the factory for sizing assistance at 1-800-315-6009.

Test Ports

What is a Test Port?
A patent-pending pressure monitoring port that has been integrated into the Innerlynx® assembly. This design will not jeopardize the integrity of the sealing capacity, unlike other testing methods.

Why are Test Ports used?
They are used to test or monitor the operating pressure of an Innerlynx® application.

For more information on APS Test Ports, please visit our website at www.apsonline.com/Innerlynx

Layered Applications

Innerlynx® Models and Properties

Model "LC" Innerlynx® Modular Seal is suitable for most standard applications including: above ground, direct underground burial, wet conditions and where cathodic protection is desired.
Type: Standard
Seal Element: EPDM (black)
Pressure Plates: Composite
Nuts & Bolts: Carbon Steel (Zinc plated)
Temp. range: -40°F to +250°F

Model "OS-316" Innerlynx® Modular Seal is composed of a combination of stainless steel hardware, glass-filled epoxy resin and silicone. Two seals must be in place for UL approval.
Type: UL approved
Seal Element: Proprietary Silicone (red)
Pressure Plates: Composite
Nuts & Bolts: Stainless Steel
Temp. range: -40°F to +250°F

Model "L" Innerlynx® Modular Seal is composed of a low-durometer EPDM rubber suitable for conduit, insulated pipe, copper pipe or thin-walled pipe.
Type: Low Durometer
Seal Element: EPDM (blue)
Pressure Plates: Composite
Nuts & Bolts: Carbon Steel (Zinc plated)
Temp. range: -40°F to +250°F

Model "S-316" Innerlynx® Modular Seal is composed of stainless steel hardware, glass-filled epoxy resin and low durometer EPDM.
Type: Low Durometer
Seal Element: EPDM (blue)
Pressure Plates: Composite
Nuts & Bolts: Stainless Steel
Temp. range: -40°F to +250°F

Model "O" Innerlynx® Modular Seal is composed of Nitrile rubber which is suitable for most hydrocarbons, oils, hydraulic fluids, chemicals and solvents (gasoline, jet fuel, water, motor oil, kerosene, etc.).
Type: Oil resistant
Seal Element: Nitrile (green)
Pressure Plates: Carbon Steel (Zinc plated)
Nuts & Bolts: Carbon Steel (Zinc plated)
Temp. range: -40°F to +210°F

Model "T" Innerlynx® Modular Seal is composed of silicone able to endure extreme temperatures.
Type: Extreme Temperature
Seal Element: Silicone (grey)
Pressure Plates: Carbon Steel (Zinc plated)
Nuts & Bolts: Carbon Steel (Zinc plated)
Temp. range: -67°F to +400°F

Model "UL" Innerlynx® Modular Seal is composed of proprietary rubber where fire resistance is a must. Two seals must be in place for UL approval.
Type: UL approved
Seal Element: Proprietary Silicone (red)
Pressure Plates: Carbon Steel (Zinc plated)
Nuts & Bolts: Carbon Steel (Zinc plated)
Temp. range: 3 hrs fire rating (1900°F/3hrs)

Model "UL-UL " Innerlynx® Modular Seal is composed of a combination of stainless steel hardware and silicone.
Type: UL approved
Seal Element: Proprietary Silicone (red)
Pressure Plates: Stainless Steel
Nuts & Bolts: Stainless Steel
Temp. range: 67°F to +400°F

Model "ULS" Innerlynx® Modular Seal is composed of a combination of stainless steel hardware and silicone.
Type: UL approved
Seal Element: Proprietary Silicone (red)
Pressure Plates: Stainless Steel
Nuts & Bolts: Stainless Steel
Temp. range: 3 hrs fire rating (1900°F/3hrs)

Material Properties for Innerlynx® Modular Seal Elements

<table>
<thead>
<tr>
<th>Property</th>
<th>ASTM Method</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness</td>
<td>D-2240</td>
<td>58</td>
</tr>
<tr>
<td>Tensile</td>
<td>D-503</td>
<td>45</td>
</tr>
<tr>
<td>Flexural</td>
<td>D-790</td>
<td>35</td>
</tr>
<tr>
<td>Compressive Strength</td>
<td>D-638</td>
<td>34,000 psi</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>D-790</td>
<td>1.30</td>
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</table>

Material Properties for Composite Pressure Plates

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<tr>
<th>Property</th>
<th>ASTM Method</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
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<td>D-2240</td>
<td>58</td>
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<td>45</td>
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</tr>
<tr>
<td>Specific Gravity</td>
<td>D-790</td>
<td>1.30</td>
</tr>
</tbody>
</table>
### Innerlynx® Dimensions

**Innerlynx® Assembly**  
**Front View**

**Innerlynx® Side View**

**Innerlynx® Assembly**  
**Side View/Cut Away**

---

### Wall Sleeves

#### Why use Wall Sleeves?

Protect your investment using APS wall sleeves to provide a better seal than a core drilled hole. In the absence of wall sleeves, mechanical/utility piping vibration can cause costly damage. In addition, wall sleeves make it easier to repair piping without damaging the wall.

APS offers three types of wall sleeves designed to mate with Innerlynx® for leak free performance: Steel, Gal-vo-plast® coated steel and HDPE Infinity® Sleeves.

Each model is available with a 2” water stop that anchors the sleeve to prevent thrust movement and ensure positive water sealing. APS standard water stops are centered, unless otherwise requested.

#### Infinity® Wall Sleeve Features

- High Density Polyethylene (HDPE)
- Excellent resistance to acids, alkalis and other organic solvents
- Positive hydrostatic seal
- 16 sizes - 2” to 25” diameter
- Lighter than steel
- Resists water migration
- 16” long
- Locator caps make installation easier
- Adjust to wall thickness on-site

#### Gal-vo-plast® Wall Sleeve Features

MODEL: GPWSW are made of steel with a welded steel water stop with Gal-vo-plast® coating.

- Less expensive than galvanized
- More corrosion resistant
- Faster availability, especially for custom wall sleeves
- Longer installation life
- All coating performed in house
- Considerably more economical
- Available in 2” to 120” diameter

---

**Innerlynx® Model No.**

<table>
<thead>
<tr>
<th>Model</th>
<th>I.D. (in.)</th>
<th>L.D. (in.)</th>
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<td>IL-1</td>
<td>0.50</td>
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<td>IL-7</td>
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**Wall Sleeve Features**

- **Model I.D. (in.) lbs**
  - 10-0.950, 5.00
  - 15-10.000, 6.41
  - 20-14.000, 14.24
  - 25-20.000, 15.00
  - 30-25.000, 17.70
  - 35-30.000, 19.13

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### Innerlynx® Sizing

**How to calculate sizes and amount of Innerlynx® needed to seal your penetration:**

**Part 1**

To figure which IL style number is needed to seal the annular space:
- I.D. of casing/core drilled hole - O.D. of carrier pipe = Y
- Y + 2 = Sealing Range

Find the correct sealing range and the corresponding style number on the chart adjacent. If there is more than one IL to choose from, choose the IL size that is closest to the untightened seal range.

**Part 2**

To figure out how many Innerlynx® are needed to seal the penetration:
- I.D. of casing/core drilled hole + O.D. of carrier pipe = Y
- Y = 2 = Bolt Circle

Bolt Circle x 3.14 = Circumference of bolt circle

Circumference of bolt circle + chord length = Innerlynx® per seal

Use the chord length matched with proper Innerlynx® number

**Example:**

8” ductile iron pipe into a 12” core drilled hole

**Part 1:**

12 + 9.05 = 21.05

2.95 x 2 = 1.475 seal range

1.475 falls between the range for IL 400

**Part 2:**

12 + 9.05 = 21.05

21.05 ÷ 2 = 10.525 Bolt Circle

33.0485 + 3.63 = 9.10427 Number of Innerlynx®

Answer: 91.400

**Notes:**
- If the calculation ends in .79 or lower, round down to the nearest whole number if the calculation ends in .00 or higher round up to the nearest whole number.
- Also, please note that the number of Innerlynx® may vary from the online calculator due to the manual calculation not taking into account the deformation of the rubber when it conforms to the anchor space between the inner pipe and I.D. of the penetration.

### Innerlynx® Sizing Specifications - Standard Sizes

**Nominal Pipe Size**

<table>
<thead>
<tr>
<th>Pipe OD (in.)</th>
<th>Recommended size for Core Drilled Hole</th>
<th>ILS per Seal</th>
<th>Infinity® Wall Sleeve</th>
<th>Innerlynx® Size</th>
<th>ILS per Seal</th>
<th>Steel Wall Sleeve</th>
<th>Innerlynx® Size</th>
<th>ILS per Seal</th>
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</thead>
<tbody>
<tr>
<td>Core Drill ID</td>
<td>Innerlynx® Size</td>
<td>ILS per Seal</td>
<td>Infinity® Wall Sleeve</td>
<td>Innerlynx® Size</td>
<td>ILS per Seal</td>
<td>Steel Wall Sleeve</td>
<td>Innerlynx® Size</td>
<td>ILS per Seal</td>
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<td>(in.)</td>
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<td>15</td>
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</table>

### Cast Iron Soil Pipe (Extra Heavy)

<table>
<thead>
<tr>
<th>Cast Iron Soil Pipe</th>
<th>Pipe OD (in.)</th>
<th>Recommended size for Core Drilled Hole</th>
<th>ILS per Seal</th>
<th>Infinity® Wall Sleeve</th>
<th>Innerlynx® Size</th>
<th>ILS per Seal</th>
<th>Steel Wall Sleeve</th>
<th>Innerlynx® Size</th>
<th>ILS per Seal</th>
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<tr>
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**Innerlynx®® Standard Sizing**

For standard pipe penetrations, use the charts on pages 4, 5, and 6.

- Select the nominal pipe size, making sure the O.D. matches the application.
- Select one of the three recommended wall openings (APS Plastic Wall Sleeve, APS Steel Wall Sleeve, or Core Drilled Hole).
- Beginning at the column heading “Nominal Pipe Size”, read across to the sizing selection for Core Drilled Hole or Sleeve Type. Inside the sizing selection column, the first column identifies the Core Drilled I.D. or Wall Sleeve Size. The second column provides number of Innerlynx® required to seal the penetration.
## INNERYNX® Sizing Specifications - Standard Sizes

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### EMT - Thin Wall Steel Conduit

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Innerlynx® Sizing & Ordering Information

Innerlynx® Standard Sizing

For standard pipe penetrations, use the charts on pages 4, 5 and 6.

1. Select the nominal pipe size, making sure the O.D. matches the application.
2. Select one of the three recommended wall openings (APS Plastic Wall Sleeve, APS Steel Wall Sleeve, or Core Drilled Hole).
3. Beginning at the column heading "Nominal Pipe Size", read across to the sizing selection for Core Drilled Hole or Sleeve Type. Inside the sizing selection column, the first column identifies the Core Drilled I.D. or Wall Sleeve Size. The second column provides number of Innerlynx® required to seal the penetration.

### Innerlynx® Sizing Specifications - Standard Sizes

<table>
<thead>
<tr>
<th>Nominal Pipe Size</th>
<th>Pipe OD (in.)</th>
<th>Recommended size for Core Drilled Hole</th>
<th>Recommended size using APS Infinity® Wall Sleeve</th>
<th>Recommended size using APS Steel Wall Sleeve</th>
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<td>ILS per Seal</td>
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### Cast Iron Soil Pipe (Service Weight)

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<th>Recommended size for Core Drilled Hole</th>
<th>Recommended size using APS Infinity® Wall Sleeve</th>
<th>Recommended size using APS Steel Wall Sleeve</th>
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<tr>
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<td>ILS per Seal</td>
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<td>Core Drill ID (in.)</td>
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<tr>
<td>Cast Iron Soil Pipe (Service Weight)</td>
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### Innerlynx® Standard Sizing

- Select the nominal pipe size, making sure the O.D. matches the application.
- Select one of the three recommended wall openings (APS Plastic Wall Sleeve, APS Steel Wall Sleeve, or Core Drilled Hole).
- Beginning at the column heading "Nominal Pipe Size", read across to the sizing selection for Core Drilled Hole or Sleeve Type. Inside the sizing selection column, the first column identifies the Core Drilled I.D. or Wall Sleeve Size. The second column provides number of Innerlynx® required to seal the penetration.

### Innerlynx®® Sizing

How to calculate sizes and amount of Innerlynx® needed to seal your penetration:

Part 1

To figure which IL style number is needed to seal the annular space:
- I.D. of casing/core drilled hole = Y
- O.D. of carrier pipe = Y + 2 = Sealing Range

Find the correct sealing range and the corresponding style number on the chart adjacent. If there is more than one IL size to choose from, choose the IL size that is closer to the untightened seal range.

Part 2

To figure out how many Innerlynx® are needed to seal the penetration:
- I.D. of casing/core drilled hole + O.D. of carrier pipe = Y
- Y = 2 = Bolt Circle

Bolt Circle x 3.14 = Circumference of bolt circle
Circumference of bolt circle = chord length = Innerlynx® per seal

Use the chord length matched with proper Innerlynx® number

**Example:**

8’ Ductile Iron Pipe into a 12” core drilled hole

Part 1:

12 + 9.05 = 21.05

2.95 + 2 = 1.475 seal range

1.475 falls between the range for IL 400

Part 2:

12 + 9.05 = 21.05

21.05 ÷ 2 = 10.525 Bolt Circle

12 + 9.05 = 21.05

2.95 + 2 = 1.475 seal range

1.475 falls between the range for IL 400

--

**Having trouble sizing Innerlynx®?**

Call the factory with all information applicable: 1-800-315-6009

Online calculator available at www.apsonline.com/innerlynx

---

**Note:** The calculation ends in 0.79 or lower, round up to the nearest whole number. If the calculation ends in .80 or higher, round up to the nearest whole number.

- **Innerlynx® Sizing Specifications - Standard Sizes**
  - Nominal Pipe Size
  - Pipe OD (in.)
  - Recommended size for Core Drilled Hole
  - Recommended size using APS Infinity® Wall Sleeve
  - Recommended size using APS Steel Wall Sleeve

- **Cast Iron Soil Pipe (Extra Heavy)**
- **Cast Iron Soil Pipe (Service Weight)**

---

**Circle**

10.525 x 3.14 = 33.0485 Circumference Bolt

21.05 ÷ 2 = 10.525 Bolt Circle

12 + 9.05 = 21.05

2.95 + 2 = 1.475 seal range

1.475 falls between the range for IL 400

---

**Part 2**

Choose one of the three recommended wall openings (APS Plastic Wall Sleeve, APS Steel Wall Sleeve, or Core Drilled Hole).

**Beginning at the column heading "Nominal Pipe Size", read across to the sizing selection for Core Drilled Hole or Sleeve Type. Inside the sizing selection column, the first column identifies the Core Drilled I.D. or Wall Sleeve Size. The second column provides number of Innerlynx® required to seal the penetration.**

---

**Innerlynx® Standard Sizing**

- Select the nominal pipe size, making sure the O.D. matches the application.
- Select one of the three recommended wall openings (APS Plastic Wall Sleeve, APS Steel Wall Sleeve, or Core Drilled Hole).
- Beginning at the column heading "Nominal Pipe Size", read across to the sizing selection for Core Drilled Hole or Sleeve Type. Inside the sizing selection column, the first column identifies the Core Drilled I.D. or Wall Sleeve Size. The second column provides number of Innerlynx® required to seal the penetration.

---

**Innerlynx® Sizing Specifications - Standard Sizes**

- Nominal Pipe Size
- Pipe OD (in.)
- Recommended size for Core Drilled Hole
- Recommended size using APS Infinity® Wall Sleeve
- Recommended size using APS Steel Wall Sleeve

---

**Cast Iron Soil Pipe (Extra Heavy)**

- 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

---

**Cast Iron Soil Pipe (Service Weight)**

- 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
### Innerlynx® Dimensions

#### Innerlynx® Assembly
- **Front View**
- **Side View**
- **Side View/Cut Away**

#### Wall Sleeves

### Why use Wall Sleeves?
Protect your investment using APS wall sleeves to provide a better seal than a core drilled hole. In the absence of wall sleeves, mechanical/utility piping vibration can cause costly damage. In addition, wall sleeves make it easier to repair piping without damaging the wall.

APS offers three types of wall sleeves designed to mate with Innerlynx® for leak free performance: Steel, Gal-vo-plast® coated steel and HDPE Infinity® Sleeves.

Each model is available with a 2” water stop that anchors the sleeve to prevent thrust movement and ensure positive water sealing. APS standard water stops are centered, unless otherwise requested.

### Infinity® Wall Sleeve Features
- **High Density Polyethylene (HDPE)**
  - Excellent resistance to acids, alkalis and other organic solvents
  - Positive hydrostatic seal
  - 16 sizes - 2” to 25” diameter
  - Lighter than steel
  - Resists water migration
  - 16” long
  - Locator caps make installation easier
  - Adjust to wall thickness on-site

### Wall Sleeve Features

**MODEL: GPWSW** are made of steel with a welded steel water stop with Gal-vo-plast® coating.

- **Less expensive than galvanized**
- **More corrosion resistant**
- **Faster availability, especially for custom wall sleeves**
- **Longer installation life**
- **All coating performed in house**
- **Considerably more economical**
- **Available in 2” to 120” diameter**

### Innerlynx® Wall Sleeve Features

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<thead>
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<th>Actual Thickness</th>
<th>Wall Sleeve Features</th>
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*All dimensions are in inches*
Innerlynx® Centering Blocks

Around pipes of at least 14” in diameter, HDPE centering blocks are embedded into the bottom 25% of the Innerlynx® assembly to assist in centering the carrier pipe during installation. Unlike pipeline “boots”, when used as end seals, on pipes of these sizes, Innerlynx® are set within the casing and are protected from sharp aggregate and equipment, making them perfect end seals for cased pipelines.

Layered Applications

Multiple layers of Innerlynx® assemblies can be successfully installed using intermediate sleeves between wraps when the annular space is wider than the expanded thickness of a single Innerlynx® assembly (as seen in the example below). Call the factory for sizing assistance at 1-800-315-6009.

Rubber Sealing Elements

Carrier Pipe

Centering Blocks

Test Ports

What is a Test Port?

A patent-pending pressure monitoring port that has been integrated into the Innerlynx® assembly. This design will not jeopardize the integrity of the sealing capacity, unlike other testing methods.

Why are Test Port used?

They are used to test or monitor the operating pressure of an Innerlynx® application.

For more information on APS Test Ports, please visit our website at www.apsonline.com/Innerlynx

Innerlynx® Modular Seal Elements

Material Properties for Innerlynx® Modular Seal Elements

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<th>ASTM Method</th>
<th>Value</th>
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Material Properties for Composite Pressure Plates

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</tbody>
</table>

Material Properties for Bolts and Nuts

<table>
<thead>
<tr>
<th>Property</th>
<th>ASTM Method</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stainless Steel</td>
<td>D-792</td>
<td>1,300,000 psi</td>
</tr>
<tr>
<td>Carbon Steel</td>
<td>D-792</td>
<td>28,000 psi</td>
</tr>
</tbody>
</table>

Model “UL” Innerlynx® Modular Seal is composed of a combination of stainless steel hardware, glass-fiber epoxy resin and nitrile. Type: UL approved (3 hr. fire rating). Seal Element: Proprietary Silicone (red) Pressure Plates: Stainless Steel Nuts & Bolts: Stainless Steel Temp. range: 3 hrs fire rating (1900 °F/3hrs)

Model “UL-S316PP” Innerlynx® Modular Seal is composed of a combination of stainless steel hardware, glass-fiber epoxy resin and silicone. Type: Extreme Temperature and silicone. Seal Element: Silicone (grey) Pressure Plates: Composite Nuts & Bolts: Stainless Steel Temp. range: -67 °F to +400 °F

Model “T-S316PP” Innerlynx® Modular Seal is composed of a combination of stainless steel hardware and silicone. Type: Extreme Temperature Silicone. Seal Element: Silicone (grey) Pressure Plates: Composite Nuts & Bolts: Stainless Steel Temp. range: -67 °F to +400 °F

Model “OS-316” Innerlynx® Modular Seal is composed of a combination of stainless steel hardware, glass-fiber epoxy resin and nitrile. Type: Oil/fuel resistant Pressure Plates: Composite Nuts & Bolts: Stainless Steel Temp. range: -40 °F to +210 °F

Model “UL-S316PP” Innerlynx® Modular Seal is composed of a combination of stainless steel hardware, glass-fiber epoxy resin and silicone. Type: UL approved (3 hr. fire rating). Seal Element: Proprietary Silicone (red) Pressure Plates: Stainless Steel Nuts & Bolts: Stainless Steel Temp. range: 3 hrs fire rating (1900 °F/3hrs)

Model “G-S316” Innerlynx® Modular Seal is composed of a combination of stainless steel hardware, glass-fiber epoxy resin and EPDM. Type: Low Durometer. Seal Element: EPDM (black) Pressure Plates: Composite Nuts & Bolts: Stainless Steel Temp. range: -40°F to +250°F

Model “L” Innerlynx® Modular Seal is composed of a low-durometer EPDM rubber suitable for conduit, insulated pipe, copper pipe or thin-walled pipe. Type: Standard Seal Element: EPDM (blue) Pressure Plates: Composite Nuts & Bolts: Carbon Steel (Zinc plated) Temp. range: -40°F to +250°F

Model “G” Innerlynx® Modular Seal is composed of Nitrite rubber which is suitable for most hydrocarbons, oils, hydraulic fluids, chemicals and solvents (gasoline, jet fuel, water, motor oil, kerosene, etc.). Type: Oil resistant Seal Element: Nitrile (green) Pressure Plates: Carbon Steel (Zinc plated) Nuts & Bolts: Carbon Steel (Zinc plated) Temp. range: -40°F to +210°F

Model “T” Innerlynx® Modular Seal is composed of silicone able to endure extreme temperatures. Type: Extreme Temperature Seal Element: Silicone (grey) Pressure Plates: Carbon Steel (Zinc plated) Nuts & Bolts: Carbon Steel (Zinc plated) Temp. range: -67°F to +400°F

Model “G-316” Innerlynx® Modular Seal is composed of stainless steel hardware, glass-fiber epoxy resin and low durometer EPDM. Type: Low Durometer. Seal Element: EPDM (blue) Pressure Plates: Composite Nuts & Bolts: Stainless Steel Temp. range: -40°F to +250°F

Model “UL-C” Innerlynx® Modular Seal is suitable for most standard applications including: above ground, direct underground burial, wet conditions and where cathodic protection is desired. Type: Standard Seal Element: EPDM (black) Pressure Plates: Composite Nuts & Bolts: Carbon Steel (Zinc plated) Temp. range: -40°F to +250°F

Model “UL-C” Innerlynx® Modular Seal is composed of a combination of stainless steel hardware, glass-fiber epoxy resin and EPDM. Type: Standard. Seal Element: EPDM (black) Pressure Plates: Composite Nuts & Bolts: Stainless Steel Temp. range: -40°F to +250°F
**Innerlynx® Installation Instructions**

1. Center the pipe, cable or conduit in wall sleeve, casing or core drilled hole. Make sure pipe will be adequately supported on both ends. Innerlynx® are not intended to support the weight of the pipe.

2. Connect both ends of the belt assembly around the pipe. Check to be sure all bolt heads are facing the installer.

3. Slide Innerlynx® assembly into annular space. Lubrication with thin soap/water solution may help if tight.

4. Assembly may fit tightly or be loose depending on fit designed for your annular space.

5. Use HAND tools only. DO NOT USE power or air driven tools. This not only voids your warranty, but does not let Innerlynx work to its full potential.

6. Start at the bolt located at 12 o’clock with 2-3 turns of wrench/ratchet. Continue clockwise. Do not tighten in a star pattern.

7. Repeat process until rubber begins to slightly bulge and bolt is tight. Make one more turn on each bolt around the entire assembly.

8. Installation is complete. If the seal doesn’t appear to be correct using the instructions provided, call Advance Products & Systems, Inc. at 800-315-6009.

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**Innerlynx® Check List**

1. Make sure installation area is free of dirt or debris.
2. Make sure pipe is centered in sleeve or hole.
3. Make sure pressure plates and bolt heads are facing out.
4. Make sure that Innerlynx® are hand-tightened only.
5. Make sure that the carrier pipe is supported.
6. Make sure that you use an anti-seizing compound if using stainless steel hardware.

**Innerlynx® Don’ts**

1. Never use power tools or air tools on any Innerlynx® bolt.
2. Do not tighten bolts more than a couple of turns at a time.
3. Do not tighten bolts completely at one time.
4. Do not use Innerlynx® as a mean of pipe support.
5. Do not install Innerlynx® on uneven surfaces.
6. Do not tighten in a star pattern. Do go clockwise.

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**Innerlynx® Applications**

- Industrial & Mechanical
  - Wall, Floor & Ceiling Penetrations
  - Hospital Mechanical
  - Quiet Rooms
  - Electronic Equipment Rooms
  - Fire Walls
  - Boiler Rooms
  - Aquariums
  - HVAC Systems
  - Plumbing - Commercial & Residential
  - Swimming Pools
  - Decorative Fountains
  - Septic Tanks
  - Parking Garage Column Protectors
  - Vibrations, Shock & Sound Dampening
  - Pumps & Tanks

- Ductile Iron
- Copper Tubing
- Steel Conduit
- SDR 35
- Glass Pipe
- Telecommunication Cable

**Cut-away view of Infinity® wall sleeve & Innerlynx®**

**Core Drilled & Pre-Cast Openings**

- HDPE & Steel Wall Sleeves
- PVC & CPVC Insulated Pipe
- Plastic Conduit
- Dual Containment Electrical Wire
- IPEX

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**What Is Innerlynx® & Why Is It Used?**

- Modular Mechanical Seal
- Made from synthetic rubber & industrial strength pressure plates
- Offered in 21 different sizes for all pipe diameters ranging from 1/2” to 144”
- Forms hydrostatic seal up to 40 psig & up to 92.28 feet of head pressure
- Innerlynx® are used to seal the annular space between a inner/carrier pipe and the ID of a wall penetration
- Can be installed easily and quickly by on worker with no special tools
- Can be installed many times over the life of the installation
- Help absorb vibrations, shocks and sound waves and act a sound dampener and electrically isolate the inner/carrier pipe from the penetrated structure
- Manufactured and assembled in the U.S.A.

**Innerlynx® Applications**

- Industrial & Mechanical cont.
  - Power Plants
  - Power Generation Dams
  - Ship Bulkheads
  - High-Pressure Tank Guards

- Water & Wastewater
  - Cased Road Crossings
  - Cased Railroad Crossings
  - Bridge Pipelene Crossings
  - Waste Water Treatment Plants
  - Public Works
  - Manholes & Precast Concrete Forms
  - Oil & Gas
  - Offshore Platforms
  - Berms & Dikes around Tank Farms
  - Electrical Isolation for Corrosion Protection

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**Please Read Above Before Installing**

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4. Assembly may fit tightly or be loose depending on fit designed for your annular space.
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OTHER PRODUCTS AVAILABLE

- Flange Isolation Gasket Kits
- Radolid® Nut & Bolt Protector Caps
- UBolt-Cote® & Atlas Pipe Support Pads
- Casing Spacers and End Seals
- Kleerband® Flange Protectors
- Kleergel® Corrosion Inhibiting Grease
- Safety Spray Shields
- Foreman Nite Cap Pipe Plugs
- Bore Spacers
- ISOJOINT® Monolithic Isolating Joint

HOW TO ORDER

- Project Reference
- Carrier Pipe OD
- Wall Sleeve or Core Drilled ID
- Medium for application or Innerlynx Model
- Hardware (Steel or Stainless)
- Pressure Plates (Composite, Steel or Stainless)
- Wall Thickness (if applicable)

Distributed by:

Advance Products & Systems, LLC

PO Box 60399 • Lafayette, Louisiana 70596-0399
800-315-6009 • 337-233-6116 • FAX 337-232-3660
E-Mail: sales@apsonline.com • Website: www.apsonline.com

ISO-9001:2015 Certified Company - FM537405

www.apsonline.com

Innerlynx® Type UL Fire Rated 3 Hour Fire Stop

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