TYPE 4G: NITRILE
CONCRETE PIPE AND MANHOLE GASKETS

What It Is

The Type 4G Nitrile gaskets were developed to specifically meet the needs of contemporary concrete pipe joint designs, while providing the ability to resist common underground contaminants.

How It Works

- The gasket is stretched over the spigot.
- The gasket is equalized around the entire circumference of the spigot.
- Bell joint is covered liberally with lubricant.
- Bell and spigot are homed creating a watertight seal.

Why It’s Better

- Optimized profile designs for a variety of joint configurations.
- Accurate profile designs covering a variety of underground contaminant applications.
- Simple installation methods.

Where To Use

- Convenience Stores
- Petroleum Storage Terminals
- Pipeline Terminals
- Refineries
- Auto Dealerships
- Car/Truck Washes
- Airport Ramps or Deicing Facilities
- Manholes
- Wet wells
- Pumps and lift stations

NOTE:

In addition to resistance to common hydrocarbons, Nitrile 4G also offers improved resistance to mixed contaminated chemistries. This is especially important where contaminants and their concentrations cannot be accurately predicted or determined. This can result in interactions among the contaminants which are difficult to anticipate and define.
An oil-resistant watertight rubber gasket shall be employed in the connections of concrete pipe for sanitary, stormwater, drainage, or other applications where contaminants are known or suspected.

The gasket shall be NITRILE 4G as manufactured by Press-Seal Corporation, Fort Wayne, Indiana, or approved equal.

The gasket shall be the sole element relied on to assure a flexible watertight seal between pipe connections. The gasket shall consist of a single wedge-shaped rubber element. The rubber compound used shall consist of synthetic nitrile butadiene rubber polymer and shall conform with the sealing and oil-resistance requirements of ASTM C 1619, Class D, ASTM C 443-04 for Oil-Resistant Gaskets, and CSA 257.3-03 for Oil-Resistant Gaskets.

Each gasket shall be individually identified with a continuous blue or green stripe toward the leading edge of the gasket. This stripe shall be used to positively identify that the gasket is NITRILE 4G and to confirm its proper orientation on the spigot of the pipe.

Selection of the proper size gasket for the pipe requirement, and installation thereof, shall be in strict conformance with the recommendations of the gasket manufacturer. Any testing also shall be conducted in strict conformance with the requirements of the gasket manufacturer.

Product Performance

NITRILE 4G GASKETS meet or exceed all requirements of the following Specifications and/or Test Methods:

- ASTM C1619 Class D for Oil-Resistant Gaskets
- ASTM C443-04 for Oil-Resistant Gaskets
- CSA 257.3-03 for Oil-Resistant Gaskets

<table>
<thead>
<tr>
<th>NITRILE 4G PROFILE</th>
<th>GASKET ANNULAR SPACE</th>
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<tbody>
<tr>
<td>158-4G</td>
<td>0.326 (8.3 mm)</td>
</tr>
<tr>
<td>210-4G</td>
<td>0.446 (11.3 mm)</td>
</tr>
<tr>
<td>288-4G</td>
<td>0.500 (12.7 mm)</td>
</tr>
<tr>
<td>535-4G</td>
<td>0.765 (19.4 mm)</td>
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4G: NITRILE
INSTALLATION INSTRUCTIONS

Special notes regarding Nitrile 4G Gaskets

Due to inherent properties of Nitrile gaskets, special considerations are noted:

1. Nitrile gaskets are non-stock items, and they will require 4-8 weeks lead time for production and testing.
2. Nitrile gaskets are higher durometer (harder), increasing pipe insertion forces. This hardness increases rapidly at lower temperatures, requiring special care in low-temperature installations (< 40F/4C).
3. Nitrile rubber may occasionally have slight internal porosity. This is not a defect as long as the material meets all other specification requirements.
4. Required splice testing strain may result in occasional splice breakage when the gasket is installed on the pipe. It is recommended that an additional quantity of gaskets (5 -10%) be ordered and supplied to compensate. In any event, Press-Seal will not be responsible for any consequent delays or damages related to this.
5. Nitrile rubber hardens rapidly with age. Gaskets older than 12 months should be retested before use to ensure their continued suitability.
Type 4G and 4F gaskets manufactured by Press-Seal Corporation have proved to be one of the most reliable gasket systems ever developed for concrete pipe. It is easy to ensure the best performance of the 4G and 4F gaskets by following these simple installation steps.

1. The pipe should be handled with extreme caution to avoid chipping of the spigots or bell grooves.

2. Check for and remove any loose dirt, debris or foreign material from the inside surface of the bell, spigot and gasket.

3. Stretch the gasket over the spigot end of the pipe and move it back until it is seated against the step of the spigot. Always place squared area of gasket against pipe and step.

4. The gasket should be equalized by inserting a clean round metal object between the gasket and manhole and making at least 1 -1/2 revolutions around the manhole. The gasket can also be equalized by slightly tugging/pinching the gasket at different points around the manhole.

5. After equalization, ensure the rear of the gasket is seated firmly against the spigot step, around the full circumference of the spigot.

6. Remove all dirt and other foreign matter from the inside surface of the bell. Using Press-Seal lubricant formulated especially for concrete pipe, lubricate the entire bell area of the joint. Be sure to coat the entrance slope of the bell thoroughly with lubricant. It is important that the gasket grips the spigot during installation, so that it is not displaced from the step.

7. Carefully align pipe sections squarely and bring home slowly, so that the gasket makes contact with the bell entrance slope evenly around the entire pipe joint.

8. Complete installation by following pipe manufacturer’s recommended bedding and backfilling practices.
4G: BOX CULVERT GASKET
INSTALLATION INSTRUCTIONS

1. The box section should be handled with extreme caution to avoid chipping of the spigot and bell. Check for and remove any loose dirt, debris or foreign material from the inside surface of the bell and gasket seat area. Bug holes or chips need to be properly repaired.

2. The gasket splice must be first located on the gasket. The splice area is identified with a colored stripe to aid in quickly locating. It is always placed in the middle of the bottom span on a horizontal box installation and on one of the two long spans on a vertical box. Stretch 4G gasket onto spigot with gasket body firmly against single offset step.

3. The gasket must always be equalized by pulling towards each corner to take up the slack and create uniform tension.

4. Use a preferred Press-Seal supplied (red brush on, spray adhesive or high quality adhesive only.)

5. Roll the gasket back over and onto the step of spigot. Apply adhesive starting at bottom span, then side spans, then top span. Apply 1.5" wide (max.) Do not glue the corners. Be sure the entire bottom base of the gasket is glued to the concrete surface. Roll gasket back onto the step.

6. To prevent the bottom span from sagging, use a board across the full length against the gasket body and clamp to the spigot until the adhesive has fully set.

7. Lubricant must be used on the entire bell and entrance slope. The gasket face is optional.

CAUTION:
Press-Seal believes there are risks associated with gluing the gasket on and being exposed to the elements for an extended period of time; therefore, please discuss with your territory manager before installation.