**N-12® PLAIN END PIPE (PER AASHTO) SPECIFICATION**

**Scope**
This specification describes 4- through 60-inch (100 to 1500 mm) N-12 plain end pipe (per AASHTO) for use in gravity-flow land drainage applications.

**Pipe Requirements**
N-12 plain end pipe (per AASHTO) shall have a smooth interior and annular exterior corrugations.
- 4- through 10-inch (100 to 250 mm) pipe shall meet AASHTO M252, Type S or SP.
- 12- through 60-inch (300 to 1500 mm) pipe shall meet AASHTO M294, Type S or SP, or ASTM F2306.
- Manning’s “n” value for use in design shall be 0.012.

**Joint Performance**
Pipe shall be joined with coupling bands covering at least two full corrugations on each end of the pipe. Standard connections shall meet or exceed the soil-tight requirements of AASHTO M252, AASHTO M294, or ASTM F2306.

Gasketed connections shall incorporate a closed-cell synthetic expanded rubber gasket meeting the requirements of ASTM D1056 Grade 2A2. Gaskets, when applicable, shall be installed by the pipe manufacturer.

**Fittings**
Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306.

**Material Properties**
Material for pipe and fitting production shall be high density polyethylene conforming with the minimum requirements of cell classification 424420C for 4- through 10-inch (100 to 250 mm) diameters, and 435400C for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM D3350, except that carbon black content should not exceed 4%. The 12- through 60-inch (300 to 1500mm) pipe material shall comply with the notched constant ligament-stress (NCLS) test as specified in Sections 9.5 and 5.1 of AASHTO M294 and ASTM F2306 respectively.

**Installation**
Installation shall be in accordance with ASTM D2321 and ADS recommended installation guidelines, with the exception that minimum cover in trafficked areas for 4- through 48-inch (100 to 1200 mm) diameters shall be one foot. (0.3 m) and for 60-inch (1500 mm) diameter the minimum cover shall be 2 ft. (0.6 m) in single run applications. Backfill for minimum cover situations shall consist of Class 1 (compacted), Class 2 (minimum 90% SPD) or Class 3 (minimum 95%) material. Maximum fill heights depend on embedment material and compaction level; please refer to Technical Note 2.01. Contact your local ADS representative or visit our website at [www.adspipe.com](http://www.adspipe.com) for a copy of the latest installation guidelines.

**Build America, Buy America (BABA)**
N-12 Plain End pipe (per AASHTO), manufactured in accordance with AASHTO M252, AASHTO M294 or ASTM F2306, complies with the requirements in the Build America, Buy America (BABA) Act.

**Pipe Dimensions**

<table>
<thead>
<tr>
<th>Pipe I.D. in (mm)</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>15</th>
<th>18</th>
<th>24</th>
<th>30</th>
<th>36</th>
<th>42</th>
<th>48</th>
<th>54</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(100)</td>
<td>(150)</td>
<td>(200)</td>
<td>(250)</td>
<td>(300)</td>
<td>(375)</td>
<td>(450)</td>
<td>(600)</td>
<td>(750)</td>
<td>(900)</td>
<td>(1050)</td>
<td>(1200)</td>
<td>(1372)</td>
<td>(1500)</td>
</tr>
<tr>
<td>Pipe O.D.* in (mm)</td>
<td>4.8</td>
<td>6.9</td>
<td>9.1</td>
<td>11.4</td>
<td>14.5</td>
<td>18</td>
<td>22</td>
<td>28</td>
<td>36</td>
<td>42</td>
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<td>(122)</td>
<td>(175)</td>
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<td>(368)</td>
<td>(457)</td>
<td>(559)</td>
<td>(711)</td>
<td>(914)</td>
<td>(1067)</td>
<td>(1219)</td>
<td>(1372)</td>
<td>(1702)</td>
<td></td>
</tr>
</tbody>
</table>

*Pipe O.D. values are provided for reference purposes only, values stated for 12 through 60-inch are ±1 inch. Contact a sales representative for exact values.

**All diameters available with or without perforations.**

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