## ADS N-12 ${ }^{\circledR}$ ST IB PIPE (PER AASHTO) SPECIFICATION

## Scope

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

## Pipe Requirements

ADS N-12 ST IB 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 using a bell \& spigot joint meeting the requirements of AASHTO M252, AASHTO M294, or ASTM F2306. The joint shall be soil-tight and gaskets for diameters 12 - through 60 -inch, shall meet the requirements of ASTM F477. For diameters 4- through 10-inch, the joint shall be soil-tight using an engaging dimple connection. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

## Fittings

Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306. Bell and spigot connections shall utilize a welded bell and valley or saddle gasket meeting the soil-tight joint performance requirements of 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 1500 mm ) 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\% SPD) 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.ads-pipe.com for a copy of the latest installation guidelines.

## Pipe Dimensions

| Nominal Diameter, in (mm) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pipe I.D. <br> in (mm) | $\begin{gathered} 4 \\ (100) \\ \hline \end{gathered}$ | $\begin{gathered} 6 \\ (150) \\ \hline \end{gathered}$ | $\begin{gathered} 8 \\ (200) \\ \hline \end{gathered}$ | $\begin{gathered} 10 \\ (250) \\ \hline \end{gathered}$ | $\begin{gathered} 12 \\ (300) \\ \hline \end{gathered}$ | $\begin{gathered} 15 \\ (375) \\ \hline \end{gathered}$ | $\begin{gathered} 18 \\ (450) \\ \hline \end{gathered}$ | $\begin{gathered} 24 \\ (600) \\ \hline \end{gathered}$ | $\begin{gathered} 30 \\ (750) \\ \hline \end{gathered}$ | $\begin{gathered} 36 \\ (900) \\ \hline \end{gathered}$ | $\begin{gathered} 42 \\ (1050) \\ \hline \end{gathered}$ | $\begin{gathered} 48 \\ (1200) \end{gathered}$ | $\begin{gathered} 60 \\ (1500) \end{gathered}$ |
| $\begin{aligned} & \text { Pipe O.D.* } \\ & \text { in (mm) } \end{aligned}$ | $\begin{gathered} 4.8 \\ (122) \end{gathered}$ | $\begin{gathered} 6.9 \\ (175) \end{gathered}$ | $\begin{gathered} 9.1 \\ (231) \end{gathered}$ | $\begin{gathered} 11.4 \\ (290) \\ \hline \end{gathered}$ | $\begin{gathered} 14.5 \\ (368) \end{gathered}$ | $\begin{gathered} 18 \\ (457) \end{gathered}$ | $\begin{gathered} 22 \\ (559) \end{gathered}$ | $\begin{gathered} 28 \\ (711) \end{gathered}$ | $\begin{gathered} 36 \\ (914) \end{gathered}$ | $\begin{gathered} 42 \\ (1067) \end{gathered}$ | $\begin{gathered} 48 \\ (1219) \end{gathered}$ | $\begin{gathered} 54 \\ (1372) \end{gathered}$ | $\begin{gathered} 67 \\ (1702) \end{gathered}$ |

*Pipe O.D. values are provided for reference purposes only, values stated for 12 through 60 -inch are $\pm 1$ inch. Contact a sales representative for exact values
**All diameters available with or without perforations.

Storm drainage
N-12 PLAIN END, N-12 ST IB \& N-12 WT IB per AASHTO

| DIAMETER | LENGTHS | STYLE | N-12 PLAIN END | N-12 ST IB | N-12 WT IB |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} 12 " \\ (300 \mathrm{~mm}) \end{gathered}$ | 13' (4.0m) | solid |  | 12850013IB | 12650013IB |
|  | $\begin{gathered} 20^{\prime} \\ (6.1 \mathrm{~m}) \end{gathered}$ | solid | 12950020 | 12850020IB | 12650020IB |
|  |  | perf | 12910020 | 12810020IB |  |
|  |  | sock | 12930020 | 12830020IB |  |
| $\begin{gathered} 15 " \\ (375 \mathrm{~mm}) \end{gathered}$ | 13' (4.0m) | solid |  | 15850013IB | 15650013IB |
|  | $\begin{gathered} 20 ' \\ (6.1 \mathrm{~m}) \end{gathered}$ | solid | 15950020 | 15850020IB | 15650020IB |
|  |  | perf | 15910020 | 15810020IB |  |
|  |  | sock | 15930020 | 15830020IB |  |
| $\begin{gathered} 18 " \\ (450 \mathrm{~mm}) \end{gathered}$ | 13' (4.0m) | solid |  | 18850013IB | 18650013IB |
|  | $\begin{gathered} 20 ' \\ (6.1 \mathrm{~m}) \end{gathered}$ | solid | 18950020 | 18850020IB | 18650020IB |
|  |  | perf | 18910020 | 18810020IB |  |
|  |  | sock | 18930020 | 18830020IB |  |
| $\begin{gathered} 24 " \\ (600 \mathrm{~mm}) \end{gathered}$ | 13' (4.0m) | solid |  | 24850013IB | 24650013IB |
|  | $\begin{gathered} 20 ' \\ (6.1 \mathrm{~m}) \end{gathered}$ | solid | 24950020 | 24850020IB | 24650020IB |
|  |  | perf | 24910020 | 24810020IB |  |
|  |  | sock | 24930020 | 248300201 B |  |
| $\begin{gathered} 30 " \\ \text { (750mm) } \end{gathered}$ | 13' (4.0m) | solid |  | 30850013IB | 30650013IB |
|  | $\begin{gathered} 20 ' \\ (6.1 \mathrm{~m}) \end{gathered}$ | solid | 30950020 | 30850020IB | 30650020IB |
|  |  | perf | 30910020 | 308100201 B |  |
|  |  | sock | 30930020 | 308300201 B |  |
| $\begin{gathered} 36 " \\ \text { (900mm) } \end{gathered}$ | 13' (4.0m) | solid |  | 36850013IB | 36650013IB |
|  | $\begin{gathered} 20 ' \\ (6.1 \mathrm{~m}) \end{gathered}$ | solid | 36950020 | 36850020IB | 36650020IB |
|  |  | perf | 36910020 | 36810020IB |  |
|  |  | sock |  | 36830020IB |  |
| $\begin{gathered} 42 " \\ (1050 \mathrm{~mm}) \end{gathered}$ | 13' (4.0m) | solid |  | 42850013IB | 42650013IB |
|  | $\begin{gathered} 20 ' \\ (6.1 \mathrm{~m}) \end{gathered}$ | solid | 42950020 | 42850020IB | 42650020IB |
|  |  | perf | 42910020 | 42810020IB |  |
|  |  | sock |  | 42830020IB |  |
| $\begin{gathered} 48 " \\ (1200 \mathrm{~mm}) \end{gathered}$ | 13' (4.0m) | solid |  | 48850013IB | 48650013IB |
|  | $\begin{gathered} 20 ' \\ (6.1 \mathrm{~m}) \end{gathered}$ | solid | 48950020 | 48850020IB | 48650020IB |
|  |  | perf | 48910020 | 48810020IB |  |
|  |  | sock |  | 48830020IB |  |
| $\begin{gathered} 54 " * \\ (1350 \mathrm{~mm}) \end{gathered}$ | 12.5' (3.8m) | solid |  | $548500131 B A$ | 54650013IBHA |
|  | $\begin{gathered} \hline 20.5^{\prime} \\ (6.2 \mathrm{~m}) \\ \hline \end{gathered}$ | solid |  | 54850021IBA | 54650021IBHA |
| $\begin{gathered} 60 " \\ (1500 \mathrm{~mm}) \end{gathered}$ | 13' (4.0m) | solid |  | 60850013IB | 60650013IB |
|  | $\begin{gathered} 20 ' \\ (6.1 \mathrm{~m}) \end{gathered}$ | solid | 60950020 | 60850020IB | 60650020IB |
|  |  | perf | 60910020 | 60810020IB |  |
|  |  | sock |  | 60830020IB |  |
|  |  |  | 12"-60" (300-1500mm) N-12 PLAIN END |  |  |

