LAYING CONDITIONS

Type 1
Flat-bottom trench. 1 Loose backfill.

Type 2
Flat-bottom trench. 1 Backfill lightly consolidated to centerline of pipe.

Type 2
Pipe bedded in 4 in. (100 mm) minimum of loose soil. Backfill lightly consolidated to top of pipe.

Type 4
Pipe bedded in sand, gravel, or crushed stone to depth of 1/8 pipe diameter, 4 in. (100 mm) minimum. Backfill compacted to top of pipe. (Approximately 80 percent Standard Proctor, AASHTO T-99.)

Type 5
Pipe bedded in compacted granular material to centerline of pipe. Compacted granular or select material ++ to top of pipe. (Approximately 80 percent Standard Proctor, AASHTO T-99.)

Notes:
Consideration of the pipe-zone embedment conditions included in this figure may be influenced by factors other than pipe strength. For additional information on pipe bedding and backfill, see ANSI/AWWA C600. American Association of State Highway and Transportation Officials, 444 N. Capitol St. N.W., Suite 225, Washington, DC 20001.

STANDARDS APPLICABLE TO DUCTILE IRON PIPE AND FITTINGS

THICKNESS DESIGN OF DUCTILE IRON PIPE
ANSI/AWWA C150/A21.50

DUCTILE IRON PIPE FOR WATER AND OTHER LIQUIDS
ANSI/AWWA C151/A21.51

DUCTILE IRON PIPE FOR GRAVITY FLOW SERVICE
ANSI/ASTM A746

DUCTILE IRON FITTINGS FOR WATER AND OTHER LIQUIDS
3 in. through 36 in.
ANSI/AWWA C110/A21.10

DUCTILE IRON COMPACT FITTINGS
3 in. through 24 in.
ANSI/AWWA C115/A21.15

FLANGED FITTINGS
ANSI/AWWA C110/A21.10
ANSI B16.1

DUCTILE IRON PIPE WITH THREADED FLANGES
ANSI/AWWA C115/A21.15

COATINGS AND LININGS

Asphaltic
ANSI/AWWA C115/A21.51
ANSI/AWWA C110/A21.10
ANSI/AWWA C115/A21.53

Cement Lining
ANSI/AWWA C110/A21.10

Various Epoxy Linings and Coatings
MANUFACTURER’S STANDARD

Exterior Polyethylene Encasement
ANSI/AWWA C105/A21.5

JOINTS – PIPE AND FITTINGS

Push-On and Mechanical Rubber-Gasket Joints
ANSI/AWWA C111/A21.11
FEDERAL WWP421D

Flanged
ANSI/AWWA C115/A21.15
ANSI B16.1

Grooved and Shouldered
ANSI/AWWA C606

PIPE THREADS
ANSI B2.1

INSTALLATION
ANSI/AWWA C600