

## Installation

Installation shall be in accordance with ASTM D2321 "Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications" along with product-specific recommendations contained in Contech Installation Guidelines for DuroMaxx pipe, available from local Contech representatives or from [www.contech-cpi.com](http://www.contech-cpi.com).

## Pipe Dimensions and Cover Limits

Nominal Pipe Size	Minimum Pipe Stiffness (Class 1)	Outside Diameter	Unit Weight**	Minimum Waterway Wall Thickness (t <sub>1</sub> )		Minimum Cover***		Maximum Cover	
				in.	[mm]	ft.	[m]	ft.	[m]
inch	lb/in/in	in. [mm]	lbs./ft	in.	[mm]	ft.	[m]	ft.	[m]
30	28	30.9 [785]	15.5	.082	[2.08]	1	[.305]	50	[15.2]
36	22	37.1 [942]	20.8	.082	[2.08]	1	[.305]	50	[15.2]
42	20	43.2 [1097]	26.5	.082	[2.08]	1	[.305]	50	[15.2]
48	18	49.5 [1257]	29.1	.130	[3.30]	1	[.305]	30	[9.1]
54	16	55.5 [1410]	34.7	.130	[3.30]	1	[.305]	30	[9.1]
60	14	61.4 [1560]	41.6	.130	[3.30]	1	[.305]	30	[9.1]
66	14	67.8 [1722]	56.9	.220	[5.58]	1.5	[.457]	30	[9.1]
72	14	74.1 [1882]	65.6	.220	[5.58]	1.5	[.457]	30	[9.1]
84	14*	85.9 [2182]	76.3	.220	[5.58]	2	[.610]	30	[9.1]
96	10*	98.3 [2497]	87.0	.220	[5.58]	2	[.610]	30	[9.1]
120	5*	121.9 [3097]	109.0	.220	[5.58]	3	[.914]	25	[7.6]

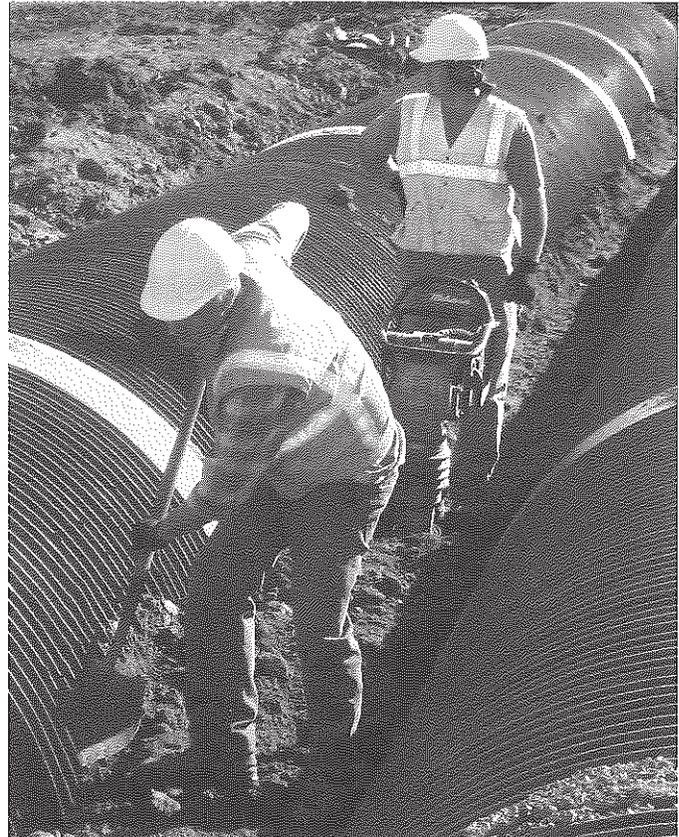
\* 84", 96" and 120" min. pipe stiffness is not currently defined in ASTM Specification F2562 for Class 1 pipe. Contech has developed the required minimum pipe stiffness for these pipe diameters.  
 \*\* Approximate weights. Actual weight will vary with length and joint type.  
 \*\*\* Minimum and maximum cover limits are for H20/H25 loading.

## The Contech Environmental Commitment

Contech Engineering Solutions LLC is an environmentally conscious company committed to shaping the future of green building and design. DuroMaxx is Contech's newest contribution to our ecofriendly portfolio of civil engineering solutions. Starting with the manufacturing process, DuroMaxx consumes less than 35% of natural resources to produce AASHTO M294 HDPE pipe. The green design continues with DuroMaxx's steel reinforced ribs which are made of recycled steel in content levels ranging from 55-80%. Plus, when utilized appropriately, it can contribute to a variety of the U.S. Green Building Council's LEED credits in the categories for sustainable sites, water efficiency and landscaping, and materials and resources.



5. Select fill should be placed and compacted to the minimum thickness referenced in the applicable installation detail before transitioning to native or non-select fill material over the pipe or to pavement.
6. Fill above the select fill should be fully compacted.
7. As backfill is placed around the pipe, care should be taken to avoid damage to the pipe.
8. Backfill height differential from one side of pipe to the other shall not exceed 12". Only "hand compaction" equipment is allowed over and around the pipe until minimum construction heights are achieved.

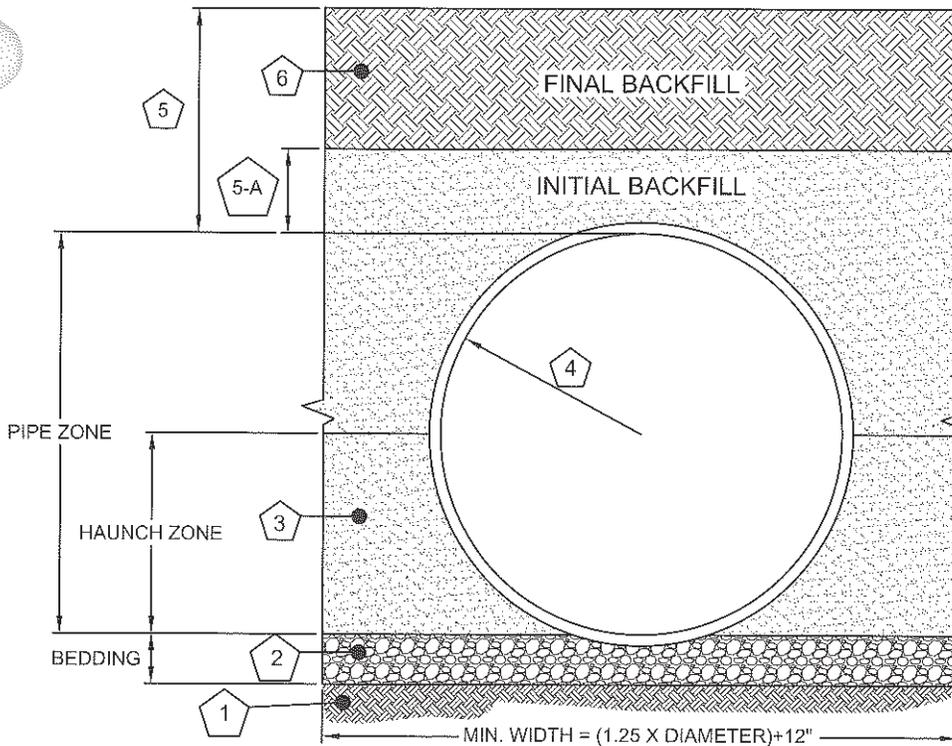


### Acceptable Backfill Materials and Compaction Requirements

Description	Soil Classifications				Minimum Standard Proctor Density %
	ASTM D2321	ASTM D2487	AASHTO M43	AASHTO M145	
Graded or crushed, crushed stone, gravel	Class I	-	5 56	A-1-a	85%
Well-graded sand, gravels and gravel/sand mixtures; poorly graded sand, gravels and gravel/sand mixtures; little or no fines	Class II	GW GP SW SP	57 6	A-1-b A-3	85%
Silty or clayey gravels, gravel/sand/silt or gravel and clay mixtures; silty or clayey sands, sand/clay or sand/silt mixtures	Class III	GM GC SM SC	Gravel and sand (<10% fines)	A-2-4 A-2-5	90%

Use of cementitious or flowable backfills is compatible with DuroMaxx. Proper precautions should be taken to preclude flotation of the pipe. Contact your Contech representative for further guidance.

# Standard Backfill Detail - Specification & Standard Drawing



## TYPICAL INSTALLATION

H20/H25  
LIVE LOAD

DIAMETER	MAX COVER	75% MAX COVER
24"-42"	50'-0"	37'-6"
48"-96"	30'-0"	22'-6"
120"	25'-0"	18'-9"

- 1.) FOUNDATION TO BE WELL CONSOLIDATED & STABLE.
- 2.) BEDDING MATERIAL SHALL BE A RELATIVELY LOOSE COMPACTED BEDDING MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, 4" TO 6" IN DEPTH.
- 3.) INITIAL BACKFILL & HAUNCHING ZONE MATERIAL TO MEET ASTM D2321 CLASS I, II, III OR APPROVED EQUAL, COMPACTED TO 90% STANDARD DENSITY (A NATIVE MATERIAL CAN BE UTILIZED THAT MEETS ASTM D2321 OR APPROVED EQUAL SPECIFICATION).
  - FOR COVER HEIGHTS THAT ARE AT 75% OF MAXIMUM OR EXCEED COVER LIMITS INITIAL BACKFILL MATERIAL TO BE CLASS I OR II AS PER ASTM 2321.
  - 120" TO USE CLASS 1 ONLY
  - ALL LIFTS TO BE DONE IN CONTROLLED MANNER, TO PREVENT UNEVEN LOADING LIFTS SHOULD NOT EXCEED 6" TO 8" LIFT HEIGHTS.
- 4.) DUROMAXX STEEL REINFORCED (SRPE) PIPE.
- 5.) MINIMUM HEIGHT OF COVERS PER DIAMETER (DISTANCE AS MEASURED FROM TOP-OF-PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT):
  - 12" MINIMUM FOR PIPE DIAMETERS 24" - 66"
  - 18" MINIMUM FOR PIPE DIAMETER 72"
  - 24" MINIMUM FOR PIPE DIAMETERS 84" - 96"
  - 36" MINIMUM FOR PIPE DIAMETERS 102" - 120"
- 5-A) FOR INSTALLATION COVERS THAT EXCEED MINIMUM HEIGHTS OF COVER:
  - 6" MINIMUM FOR PIPE DIAMETERS 24" - 60"
  - 12" MINIMUM FOR PIPE DIAMETERS 66" - 96"
  - 18" MINIMUM FOR PIPE DIAMETERS 102" - 120"
- 6.) FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS PER THE PROJECT PLANS, SPECIFICATIONS, AND ENGINEER-OF-RECORD. MAY INCLUDE APPROVED NATIVE.

### NOTE:

- 1.) OTHER STRUCTURAL BACKFILL INCLUDING NATIVE MATERIALS MAY BE USED AS DIRECTED BY THE PROJECT ENGINEER. BACKFILL MATERIALS ARE DEFINED UNDER ASTM D2321. GEOTEXTILE SHOULD BE USED AS REQUIRED TO PREVENT SOIL MIGRATION.
- 2.) STANDARD SPACING BETWEEN PARALLEL PIPE RUNS TO BE = PIPE DIA./2. SPACING BELOW THE AFOREMENTIONED FORMULA FOR PIPE DIAMETERS IS ALLOWED BASED ON PROJECT REQUIREMENTS AND APPROVAL/DESIGN BY CONTECH CONSTRUCTION PRODUCTS INC.