Installation

Guidelines for Installing Underground Duct

1. Trenches must be pitched to prevent the buildup of water around the ductwork.
2. Appropriate girth angle structural reinforcement must be installed on the duct work. Such reinforcement should be designed by a structural engineer based on local condition.*
3. Ductwork encased in concrete must be tied down to avoid movement during pouring.
4. Fill or concrete must not be poured directly onto the ductwork. It should be poured in successive layers and tamped firmly around the ductwork. Direct pouring may cause denting or collapse.
5. Vapor barriers must always be used between the ductwork and the fill or concrete.
6. Ductwork must always be buried above the water table.

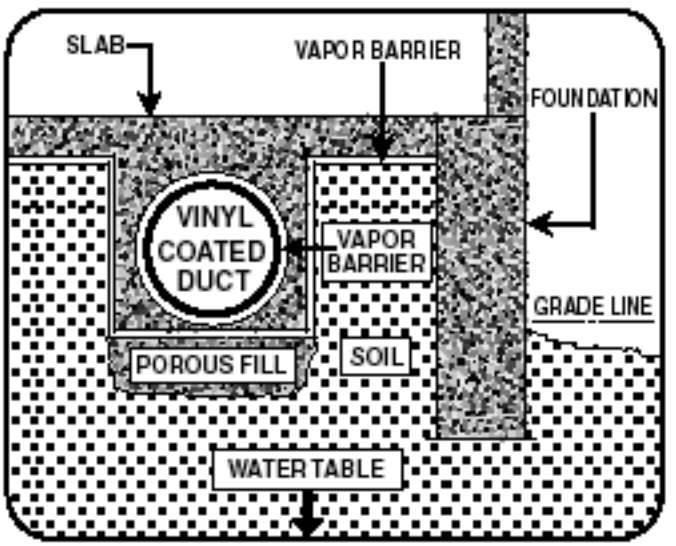
Assumptions

Soil Modulus = 200 psi
Soil Density = 120 lb/ft^3
Soil Depth = 5 ft

Diameter (inches)	Maximum Loading (lb/linear ft)
8 or less*	400
9-13½*	600
14-36**	1,800
*uncorrugated	
**corrugated	

Loading specifications for duct larger than 36 inches diameter have not been determined. Although duct as large as 60 inches in diameter has been used successfully in underground system, it should be installed only by contractors experienced in this application. For any diameter duct, metal thickness can be increased to a maximum of 18 guage. Angle rings or other bracing can be added for additional reinforcement should be primed and coated with paint.

Under-Slab, Above Grade



The duct, either encased in concrete or buried directly below a concrete slab, is installed above the original line of undisturbed soil and above the water table. Encasing the duct in concrete with a porous fill beneath it is the best way to install Marstan Vinyl Coated duct. An appropriate vapor barrier (e.g., 4 mill polyethylene) must be placed between the duct and the concrete. If the duct is too large for concrete encasement, it should be buried in a porous fill, and a vapor barrier must be placed between the fill and the duct wall. A 2 1/2 inch minimum thickness concrete slab should be placed over the duct with the top of the duct near the bottom of the slab. A vapor barrier must also be placed between the slab and the fill.

*Please check your local building codes for installation.