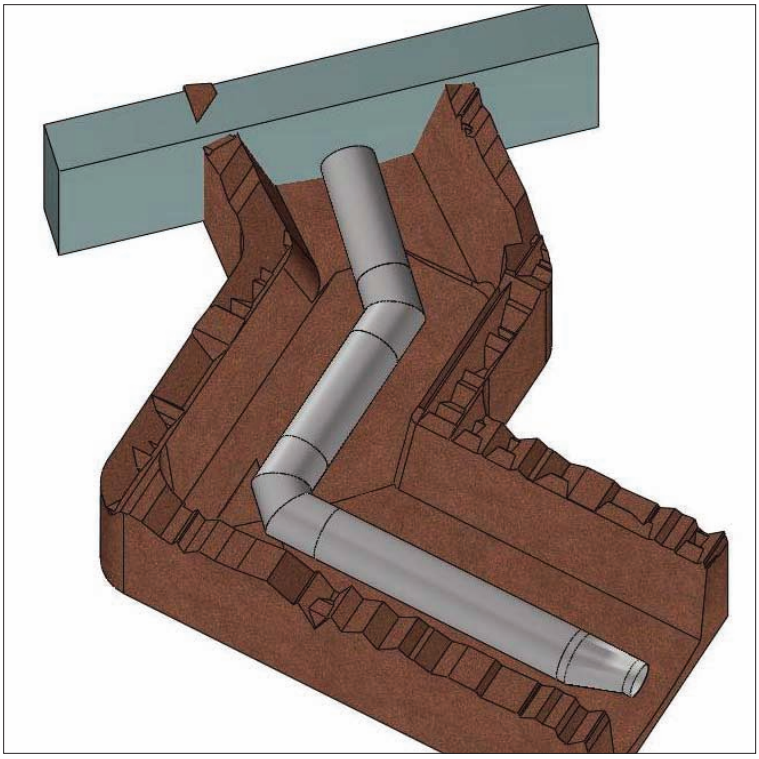
UnderDuct by Monoxivent®

UNDERSLAB FRP DUCT

Overview:

UnderDuct by Monoxivent provides the most versatile and cost effective Underground FRP (Fiberglass Reinforced Product) Duct on the market today! UnderDuct provides a wide range of solutions for the most demanding environments to standard layouts.

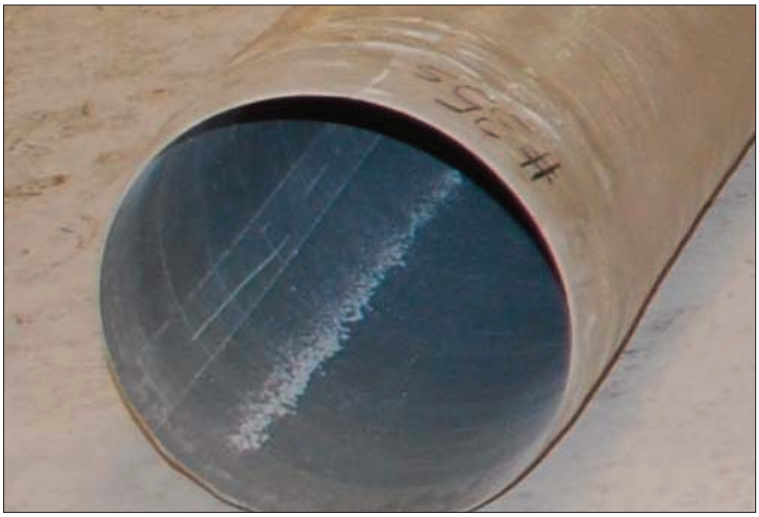
Monoxivent's manufacturing source has over 40 years of experience and is a leader in the Under-Slab Fiberglass Duct production. Monoxivent has a nationwide network of sales representatives and a top-tier inside support crew, which provides engineering, design, sales, service, and marketing. UnderDuct is offered both as single wall and pre-insulated double wall duct to meet any ventilation needs. Monoxivent 824 Low Smoke Class 1 duct has been approved for direct burial.



Markets:

Supply, return and exhaust systems include, but are not limited to:

- Auditoriums
- Auto Exhaust
- Banks
- Botanical Gardens
- Churches
- High Rise Offices
- Hospitals
- Libraries
- Parking Garages
- Residences
- Restaurants
- Schools
- Super Markets
- Swimming Pools
- Zoos



Durability:

Monoxivent UnderDuct provides excellent resistance to corrosion and leakage. The corrosion resistance qualities are maintained throughout both the inside diameter (ID) and outside diameter (OD) allowing for a wide range of applications.

Ease of Use:

Monoxivent UnderDuct can be directly placed onto a pea gravel bed in a graded trench, then backfilled with pea gravel eliminating concrete encasement. Simple joining methods provide for easy and quick installation, and the FRP duct is impervious to minerals or salts present in soil.

Efficiency:

Monoxivent UnderDuct systems can be sealed to achieve a water and air tight system. A leak free system and smooth interior surface will ensure the air reaches its destination efficiently and without contamination.

Material Integrity:

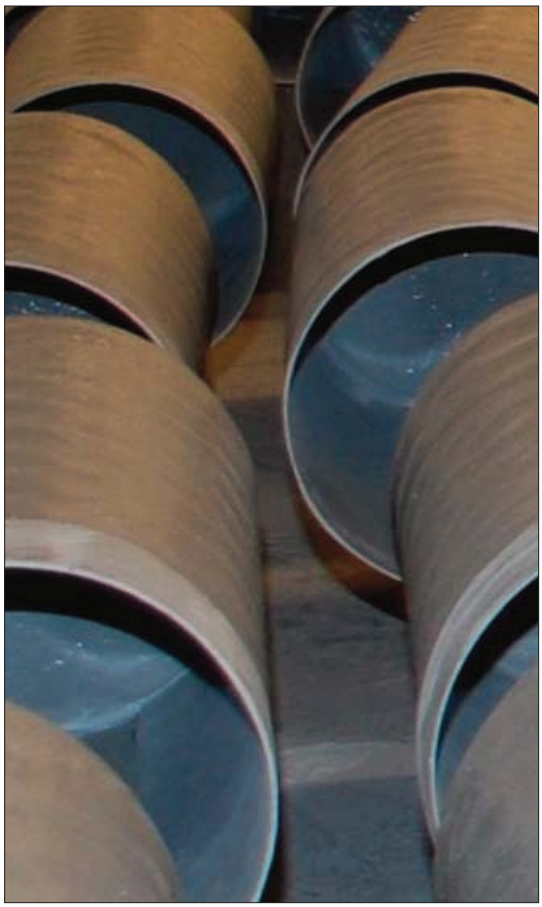
Monoxivent UnderDuct is filament wound with two chemically inert materials – glass and resin. The finished product can be relied upon for longer underground service life than galvanized sheet metal, stainless steel, or PVC coated sheet metal. The filament winding provides greater hoop strength resulting in a stronger duct versus other methods of construction such as hand lay-up. The finished product is lighter than steel while offering superior acoustical qualities and corrosion resistance.

Testing:

Monoxivent UnderDuct products have met the Flame and Smoke requirements of a Class 1 duct per Underwriter's Laboratories (UL) 181 and Uniform Mechanical Code (UMC) 10-1. We are verified by an ASTM E-84 testing laboratory recognized by the following building code organizations under the Council of American Building Officials: ICBO; BOCA; SBCCI.

Versatility:

Monoxivent Underduct is available as straight lengths, standard and custom fittings, or in shop fabricated sections. Single wall duct can be shipped in prefabricated assemblies. Pre-insulated double wall duct has many advantages, including assured uniformity of insulation, permanent protection of insulation, and all in one installation.

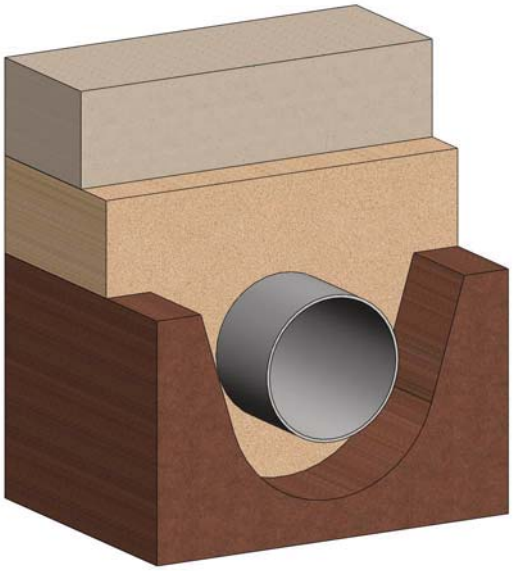


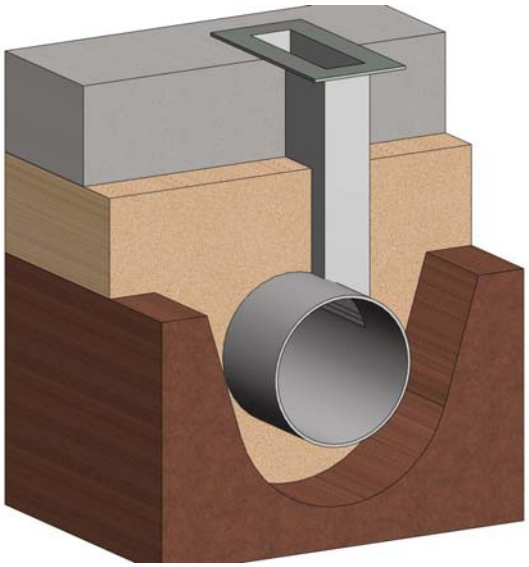
▶ Typical Installation:

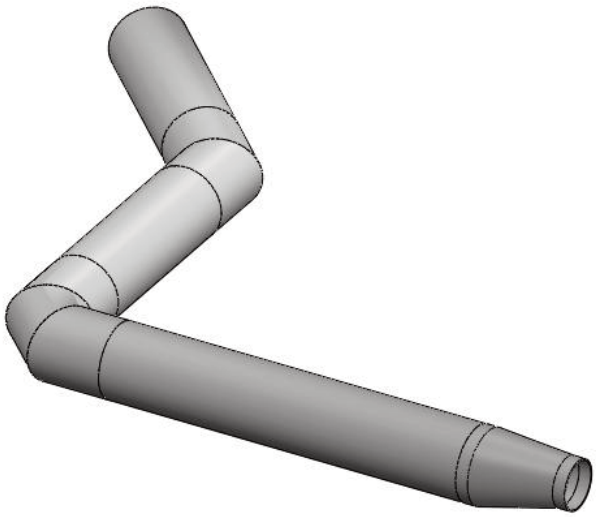
Underslab installation is typically laid on a 4" bed of pea gravel in a graded trench with good drainage. While the sheet metal register boots are in place and sealed, they will be covered with sand or pea gravel, and the floor slab may be poured with no delay. Register Boots and Transtitions may also be specified with FRP construction.

Duct can be manufactured with a resin rich veil on the OD in installations where water infiltration is a threat. In this case, the field joints would be made using the wet lay-up method as described in the installation instructions.

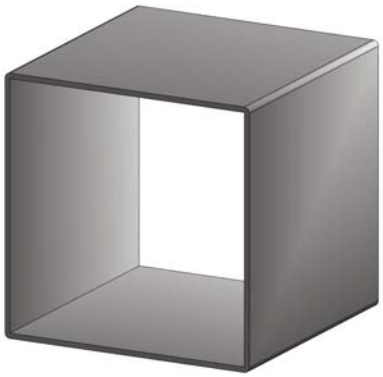
NOTE: Leak test the system before backfilling.







▶ Configuration Options:



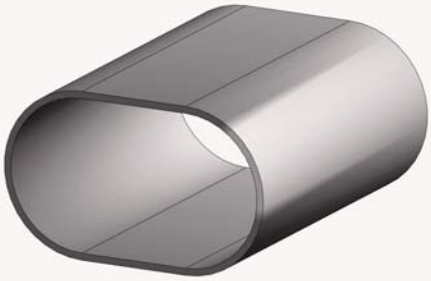
SHAPE
Round, rectangular, and oval are the typical filament wound construction shapes. Upon requests, shapes such as triangular and others are available. Qualified Monoxivent staff is available for designing projects requiring non-standard construction.

DIAMETER
Duct diameters are available from 2”-144”, and rectangular sizes as required for your projects. Monoxivent’s 824-API pre-insulated double wall duct is also available in the above ranges.

WALL THICKNESS
Duct wall thickness ranges from 1/8” to 1” (increasing in increments of 1/16”). Wall thicknesses are available for abnormal burial depths or other special loading requirements. Standard ductwork is furnished with the following minimum wall thickness as set forth in ASTM D 3982,PS 15-69 and SMACNA Fiberglass standard:

Diameter	Wall Thickness
2” to 20”	.125inches
21” to 36”	.187inches
37” to 60”	.250inches

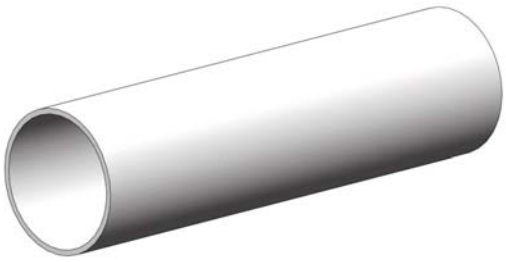
LENGTHS
Standard length is 10’-0”. Lengths up to 40’ are available.



FITTINGS
Standard fittings included:
Elbows, Tees, Laterals, Y’s, Reducers, Dampers, Registers, Boxes, Square-to-Rounds, Crosses, Flanges

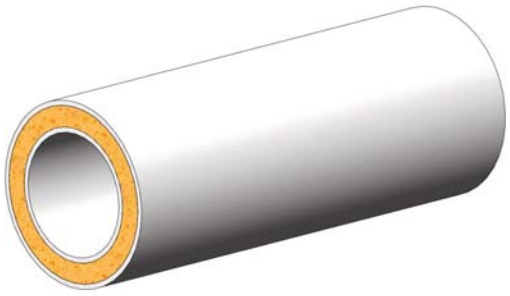
COLORS
A wide range of colors are available for overhead exposed applications. Please refer to the supplemental color chart for complete details.

Single Wall
Any configuratuion available.



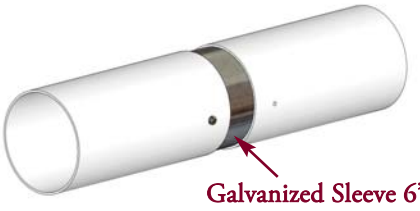
Our Class 1 rated single wall duct, meets 25/50 flame/smoke requirements of UL 181. Monoxivent UnderDuct 824 Low Smoke has been accepted for HVAC and occupied Industrial areas. Excellent choice for Corrosive environments where flame and smoke development are a concern, such as laboratories and swimming pools.

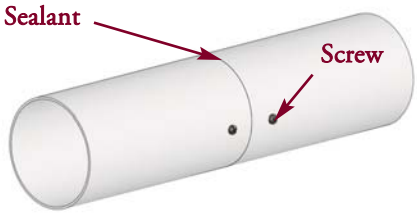
Double Wall Fittings & Duct
Any configuratuion available.

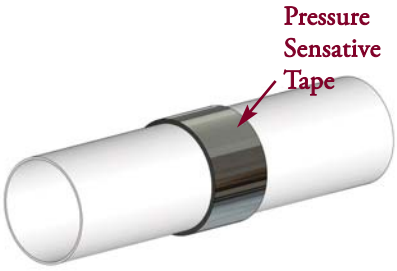


Double wall Monoxivent UnderDuct will eliminate any thermal losses and save time and money compared to insulating on site. When supplied with the standard 1” insulation, the duct has a k factor of 0.14 and an R value of 7. Also available in R-5, R-10, R-14 by request.

Mechanical Joint







Wet Joint

▶ Installation & Joining:

Generally, for underslab installation, the duct will be installed in a graded trench with good drainage and on a 4” bed of pea gravel, with sand or pea gravel used as a backfill. The duct will be joined by an internal galvanized sheet metal sleeve held in place by sheet metal screws and then sealed with a UL listed duct sealer. A wrap of Monoxivent 6” wide polyethylene-backed pressure sensitive tape shall be placed over the joint, as well as the screw heads.

When installation is to be made where water infiltration is a threat, the duct will be manufactured with a resin rich veil on the OD. The field joints will be made using the wet lay-up method.

Manufacturer’s installation instructions are to be followed. See separate sheets for wet lay-up method instructions. The system is to be leak tested prior to backfilling.

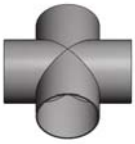
Fittings


Elbow, 90°


Elbow, 45°


Concentric Reducer


90° Tee


Cross


Eccentric Reducer


Lateral


Square to Round


Y Piece