Orders Call: 1-800-688-5776

Soil Gas Collector™ - Installation Instructions

Where is SGC™ most widely applied? SGC™ is the most efficient and cost effective methods for creating sufficient permeability beneath concrete floors to allow for the capture and exhaust of naturally occurring radon gas.

SGC™ ease of installation:

- Time to install is minimized, reducing labor costs.
- Ease of installation reduces heavy machinery costs.
- SGC™, is laid on top of the soil sub-grade prior to concrete pouring, making it the last item to be installed; no other trades can disturb or hinder installation.

Reduce material costs:

- Additional Aggregate is not necessary.
- Additional plastic barrier in not needed and in most cases not desired.

SGC™ Passive system:

- In most cases the SGC™ will function as a passive system when the pipe stack is run through the interior of the structure and vented out the roof. Proper caulking and sealing of the slab area is also necessary.

Placing the Mat

1. Lay out the Soil Gas Collector (SGC) on the sub grade after the final preparation and before the concrete is poured. It is typically laid out in a rectangular loop in the largest area with branches or legs into the smaller areas.

2. Position the "T-Riser" in appropriate location and nail down with a 12-inch spike through hole in center.

3. Slide the SGC into openings in "T-Riser" with a portion of the fabric around the outside. Tape the fabric to the outside of the "T-Riser" with duct tape and staple the SGC to the ground with a landscaping staple near the "T-Riser"

4. Roll out the SGC, smooth it onto the ground. To avoid wrinkles and buckling, work away from the "'T-Riser", stapling it to the ground as you go. The SGC should be stapled to the ground every three to four feet, in addition to the corners, "tee's" and ends.

5. Corners are constructed by peeling back the filter fabric, cutting the two ends of the SGC matrix at 45° angles and butting (or overlap no more than 1\2 inch) the matrix together. Pull the filter fabric back and tape into place. Staple across the joint of the matrix and each leg of the corner. Use a minimum of four staples at each corner - two across the joint and one on each leg.

6. The "tees" for branches or legs are constructed by slitting the fabric of the main loop at the location desired. Cut the fabric of branch at the edges and expose 2 inches of the matrix. Cut off the exposed matrix and butt the matrix of the branch (or overlap no more than 1\2 inch) to the matrix of the main loop. Pull the filter fabric of the branch back over the main loop and tape into place. Staple across the joint of the matrix with two staples and one each on the branch and the main loop. Use a minimum of four staples at each "tee"- two across the joint and one on each on the loop and branch

7. All openings in the fabric at joints, "tee's and ends of the branches should be taped to

keep out the concrete.

8. When the building is ready for the soil gas vent pipe to be installed, the top of the "T-Riser" is cut off and a four-inch pipe is inserted, caulked with polyurethane and secured with screws. The vent pipe should be labeled to avoid confusion with the plumbing pipes.

Note: The openings in the riser are laid out at 180° to accommodate straight runs of the SGC only. If the riser is to be located in a corner, which is Not uncommon, the front of the "tee" can be cut off and the SGC inserted into the new opening. The side of the "tee" which will not be used should be sealed with duct tape. This creates a "90° tee" which will allow the riser to be placed in a corner with either end of the SGC loop running into the "tee" at a 90° angle.

Pouring Concrete:

The filter fabric that comes sewn around the soil gas collector prevents the wet concrete from entering the mat and reducing its air collection capacity. The only precaution that needs to be taken is that the fabric is duct tape closed at seams of splices and corners sufficiently to keep the uncured concrete from entering.

The mat also needs to be secured to the soil with landscape staples to prevent the concrete from lifting it off the soil while it is being applied. Reinforcing bars and wire can be laid right on top of the mat.

Note that the mat is strong enough to withstand concrete workers and their wheelbarrows as they cross over it during the course of installing the slab.

Riser has special hole and spike for securing it in place.

Making Corners and Splices

The mat should be routed around the inside perimeter of the foundation. This will require an occasional corner. Furthermore, splices will have to be made to join two lengths of mat together. Corners and splices are very easy to make, and do not require any special fittings. Cut back the filter fabric to expose the core material. In the case of a splice merely overlap the core by at least one corrugation replace the cloth and tape it. Use two landscape staples to hold the splice in place. In the case of a corner slice the core of two adjoining legs of the mat at 45-degree angles, overlap the edges by one corrugation, tape the cloth and landscape staple together. The corner is illustrated below:

Cut back the cloth. Cut the core at a 45 degree angle. Overlap corrugations

Replace filter cloth. Duct tape edges to keep out concrete. Staple in place.

Connecting The Mat To The Riser

A convenient riser with a dual entry allows for either end of the loop of mat to be secured to the soil gas vent riser.

Slide the mat into either end of the riser and tape the edge to prevent wet concrete from entering.

The riser comes with a molded cap to keep out concrete Later this cap can be cut off and the 4" Sch. 40 PVC riser can be inserted, screwed and caulked into place

Risers are often placed in corners for convenience of later pipe routing. The plastic riser "tee" can be cut to allow for such situations.

Mat Specifications:

PROPERTIES	METHOD	VALUE
Soil Gas Collector Core		
Core material	Plastic	Polystyrene
Compressive strength	ASTM D-l62l (Modified)	4300 PSF

Geometry	Cuspated	Waffle like
Core configuration	Standard	Double sided
Core width	Standard	3/4 inch
Core depth	Standard	5/8 inch
Soil Gas Collector Fabric		
Weight	ASTM D-1910	4
Tensile strength	ASTM D-1682-64	145
Elongation at break (96)	ASTM D-1682-64	115
Mullen burst strength (PSD	ASTM D-75 1	170
Puncture strength	ASTM D-75 1	5
A.O.S.(Equivalent sieve)	COE CW-02215	70/100
Modulas at 10% elongation (Lbs)	ASTM D-1682-64	785
Trap tears (Lbs)	ASTM D-2263	75
Coefficient of permeability (Cm/sec)	ASTM D-737	0.03
Permittivity (Sec-1)	ASTM D4491-85	.8
Accelerated weathering strength (Fed)	STD #191-5804	80
Soil Gas Collector Binding Method		
External binder	Standard	Sewn
Type stitching	Standard	Lock stitch
Type thread	Standard	HB92 nylon
Tensile strength	Standard	11 Lbs
Thread gage	Standard	2 lOx4denier
Chemically impervious	Standard	Ml natural

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Soil Gas Collector ™ For Radon Control Systems For Technical Information and Orders Call (719) 444-0646 Fax (719) 442-2384