



SECTION 04 23 10

GLASS BLOCK SOLAR WALL TUBE

PART 1 – GENERAL

This specification has been prepared by SEVES Glass Block, Inc (SEVES) using generally accepted and appropriate technical information but is not intended to be solely relied upon for the specification design or technical applications. Having no control over the elements of design, installation, workmanship or site conditions, SEVES assumes that persons trained and qualified in the appropriate disciplines will make the actual design choices and installation. Therefore, SEVES disclaims all liability potentially arising from the use or misuse of this specification.

1.1 SECTION INCLUDES

- A. Solar Wall Tube for Glass Unit Masonry.

1.2 RELATED SECTIONS

- A. Section 01 81 13 – Sustainable Design Requirements.
- B. Section 04 23 00 – Glass Unit Masonry
- C. Section 07 62 00 – Sheet Metal Flashing and Trim

1.3 REFERENCES

- A. ASTM A167, Spec. for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip

1.4 SYSTEM DESCRIPTION

- A. Knowledge of the following basic information is essential for proper installation of SEVES Solar Wall Tube.
 - B. Solar wall tube fabricated of a 2-piece stainless steel thermally broken wrapped with a reinforced high-density sheet.
 - B. The specification for the SEVES Solar Wall Tube are based on a typical running bond concrete masonry (CMU) wall installation.

1.5 SUBMITTALS

- A. Product Data: Submit two (2) copies of manufacturer's literature and two (2) copies of manufacturer's installation instructions.

1.6 STORAGE AND PROTECTION

- A. Store unopened cartons of solar wall tubes in a clean, cool, dry area.
- B. Protect opened cartons of Solar Wall Tubes against windblown rain or water run-off with tarpaulins or plastic covering.

1.7 WARRANTY

- A. SEVES offers a limited 5-year warranty on SEVES Glass Block Solar Wall Tubes.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. The drawings and specifications are based on catalog data, specifications, and products of SEVES and designate the type and quality of work intended under this section.
 - 1. Products of other manufactures proposed as equivalent quality must be submitted through the bidding contractors for written approval of the architect ten days prior to the bid date.
 - 2. Supporting technical data, samples, published specifications and the like must be submitted for comparison.
 - 3. Contractor shall warrant that proposed substitutions, if accepted, will provide performance equivalent to the materials specified herein.
 - 4. These specifications have been developed by SEVES based on extensive tests as manufactured by SEVES. These specifications do not apply to solar wall tubes produced by any other manufacturer.

2.2 GLASS BLOCK SOLAR WALL TUBE

- A. Solar wall tube constructed of 2-piece stainless steel with plastic thermal break between stainless steel tubes. Stainless thickness is 11 to 16 gauge. Inside solar tube is polished mirror finish. For a less reflective finish #4 or #2B can be substituted.
- B. Solar wall tube is available in 8-inch and 16-inch modules to accommodate wall thickness.
- C. The stainless steel tube is wrapped with a 40-mil thick self-sealing, ice and water shield.
- D. Glass block is wrapped with a polyethylene expansion material to isolate glass from stainless tube.
- E. Performance Requirements
 - 1. 8" X 16" Solar wall tube with double hollow glass block: U-Value 0.21 R-Value 4.76
 - 2. 8" X 16" Solar wall tube with double solid glass block: U-Value 0.26 R-Value 3.85
 - 3. 8" X 8" Solar wall tube with single hollow glass block: U-Value 0.27 R-Value 3.70
 - 4. 8" X 8" Solar wall tube with single solid glass block: U-Value 0.33 R-Value 3.03

PART 3 – EXECUTION

3.1 PREPARATION

- A. Verify that masonry opening is clean of mortar and sharp masonry edges. Apply sealant on perimeter of solar wall tube.
- B. Protect solar tube and glass block during masonry wall installation. Clean mortar from glass block immediately.

3.2 INSTALLATION

- A. Spacing of solar wall tubes within a running bond CMU will range from 24" to 48" horizontally and 16" to 32" vertically.
- B. Installation of solar wall tubes in a stacked bond CMU wall will require a lintel or bond beam.
- C. Design and install single (8" x 8") and double (8" x 16") solar wall tubes within the existing coursing of the CMU wall without saw cutting across CMUs or mortar joints.
- D. Block off or leave open the designated locations within the CMU wall for the Solar Wall Tubes.
- E. As subsequent coursing are added to the multi-wythe wall, maintain the designated openings throughout the wall depth in a level and square and/or rectangular configuration.
- F. As the typical final brick veneer coursing is layed, align the top of the brick veneer with the bottom openings within the CMU walls to ensure the level placement of the Solar Wall Tubes.
- G. Solar wall tube vented slot to be installed and aligned within the air space cavity in the masonry wall.
- H. All glass block panels shall be cleaned of mortar and sealant during construction.

3.3 CLEANING

- A. Remove surplus mortar from the faces of the glass block at the time joints are struck or tooled. Mortar should be removed while it is still plastic using a clean, wet sponge or an ordinary household scrub brush with stiff bristles.
- B. Do not use harsh cleaners, acids (of any strength), abrasives, or alkaline materials while cleaning glass block. Never use a wire brush to remove mortar from glass block surfaces.
- C. Final mortar removal is accomplished with a clean, wet sponge or cloth. Rinse sponge or cloth frequently in clean water to remove abrasive particles that could scratch glass surfaces. Allow any remaining film on the block to dry to a powder.
- D. After all sealants, caulking, etc., have been applied, remove excess caulking materials with commercial solvents such as xylene, toluene, mineral spirits or naphtha and follow with normal wash and rinse. Be careful not to damage caulking by overgenerous application of strong solvents. Comply with solvent manufacturers' printed directions on label for toxicity and flammability warnings.

END OF SECTION