

7 THERMAL AND MOISTURE PROTECTION - V07000

7.1 GENERAL

7.1.1 Description

This standard identifies minimum requirements that shall be met for all thermal and moisture protection in the design and construction of Building Element for Arlington County Building Design Standards.

7.1.2 Related Arlington County Standards, Specification and Policies

including, but not limited to, those listed in Table 7.1.2

Table 7.1.2 Related Arlington County Standards, Specification and Policies
Arlington County Policy for Integrated Facility Sustainability - August 19, 2008 ("Green Building" Policy)

7.1.3 Applicable Standards and Specifications

including, but not limited to, those listed in Table 7.1.3

Table 7.1.3 Applicable Standards and Specifications
American Society for Testing and Materials (ASTM)
Cool Roof Rating Council (CRRC)
ICC International Building Code/2012
National Roofing Contractors Association (NRCA)
Occupational Safety and Health Administration (OSHA)
US Green Building Council’s Leadership in Energy and Environmental Design (LEED) green building rating system

7.1.4 Quality Assurance

7.1.4.1 Reserved

7.1.5 Submittals

The Registered Design Professional shall identify, in the specification sections, manufacturer’s products, descriptions, performance criteria, materials, components, fabrication, source quality control, finish, and accessory materials pertaining to all thermal and moisture protection work and construction.

7.2 DESIGN

7.2.1 Design Guidelines

- 7.2.1.1 A metal coping system is preferred over a stone or precast coping system. The County must specifically approve use of a stone or precast coping as architecturally required.
- 7.2.1.2 Gypsum board for exterior soffits is Not Acceptable.
- 7.2.1.3 Exterior Insulation and Finish Systems (EIFS) is Not Acceptable.

7.2.2 Vent Flashing

Vent Flashing shall be used at pipe/conduit column penetrations. All pitch pockets shall be fabricated from stainless steel or copper, be half-filled with non-shrink grout and a pourable sealer, and shall comply with NRCA recommendations.

7.2.3 Roof Design

- 7.2.3.1 Roof drain design shall be coordinated with roof ballast Specification to ensure that ballast does not clog the drains. Roof drains shall be properly sized with adequate size piping for the roof area being serviced. Screens shall be provided at all roof drains.
- 7.2.3.2 Provide a fixed *Roof Hatch Railing System* with a permanent means of fall protection for roof hatch openings and attach directly to the roof hatch cap flashing. Hatch rail system shall comply with the requirements of OSHA and Arlington County safety requirements. Provide standard self-closing and latching gate feature and hardware to ensure that the opening is protected at all times. Rails shall have High visibility safety color and UV and corrosion resistant construction with a twenty-five year warranty. Rails shall be round pultruded reinforced fire retardant yellow fiberglass treated with a UV inhibitor.
- 7.2.3.3 All roofs shall be designed with a fall protection/tie back system as stated by **OSHA**.

7.2.4 Green Roofs

- 7.2.4.1 The design of Green Roofs shall be done in coordination between the Registered Design Professional and a Certified Landscape Architect.
- 7.2.4.2 *Landscape Industry Certified Technician – Exterior (CLT-E)* shall preform the installation of the *Green Roof*.
- 7.2.4.3 Green Roofs shall have a sloped greater than 2% and less than 10%.
- 7.2.4.4 For Green Roofs, the following upstand and perimeter heights ^a shall be in compliance with Table 7.2.4.4

Table 7.2.4.4
Upstand and perimeter heights for Green Roofs
Upstand height for adjacent building parts and penetrations: minimum of 8 in.
Upstand height for roof edges: minimum of 8 in.

Note ^a Upstand height is measured from the upper surface of the Green Roof system build up or gravel strip.

- 7.2.4.5 Upstands, perimeters, joints and roof edges shall be protected against root penetration.
- 7.2.4.6 The Registered Design Professional shall identify, in the specification sections root resistant waterproofing as determined from the "Procedure for investigating resistance to root penetration at green-roof sites" by the FLL (The Landscaping and Landscape Development Research Society).
- 7.2.4.7 Roof penetrations (e.g. water connections, building parts for the usage of the roof area, etc.), when possible, should be grouped in order to keep roof penetration to a minimum.
- 7.2.4.8 Refer to Section 15.3.2 *Plumbing Equipment*, Table 15.3.2, page 15-68 for requirements of Hose Bibb.

7.3 PRODUCTS

7.3.1 Design Guidelines

- 7.3.1.1 All roof warranties shall include a no dollar limit clause. The County shall determine the length of warranty on the basis of the roof type.
- 7.3.1.2 All Metal Roofs shall be EPA Energy Star® labeled
- 7.3.1.3 All flat/low slope roofs shall be both EPA Energy Star® labeled and Cool Roof Rating Council CRRC rated as a Cool Roof.
- 7.3.1.4 Low slope roofs must meet the Solar Reflectance Index (SRI) criteria as outlined by LEED.

7.3.2 Roof Pavers

- 7.3.2.1 White or grey pavers shall be provided on built up roofs to service mechanical equipment. Paver type and installation shall comply with roofing system manufacture requirement. Non-curb mechanical equipment shall be supported by platforms with metal columns and umbrella flashings. Height of column shall be a minimum of 8" above finished roof elevation

7.3.3 Roof Hatch Railing System

Brand Name(s) for Building Element in accordance with Table 7.3.3 The Specification shall identify a minimum of three (3) Brand Names (manufactures) that comply with the Owner’s Project Requirements used for the Invitation to Bid, unless the Brand Name Category listed as No Substitutions.

Table 7.3.3 <i>Brand Name Product(s) for the Roof Hatch Railing System</i>			
Building Element	Brand Name(s)	Brand Name Model	Brand Name - Category
Roof Hatch Railing System	Bilco®	<i>Bil-Guard® Hatch Railing System</i>	Preferred Manufacturer(s)