

# **CHAPTER V**

## **TECHNICAL DESIGN & PERFORMANCE STANDARDS**



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## **DIVISION 7 - THERMAL AND MOISTURE PROTECTION**

### **07110 Membrane Waterproofing**

Applicators: Submit a letter from the manufacturer of waterproofing materials stating that the applicator is approved by the manufacturer for application of the waterproofing system specified. Applicator shall have a minimum of five years experience in satisfactory application of the type(s) of system(s) specified.

Location: Provide membrane waterproofing at the following locations:

- All exterior walls below grade that enclose rooms and spaces.
- Walls of below grade elevator pits.
- Toilet rooms, housekeeping closets and all floors containing floor drains, except where located on slab on grade, (slab on grade dampproofing is standard (6) mil reinforced polyethylene with all punctures/penetrations sealed).
- Floors (including penetrations) of all mechanical rooms above other areas.

Application: Before applying waterproofing, surfaces shall be completely free of dirt and loose materials, concrete fins shall be chipped back, form ties removed and honey-combs, cracks, and other voids filled. Prime surfaces and otherwise prepare as recommended by the material manufacturer. Provide a layer of a suitable membrane protection material. Take care to avoid puncturing the membrane when backfilling against waterproofed foundation wall.

Guarantee: Guarantee membrane waterproofing for two years with the Contractor or waterproofing sub-contractor agreeing to repair or replace work which leaks or otherwise fails to perform as required due to failures of materials or workmanship. This shall include the removal and replacement of any work which conceals the membrane work.

### **07500 Roofing Waterproofing**

In new construction, "dead level" roofs are totally unacceptable. Steeply sloped roofs (more than 3 in 12) are preferred, utilizing systems other than built-up roofs.

Traditional built-up roofing systems are the least desirable of roof systems. If a built-up system is used, design and construction shall be in accordance with the "Roofing Design Criteria - 1988" from the Division of State Construction. Roofing operations shall comply with North Carolina OSHA regulations and NFPA I, Section 3-6.3 "Roofing Kettles".

Single ply roofing systems are preferred to built-up systems. Single ply roofing systems shall include a ten year warranty from the roofing manufacturer plus a ten year workmanship warranty.

Any roofing area which ponds water will be rejected and shall be replaced at no expense to the University. Prior to final inspection, the Contractor shall conduct a flood test of the roof in the presence of the Designer and the University's authorized representative to verify that drainage requirements have been met.

The Division of State Construction reserves the right to require the inclusion of non-destructive roof surveys in the design contract and in the construction contract for built-up roofs. If this is not required, notify Facilities services approximately one month prior to the final inspection so that Facilities services technicians may perform a moisture survey using a moisture density gauge. If this survey indicates moisture is present, the roofing contractor shall take appropriate actions to correct the deficiencies, or, at the option of the roofing contractor, an independent qualified testing company will be selected by the University to verify the test results. If verified, the cost of the survey and any additional surveys necessary is paid by the roofing contractor. If not verified, the cost of the survey is paid by the University.





THE UNIVERSITY  
*of* NORTH CAROLINA  
*at* CHAPEL HILL

DEPARTMENT OF FACILITIES PLANNING & CONSTRUCTION