DIVISION 07 - THERMAL AND MOISTURE PROTECTION

07 0150.19 – PREPARATION FOR RE-ROOFING

A. Conduct reroofing so day to day operations are not disrupted. Provide Facilities Management with not less than 72 hours' notice of activities that may affect day to day operations.

1. Coordinate work activities daily with Facilities Management. Facilities Management will place protective dust and water-leakage covers over sensitive equipment and furnishings, shut down HVAC and fire-alarm or detection equipment if needed, and evacuate occupants from below work area.

2. Before working over structurally impaired areas of deck, notify Facilities Management to evacuate occupants from below affected area. Verify that occupants below work area have been evacuated before proceeding with work over impaired deck area.

B. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.

C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

07 0510 – REFLECTIVE COATING FOR METAL AND TILE ROOFS

A. Coatings shall comply with Title 24, ENERGY STAR®, and CRRC (Cool Roofing Rating Council), having a reflectivity rating of 0.75, an emissivity rating of 0.86, and a total reflective index of 91.7.

07 1300 – SHEET WATERPROOFING

A. Provide sealant between edges of slab and footings or walls.

B. Install clay barrier sheet system or drainage fabric/membrane barrier system to exterior of basement walls.

C. Provide waterproof membrane below showers and other wet areas.

07 1400 – FLUID APPLIED WATERPROOFING

07 1513 – LEAD WATERPROOFING

07 1613 – POLYMER MODIFIED CEMENT WATERPROOFING

A. To be used when ceramic floor tiles (LHT) are larger than 15” in any direction.

07 1800 – TRAFFIC COATINGS
07 1900 – WATER REPELLENTS
A. All cold rooms shall have a vapor barrier applied to the warm side of the cold room walls, ceiling and floor.
B. A vapor barrier shall be installed between the roof deck and the roofing system only when the expected winter interior relative humidity is 45% or greater at 68°F.

07 2100 – THERMAL INSULATION
A. ASHRAE Standard 90.1-2004 shall be followed.
B. Thickness shall be appropriate for design conditions of wall and installation shall follow instructions of manufacturer.
C. A minimum slope shall be ¼” per foot for re-roofing and also new construction projects.
D. Insulation shall be a rigid board type - of thickness necessary to obtain conditions established by the particular usage, design, and meet energy code requirements.
E. Roof insulation decisions shall be incorporated in the life cycle cost analysis required for new buildings and major additions and meet energy code requirements.

07 2119 – FOAMED-IN-PLACE INSULATION

07 2123 – LOOSE FILL INSULATION
A. Not to be used. Exceptions may be made for historic buildings.

07 2126 – BLOWN INSULATION
A. Maintain the minimum clearance specified by the building code or inspector having jurisdiction between insulation and heat sources such as chimney flues, electric motors, light fixtures, fan motors, or transformers.
B. Blown insulation should not be used in areas where the ambient temperature is above 90°C (194°F) continuously.

07 2129 – SPRAYED INSULATION
A. Use of two part foamed-in-place insulation is allowable at fenestrations.

07 2400 – EXTERIOR INSULATION AND FINISH SYSTEMS
A. Suitable gypsum board substrates for EIFS are gypsum sheathing in compliance with ASTM C 1396 (formally C 79), glass-mat gypsum sheathing in compliance with ASTM C 1177 (Dens-Glass Gold® or BPB GlassRoc)), and gypsum fiber panels in compliance with ASTM C1278 (Fiberock® Brand, Aqua Tough™).

B. Exposed vinyl trim accessories shall not be used to terminate the EIFS at penetrations/terminations such as heads of wall penetrations, and horizontal terminations (expansion/control joints), etc. when installing an EIF system on projects designed as noncombustible or fire resistive construction unless the configuration has passed appropriate fire testing.

07 2500 – WEATHER BARRIERS [grab from CEC, CEC does not contain spec section]

07 3000 - SHINGLE, TILE & SLATE ROOFING [masterspec]

A. On historic buildings, careful consideration and selection shall be given to matching and maintaining the appearance of roofing materials. In some cases, the University may have a stock or know sources of roof materials. Discuss and review with Facilities Management.

07 3113 – ASPHALT SHINGLES

A. By UND Facilities Management approval only.

07 3116 – METAL SHINGLES

07 3126 – SLATE SHINGLES

07 3129 – WOOD SHINGLES AND SHAKES

07 3213 – CLAY ROOF TILES

A. By UND Facilities Management approval only.

07 3216 – CONCRETE ROOF TILES

07 4113 – METAL ROOF PANELS

07 4213 – METAL WALL PANELS

A. By UND Facilities Management approval only.
07.4214  INSULATED METAL WALL PANELS

07 4264  – METAL COMPOSITE MATERIAL WALL PANELS

A.  By UND Facilities Management approval only.

07.4623  WOOD SIDING

07.4633  PLASTIC SIDING

07.4646  FIBER CEMENT SIDING

07.5050  VEGETATED ROOF COMPONENTS

07.5100  BUILT-UP BITUMINOUS ROOFING

07.5200  MODIFIED BITUMINOUS MEMBRANE ROOFING

07.5201  RUBBERIZED ASPHALT ROOFING

07.5216  STYRENE-BUTADIENE-STYRENE MODIFIED BITUMINOUS ROOFING (SBS)

07.5300  ELASTOMERIC MEMBRANE ROOFING

07.5323  – ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING

A.  Preferable roof system is EPDM ballasted with roof insulation below the membrane for new construction. Mechanically attached membrane roofing is not desirable. Investigate and review roofing installation options with Facilities Management during the design process.

B.  When re-roofing existing buildings, ballasted EPDM systems are preferred but careful consideration must be given to the existing structural capacity, construction, and other factors. Review the alternative roofing systems including built-up roofing, with Facilities Management during the design process.

C.  A positive roof slope shall be maintained over the entire roof. Flat areas are not acceptable. A minimum slope of 1/4" per foot is preferred.

D.  A minimum distance of eight inches shall be maintained between the membrane and the top of all counterflushing.
E. Roof drain elevations, roof slope and the elevation of the roof edges shall be shown on the Construction Drawings.

F. Scuppers or overflow drains shall be provided and shown on the Construction Drawings.

G. All newly installed roofs shall have a minimum 20-year manufacturer’s roof system warranty and a minimum 5-year contractor’s warranty covering the roof system.

H. Roof drains shall be located at the point in the roof area where the most deflection can be expected.

I. Roof valley lines shall commence at the corners of the roof section and terminate at the roof drains.

J. Details shall be provided for roof penetrations and flashing conditions.

K. Exposed piping and electrical conduits shall be avoided, but if required, provided without compromising the roofing integrity.

07.5400 — THERMOPLASTIC MEMBRANE ROOFING

07.5423 — THERMOPLASTIC POLYOLEFIN ROOFING (TPO)

07.6100 — SHEET METAL ROOFING

07.6200 – SHEET METAL FLASHING AND TRIM

A. Sheet metal Parapet caps shall provide for expansion every 10-15 feet of run. Cover joints with cap of same material and interlock with parapet cap. Factory applied paint warrantee finish is preferred. Field painted sheet metal must be approved by Facilities Management.

B. Parapet caps, counter-flashings, valley flashings, etc. shall be galvanized steel, stainless steel, aluminum or copper. The tops of all walls exposed to the water shall have through-wall flashing.

C. Drip flashings shall be provided above all windows, doors, soffits and areas exposed to the weather.

07.7100 – ROOF SPECIALTIES

07.7123 – MANUFACTURED GUTTERS AND DOWNSPOUTS

07.7200 – ROOF ACCESSORIES
07 8100 – APPLIED FIREPROOFING

07 8123 – INTUMESCENT MASTIC FIREPROOFING

07 8205 – BOARD AND BLANKET FIREPROOFING

07 8400 – FIRESTOPPING

A. Fire-safing and Fire-stopping shall be included under a separate section on all applicable projects.

B. Fire-resistant sealants shall be specified, and shall be installed by a single qualified Sealant Contractor, not by the individual Trades.

C. Fire-resistant Sealant installation shall be inspected by a qualified Manufacturer’s Representative and is the responsibility of the General Contractor.

D. Product data submittals are required.

E. During construction, special attention shall be given to verification that approved materials are being used with proper installation.

07 9005 - JOINT SEALANTS

A. One part polyurethane shall be considered in most cases when exposed to weather. It has proven to be durable and relatively easy to install.

B. All sealants shall be specified based on the Manufacturer’s recommendations and compatibility to the specific installation.

C. Closed cell backer rods that are 30-50% larger than the joint shall be used where applicable.

D. Specification shall include a minimum 5-year sealant installation warranty to be signed by the Sealant Contractor.

E. Specify low VOC products when available.

F. Sealant shall be used throughout the work, where shown on the drawings, at the following locations, and elsewhere as required to provide a positive barrier against passage of moisture and air:

1. Joints between masonry and concrete.
2. Joints between precast concrete units.
4. Joints around metal frames.
5. Intersection of paving materials and building exterior wall.
7. Intersecting masonry partitions particularly at exterior walls.
8. Parapet coping joints.
10. To seal holes and cracks in copings and other masonry materials at perimeter of roof.
11. Any change of plane in a tiled surface, i.e. all interior corners of restrooms, must be discussed and reviewed with UND Facilities Management.

**07 9513 - EXPANSION JOINT COVER ASSEMBLIES**

A. All pre-manufactured and field fabricated expansion joints and covers shall be clearly identified, detailed and designed to compensate for the anticipated movement.

END OF DIVISION 07