

07300: ROOFING

INTRODUCTION

Ease and efficiency of future re-roofing operations shall be considered when selecting a roofing system.

Minimize the number of roof penetration and equipment pads. Use one larger pad and not several smaller pads to greatest extent possible.

Protect existing adjacent building roof from construction activity. Clearly specify and document access requirements, staging areas, protection of building and surrounding areas, and scaffolding.

REFERENCES

The latest editions of the following documents and publications shall apply to roofing work:

American Society for Testing and Materials (ASTM): Standards as listed.

FM Global (FM): Loss prevention data books and materials approval publications.

ITS ETL Semco: "Building Materials Directory," Warnock Hersey Mark.

National Roofing Contractors Association (NRCA): "Roofing and Waterproofing Manual."

Sheet Metal and Air Conditioning Contractors National Association (SMACNA): "Architectural Sheet Metal Manual."

Underwriters Laboratories Inc. (UL): "Roofing Systems and Materials Directory," "Building Materials Directory," and "Fire Resistance Directory."

GUARANTEES/WARRANTIES

Asphalt Shingles:

Manufacturer's Warranty: Not less than 30 years.

Contractor: 5-year workmanship and installation guaranty against leakage and other workmanship and installation failures. Terms of warranty shall include:

Defects include water leakage from the roof and flashing, curling or cupping of shingles, shingles which have blown off, loosening or dislodgement of metal flashing, and excessive loss of surface granules.

Making emergency, temporary repairs within 24 hours of notification.

Completion of permanent repairs within 30 days.

Wood Shingles:

Manufacturer: Provide standard Cedar Shake and Shingle Bureau 20/25-year material warranty and 30-year warranty for fire retardant pressure treatment.

Contractor: As required for asphalt shingles.

Built-up Bitumen Membrane and Rubber Systems:

Contractor: 5-year workmanship and installation guaranty against leakage and other workmanship and installation failures.

Manufacturer: Minimum 20 year "Membrane System Warranty."

Use of catalytic converter fume eliminator is required on all hot applications.

SINGLE-PLY MEMBRANES

Single-ply membrane systems shall not be used except where specific project requirements necessitate their use or a single ply system is the most appropriate solution.

STEEP ROOF SYSTEMS

Asphalt Shingles:

Utilize only "Premium" quality, heavy-duty, dimensional shingles unless otherwise approved by the Project Manager complying with ASTM D3018, Type I, ASTM D3462, and with the following characteristics:

Weight: Not less than 240 pounds per square, nominal.

Fire Rating: UL Class A.

Wind Rating: Passes UL 997 and FM Global Property Loss guidelines.

Use an 18-inch wide self adhesive strip at rakes, eaves and roof to wall intersections. The self adhesive strip shall turn up vertical surfaces minimum 3 inches and shall be installed prior to underlayment. Manufacturer of underlayment and pre-strips shall be approved by the University.

Use corrosion resistant fasteners. Staples are not permitted.

Use six nails and two dabs of mastic per shingle when slope exceed 60 degrees.

Provide for step flashing at inside and outside corners and intersections with vertical surfaces.

Provide reglet-type detachable 2-piece metal counterflashing.

Provide metal flashing at rake-to-rake intersections.

Utilize two layers of ridge shingles with mastic sealant between butt ends at ridges. Provide ridge venting where required.

Use metal eave nosing and strap gutters to fascia or rafters ends. Do not use wing-type gutters.

Fascia shall be installed after underlayment; double seal.

Double-seal valley pans to underlayment.

Use shingle vent whenever possible. Do not use staples as fasteners.

Wood Shingles:

General: Comply with applicable standards of the Cedar Shake & Shingle Bureau, Sumas, WA.

Materials:

Shingles: "Number 1 Red Cedar Shingle" with "Certi-Guard" blue label fire retardant treatment and UL Class C label for exterior fire exposure.

Fasteners: Corrosion-resistant "box" nails of size as recommended by manufacturer.

Concrete and Clay Tile:

Existing Tile Roofs:

Verify historic significance and ascertain requirements for replacement or patching with University Project Manager.

Issues to be reviewed include extent of impact on roofing by Project, condition of existing tiles, weatherproofness of existing system, condition of existing flashing, and availability of matching replacement tiles.

When feasible, reuse tiles.

Materials:

Sheet underlayment shall be at least 60 mils or 2-ply built-up, inorganic.

Fasteners: Minimum penetration, tile tie systems are preferred.

Use utility double flashings at pipe penetrations.

Provide reglet-type detachable 2-piece metal counterflashing. Do not use surface-mounted reglets.

Metal Roofing:

Low slope metal roofing, less than 4:12, is not allowed.

Sheet underlayment shall be inorganic.

Use utility double flashings at pipe penetrations.

ROOF ACCESSORIES

Fall Protection System:

Installation of permanent fall protections system is required for new roofs and ledge projections to protect personnel from the risk of falls when working at elevated heights.

System shall be designed in consultation with the appropriate trades areas or other affected University personnel.

END OF 07300