

Shingle, Membrane and Metal Roofing Requirements

GENERAL:

1. The following items deal with many aspects of roofing, both new construction and reroofing. The intent is to give the design professionals guidance so they are aware of the minimum expectations of the Duval County Public School system.
2. These design guidelines are not intended to act as specifications or to limit the designers ability to be creative. If the designer feels there is a better approach or product they should secure the approval of the School Roof Coordinator before including alternate systems into their design.
3. The Design professional shall review all warranties for compliance with the design requirements. When all warranties are in order he shall submit a letter to the owner indicating the warranties are in compliance and recommending acceptance by the DCPS
4. The designer shall make bi-weekly job inspections.
5. The Design Professional and the School Roof Coordinator shall jointly approve of the Roofing Manufacturers and the specific roof systems no later than Phase II submittal (50% on roofing Projects)
6. An Asbestos Survey will be provided to the Design Professional for inclusion in the bid documents. Removal of asbestos containing materials identified in the survey shall be a part of the bid documents.
7. Include in the bid documents a method for dealing with concealed conditions. Include a line item for unit prices for rotten wood, additional wood nailers, replacement of lightweight concrete or insulation, etc. A realistic multiplier should be included to keep unit prices reasonable.
8. All roof details shall be similar to design and intent of the NRCA manual.

Bidding:

Contractors must submit at time of bid a letter of intent to warrant from the roof manufacturer and documentation that the applicator is certified and approved to install the products and system to be installed.

Manufacturer General Requirements

1. Manufacturer shall have been in business as a Manufacturer for a minimum of ten (10) years making the generic product specified.
2. Manufacturer shall have supplied same or similar products on at least five (5) projects of similar size and scope prior to bidding.
3. Manufacturer shall provide to the design professional written documentation to the above requirements no later than 5 working days prior to the date of bid.

Roof Installer General Requirements

1. The roof installer shall be a State of Florida Certified Roofing Contractor licensed to do business in the state of Florida.

2. Prior to bidding the Roof installer shall be certified by the Roofing Manufacturer as an applicator qualified to install 20 year warranted roof systems.
3. The roof installer shall provide the Owner with a five (5) year Material and Labor Warranty which covers all work and material installed by the roofing contractor or any of his Subcontractors.
4. The applicator shall have installed products of the specific manufacturer(s) on at least five (5) previous jobs of similar size and scope.
5. The Roof installer must have a full-time roofing Foreman or Superintendent with a minimum of five (5) years documented experience installing products specified. Said Foreman shall be present on the job during the application of any warranted roofing products.

General Roof Requirements

1. The designer shall consider site conditions when planning for gutters and downspouts.
2. Sites with tall trees close to the buildings should not have gutters unless absolutely necessary for erosion control and then gutters screens are strongly recommended.
3. Existing lightning protection removed as part of a roof replacement project shall be refurbished, reinstalled and recertified.
4. Single-ply roof systems are not recommended and must be approved by the school roof coordinator prior to use.
5. Built-up Gravel roofs are not allowed.
6. New Wood Nailers or Blocking that comes in contact with concrete shall be pressure treated.
7. All unused equipment such as exhaust fans, ventilators, plumbing stacks, antennas, etc. shall be removed from the roof and the roof deck repaired as needed prior to installing a new roof system.
8. Provide roof hatch where access to roof or top of parapet is in excess of 18'.
9. Where existing skylights are removed as part of a roof project the designer shall consider the effect on interior lighting and include measures to insure adequate lighting levels are maintained.

Gutters and Downspouts

1. Gutters shall be designed so that in event of total downspout obstruction water drains to the exterior of the building.
2. Gutters shall be mounted with hangers designed to carry the weight of the total water load in a flooded condition. Minimum hanger dimensions shall be 3/16" x 1- 1/4" aluminum.
3. Downspouts should be tied into underground drainage systems wherever possible.
4. Where not connected to underground drainage systems provide splash blocks or some form of erosion control.
5. Downspouts shall have the bottom 6' protected against damage with a heavy gauge metal cover. Aluminum Is Preferred.

Parapets/Screen Walls

1. Parapets shall have metal copings sloped to the interior of the building and shall have solid backing to prevent deflection.
2. Tops of parapets shall have a layer of waterproof membrane similar to Grace "Ice and Water shield" between the solid backing and the metal coping that extends over the edge of the parapet and down to the bottom edge of the metal coping.
3. Metal copings shall be secured on the front edge with a continuous cleat and on the back with a Hex Washerhead Tek screw
4. Stone copings will also require a metal cap.
5. Horizontal exterior surfaces shall always be protected against moisture intrusion through metal flashing, copings, elastomeric coatings, etc.
6. Tops of brick or block screen walls shall be protected against moisture intrusion.

Metal

1. All sheet metal flashing and trim shall be designed in accordance with the SMACNA National Architectural Sheet Metal Manual
2. All metal flashings shall be aluminum .040 min gauge unless part of a Galvalume roof system. **Aluminum Roof systems are preferred**
3. No galvanized metal flashings will be allowed.
4. Fasteners for securing wall flashing shall be corrosion resistant.
5. Plastic or nylon drive pins shall not be used to secure flashings.
6. Copper flashings or gutter shall only be used where necessary to match existing conditions and shall be approved by the school roof coordinator.

Skylights

The use of skylights is not encouraged, where they are necessary they shall be curb mounted, double glazed and have internal fall protection.

Roof Mounted Equipment

1. Air Conditioning units shall not be mounted on the roof.
2. Antennas and satellite dishes shall be wall mounted wherever possible.
3. Where it is not possible to wall mount antennas or dishes they shall be mounted on curbed supports designed specifically for mounting those items.
4. Exhaust fans shall be curb mounted and secured per the current Florida Building Code.
5. Equipment support legs shall be sealed where they penetrate the roof with sealant materials such as Chem-Curbs or Para-Pro. The use of Pitch Pockets is not allowed.

General Requirements for Low Slope Modified Bitumen Roofing Systems

1. Modified Bitumen Roof systems over Lightweight Insulating Concrete is the preferred low slope roof system.

2. Standard Low Slope Roof systems shall have ¼" slope per foot for all new construction and 1/8" per foot min. for re-roofing. Re-roofing slopes shall be increased to ¼" per foot wherever possible.

3. Approved manufacturers are:

Manville
Siplast
Soprema
GAF
US Intec

Other systems must be approved by the school roof coordinator

4. Designer shall calculate R- values of the existing roof system and if needed shall provide for additional insulation.
5. The Roofing Manufacturer shall provide a 20 year no dollar limit, non-prorated, single source warranty on all products supplied by or manufactured by them. The warranty shall include in the body or by attached addendum provisions that require the manufacturer to repair or replace all substrate (such as Rigid insulation, Nailable wood decking or Lightweight Concrete, etc. down to but not including Metal decking) that is damaged as a result of any failure of the products supplied by them or the result of improper installation by their approved applicator.
6. It is not the intent that the roofing manufacturer assume responsibility for the performance or failure of any substrate except where such is caused by a failure within the roofing system.
7. In event of a failure of any product provided by the Roofing manufacturer and used in the roofing system or of failure due to improper installation by a certified applicator the manufacturer shall at no cost to the owner repair or replace the roofing system and all components of the system, including any damaged substrate, as needed to return the system to a watertight condition.
8. After the system is returned to a watertight condition the balance of the warranty shall remain in effect.
9. Manufacturers shall conduct weekly inspections of the installation of their product. Written reports shall be submitted with the monthly pay request.
10. Roofing design shall provide for positive drainage, ponding water in excess of 3/8" still present on the roof 30 minutes after a rain shall be corrected.
11. Water should generally always drain to the roof edge. Interior roof drains are strongly discouraged and must be approved prior to use by the school roof coordinator. Strainers for roof drains shall be metal and mechanically attached.
12. Scuppers through parapet walls shall be designed in a manner that does not cause ponding in front of the scupper.
13. Interior gutters are not allowed.
14. Any roof vent needed on low slope roof shall be aluminum or stainless, no plastic vents will be allowed.
15. Elevation changes in roofs shall never be less than 10"
16. Access ladders shall be provided between connecting roofs where the difference in elevation is over 42" and a roof hatch is not provided on both levels.
17. Gravel stops at roof edge shall be fastened with stainless steel roof nails

General Requirements for Shingle Roof Systems

1. Minimum Warranty shall be 25 years on standard 3 tab shingles and 30 years on architectural shingles
2. Roof slopes for shingle roofs shall not be less than 4" in 12" on new construction.
3. Wood decking under shingles shall be at least ¾" thick.
4. All wood decking with shingles applied shall be vented underneath to allow heat to escape.
5. Eave drips should be held off fascia with a 1x nailer to keep water off wood fascia or fascia shall be clad in metal.
6. All eave drip and metal flashing shall be Aluminum
7. Plumbing boots shall lead.
8. Ridge vents shall be heavy duty and a type that allows shingle attachment to the vent.
9. Sloped roof systems shall have roof overhangs to prevent water from sheeting down face of building.

General Requirements for Metal Roof Systems

1. All metal roof systems shall be constructed of solid aluminum or Galvalume panels
2. Painted steel panels are not allowed.
3. Metal roof systems shall have 20 year Non-prorated, no dollar limit warranties.
4. Metal roof systems shall have 10 year finish warranties.
5. Gutters and downspouts shall be constructed of the same material as the roof panels.
6. Approved Metal Manufacturers are:

Metecno (Morin)
Imetco
Fabral
MM Systems

All other systems shall be approved by the school roof coordinator.

7. Minimum panel width shall be 12" and maximum width shall be 18".
8. Panel lengths shall be continuous from ridge to eave with no horizontal seams in the panel run.
9. New metal panels on open purlins with Batt insulation will not be allowed over existing low slope roofs.
10. Metal retrofit systems installed over existing low slope roofs shall have a solid substrate with a waterproofing membrane applied.
11. All metal panels must be designed so that one panel may be replaced without damaging adjacent panels.

12. Provide for air flow beneath metal panels to prevent condensation.

Walkway Covers

Design considerations:

1. Canopies should be designed to allow ease of maintenance and durability.
2. Painted steel canopy structures are not acceptable.
3. Width to height proportions should be such that the walkway is protected during normal rain conditions. Tall narrow canopy configurations shall be avoided.
4. Canopies should not be an easy means of access to the roof of the adjacent building.
5. If they are of a low slope design canopy panels should be able to withstand occasional foot traffic.
6. Gutters shall be at least 6" wide and have a clear opening of 3" minimum so that maintenance personnel can remove debris.
7. Low slope canopies shall drain water to the edge of the canopy.
8. Low slope canopies that drain into a beam perpendicular to the walkway are not recommended.
9. Light gauge metal canopy panels are acceptable only on steep slope roofs.
10. Canopies should not overhang driveways or other traffic areas unless they are protected from vehicular damage.
11. Water runoff from canopies should never flow across the walkway.
12. Downspouts shall not be placed where they are in danger of being damaged by trucks.

End Of Sections 07310,7500,7610