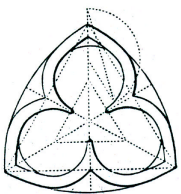


Asphalt Shingle Roofing

- **Checklist**
- **Contractor's Bid Form**



Property Support
Episcopal Diocese of New York

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Asphalt Roofing Checklist

Before evaluating or seeking bids from roofers for the installation of a new asphalt shingle roof, a basic understanding of good roofing practices and techniques is essential. The following checklist, keyed to the accompanying *Asphalt Shingle Roofing Contractor Form*, should be employed to ensure that all necessary items for a quality, long-lasting roof have been addressed. **Congregations applying for a Property Support grant must use the checklist forms to solicit bids and must fill out and submit a complete bid comparison table.**

1-5. CONTRACTOR INFORMATION

The installation of a new roof can be a major expense for many congregations. Before awarding any contract, basic information about the contractor should be known. References should be required to ensure that the contractor is reputable and experienced. In addition, contractors should be fully insured to protect the congregation from any liability claims. The Property Support Office can tell you whether your contractor is a member of the National Roofers Contracting Association (NRCA), a national industry group.

6. EXISTING CONDITIONS

Whether evaluating or seeking bids, information concerning the existing roof and its systems is crucial. The following should be known about an existing roof before specifications are developed or evaluated:

- Slope of roof¹
- Size (in square feet)
- Original roofing material when building was constructed²
- Type of framing of roof structure
- Condition, age and type of existing flashing
- Condition, age and type of existing roofing
- Number and type of previous roofing layers under existing roof
- Type of existing guttering (more information concerning guttering can be found in the gutter and leader checklist)

7. WORKMANSHIP

Bid documents should clearly state that *all work must conform to standard roofing practices specified by the National Roofing Contractors Association and to manufacturer's installation instructions.*

8. HAZARDOUS MATERIALS

Some roofing materials may contain asbestos and their removal may subject the property owner to environmental regulations. When seeking bids, documents should state (unless otherwise known) that *the owner is not aware of the presence of any asbestos containing materials in the existing roofing assembly.*

9. REMOVAL OF EXISTING ROOFING

It is recommended that any existing roofing be removed prior to the installation of a new asphalt roof to ensure the maximum longevity of the new roof. Some localities will allow a new layer of asphalt shingles to be placed over an existing roof, but the practice is not recommended. Bid documents should include:

- Legal disposal of old roofing material
- Dumpster fee and permits
- Protection of landscape and building
- Complete clean-up

10. HIDDEN CONDITIONS

Investigation of the existing roof may reveal conditions that are not readily apparent. Bid documents should include pricing for possible hidden conditions discovered when the existing roofing is removed. Possible items include deteriorated sheathing, sheathing that is no longer even or has separated from adjacent panels, and rotten rafters.

SHEATHING & RAFTERS

Asphalt roofs require a sound structure (rafters) and an underlayment of sound sheathing (decking). If the existing rafters are deteriorated, they may require replacement or repair. If the underlayment is deteriorated or does not provide a workable surface, new sheathing may also be required. Bid documents should include pricing for removal and installation of new sheathing and rafters if warranted.

CDX grade plywood sheathing is recommended and the plywood thickness should be specified by the contractor. Generally, roofs that have rafters spaced 16 inches on center should have an exterior grade plywood of 15/32 inch thickness; 24-inch rafter separation requires 5/8 inch thickness. Some older roofs have an underlayment of planking; your contractor should inform you if this is the case as the replacement cost may be higher.

Some church roofs may require alternate nailing techniques or additional sheathing to prevent nails from damaging the finished underside (the roof surface as seen from the interior of the nave); contractors should indicate the method to be employed in the bid document.

11. FELTING

Asphalt roofs require an underlayment of asphalt-saturated felt. This felting protects the shingles from resins that may come from wood board sheathing and prevents “picture framing,” the visible outline of deck panels caused by irregularities in the roof decking surface. In addition, felting provides an added layer of protection to help keep out wind-driven rain and it also serves as a temporary roof while the asphalt shingles are being laid, an important consideration should it rain during the roofing project. Bid documents should state that at a minimum 30 lb felt is to be employed.

12. ICE DAM PROTECTION MEMBRANE (ICE SHIELDS)

The melting of snow can result in a build-up of ice on certain areas of the roof causing water to be forced up under the shingles. This is known as an “ice dam,” and can result in significant interior damage. New shingle roofs should include the installation of a special membrane under the shingles to prevent leaks due to ice dams. This membrane is known by many names including “ice-shield,” “ice and water shield,” “Weather Watch,” etc. Bid documents should state that ice-shield will be installed at the following locations:

- At least three feet (3’) at all eaves, or more if needed to extend over heated space
- Three feet wide centered in valleys
- Around all penetrations (chimneys, skylights, pipes, etc.)
- Ice-shield and felt underlayment should both turn up vertical surfaces (walls) wherever possible (ideally 4” to 8”). This may require removal and reinstallation of siding.

13. FLASHING

The provision of proper flashing is crucial in preventing leaks where the roof changes slopes or meets walls and other penetrations. Although somewhat more expensive, copper flashing is highly recommended for its durability and is usually the most cost effective for church roofs. Roofing compounds (aka roofing cement, flashing cement, tar) are not acceptable as flashing materials. Bid documents should specify the type and weight (or thickness) of flashing material; the recommended materials are 20-oz. copper or .040” aluminum.

Valleys should be flashed with 20-oz. copper (over ice-shield membrane). The edges of the valley should be covered with a 6-inch strip of ice-shield. Install the valley in sections not longer than 10-feet to allow for expansion, and overlap each section 6-inches. Frequently, roofing contractors prefer to overlap the shingles to form a valley; this is known as a woven valley, or a closed cut valley. These methods are not recommended, and are not acceptable for some shingles.

At walls and chimneys, the flashing consists of two components--the base-flashing and the counter-flashing (also referred to as cap-flashing). Generally, the base-flashing should be replaced; this includes the aprons and step-flashings. The counter-flashing is frequently built into the masonry; if it is in good condition, it should be reused. If it is worn or damaged, it should be replaced. The new counter-flashing should be set in a reglet (a cut made into the wall into which the flashing is inserted); the reglet should be a minimum 1 1/2-inch deep into the masonry. Caulk the reglet with urethane caulking. The contractor should be clear in his proposal as to how these conditions will be handled.

All roof penetrations should be flashed with copper. The use of rubber collars, used routinely at vent-pipes, is not recommended because the rubber will dry out and crack long before the roof wears out.

SIDE WALLS

Some church roofs intersect bell towers and other walls. If these walls are not constructed of masonry, bids should indicate whether the existing siding will be removed and re-sided to allow the installation of flashing and ice shields.

COPING

Parapet walls are often capped with tile, stone, concrete or terra cotta coping to prevent water from seeping into the walls. Open joints should be sealed with urethane caulking. If applicable, bids should indicate that existing joints will be raked out and that foam backer-rod and urethane caulking will be installed in all joints. Mortar should be indicated on the bid for bed joints. If coping is to be removed and reset, a lead-coated copper through-wall flashing should be included (with all seams riveted and soldered), and the coping should be set in a mortar bed.

14. ASPHALT SHINGLING

Many types of shingles are manufactured and their relative quality can be judged by the number of years designated on the manufacturer's warranty. Generally, they range from 25-year, 30-year, 40-year, and Lifetime. The manufacturers are not clear what they mean by "Lifetime" warranty, but it indicates the better quality shingles. **Property Support will not consider any project employing less than a "Lifetime" shingle. To meet Property Support requirements, utilize GAF Timberline "Ultra" or equal.**

Proper nailing of shingles is critical! Improper nailing has resulted in the complete failure of new roofs. The contractor is expected to comply precisely with the fastening instructions printed on the wrapper of every bundle of shingles. Property Support encourages each parish to make periodic inspections of the work in progress to confirm that the nails are in the proper location and set to the proper depth.

Prior to start of work, the contractor must check the thickness of the roof deck to determine the length of the nails that can be used. Church roofs are typically not insulated, and nails may easily penetrate through the structural deck and may be visible from underneath. To prevent this from happening, the contractor may have to add a layer of plywood to provide additional thickness.

15. DRIP EDGES

Metal drip-edges are required at all eaves. Shingle manufacturers specify different techniques for installing the drip-edge, but the goal is to prevent ice and snow from backing up under the shingles. Property Support recommends drip-edge with a 4 inch face extending behind the gutter. The drip-edge must be properly tied to the ice-shield membrane.

Drip-edge is also used along the rakes (the sloping edges of a roof). This supports the shingles where they overhang the edge of the roof. This drip-edge typically has a small face dimension so it does not hide the raking molding detail.

16. CRICKETS

To enable water to run off the roof properly, crickets are often employed at chimneys and other large protrusions that may block the free flow of water. Crickets should be constructed of soldered copper and have ice shields installed.

17. VENTING

Proper venting under asphalt shingles is important for their long-term performance. If the underside of the roof sheathing is insulated, pathways must be maintained for air to flow through the rafter bays, from the eave to the ridge. If rigid insulation is used on top of the sheathing, it must be vented nail-board insulation.³

18. RIDGE CAPS (RIDGE ROLLS)

Most manufacturers provide special ridge-cap shingles. Alternately, copper ridge roll can be used in overlapping lengths of 8 to 10 feet.

19. WARRANTY

Major manufacturers provide a warranty for their asphalt shingle products; if possible a copy of the warranty should be obtained. A warranty for the contractor's labor should also be obtained. Generally, a contractor should supply a labor warranty for a minimum of 5 years.

20. SUBCONTRACTING

Congregations should know who is actually performing the work and is responsible for it.

21. ADDITIONAL ITEMS

Complex roofs may require additional materials and techniques that should be indicated.

22. BID

Both the commencement date as well as the finish date should be known. In addition, a payment schedule should be supplied by the contractor. Congregations should not pay for the entire cost of the roof upfront, but should pay in agreed-upon increments. Final payment should be withheld until the congregation is satisfied with the work performed.

FOOTNOTES

¹ Generally, asphalt shingles are used on roofs with slopes of 4 inches per foot (33 percent pitch) or more; roofs with less slope require special specifications. Roofs with excessively steep slopes (a slope exceeding 45 degrees or 12" per foot), such as steeples, also require special application techniques.

² An examination of the existing roof as well as the attic (if accessible) can provide clues as to the original roofing material; in addition, old photographs can be an important source of information.

³ The addition of insulation to church roofs may not be cost effective and may damage historic buildings. Congregations should proceed with caution before accepting the added cost of insulation.

**Bid Comparison Table for Use by Congregation
In Evaluating Roofing Proposals**

Congregations should carefully review and analyze bid proposals before deciding on a specific roofer. The following chart can help you compare bids received and should be submitted along with the Contractor Form to the Property Support Committee.

Item Numbers located in the left-hand column are keyed to Property Support’s *Asphalt Shingle Roofing Checklist & Contractor Form*.

Item Number	Bidder #1	Bidder #2
9. Removal:		
▪ Disposal		
▪ Dumpster fees & all permits		
▪ Landscape protection		
▪ Clean Up		
10. Hidden Conditions		
▪ CDX plywood sheating (thickness)		
▪ Time cost		
▪ Material cost		
▪ Rafter time cost		
▪ Rafter material cost		
11. Felting		
12. Ice Dam		
13. Flashing		
▪ Material		
▪ Through flashing		
▪ Reglets		
▪ Siding		
▪ Valleys		
14. Asphalt Shingle		
▪ Lifespan		
▪ Manufacturer		
▪ Product		
15. Drip Edges		

ASPHALT SHINGLE ROOFING CONTRACTOR FORM

1. BID INFORMATION

Submitted By: _____
Company: _____
Address: _____
City: _____ State: _____ Zip: _____
Telephone: _____ Fax: _____ E-Mail: _____

2. COMPANY INFORMATION

Years in business under this name: _____
Is your company currently involved in litigation? Yes No
Has your company filed for bankruptcy in the last 10 years? Yes No If yes, year ____

3. INSURANCE

Workers' compensation insurance carrier (attach a copy of the certificate)

Name: _____
Contact: _____ Telephone: _____

Liability Insurance Carrier (attach a copy of the certificate)

Name: _____
Contact: _____ Telephone: _____

4. CUSTOMER REFERENCES

Name: _____ Telephone: _____
Name: _____ Telephone: _____
Name: _____ Telephone: _____

5. BANK & TRADE REFERENCES

Name: _____
Contact Person: _____ Telephone: _____

Trade and business association memberships: _____

6. EXISTING CONDITIONS

All bid documents must include the following information:

- Slope of Roof: _____
- Size (in Square Feet): _____
- Type of Framing: _____
- Rafter Spacing (on center): _____
- Condition of flashing: excellent good fair poor
- Condition of existing roof: excellent good fair poor
- Number and type of previous roofing layers under existing roof: _____

7. WORKMANSHIP

All work must conform to standard roofing practices specified by the NRCA and to manufacturer's installation instructions.

8. HAZARDOUS MATERIALS

The Owner is not aware of the presence of any asbestos containing materials in the existing roofing assembly.

9. REMOVAL OF EXISTING ROOFING

Indicate which of the following items are included in this bid:

- | | | |
|---|-----|----|
| • Removal & legal disposal of old roofing material: | Yes | No |
| • Dumpster fees and all necessary permits | Yes | No |
| • Protection of landscape and buildings | Yes | No |
| • Complete clean-up of site | Yes | No |

10. HIDDEN CONDITIONS

A. Sheathing

If warranted, material and labor costs for removal of deteriorated sheathing and installation of new CDX grade plywood.

Specify thickness of plywood to be used: _____

Time: _____ Dollars per Hour

Materials: _____ Dollars per Square Foot

B. Rafter Replacement

If warranted, material and labor costs for removal of deteriorated rafters and installation of new rafters to match existing.

Time: _____ Dollars per Hour

Materials: _____ Dollars per Linear Foot

11. FELTING

Install single layer of 30 lb. asphalt saturated, non-perforated, roofing felt applied horizontally (shingled) with a minimum lap of 2 inches over the preceding felt sheet. End laps should be a minimum of 4 inches.

12. ICE DAM PROTECTION MEMBRANE

Install ice dam a minimum of 36 inches (three feet) extending above all locations where the eaves meet a wall, centered on all valleys, and around all penetrations. Install ice dam a minimum of 8 to 12 inches up all walls intersecting with the roof.

13. FLASHING

If applicable, indicate whether through flashing will be employed under coping stones:
Yes No

If applicable, indicate whether flashing will be applied with 1½ inch reglets where masonry walls intersect the roof plane: Yes No

If applicable, indicate whether siding materials of non-masonry walls will be removed and replaced to match existing for the installation of flashing: Yes No

Install 20 oz. copper flashing in all valleys in lengths not to exceed 8 feet with 6 inch overlaps as necessary. If another flashing technique or material is to be substituted, indicate technique or material to be employed:

14. ASPHALT SHINGLING

Install "Lifetime" asphalt shingles. Product & manufacturer: _____

15. DRIP EDGES

Indicate whether drip edges will be installed: Yes No

16. CRICKETS

Indicate whether crickets will be installed: Yes No

Location: _____

Material to be employed: _____

17. VENTING

Indicate if channeled venting to eave and ridge vents is to be installed:

Yes No

18. RIDGE CAP (ROLL)

Indicate if metal ridge caps (rolls) are to be installed: Yes No

Install 20 oz. copper ridge caps in lengths of 8 to 10 feet with 6 inch overlaps as necessary.

If another technique or material is to be substituted, indicate technique or material to be employed:

19. WARRANTY

Manufacturer's warranty: Yes No Number of years: _____

Contractor's labor warranty: Yes No Number of years: _____

20. SUBCONTRACTING

All work will be performed by your company? Yes No

21. ADDITIONAL ITEMS

Indicate any additional items or changes to these specifications.

22. BID

Final Contract Bid (for all work indicated above): _____

Date Work to Commence: _____

Date Work to Finish: _____

Payment Schedule

\$ _____ due _____

\$ _____ due _____

\$ _____ due _____

Signature: _____

Date: _____