Roof Leak Prevention Guidelines

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Whether you're using penetrating fasteners or a ballast-mounted system, proper waterproofing is essential to protect your structure and ensure long-term performance.

ROOF-PENETRATING INSTALLATIONS

Step-by-Step Leak Prevention Instructions:

- Choose the Right Location
  - Avoid placing anchors near existing roof penetrations (vents, drains, skylights).
  - Select structurally sound roofing — no soft spots, ponding areas, or cracked or damaged roofing shingles, tiles, or membranes.
- Drill with Care
  - Use a pilot bit about 25% smaller than the anchor screw/fastener to provide adequate attachment strength and long term reliability. Example: When using a 1/4-inch screw, drill a 3/16-inch pilot.
  - Use care when drilling your pilot hole to prevent damage to the roof or structure.
- Seal Every Penetration
  - Before inserting lag screws or bolts:
    - Apply high-quality roofing sealant generously into each hole, or use the appropriate butyl sealant material
    - Insert the bolt or fastener directly through the wet sealant to ensure adequate sealing.
    - After tightening, apply an additional bead of sealant around the bolt head.
    - DO NOT OVER TIGHTEN FASTENER!
- Recommended sealants:
  - Geocel 2300
  - Chemlink M1
  - NP1
  - Lexel
  - Any urethane-based or silicone sealant rated for roof and flashing work
- Use Flashing Where Appropriate
  - For sloped roofs with shingles, metal flashing or rubber gaskets can be slid under the upper shingles and sealed for added water protection.
  - On low-slope roofs (AKA "flat roofs") use the attachment options specified by the roofing manufacturer.
- Roof-Type Considerations

- Asphalt shingle roofs: Use flashing plus sealant for each attachment (lag screw).
- Torch-down or membrane roofs: Use roofing manufacturer flashings and/or sealants; carefully following all the official installation instructions. NOTE: avoid open flame near sealants or other adhesive materials.

BALLAST-MOUNTED (NON-PENETRATING) INSTALLATIONS

- Even without roof penetrations, water intrusion can occur from:
  - Ballast blocks scraping or compressing roofing material
  - Water ponding (pooling) around tower legs or mount points
- To prevent low slope membrane damage:
  - Install tower on a protective sacrificial slip sheet beneath each foot or ballast tray. Refer to roofing manufacturer instructions for the proper protection guidelines.
  - Ensure drainage paths are maintained, do not block drainage pathways, scuppers, drains, or gutters.
  - Avoid placing the tower in areas where water naturally pools.
  - Ensure the ballast blocks/materials don't trap water between the block and membrane.

INSPECTION & MAINTENANCE

- Inspect sealant and hardware annually and after major storms.
- Re-seal any fasteners where sealant has cracked or worn away.
- Look for early signs of water entry into the structure by looking carefully for stains, bubbling paint, and/or musty smell.

FINAL NOTES

- Always follow your roofing manufacturer's guidelines for compatible flashings, sealants, materials, and flashing methods.
- Consult a licensed roofer qualified for the specific roofing material when working with commercial roofs or on warranty-sensitive roofs.
- Improper waterproofing may void your roof warranty or building insurance.