**Roof Inspection Protocol for TPO and Single-Ply Roofing Systems**

**Company Name:** [Insert Company Name]  
**Prepared By:** [Inspector Name]  
**Date:** [Insert Date]  
**Building/Facility:** [Insert Building Name or Address]  
**Roof Area/Section:** [Insert Roof Area or Section ID]

**I. PRE-INSPECTION CHECKLIST**

1. **Review Documentation:**
   * Obtain original installation records and warranty documents.
   * Review previous inspection reports or known leak history.
   * Determine roof age, system type (TPO, PVC, EPDM), and attachment method (mechanically fastened, fully adhered, ballasted).
2. **Weather Conditions:**
   * Perform inspection during dry conditions.
   * Ensure no snow, ponding water, or high winds are present.
3. **Safety Measures:**
   * Confirm fall protection and roof access compliance.
   * Wear appropriate PPE (harness, boots, gloves).
   * Notify facility personnel if required.

**II. GENERAL ROOF CONDITIONS**

1. **Surface Cleanliness:**
   * Inspect for dirt, debris, and biological growth.
   * Note any accumulations that may impede drainage or hide damage.
2. **Membrane Condition:**
   * Examine membrane for punctures, tears, abrasions, or UV degradation.
   * Check for chalking, discoloration, or brittleness (especially on older systems).
3. **Seam Inspection:**
   * Probe heat-welded seams for continuity and adhesion.
   * Note fishmouths, voids, or cold welds.
   * Identify hand-welded vs. robotic seams.
4. **Flashing and Terminations:**
   * Verify flashings at walls, curbs, and penetrations are intact and watertight.
   * Check for proper termination bars, sealant beads, and membrane wrapping.
5. **Penetrations and Details:**
   * Inspect pipes, drains, HVAC units, and skylights for secure and sealed boots.
   * Ensure pitch pockets are properly filled and sealed.
   * Identify any signs of movement or mechanical damage around penetrations.
6. **Edge and Perimeter Conditions:**
   * Evaluate metal edging, parapet caps, and membrane terminations.
   * Check for wind uplift signs (loose edges, flapping membrane).
7. **Drainage:**
   * Identify and test all roof drains, scuppers, and gutters.
   * Note evidence of ponding water or improper slope.
   * Ensure no blockages or insufficient drainage capacity.

**III. ATTACHMENT INTEGRITY**

1. **Field Attachment:**
   * Check for membrane fluttering (indicative of poor adhesion or fastener withdrawal).
   * Perform a pull test if concerns arise (consult with a licensed engineer or manufacturer if needed).
2. **Insulation Condition:**
   * Walk roof systematically to detect soft spots or deflection.
   * Core cuts or infrared scans may be recommended for hidden moisture.

**IV. LEAK DETECTION AND MOISTURE INTRUSION**

1. **Interior Inspection:**
   * Coordinate with facility to identify interior stains, mold, or drips.
   * Use thermal imaging or moisture meters if appropriate.
2. **Moisture Testing:**
   * Use capacitance or impedance meters for non-destructive moisture scanning.
   * Mark areas of suspected intrusion for further core analysis.

**V. PHOTO DOCUMENTATION & REPORTING**

1. **Photographs:**
   * Capture images of all deficiencies, flashings, seams, penetrations, and general field conditions.
   * Label photos with location and issue description.
2. **Roof Plan Mark-Up:**
   * Annotate findings on a roof plan with locations of damage or concern.
3. **Recommendations:**
   * Classify deficiencies as **Minor**, **Moderate**, or **Severe**.
   * Recommend corrective actions: patching, seam repair, flashing replacement, moisture remediation, or re-roofing.
   * Note urgency: Immediate (24–72 hrs), Short Term (1–3 months), Long Term (6–12 months+).

**VI. FOLLOW-UP & MAINTENANCE PLAN**

* Provide a preventative maintenance schedule (semi-annual or annual).
* Include regular cleaning, debris removal, seam checks, and re-caulking as needed.
* Recommend re-inspection after major storms or rooftop modifications.

**Inspector Signature:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
**Date:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
**Client/Facility Manager Approval:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_