**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:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_