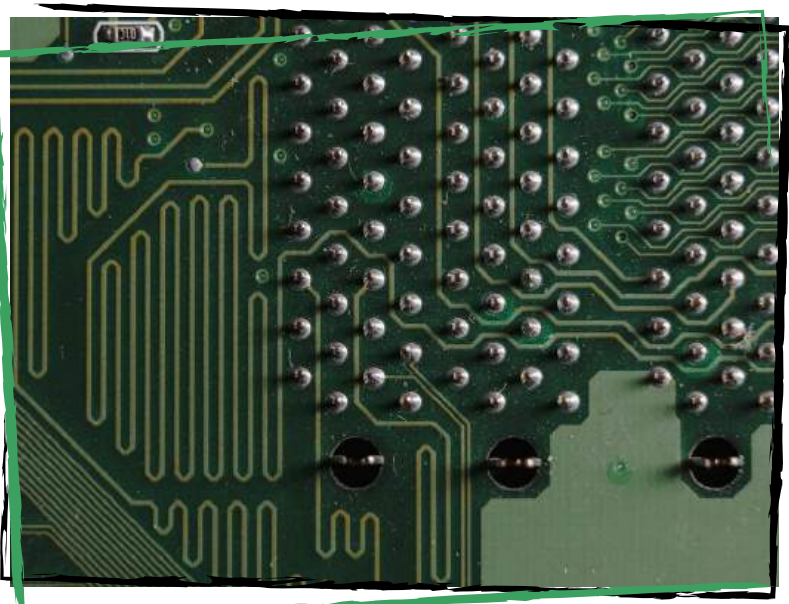


Dangers of Using Expired PCBs

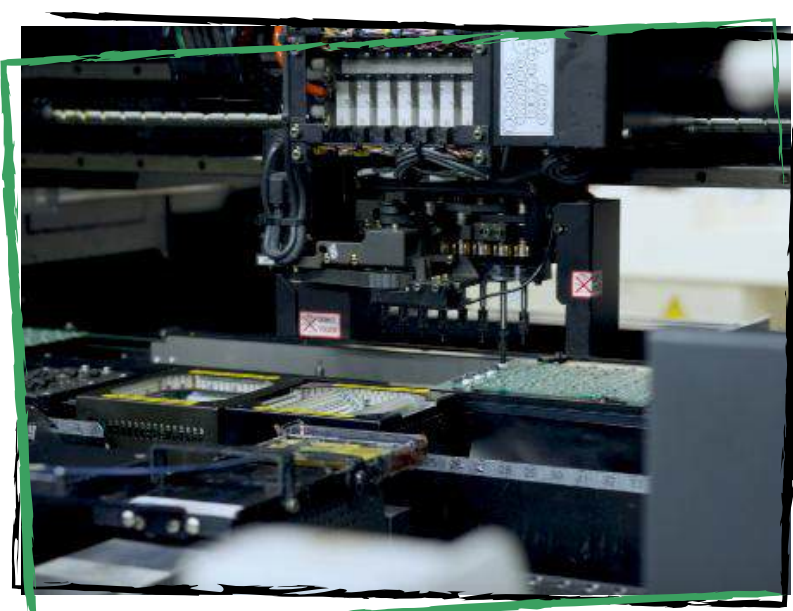
1. Surface Oxidation Risks

When PCBs sit in storage too long, their solder pads oxidize and become unsolderable. This surface degradation makes it impossible to create reliable connections during assembly.



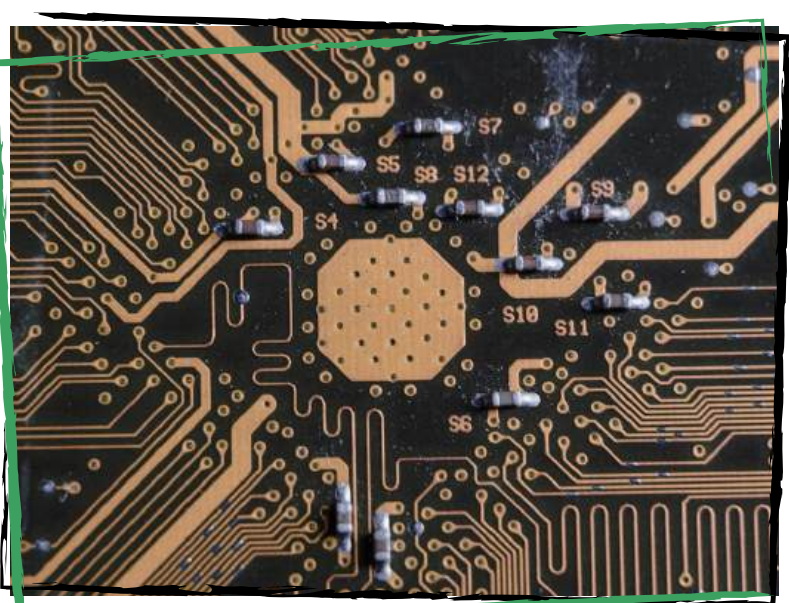
2. Moisture Damage

PCBs absorb moisture during storage, which creates major risks during assembly. The trapped moisture expands during reflow soldering and causes internal delamination.



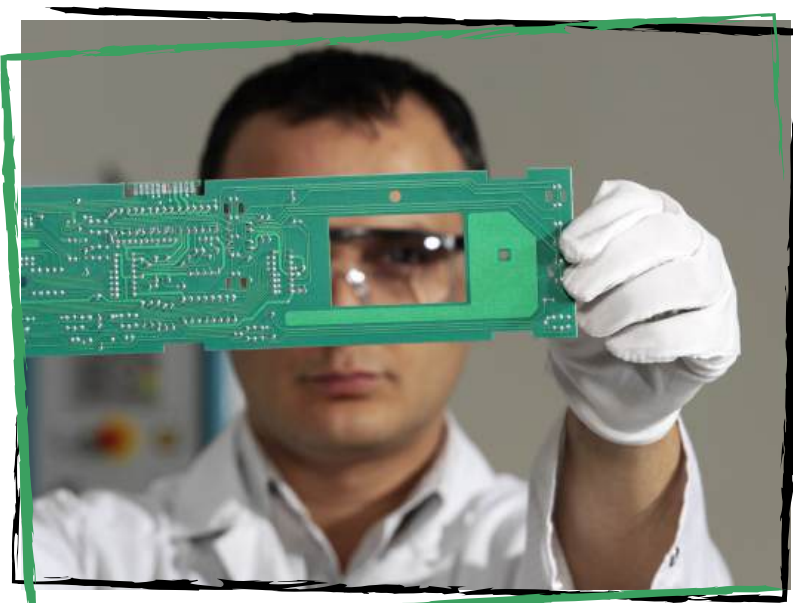
3. Substrate Deterioration

While surface problems cause immediate trouble, the core material of your PCBs faces its own breakdown over time. FR4 and other substrates develop hidden microcracks during storage.



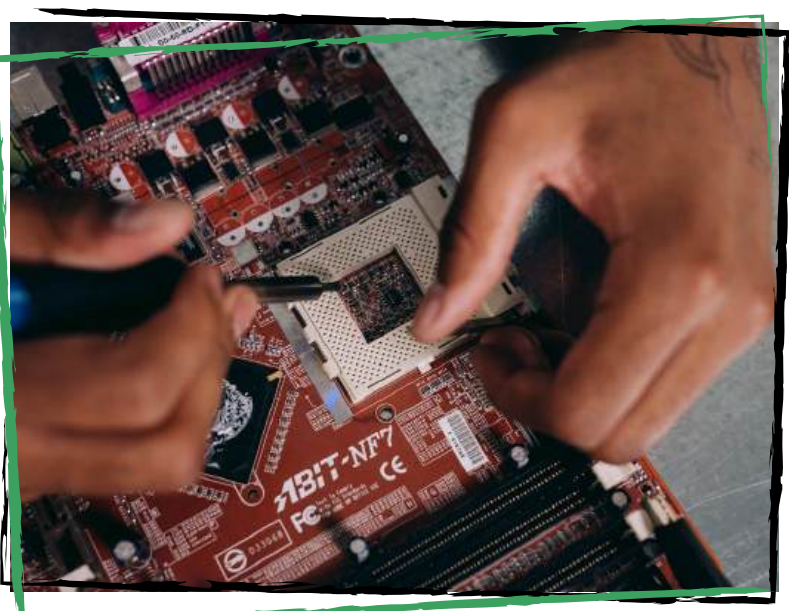
4. Age-Accelerating Environments

Factory conditions can turn 3-month-old PCBs into 6-month-old problems. Temperature swings crack aging protective coatings. Solvents, cleaning agents, and even air pollutants attack exposed board surfaces.



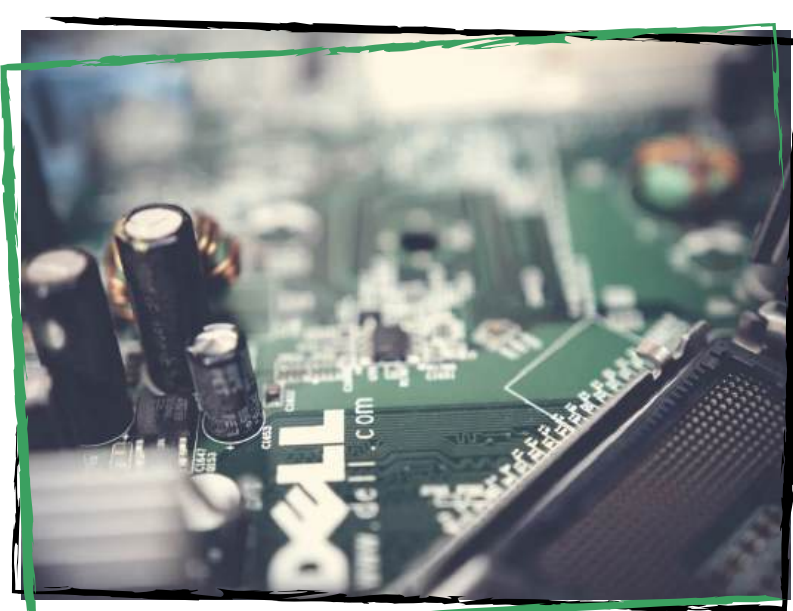
5. Layer Bonding Failure

The bond between PCB layers weakens as boards age. Different materials in your PCB expand and contract at different rates during reflow. These thermal stresses tear aging bonds apart. Weakened layer bonds lead to via failures and broken connections.



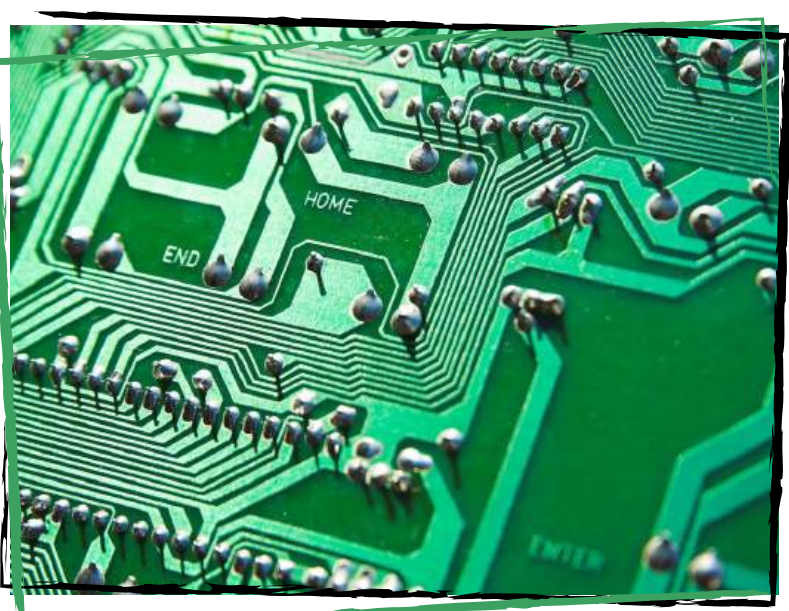
6. Hidden Electrical Defects

Expired PCBs often develop microscopic conductive paths between layers. These unwanted connections create short circuits that standard testing misses. Each passing month increases the risk of these invisible failures.



7. Surface Insulation Breakdown

Aging PCBs tend to lose their protective properties. The solder mask becomes dull and thin, compromising its ability to insulate circuits. Board surfaces that once protected your circuits now invite failure.



8. Assembly Equipment Risks

Expired PCBs fool your pick-and-place machines. Warped surfaces trigger false readings. Degraded reference points cause component placement accuracy to drop.