

A+ Core 1 and Core 2 CertMaster Perform 15.0

4.3.2 Overheating

Excessive heat can easily damage the sensitive circuitry of a computer. If a system feels hot to the touch, check for **overheating** issues. Unusual odors, such as a **burning smell** or smoke, usually indicate overheating, likely from the power supply. Shut down the system immediately and investigate. Dust-clogged vents can also cause burning smells.



CPUs and other components heat up during operation. Handle internal components carefully to avoid burns.

Other techniques for diagnosing and correcting overheating issues include the following:

- **Temperature Sensors:** Most systems have internal temperature sensors accessible via driver or management software. Use vendor documentation to ensure the system operates within acceptable limits.
- **CPU Fan:** Ensure the CPU fan is working properly. Cooling is vital for processor performance and lifespan. Overheating can cause crashes or reboots. Check if the fan's power cable is connected, if the fan is jammed or clogged, or if it is too small. A fan from an older CPU may not be suitable for an upgraded processor.
- **Heat Sink:** Verify that the heat sink is properly fitted and snug against the processor. Clean and replace old thermal paste if necessary to help lower the processor's temperature.
- **Blanking Plates:** Use blanking plates to cover holes in the back or front of the PC case. Uncovered holes can disrupt airflow and reduce cooling effectiveness.
- **Environment:** Ensure the room is not unusually warm or dusty and that the PC is not near a radiator or in direct sunlight.

Thermal problems can also cause loose connectors, components to move in their sockets, or circuit board defects like hairline cracks to widen and break connections. Some faults can be detected by visual inspection.