



# THERMA-KLEEN

## TECH SHEET

### Circuit Board Cleaning

#### Why do you need to clean dirt from PCB's as well as other electrical devices:

Dirt traps heat & heat is a leading cause of premature component/board failure. Using a simple, efficient and effective method for keeping equipment clean, extends usable life, while reducing expensive down time and replacement cost.

#### Why Use Therma-Kleen Industrial Systems:

Unless you are cleaning a boat load of PCB at a time, the most economical & efficient choice is a Therma-Kleen Industrial Dry Vapor Machine, of which we have several choices to match the requirements. This is a proven process which has been accepted by both government and business.

With Therma-Kleen Industrial Dry Vapor Systems you are not immersing the PCB in moisture. The low moisture vapor only wets the board enough to clean it.

The pictures show the progression of Dry Vapor evacuating dirt from the tiniest of hiding places on the circuit board and depositing it on the clean white towels.

Start



In-Process



Dirt Extracted after Cleaning



#### Traditional Methods:

The most common methods used to clean circuit boards are:

- 1 - Using air to blow away dirt. This only works on loose dust.
- 2 - Using any one of a variety of cleaning agents, to try and remove the oily grime which accumulates down deep on board and component surfaces. This method is not only slow and tedious, additionally it cannot reach grime which accumulates in tight spaces and under and around components, additionally it opens the door to damage when tools come in contact with board components causing them to come loose from the board.

#### Why is Cleaning with Therma-Kleen Dry Vapor a Better Choice:

- 1 - Cleans areas which cannot be reached by traditional methods. Therma-Kleen Dry Vapor Systems produces a nano sized vapor mist which is able to reach down into the smallest of spaces and expel the oily grime & flux living there, leaving a clean dirt-free environment.

- 2 - This process has been proven to be effective in removing flux and other process residues from beneath low stand-off, and components of all types.
- 3 - The Dry Vapor process has been accepted by the FAA, FDA, Department of Defense, and others.
- 4 - Labor Savings. This is done in just minutes, making the cleaning process much faster and more efficient and less costly.
- 5 - Material savings. No costly chemical cleaning agents.
- 4 - Cleaner Boards. Being able to remove the grime and debris from the smallest of spaces leaves the surface much cleaner, with no chemical residue left behind to attract dirt.
- 6 - Reduces Damage. The wand does not come in contact with the board or its components, hence there is less likely hood of causing damage.
- 7 - No chemicals to cause allergic reactions.
- 8 - The key to effectively clean with Dry Vapor is to have the wand at the correct angle and distance to basically push the residues out from underneath and around the components.
- 9 - Therma-Kleen Dry Vapor Systems - Low investment/high ROI

**Who Needs the Therma-Kleen Dry Vapor System:**

Repair Facilities  
Maintenance Departments  
Machine Re-builders  
Board Builders  
Restoration Facilities  
Used Equipment Dealers to name a few

Cleaning with Therma-Kleen Dry Vapor is not limited to just PCB's for it can be used to clean a variety of electrical apparatus.

**ECOLOGICAL ENHANCEMENTS:**

- Therma-Kleen equipment are considered GREEN MACHINES, because they use only WATER
- NO TOXIC CHEMICALS are used in the cleaning and sanitizing process
- No Toxic Chemical fumes or residue which, can be an irritant to both guests and employees
- No toxic chemicals to dispose of

**COST BENEFITS:**

- Labor savings – Cleaning & Sanitizing is a one step process
- No costly chemicals & cleaning agents
- Reduces chemical disposal cost
- Hence a potential chemical cost savings of up to 80%
- The Dry Nano Vapor Molecules penetrate the smallest of cracks and pores, thereby more effectively cleaning than chemicals can do
- No need for costly protective containment apparatus

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