

CLEANING VS. DECONTAMINATION –

KNOWING THE DIFFERENCE CAN SAVE YOUR EQUIPMENT & ELECTRONICS

‘Cleaning’ and ‘decontamination’ are two terms often used synonymously to describe the process of physically removing soil, debris, dust, and other contaminants from objects. While these terms may be used interchangeably, they in fact describe two very different processes when it comes to restoring technical equipment.

Sure, you can clean your equipment after an incident, but that does not mean it has been restored nor does it deem the equipment safe to power on. In fact, by operating technical equipment that has not been properly decontaminated, one may cause significantly more electrical/mechanical damage. At some point, a decision will need to be made whether the cost to perform the necessary repairs makes sense versus replacing the equipment.

So, what is the difference between cleaning and decontamination?

STARTING WITH THE BASICS – DEFINING THE TERMS

CLEANING – the act of making something free of foreign or extraneous matter. In many instances, cleaning is performed by wiping surfaces down, with or without chemicals.¹



DECONTAMINATE – make an object pure and safe by removing, neutralizing or destroying harmful substances.²



1. Dictionary.com, 2020. Clean. Accessed 1 April 2020
2. Dictionary.com, 2020. Decontaminate. Accessed 1 April 2020

WHY CLEANING JUST ISN'T ENOUGH

Following a loss event, there is often visible contamination in the form of soot, dried water residue or construction debris that coats both external and internal surfaces of sensitive equipment. While external non-technical surfaces can be wiped 'clean', addressing electronic modules and printed circuit boards requires an invasive decontamination approach. For instance, programmable logic controllers (PLC's), variable frequency drives (VFD's) and similar complex controllers have to first be disassembled. Circuit agitation is then employed followed by a rinsing phase, and a monitored baking cycle ensues to complete the decontamination. The circuitry is then reassembled in preparation for testing, repair and recalibration.



Circuit board before decontamination



Circuit board after decontamination

The effects of harmful contaminants vary based on a number of factors including the type of chemical or particulate present, the amount or concentration of each respective contaminant, the environmental conditions present at the location of the incident, and the type and materials used in the construction of the exposed equipment.

If there is such a thing as an "ideal fire" for electronic equipment, it would be that which takes place in an environment with low humidity, is extinguished without water or a standard ABC class dry chemical extinguisher, and the consumed materials are not conductive or corrosive. Anything short of this "ideal" scenario will yield contaminants that are matted to the surface they settled on. Surface rusting, electrical short circuits and superficial cleaning will not yield a result that meets industry standards for newly manufactured circuitry.

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WHY YOU NEED AN EXPERT

A recovery expert will not only remove the contaminants from technical equipment, they will quantify the success of the decontamination with analytical samples that can be sent to any certified lab. Analytical data that can be compared to an industry threshold provides the certainty a manufacturer requires prior to reinstating warranties or service contracts.

While cleaning is the right approach for furniture, walls and windows, decontamination is the only way to ensure that corrosive and conductive contamination does not result in constant repairs and reduced life expectancy.

Contact **AREPA** for your decontamination needs today:

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