

Guide to (Point) Detector Cleanliness

GUIDE TO (POINT) DETECTOR CLEANLINESS

- ◆ Detector cleanliness is important and this paper clarifies the issues.
- ◆ There are conflicting opinions regarding the need for cleaning of fire detectors and the implications of doing so.
- ◆ It is important to ensure that all interested parties fully understand the content of the service level being provided and the implications thereof.

The Need for Cleanliness

- ◆ Dirty or contaminated detectors may cause false alarms. Conversely, they may lead to delays in detection and alarm activation.

When might cleanliness be an issue and how can you tell?

- ◆ Not all standards mandate periodicity for cleaning.
- ◆ Cleanliness and performance are likely to be affected by local environmental conditions (ranging from everyday local activity to other events).
- ◆ Visual dirt on the outside is an indication of possible problems on the inside. No dirt on the outside does not necessarily imply clean a inside
- ◆ Analogue values will provide an indication of the condition of the sensors but cannot be relied upon in isolation. While analogue detectors can be interrogated from the panel this, in isolation, does not indicate whether the vents are partially or wholly blocked. Knowledge of the detector's ability to receive stimuli from its environment is also necessary.
- ◆ Conventional detectors cannot be interrogated from the panel and have no method of indicating contamination
- ◆ Ideally a sensitivity or calibration test with Trutest or a smoke tunnel - introducing a known concentration of stimulus from the outside, to the inside should be employed. Failing this functional checks and visual inspections may assist.
- ◆ Overall, an assessment is best be made and may include one or more of the following:
 - a) Environmental conditions
 - b) Visual condition
 - c) Analogue values (where applicable)
 - d) Records of false alarms
 - e) Readings from sensitivity test equipment

Issues surrounding cleaning

- ◆ Clearly, contaminated detectors cannot be ignored. However, cleaning detectors in an inappropriate manner or environment may introduce further problems - including increased unwanted and false alarms. Even an apparently innocuous activity such as wiping the surface of a dirty detector has implications. The 'wiping' may, if performed with inappropriate materials (e.g.: fibrous cloths or certain chemicals) cause detector damage. Further, a clean outside may disguise a contaminated inside.
- ◆ Proper cleaning is likely to involve dismantling the detector and is a specialist operation. It needs to be conducted by competent organizations with appropriate equipment.
- ◆ Manufacturers' guidelines, where available, must be followed and a functional test (through introduction of the phenomena or surrogate phenomena which the detector is designed to detect) be performed after cleaning. A calibration check may be required.

Other solutions

- ◆ Some detection devices may include disposable sensing chambers that can be replaced by competent persons.
- ◆ Where manufacturers' recommendations for 3rd party cleaning are not available detectors might be returned to the manufacturer.
- ◆ In the event that a specific manufacturer is no longer trading, support for cleaning their detectors might be available through other manufacturers on request.

There may be situations where none of the above are logistically possible (e.g.: temporary replacements not available) or commercially viable. In these instances it may be appropriate to replace contaminated detectors with new equipment.