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## TECHNICAL ALERT No. 17-14

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### Sprinkler Heads & Bulbs

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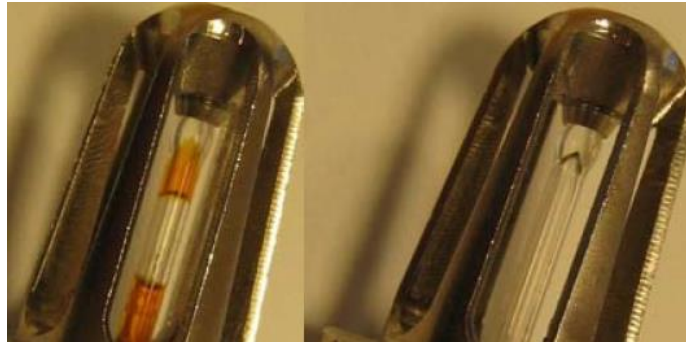
#### 1. Introduction

- 1.1. This Technical Alert aims to increase awareness of a potential issue with sprinkler heads, related to leaking bulbs and external corrosion effects, which can impair the automatic release of the sprinkler head.

#### 2. Leaking Sprinkler Bulbs

- 2.1. The BMA is aware of a number of Port State Control findings related to sprinkler heads that have been found with empty glass bulbs.
- 2.2. Following an investigation with the sprinkler system suppliers, the root cause for the unexpected empty bulbs was identified to be due to "external hits" (i.e. contact damage).
- 2.3. Notwithstanding the identified root cause, the supplier identified during a review of their manufacturing process that part of the coating process might expose the sprinkler head to potential "micro cracking" of the sprinkler bulbs. The supplier amended their procedures, recalled the affected batches and raised awareness via a service bulletin.
- 2.4. It should be noted that external contact damage can happen either prior to installation (e.g. during transport and storage) and whilst fitted in place (e.g. accidental damage during luggage handling, gym, play room etc.). External contact may cause "micro cracks" in the glass bulb that are not necessary visible, which could result in the liquid leaking or evaporating from the bulb.
- 2.5. When the liquid leaks or evaporates from the bulb, the system may not operate as designed. Sprinkler heads with no liquid in the glass bulb therefore need to be replaced, though a small bubble in the liquid is acceptable. Examples are shown in the following paragraphs.

2.5.1. Sprinkler heads that require immediate replacement:



2.5.2. Sprinkler head with small air bubble that does not require replacement.



2.6. The Company should ensure that spare sprinkler heads are stored and transported carefully to avoid damage and should ensure that they comply with any service bulletins or recommendations issued by suppliers.

### 3. **Sprinkler Head Corrosion**

- 3.1. Suppliers have also highlighted issues related due to external corrosion of sprinkler heads, which can impair sprinkler head performance.
- 3.2. During routine inspections, special attention should be given to sprinkler heads subject to aggressive atmospheres (e.g. in galleys and saunas).

### 4. **Validity**

- 4.1. This alert is valid until further notice.

### 5. **Revision History**

Rev.0 (23 November 2017) – First issue