



Guidance on Plastic Components Subject to Pressure on Portable Fire Extinguishers

FIA Guidance for the Fire Protection Industry

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Manufacturing issues

Plastic components on extinguishers subject to pressure undergo artificial ageing conditions and ultra violet light tests. These components are subjected to burst pressure tests at different temperature ranges.

The burst pressure shall be at least equal to 3.4 times the working pressure or at least 55 bar. Plastic components are fitted to charged extinguishers and impact tested. All these tests are specified in EN 3.

Servicing Issues

Over the last few years there have been concerns raised over UV degradation of plastic components subject to pressure on portable fire extinguishers and there is no simple test to determine the level of UV degradation of plastics components.

The revised BS 5306-3 now contains guidance on this issue and states that plastic head caps should be replaced on the following grounds:

- At **basic service** **only** if there are obvious signs of UV degradation or if the head cap has been over-painted, which is usually a indication that there has been an attempt to conceal UV degradation;
- At **extended service** either before the discharge test, if there is concern over UV degradation or before reassembly if there are no concerns.

FIA would recommend that the following procedure was adopted for the reasons given

- Stored pressure extinguishers (excluding CO₂ extinguishers) the discharge test is carried after which the headcap should be removed and replaced with a new headcap.
- With gas cartridge extinguishers the headcap should be removed before discharge testing and destroyed. A new headcap will then need to be fitted and the discharge test then carried. In addition the requirements of the standard this will “confirm that the extinguisher operates and the head cap is compatible and has been fitted corrected”

For new extinguishers the intervals follow the guidance in Table 1 of BS 5306-3 that is 5 years from date of commissioning or 6 years from date of manufacture of the extinguisher.

For refurbished extinguishers the intervals would be from the date of refurbishment that is 5 years from the date of refurbishment. This will mean that if an extinguisher has been recently refurbished then the head cap can remain in service on the extinguisher until the next extended service, unless inspection at annual service reveals signs of UV degradation.

This change in the standard is intended as guidance for service technician when confronted with plastic head caps it is not carte blanche to automatically remove them at any opportunity.