

Digest

Watermist systems for fire protection in domestic and residential buildings

An introduction

Corinne Williams

Watermist fire protection systems are being considered for and installed as fire protection measures in domestic and residential buildings in the UK. They are seen as a novel technology in the market but are sensitive to small design changes (see Section 1.1). Therefore, for successful implementation, watermist suppliers and approving bodies require an indepth knowledge of the system and its intended application. They are being offered as a 'green' alternative to sprinkler systems because of their potential to reduce water consumption.

This Digest introduces the subject of watermist systems in domestic and residential building types to designers, specifiers, authorities having jurisdiction (building control practitioners, fire safety officers and insurers), end clients, developers, fire safety managers and non-specialists. It briefly covers:

- background
- reasons for choosing watermist systems
- current UK standards
- how watermist systems work
- issues to be considered including specification, design, installation and ongoing maintenance
- use of independent third-party approved suppliers and products.



on board ships, and have been used to protect assets from fire (eg electronic equipment, machinery spaces and deep fat fryers). The systems are now being considered for and installed in a range of building applications, including domestic and residential buildings, as an alternative to automatic sprinkler systems.

Watermist systems are a new technology compared with sprinkler systems, which have their own design rules and a long history of performing successfully against real fires. It is generally accepted that such a design approach is not possible with watermist systems, which are typically bespoke and sensitive to small design changes and factors that impact on them.

1 Introduction

1.1 Historical context

A form of watermist was originally used in the 1930s, in industrial applications for the protection of assets from fire. However, it is only relatively recently that watermist systems came to prominence in the protection of spaces on board ships and for industrial and commercial applications. In the past two decades, a significant amount of research and development has been carried out on watermist technology. This has resulted in systems that have been optimised and proven for a range of applications. They have proved to be suitable and effective in fire protection of spaces

1.2 Reasons for choosing watermist systems for domestic and residential buildings

Watermist systems can be installed as part of the overall package of fire safety measures in a domestic or residential building for the purpose(s) of life safety and/or property protection. Detailed advice on general fire safety in domestic and residential premises can be found in references [1]–[7].