



PYROSHIELD®

The superior flame retardant system

- For use over multi-layered paint systems
- Upgrades the Class 4 Warrington Blue Board to Class 1 and Class 0
- No antimony or brominated compounds
- Thousands of finish colours available
- Water-based, quick drying formulation

PYROSHIELD®

**Delaying the spread
of fire at a crucial time**

Pyroshield is specifically formulated to combat the potential hazard of rapid flame spread posed by existing multi-layered paint systems.

Pyroshield from Dulux Trade represents a breakthrough in flame retardant coatings with a revolutionary new formulation that upgrades the reaction to fire characteristics of existing potentially flammable multi-layered paint surfaces with few of the drawbacks associated with conventional flame retardant coatings.

The effects of fire can be devastating, but this technological breakthrough in flame retardant coatings can play a major role in

reducing the rate of fire spread.

Pyroshield has been specifically developed to help specifiers meet the increasingly demanding requirements set down in legislation, where independently accredited flame retardant coatings are increasingly required to help them comply with 'duty of care' responsibilities thereby replacing conventional coating systems.

Pyroshield is the result of an intensive and rigorous research and testing programme.

It has the ability to delay the early stages of fire spread at a time when the occupants of the building may still be making their way to safety. Furthermore, its revolutionary new formulation is free from hazardous materials such as antimony and brominated compounds. These substances, which are widely used in conventional flame retardant coatings, can carry significant Health, Safety, and Environmental concerns.

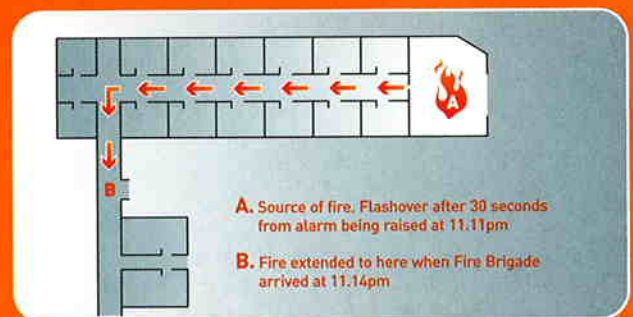
Fire hazards of multi-layered paint surfaces

A major incident in the UK which drew attention to the potential hazard of multi-layer paint finishes occurred at Moston hospital in Cheshire.

Alerted to a dormitory fire by an alarm, a nurse escorted patients to safety. The Fire Service arrived just three minutes after the alarm was raised, yet within that brief time, flames had spread along the painted surfaces of walls and ceilings to a distance of 50m.

Warrington Fire Research Centre were involved in the subsequent investigations into the fire, and the reasons behind the reported behaviour of the finished surfaces. This investigation showed that a sample of the painted plasterboard lining in a similar corridor demonstrated a very rapid spread of flame - the sample was shown to have over 18 layers of paint beneath the top surface. Similar fires have occurred, for example, in the stairwells of high-rise blocks in London and in low-rise properties in Birmingham to name but two.

From the incidents that have occurred where paint has been implicated in the growth and spread of fires, all UK specifiers should now be aware of the potential flammability of multilayered paint and in particular the hazards posed in communal areas of multi-occupancy buildings in terms of flame spread and toxic fume emissions.



In fire legislation, safety of the occupants is paramount



The realisation of the potential fire danger posed by multi-layered paint in communal areas brings with it a duty of care for specifiers.

Fire legislation, as it applies to buildings, puts the safety of the occupants first. With this in mind, Dulux Trade have developed *Pyroshield* specifically to delay the early stages of fire growth, particularly in circulation areas and escape routes.

A dangerous build up

Whilst internal linings are only a part of fire safety precautions within a building, they can be pivotal in reducing the potential for early fire growth and spread. *“There is a growing realisation that the build up of paint coatings on internal walls and ceilings contributes to fire growth, and that all existing paint films of unknown origin and of whatever thickness, age or condition should be regarded as potentially flammable”**. This build up of potentially flammable paint layers means that walls and ceilings once designated as Class 0 or Class 1 may no longer meet current fire legislation requirements.

The removal of existing surface finishes can be a costly, dirty and disruptive process with the potential for creating a health hazard, particularly where older lead based paints may be present. However, there is now a cost

effective alternative to removal.

The application of *Pyroshield* over soundly adhering existing multi-layered paint systems, as applied to internal walls and ceilings, upgrades the reaction to fire classification of these painted surfaces, returning them to their original classification of Class 0 or Class 1.

Regulations and Classification

Section B2(1) of the Building Regulations, 2000 (as amended), Internal fire spread (linings) states:

‘To inhibit the spread of fire within the building, the internal lining shall –
 a) adequately resist the spread of flame over their surfaces; and
 b) have, if ignited, either a rate of heat release or a rate of fire growth, which is reasonable in the circumstances.’

In England and Wales the required reaction to fire performance of internal linings is classified within Approved Document B to the Building Regulations. Similar documentation defines the same **Class 1** and **Class 0** classifications for use in Scotland and Northern Ireland.

Class 1 represents the highest performance classification as measured by BS476: Part 7: 1997 Surface Spread of Flame. With the exception of small rooms, Class 1 is generally the minimum requirement for wall and ceiling finishes in buildings.

Class 0 is defined in the Approved Document where, in addition to Class 1 flame spread, it defines limitations in heat release from a surface when tested to the requirements of BS476: Part 6: 1989. Class 0 is generally required for wall and ceiling finishes in circulation areas including escape routes.

Whilst the Building Regulations and the associated Approved Document relate to new buildings or those undergoing material alterations, other legislation and guidance documentation adopts similar requirements with respect to the ongoing maintenance of the reaction to fire characteristics of surfaces within buildings. Health and safety legislation imposes a duty of care on those responsible to ensure that fire safety requirements are satisfied, and it is in this that the flame retardant properties of the *Pyroshield* system can play a crucial role.

Approved Document B Surface Classifications

The following general Surface Classification Requirements for internal walls and ceilings are presented in Table 10 of Approved Document B to the Building Regulations.

Residential	Rooms larger than 4sq.m.	Circulation area
House of 1 or 2 storeys	Class 1	Class 1
Flats	Class 1	Class 0
Institutional	Class 1	Class 0
Other residential	Class 1	Class 0
Non-Residential	Rooms larger than 30sq.m.	Circulation area
Assembly	Class 1	Class 0
Offices	Class 1	Class 0
Shops	Class 1	Class 0
Other Non Residential	Class 1	Class 0