



Fire Classification  
explained for  
facade material  
specification



# Fire Classification explained for facade material specification

At EQUITONE we recognise the importance of understanding the characteristics and features of building materials when specifying them for your project.

For more than six decades, EQUITONE has been evolving and innovating in collaboration with architects to design and manufacture fibre cement facade materials.

With building material combustibility a key focal point during the specification stage, EQUITONE has a long-standing commitment to ensuring our fibre cement facade materials comprehensively meet the fire performance classification **A2-s1,d0 to EN 13501-1:2018**.

Here, we delve deeper into the meaning behind the EN 13501-1 fire classification to give you a clearer picture of the standard of our fibre cement facade materials.

## What does “reaction to fire” mean?

Reaction to fire focuses on the behaviour of the materials when exposed to heat or fire.

## What is the European standard of fire safety?

The Euroclass system is recognised as the standard of fire safety across Europe. It classifies the reaction to fire, as well as evaluates multiple aspects such as ignitability, flame spread, heat release, smoke production and propensity for producing flaming droplets/particles. The system was introduced by the European Union in 2000 to remove trade barriers between individual member states and ensure consistent quality levels.

Our EQUITONE materials meet the European standard EN 13501-1.

## How is the Euroclass system broken down?

The European classification standard EN 13501-1:2018 ranks construction materials in seven classes with regards to their fire behaviour: A1, A2, B, C, D, E and F. The same document also gives a classification of these materials with regards to smoke development (s1, s2 and s3) and the formation of flaming droplets/particles (d0, d1 and d2).



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The designations are:

## Fire Behaviour

The reaction to fire classification determines how much a material contributes to the behaviour of fire. A2-s1,d0 is non-combustible in Scotland and of limited combustibility in England and Wales, while at the other end of the scale, an F rating is easily flammable.

A full breakdown can be found below:

A1 = non-combustible materials

A2 = non-combustible (Scotland) and limited combustibility (England and Wales)

B, C, D = ranges from very limited to medium contribution to fire

E, F = high contribution to fire

A2 materials and above, which includes EQUITONE, can be safely used in buildings over 18 metres, as stated in the government's Approved Document B – a building regulation in England covering fire safety matters within and around buildings.

The same rule currently applies in Scotland. However, the guidance for the minimum building height at which non-combustible cladding – classified as A2 materials and above – is to be provided will be lowered to 11 metres with the revision of Scotland's Building Standards Technical Handbook, which will apply from 1 October 2019.



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## Smoke Development

The 's' part of the classification refers to the total smoke emitted during the first 10 minutes of exposure to fire:

S1 = little or no smoke

S2 = quite a lot of smoke

S3 = substantial/heavy smoke

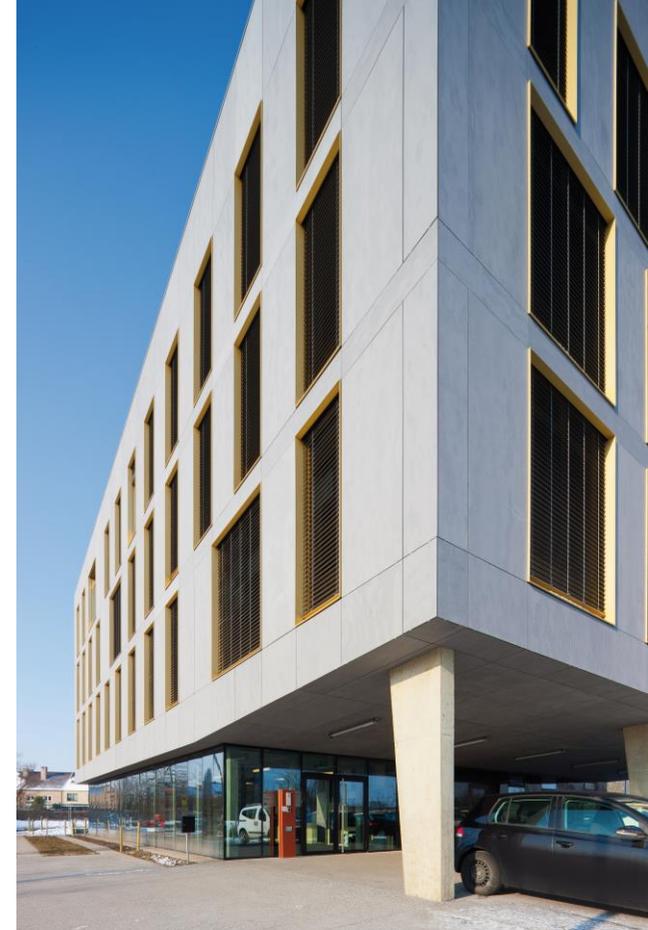
## Formation of Flaming Droplets/Particles

The 'd' part of the classification relates to the number of flaming droplets and particles that are produced within the first 10 minutes of fire exposure. The index is below:

D0 = no droplets

D1 = some droplets

D2 = quite a lot



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What is EQUITONE's reaction to fire classification and what exactly does this mean?

Material	Fire Behaviour	Smoke Development	Formation of Flaming Droplets/Particles
EQUITONE [linea]	A2	s1	d0
EQUITONE [tectiva]	A2	s1	d0
EQUITONE [materia]	A2	s1	d0
EQUITONE [natura]	A2	s1	d0
EQUITONE [pictura]	A2	s1	d0
EQUITONE [textura]	A2	s1	d0

EQUITONE's A2-s1,d0 fire performance classification means our materials are classed as non-combustible in Scotland and of limited combustibility in England and Wales, emit little or no smoke and produce no flaming droplets or particles within the first 10 minutes of fire exposure. This means our materials do not contribute to the formation or spread of a fire.

When choosing facade materials that need to meet the demands of the current fire performance requirements, EQUITONE's dedicated technical and specification team can offer expert support to architects, designers and contractors from the initial design concept through to build completion and beyond.

In conclusion, the best way to ensure fire safety – particularly in high-rise and high-risk buildings – is to solely use A2-s1,d0 materials or above, such as EQUITONE.

