

SMILE PLASTICS



FIRE
RESISTANCE

FIRE RESISTANCE

Fire Resistance in Smile Plastics Materials

Fire resistance is a crucial consideration when it comes to selecting the materials for any commercial project. As we work exclusively with 100% recycled plastics, with no binders or resins added to our sheets, our materials reflect the inherent flammability of the raw plastics we select. This means that our sheets do not perform as well as alternative materials like specifically made fire resistant virgin plastics, or alternatives like metals and solid surfaces.

While we are constantly innovating and exploring new ways of improving the properties of our materials, fire resistance included, we balance this against the recycled nature of the sheets and the other properties we're so proud of, such as strength, low VOC emission, and food contact safety.

Below we've answered some of your FAQs around Smile Plastics materials and fire resistance to help inform your product selections.

How fire resistant are your PET materials?

Our PET materials achieve a Euroclass C-s1, d0 rating. This is a higher rating than untreated wood products like plywood and MDF and is not far below the rating for more specialist materials like High Pressure Laminate.

↑ Earth Collection Shape in Brecon



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How fire resistant are your HDPE and HIPS materials?

Our HDPE and HIPS materials hold a UL94-HB rating, which is the same as virgin HDPE and HIPS plastics will achieve – a testament to our minimally degrading production processes.

Can any coatings be applied to Smile Plastics materials to increase their fire rating?

If you require a higher fire rating for a specific project, then there is an intumescent coating that can be applied to our HIPS and PET materials that will allow them both to be Euroclass B-s2, d0 rated. This rating makes them suitable for the majority of commercial projects, including for areas where there are stringent regulations around fire resistance, such as in airports and shopping centres.

The intumescent coating that we recommend is HW02/N - produced by Envirograf. This requires 2 coats at 8m² per litre, and will require a top coat of Enviroclear Matt or Satin in order to reach the B-s2, d0 rating as per the testing performed by Envirograf.

Will these coatings affect any other performance aspects of the materials?

All coatings like this will affect the kind of cleaning products that you can use with our materials to avoid the coating being worn away over time. The manufacturers' recommendation for maintenance and cleaning should be followed in order to maintain the intumescent properties of the coatings. We recommend that you review the coatings' cleaning and maintenance instructions thoroughly in order to assess whether they will work for any specific projects.

This coating must be applied as per the manufacturer's instructions in order to work best, and we very strongly recommend coating finished joinery rather than individual sheets, pre-cutting and fitting for best results.

Will you apply the coating for me?

Due to the above we are unable to provide the coating pre-applied to any sheet materials or semi-finished parts. The coating can generally be applied on site with minimal specialist equipment required, so this should not have too much of an impact on any construction schedules.

It may be possible to use other intumescent coatings on our materials. If you have found a coating that you are interested in using then please let us know and we can support you with assessing and testing it for use.

Can I combine the UV protective oil you recommend with intumescent coating?

Unfortunately, it is not possible to combine the UV protective oil we recommend and an intumescent coating. If both strong UV resistance and fire resistance are required for a project then, in some cases, we may be able to suggest an alternative material or develop a custom material for you that will allow you to fulfil both aspects – please do not hesitate to ask if you think this could be an issue for you.

Achieving the highest fire rating possible is crucial to my project – can you create a bespoke material with this in mind?

For more large-scale or long-term projects where a higher fire rating than our standard is required, a custom material may be the best option. There are a number of different ways that we can address fire ratings in custom materials, depending on the priorities of the project.

A few factors to consider are the materials' colour and pattern, any technical properties like stiffness that might be required for the specific application, the fire rating itself that is needed, and the project's timescale.

One option that we can explore is using a different type of plastic with a higher innate fire rating, for example plastics sourced from electronics housing tend to have higher fire ratings than the packaging we use for our Core materials.

We can also explore fire resistant additives that can be mixed into the raw material – there are a range of different additives that are available for plastics in various formats that may be suitable depending on what is required for a specific project.

Are you able to offer advice around how the fire rating of your materials changes when paired with other design elements in a scheme?

We would always urge you to get in touch to discuss your specific project requirements further with our team. We also recommend taking advice from an appropriate fire engineer to assess your systems.

↑ Earth Collection Shape in Brecon and Slate



MATERIALS REIMAGINED



Certificate Number 19268
ISO 9001, ISO 14001