

THEATRE GREEN BOOK

Sustainable Production

What is the Theatre Green Book?

The Theatre Green Book began as a collective initiative by theatre-makers in the UK to support the sustainability of theatre in response to the climate crisis, but has grown to involve theatre-makers across the world. It is a free resource produced by a range of people from across the theatre production world with support from sustainability experts Buro Happold, and is intended to be for all theatre makers working at all scales, though we think many of the principles, guides and resources would prove useful to other industries including Temporary Exhibitions, Events, Film & TV.

There are 3 volumes to the Theatre Green Book:

- Volume 1: Sustainable Productions
- Volume 2 Sustainable Buildings
- Volume 3: Sustainable Operations

We imagine Volume 1 will be the most relevant to readers of this catalogue. You can learn more about the Theatre Green Book by visiting their website: www.theatregreenbook.com.

Scanning this QR code will take you there:



Why is Flints talking about Theatre Green Book?

Much like the makers driving the development of the Theatre Green Book, we feel we have a duty to support the necessary changes in response to the climate crisis.

Flints' response

One of the key concerns we have at Flints is to ensure whatever we are doing is not simply 'greenwashing', but we also believe that creating art is of huge value to society, and we want to give the toolkit for makers to achieve designers' visions in full, without compromising their designs. We are doing our absolute best to improve our product offering, and business practices to ensure we are giving you the best options for all your production needs. This includes researching and sourcing more sustainable and eco-friendly products and services.

We outline our considerations for products offered in the section entitled '*What makes a product 'sustainable'?*', but this is not the only place we can make changes. In recent years we have made significant efforts with our packaging and internal processes to reduce our carbon footprint and environmental impact as a business. We have undertaken Carbon Literacy Training (given by the excellent Jennifer Taillefer) to also support our understanding and approach from all areas of the business. See the section entitled '*Changes to Flints Packaging & Delivery Services*' to read more.

If you are reading a printed copy of this catalogue, it has been printed in South Wales using FSC certified paper, and vegetable based inks which are kind to the environment. It is fully recyclable, so if you should ever need to dispose of it, please do put it in the recycling!

Why should you care?

Well, aside from the environmental concerns there are also considerable financial and health benefits from making changes. By reusing base pieces and repurposing or redecorating them, over multiple productions material costs can be dramatically reduced. Many "traditional" paints, gashes, adhesives and other materials are also toxic, and require the use of expensive PPE to make them safe to use - switching to more eco friendly materials saves the need for expensive PPE and reduces the risk to workers. We'd urge you to do some more research and follow the excellent work being done by groups like the Theatre Green Book, and the Association of Scenic Artists and Makers [ASAM] amongst others.

Case Study: Nottingham Playhouse of The Children

In April 2024, Jack, our Product Manager attended Nottingham Playhouse's Sustainable Productions Summit. At the centre of the day was the Nottingham Playhouse production of *The Children* [Directed by Kirsty Patrick Ward, Designed by Amy Jane Cook] which was made to a Theatre Green Book Standard; the first for the theatre.

In the production, we were particularly excited to see the use of eco materials like Dekozell, Earthborn Crackle Glaze, and Flints Scenic Grafclean paints being used in new ways. We also loved the use of these materials to replace the traditional technique of acrylic coated carved polystyrene forms, instead using a Grafclean painted Dekozell coated Alushape formed over a scaff structure to make the cliff in Amy Jane Cook's exciting design.

The material selection also allowed them to peel off the Dekozell at the end of the production and reuse the AluShape.

Huge congratulations to all the teams involved in the production. A really impressive set, beautifully executed.



What are Flints' aims?

Our aims are simple, though our task is complex! We are aiming to give you good, and truly, sustainable product options whilst also bearing in mind the difficulty of balancing a budget, and not compromising on practicality!

We are intending to try to give a rough sliding scale of how good or bad a product is weighing up all the factors above, with different weightings being applied to different areas.

If you are interested in helping us in this endeavour [we are already working with scenic artists from the Association of Scenic Artists and Makers] we would welcome your input.

Please register your interest via our form:
<https://forms.office.com/e/DPFsNhwARm>
 or scan the QR code:



In the meantime we have created a new sustainability section on our website highlighting some of the sustainable products we'd recommend. Most of these have been tested and are in regular use by valued clients such as the National Theatre and the Royal Opera House. Big changes indeed from our days at Queens Row and Deptford! We're constantly working to improve our eco credentials, so watch this space for more news!

Changes Flints has made:

To our packaging:

We've made lots of changes to our packaging over recent years, but it seems many people aren't aware of them! Just remember all plastic and cardboard needs to be **clean and dry** to be put into recycling. If you receive a new box, rest assured it is both recycled and recyclable! Depending on how our couriers handle it, it will hopefully also be reusable. Whichever box you receive will be sealed with Paper tape - this change was made to improve the ease with which you can recycle deliveries from us, and cut plastic. If you are receiving something on our van run, or purchasing from our trade counter, you will have hopefully noticed we no longer have plastic bags, but made the swap to ultra-durable paper ones. They're supposed to take 27 kg!



We've made lots of changes to our packaging process to reduce damages to deliveries further afield, such as specially tooled carboard inserts to snugly grip pots and jerry cans reducing side wall impact damage. Despite this we have in recent years found that we have needed to bag paint inside deliveries to ensure that if the pot is broken by rough handling of the box, then it won't spoil the other contents. This was frustrating to us, but we have now swapped to a new plastic bag that is recyclable [needs to happen within 6 months], and if it ended up in the environment it contains special bio elements which would cause it to biodegrade! Win-win.

To our deliveries:

Additionally we are now running our own Electric Van for all "West End" deliveries from our Dartford warehouse - the same van will also be delivering all 'click and collect' orders to be collected from our partner Steeldeck Rentals in Verney Road which allows our London-based customers, to collect from a more local point (saving all those vans from driving out to Dartford) and at a time convenient to you.

Can't get greener than that!

To our operations:

We were delighted to move our operations to a new unit in Dartford which is equipped with an air source heat pump, this has eliminated any gas from our operational requirements, and with the coming change to our energy supplier we will soon be running our entire building on renewable-sourced electricity! We have switched over one of our vans for more local deliveries to an electric van which will also be charged at our warehouse. Big changes indeed from our days at Queens Row and Deptford! We're constantly working to improve our eco credentials, so watch this space for more news!



Are the old ways more sustainable?

There are certainly compelling arguments to be made around our increased consumption and the impact that has had on how sustainable productions are - scale and individual production budgeting has probably also had an impact on this. In Europe it is common for big production houses to have two budgets; one for each production, and one for stock pieces which get used for multiple productions, thus spreading that cost and justifying the expense of better, repairable equipment which is less impactful on the environment in the long run. Something we could learn from them perhaps! If we think back to scenics working 150 years ago, they would have probably been mixing their own paints made from size and raw pigments. In some regards, this is more sustainable, yes, but not necessarily ethical in the production of the raw materials, and having a hot pot of size running in a workshop is certainly not practical, and if being run on gas not carbon friendly! Also, working with powdered pigments can be quite dangerous, so not necessarily better for the user's health. Complex stuff.

Do the eco alternatives live up to modern standards?

Many "eco" paints struggle to achieve the same intensity of colours, and flexibility of acrylics that scenics are used to having, and one of our biggest struggles in product testing is working out the best options for our clients. One of our best finds to date is Grafclean by Graphenstone [see page 24]. Although it is an eco-friendly lime based paint, the lime is bonded with graphene that gives it the flexibility and durability of modern acrylics. We've worked with them to improve the colour range for scenics, but we also sell the base to be used for your own pigments. For a more translucent finish Earthborn glazes [see page 59] may be the answer, again mixed with pigments to your requirements.

What makes a product sustainable?

Sustainability is very complex. There are so many factors to consider in whether a product is truly a better or worse option from an environmental perspective. We have identified four key areas for consideration:

Carbon Footprint: This is an almost impossible number to calculate completely accurately as there are so many factors and layers of calculation involved. The most obvious of these is distance travelled, i.e. Country of Origin vs. Country of Use. e.g. a book (or a catalogue) printed in China and shipped to the UK will of course have a higher carbon footprint in terms of miles travelled than one printed in the UK for distribution in the UK. However, this doesn't consider the manufacturing process, which has a big input on the carbon footprint of the product. e.g. a book printed using energy generated by a coal plant will have a much bigger carbon footprint than one printed using energy generated by a solar farm. Also, neither of these elements considers the carbon footprint of the materials going into the product; in our book analogy, the paper, the inks, the adhesives etc. Has the paper been sourced in the same country as the production plant? What's the carbon footprint of the production of the paper? The rabbit hole goes on, and on. Anything that is certified Carbon Neutral should have a very good idea of all possible factors including the end of life of products.

Raw Materials: We have considered the "carbon footprint" element of Raw Materials in the previous point – the miles travelled to the production facility and their own production [e.g. felling trees and transporting them to a factory to make paper] – but what about the impact that production process has on the wider environment. Many assume recycled paper is more environmentally-friendly, but the production process of recycled paper for high quality printing requirements can be so carbon and water intensive that ultimately could have a higher carbon footprint than responsibly sourced FSC certified new paper.

Product Use: Did you know that almost all paints and glazes [even water-based ones] contain plastics? Environmental Action [a mission-driven research based consultancy] state that, on average, paint is 37% plastic polymers¹. They also estimate that globally the paint share of micro-plastic leakage in the ocean and waterways is a shocking 58%². This is disputed by The British Coatings Federation [BCF] who claim it to be far lower³ and assume less than 1% of a pot of paint is washed from brushes and pots into our waterways. Regardless of the specific amount that ends up in our environment, this is clearly problematic.

Additionally almost all paints, glazes, and adhesives contain VOCs [Volatile Organic Compounds] which are harmful to user's health, and there is an increase in cancer rates amongst regular users⁴. Considerable efforts have been made in recent years to reduce the 'nasty' components⁵ in the products, and to reduce the VOC content - pretty much all of our scenic paints are classed as "Low VOC" [generally accepted to be less than 50 g/L⁶]. Of course these risks to health can [and should] be mitigated by the use of respirators [see page 364]. It is also worth noting that if you are diluting a pot of paint, a 1:1 dilution with water will halve the concentration of the VOCs.

The long and the short of it is, almost all products and materials we use commonly in theatre, film & TV - particularly in set construction & decoration, art department and props are problematic in terms of both ecology and health, so we need to find improvements and alternatives without compromising on quality. One of our best finds to date are the Graphenstone Paints [see page 24] which offer a certified carbon-neutral, plastic-free paint that is as flexible and durable as acrylic, but even these have their limitations for application due to the lime base. Perfect for solid painted effects though!

End of life: What happens once your scenery reaches the end of its life? We hope that for most of our clients they will be stripping down and reusing what bits they can, but ultimately some pieces simply won't be reusable. If the products used in the production are not viable to be recycled then they will likely end up in landfill. In England alone in 2020 it is estimated that we created a 33.8 million tonnes of commercial and industrial waste⁷ the majority of which is destined to end up in landfill. Imagine instead that the materials used in those un-reusable bits were instead compostable – what a difference that could make!

To conclude: tools such as the [Theatre Green Book](#) go a long way to help productions give excellent estimations of their carbon impact, but they can only go so far in assessing the negative long-term impact of the materials used, and use simplistic aims based on percentage of materials that are reused rather than assessing the quality of those materials. By swapping to certified carbon-neutral, environmentally low-impact at end-of-life materials you can take productions to a whole new level.

¹ Taken from the report: *PLASTIC PAINTS - THE ENVIRONMENT; A global assessment of paint's contribution to plastic leakage to Land Ocean & Waterways* by Environment Action. Available at <http://www.e-a.earth/resources/publications>

² See Footnote 1.

³ No comparable figure given; BCF site and statement <https://coatings.org.uk/page/Microplastic-Paint-in-the-Ocean>

⁴ See UK HSE: <https://www.hse.gov.uk/construction/healthrisks/cancer-and-construction/painting.htm>

⁵ See UK HSE: <https://www.hse.gov.uk/construction/faq-paint.htm>

⁶ See <https://ecospaints.net/low-voc-paint-vs-no-voc-paint>

⁷ See <https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste>

Some exciting Eco Products that can be found in this catalogue



Eco Roller Sleeves. Made from Corn Starch and Sugar Cane. See page 94.



Silicone liners for paint kettles; much better to let paint or texture dry and then crack it out into the bin than wash it into the drain! See page 97.



Eco Bio Beads. Made from Corn Starch and Sugar Cane. See page 114.



Eco glazes! Plastic free and made in the UK. Check them out on pages 59 & 63!



Eco textures - Cork Granules
See page 53



AluShape - for creating lightweight textured surfaces over reusable blocks See page 113. See also our case study of The Children at the Nottingham Playhouse page 424.



Silicone mixing pots! See page 98.



Long lasting Eco brushes!
See page 80.



CompostaBlock - compostable polystyrene alternative made from Corn Starch and Sugar Cane. See Page 114.



Clean Spirit - Eco white spirits! See Page 69.



Studio Safe Orange Solvent - see page 70.



Why not swap to a paper cup for mixing in? See Page 98.



GrafClean from Graphenstone - a carbon Neutral, plastic-free, VOC-free paint, that's flexible and durable. See page 24.



Excellent White Paint - Carbon Neutral, Plastic Free, VOC free, great price. See Page 10.