



KOMASTYLE
DECORATIVE PANELS

Beoplas
THE HYGIENIC WALL & CEILING COMPANY

Specifiers guide to lightweight and sustainable decorative interior PVC panels

Choosing and specifying decorative panel systems for your project



Safe, appealing
and doesn't cost
the earth

Background

Traditionally, robust decorative solutions have been chosen from a wide array of materials from different sources. These include veneered composite panels, ceramics, fabrics and wallcoverings. These require a wide range of different trade skills, suppliers, fixing systems and an understanding of their individual characteristics. They can be subject to differing tolerances, drying and curing times, expansion and contraction, sensitivity to humidity and temperature variation both during and after construction. They are also susceptible to different modes of defects and stability issues, often leaving the client with complex, costly long term maintenance problems.

This may be the result of client preferences, especially in one off housing projects for example. Often the architect will advise on such problems, but in reality, such problems are at a relatively small scale and reflect the individuality of the client and their taste/style.

In larger projects, this becomes a very serious issue and the architect will seek to ensure the long term robustness of the project finishes are carefully considered. In the past there has been little choice but to use materials with specific characteristics in use, depending on location and required functionality.

Nowadays there is a much wider range of choices

that can offer robust and durable finishes.

In this specifier guide, we will look at the pros and cons of various products and look at innovative solutions that are attractive yet offer high levels of durability coupled with low maintenance. They also have the significant advantages of being simultaneously lightweight, sustainable and 100% recyclable.

KomastyleDeco offers maintenance free durability for the most demanding of applications. A complex composite which can be used to create attractive, functional environments and suitable for both wet and dry environments. Komastyle Deco is a decorative panel system developed for areas that need a decorative solution.

For more details see: <https://www.komastyle.com>

The company also offers a sister range of functional, hygienic cladding systems for 'back of house' areas using the same materials. Combined, these two systems offers cost-effective solutions for all wall cladding applications that has the major benefit of using the same installer. This translates to time and cost savings, simpler contracts, less headaches in finishes co-ordination and defects liability.

For more details see: <https://www.bepilas.com>

Typical applications include

- Hotels
- Halls of residence
- Private residential single and multiple units
- Social housing
- Retails and leisure
- Restaurants
- Education at all levels
- Childcare and nurseries
- Healthcare
- Residential care
- Hospitals
- Offices

These often require high levels of resistance to general wear and tear, impact, humidity and contamination whilst maintaining their decorative finish. They can also require product applications that support ease of cleaning and maintenance, chemical resistance and waterproof qualities.



- Highly aesthetic finish
- Impact and abrasion resistant
- Easily bonded
- Acoustic insulation
- High flexural strength



Typical Decorative Cladding Systems Pros and Cons



High pressure laminated and veneered wall panels

These are usually manufactured using high pressure or natural wood laminate bonded to a substrate such as plywood, MDF or particle board, usually requiring balancing veneers. These are complex products that require careful design and specification to avoid sizing errors or tolerance issues. Whilst offering a variety of colours and thicknesses, they have similar issues to ceramics (see below):

- Heavy and energy intensive to manufacture and transport
- Susceptible to damage before, during and after installation
- Require substantial fixings to substrate
- Impose heavier loads than PVC cladding and cost more to transport
- Difficult to recycle as they are composite systems
- MDF and other base materials are not easily recycled
- Damage can be difficult to repair
- Do not easily integrate easily with flooring and ceilings
- Expensive

Other types of wall finishes

A brief overview

- Cement plastered
- Cement Textured
- Plaster of Paris
- Gypsum Plaster
- Polished plaster
- Glass Mosaic
- Designer Mirror
- Marble Powder
- Paper and vinyl roll finishes
- Natural wood panel

All these may offer highly individual and decorative variety, but they generally share the problem of lack of resilience in long term use. They can also be very difficult to maintain and repair, losing pristine appearance quickly. They suffer similar issues with friability, sustainability, recyclability (with the exception of gypsum based products). They can also present supply chain issues and specialised installation. They can also be expensive to procure and maintain.



Traditional Ceramic Surfaces

The traditional method of achieving continuous water-resistant and hygienic surfaces has long been ceramic tiling/panels. These materials have several significant disadvantages over modern alternatives:

- Heavy and energy intensive to manufacture and transport
- Susceptible to damage before, during and after installation
- Move differentially to adjacent materials and require unsightly movement joints
- Impose heavy loads, use high levels of water in installation
- Lengthy installation and drying times during construction
- Can severely affect critical path and disrupt following trades
- Difficult to replace broken units



- Require high levels of ongoing maintenance
- Do not easily integrate easily with flooring and ceilings
- Expensive

Cleaning regimes are laborious, intensive and problematic. Cracked tiles, grout and junctions are particularly susceptible to water penetration, bacterial and fungal growth.

The main issue with tiling is installation. Removing existing tiles, cutting tiles and grouting creates mess, stress and often substandard results. Natural materials such as marble can also be affected by acids or abrasive cleaning chemicals, creating a major headache in refinishing.





Modern, Sustainable Alternative - Lightweight PVC Cladding

One of the more commonly used materials for cladding interior walls is rigid PVC panelling. Due to its lightness, it is efficient, easy to install and cost effective and easy to maintain material. It is available in a variety of finishes and thicknesses. The ability to form continuous wall and ceiling systems with heat welding, jointing strips, covings and skirtings makes it highly effective for areas where hygiene is paramount. As well as standard hygienic panels, it is also available in antimicrobial and fire-retardant grades. More recently it is also being used as door facing material for healthcare and high traffic areas in many building types.

Advantages include:

- Highly sustainable and 100% recyclable
- Available in microbial resistant, fire retardant and standard formats
- High level of chemical resistance to a wide range of chemicals
- Manufactured from food safe PVC.
- Full range of fixing profiles, adhesives and silicones.
- Easy to thermoform, drill and bond.
- 20-year warranty.
- Lightweight and easy to transport
- Quickly and easily installed without wet trades, drying or curing
- Can be formed into external and internal corners with different radii
- Cost-effective, shortened on-site installation promoting shorter contract periods
- Durable, impact and abrasion resistant
- Simple to maintain and clean using common detergents
- Available in range of colours and textures
- Can incorporate printed graphics and photography to create mood and scenes



The perfect solution for multiple residential, hotels, halls of residence and social housing

Robustness, coupled with attractive decorative finish is even more critical where people live. There is no substitute for warmth, texture and colour in domestic/residential spaces.

The massive increase in multiple residential property over the past decade has created the opportunity to roll out sustainable solutions and incorporate materials that operate in the circular economy. Recyclable products that take into account the potential reduction in carbon through reduced transport, imposed loads on structure and faster completion all help in the aim towards net zero projects.

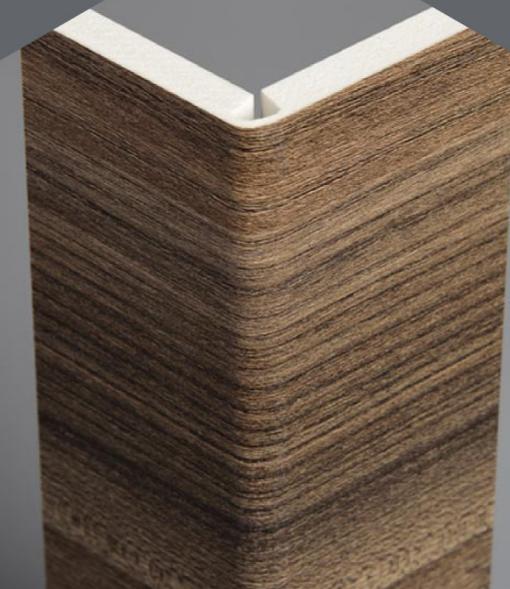
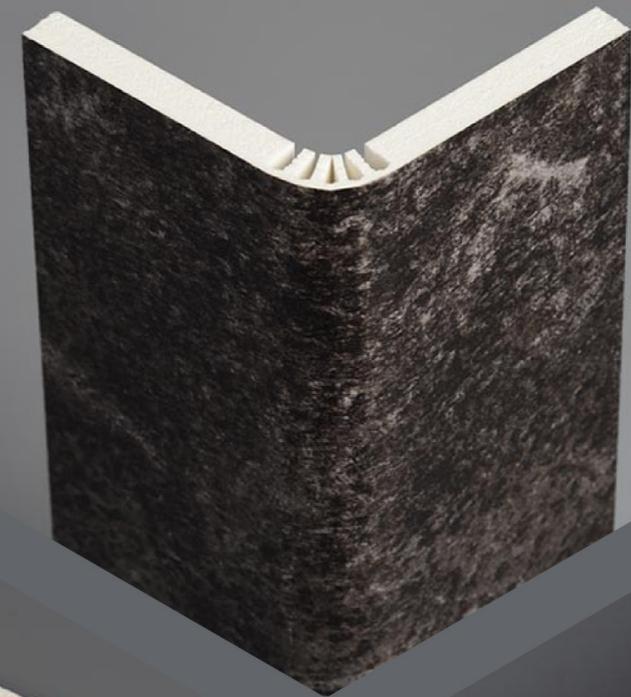
Reduction in mass is key to a low carbon future. Komastyle panels are significantly lighter than traditional ceramic tiling, offering faster installation and reduced cost.

Critical issues for surface material choices



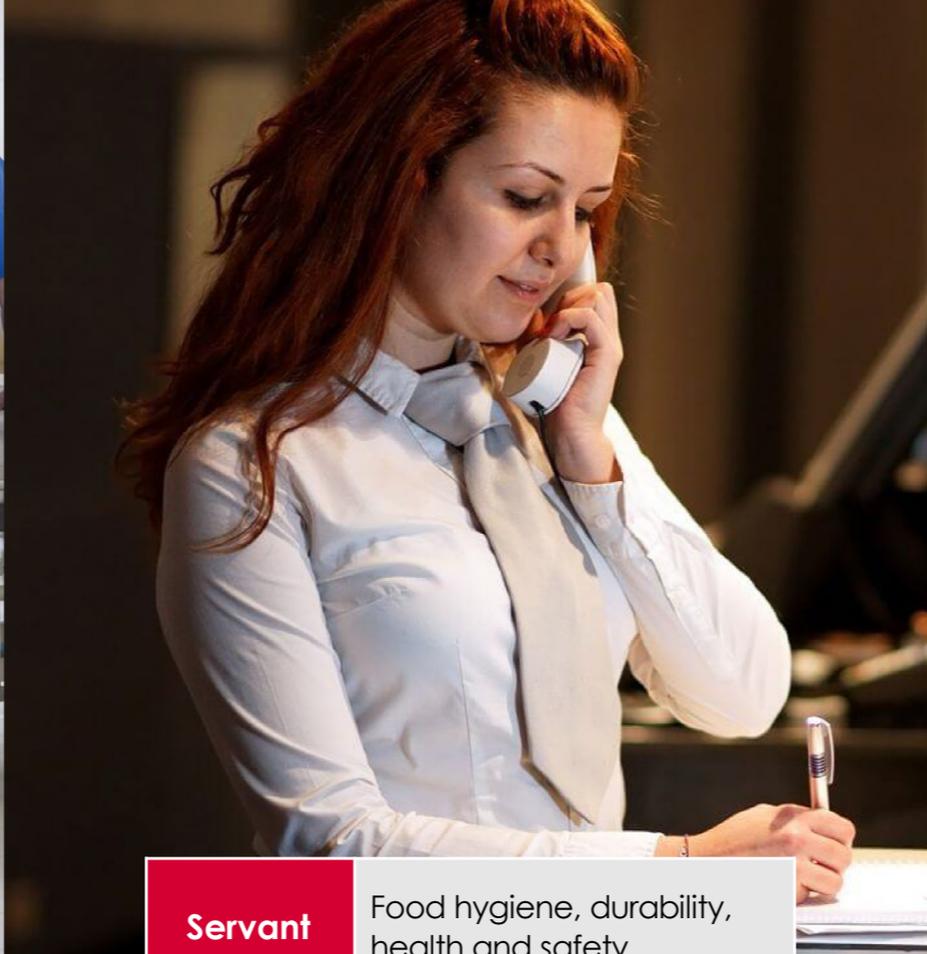
**Responding to
space function:**

Forming complex
internal and external
corners to any room
configuration and
radii of curvatur





Servant	Abrasion and chemical resistance, maintenance
Served	Easily cleanable, antimicrobial material



Servant	Food hygiene, durability, health and safety
Served	Appearance, Easily cleanable, abrasion and stain resistance



Servant	Hygiene, durability, health and safety
Served	Durability, appearance, impact resistance

Developing a 'Servant and Served' Material Strategy

The cost and time constraints of modern contracting requires a structured approach to materials choice. This helps keeps the number of trades on site to a minimum and facilitates efficient work package management. Using the same sub-contractor/installer for wall and ceiling surface materials makes sense as it allows the specialist to plan installation efficiently.

The idea of 'Servant and Served' was a core philosophy of US Architect Louis Kahn, although has been used in principle for the last two centuries.

It is the consideration of the different needs for each type of space and how it impacts on planning and materials choices. This can be readily applied to modern buildings, more commonly

known as 'back of house' and 'front of house' in hospitality for instance.



A Unified approach

Approaching the design of each space and specification with this principle in mind also promotes the use of flexible material types that can be both practical and functional. Using the same base material can save cost and time, simplifying maintenance and hygiene requirements.

Utilising a single surface materials in both servant and served space can:

- Save money
- Save time
- Reduce disruption
- Mitigate complexity
- Simplify Construction programme

The factors above for each type of space should be carefully considered using the following checklist:

- Base material choice
- Hygiene level
- Fire rating
- Substrate and preparation
- Installation and storage environment
- Thickness and rigidity
- Sheet size vs internal floor heights
- Impact and durability
- Fixing methodology
- Penetrations
- Accessories and ancillary elements

General Overview

Wall Coverings

There is a wide range of hygienic wall panels available, generally manufactured from FRP or solid PVC. The selection of a particular type of panel will depend on a number of factors, including the service life, warranty and fire rating required, the nature of the environment, the substrate, and the installation time available. It is preferable to use panels that are Food Taint Test Approved and are resistant to stains, chemicals, abrasion and fire. Where conditions allow, always install panels to a minimum height of 3 metres. Polypropylene sheets are also available but they exhibit a poor fire rating. Foam PVC sheets (as opposed to solid PVC) normally have a softer surface that is more susceptible to damage. Steel Faced Insulation Panels are also available.

Corners

Internal corners finishing wall to wall and wall to ceiling should have a coving with a minimum radius of 50mm for ease of cleaning. Flexible edges or silicone seal jointing should be used, depending on the application. External corners should be finished either with PVC angles

or PVC 'F' shaped corner extrusions. PVC walls panels may also be thermoformed on site, using an electric heat-forming machine.

Floor to wall finish

A wide range of flooring options is available. Some flooring has pre-formed coving therefore there are a number of jointing methods including the use of extruded PVC capping strips, division bars, birds beak, silicones etc. Always ask for technical information and drawings when considering jointing methods. When pre-formed floor coving is not installed a hidden fix PVC skirting with flexible seals may be used.

Panel joints

Panels can be joined with extruded PVC 'H' type division bars with flexible seal edges or rigid edges (for silicone sealing). Always use division bars with expansion gap guidelines to ensure any expansion of thermoplastic sheets is allowed for. Joints can also be welded where a seamless finish is required. **Joints can also be welded where a seamless finish is required.**

Silicone sealing

Ensure all joints/gaps are sealed with a high quality silicone. The low modulus silicone should have a good long term adhesion and be tested to comply with FDA standards and contain a food approved anti-fungal agent. Silicone should also have a broad operating temperature range. standards and contain a food approved anti-fungal agent. Silicone should also have a broad operating temperature range.

Adhesives for panel fitting

Use full coverage adhesive to avoid gaps behind the sheet. Ensure that the adhesive is suitable for the substrate. The adhesive should be odourless and be naturally anti-fungal. On slightly damp surfaces, the adhesive chosen should have a 'damp-tolerance'. Any adhesive used should also be fast curing and have a broad operating temperature range. Hygienic nylon drive rivets should be considered for use in conjunction with adhesive in damp areas. Full coverage, pre-applied, double-sided tape offers an alternative method of fixing to certain substrates.



Capping Strip

Capping strips are used in conjunction with our cladding to create an attractive finish at panel edges.



Internal Corner

These are used in conjunction with our wall cladding to create an attractive finish at internal corners.



Division Bar

Division Bars are used in conjunction with our cladding to create an attractive finish at panel-to-panel joints.



External Corner

These are used in conjunction with our wall cladding to create an attractive finish at external corners.

Ceilings

A range of PVC and FRP hygienic ceiling panels and tiles are available to suit suspended ceiling grids or to fix directly to various substrates. Always ensure that the panel/grid edges are sealed with a food grade silicone. In areas of high corrosion FRP ceiling grids will provide a long service life. Ensure PVC hidden-fix tongue and groove ceiling planks have a good moisture proof joint and are calcium colour stabilised. A 50mm radius PVC coving should be used for wall to ceiling finishing.

Substrate

All surfaces should be flat, dry, clean and free from dust or grease. When necessary, degrease with MEK, alcohol or ethanol. If necessary, use a primer to seal the substrate surface. It is recommended that adhesion tests are carried out to determine the suitability of the product for its application.

Installation

When possible use manufacturer approved installers who specialise and are experienced in fitting Hygienic Walls & Ceiling systems.



General Advice

If regular steam/pressure washing is to be used, seal any flexible joint skirting and coving with adhesive or silicone. This will prevent the pressure washing from lifting the flexible edges. Use Tin colour stabilised products to avoid discoloration, particularly in areas with sulphur and certain gases, in the atmosphere. Coloured covings, skirtings and bump rails can be used to differentiate areas for risk definition. When using PVC covings and skirtings choose products with a full range of injection moulded corners and end pieces. This ensure a neat and hygienic finish.



Ceiling panel
Hygienic tongue and groove ceiling panel

Fire Rating

Specify products that are fire rated to Class 1 as per BS Part 7 and, where possible to Class 0 as per BS 476 Part 6.

Fire rating: BS 476 Part 7 (1987) surface spread of flame - Class 1 BS 476 Part 6 (1989) fire propagation - Class 0* EN13501-1 B-s3, d0

(*when fixed to a non-combustible substrate)

Look for products that exhibit low smoke development in the case of fire.

Some wall and ceiling panels are available in a variety of colours. These may be chosen to create a more aesthetically appealing working environment, without compromising hygiene.

Where possible, choose a complete system from one supplier, to ensure full product warranty. Also ask for copies of fire and other certificates for your records.

Not all plastics are the same

- Made from foamed PVC Innovative, element of recycled content and is a 100% recyclable modern material
- VOC free
- Contains no dangerous chemicals, fibers or heavy metals
- Built to last a lifetime

Lightweight Sustainability

Beplas supports the aim to eliminate SINGLE USE PLASTICS – the most common types of plastic –carrier bags, wrappers, cups etc. Beplas is a Greenline sustainability accredited and are proud members of VinylPlus®

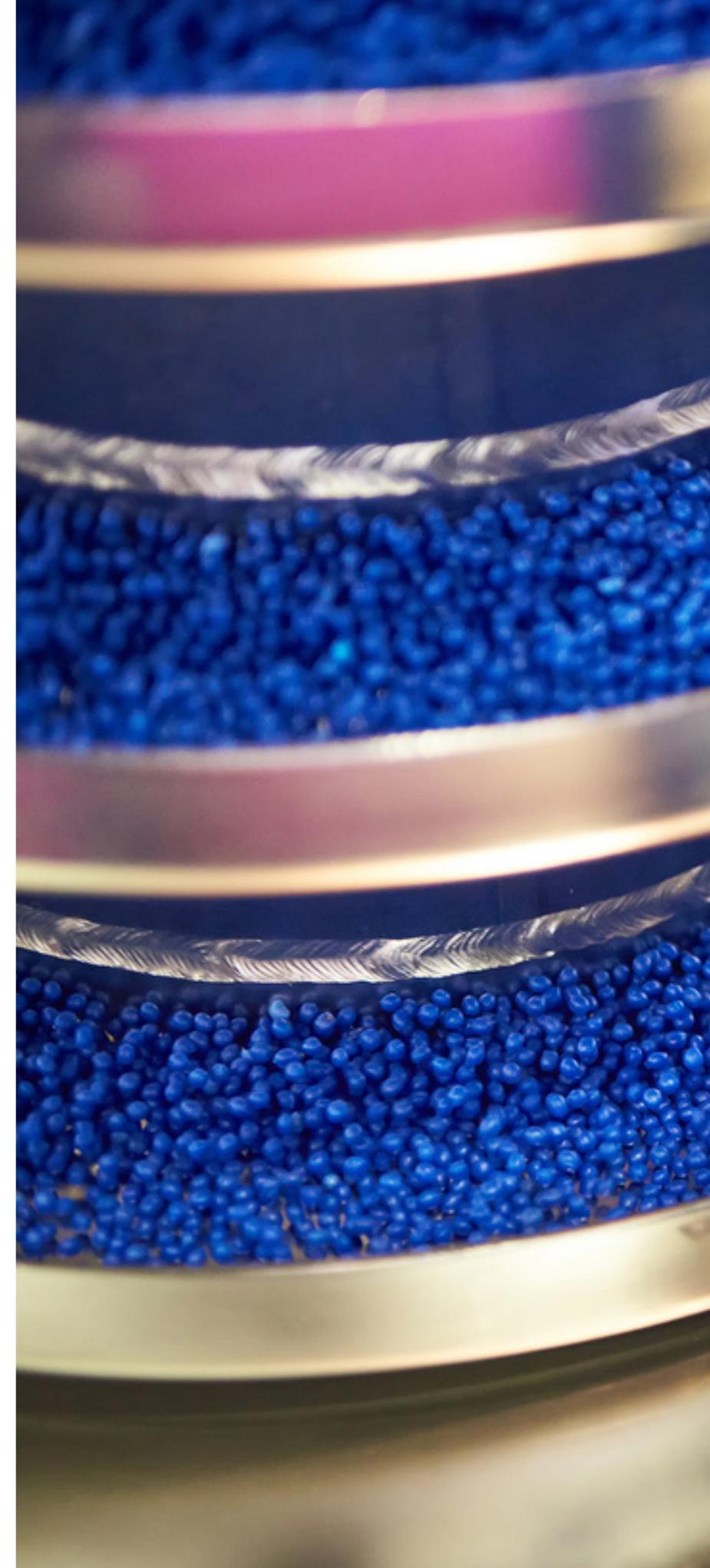
Our core philosophy:

- Minimise any detrimental impact on the world
- Improve systems through R&D
- Products are stabilised without the use of lead
- Highest quality and performance standards

Beplas products are 100% recyclable, VOC free, contain no formaldehyde, asbestos, lindane, PCB, PCP, CFCs, cadmium or other heavy metals. There are no monomers, Bisphenol or plasticisers in Beplas PVC sheets.

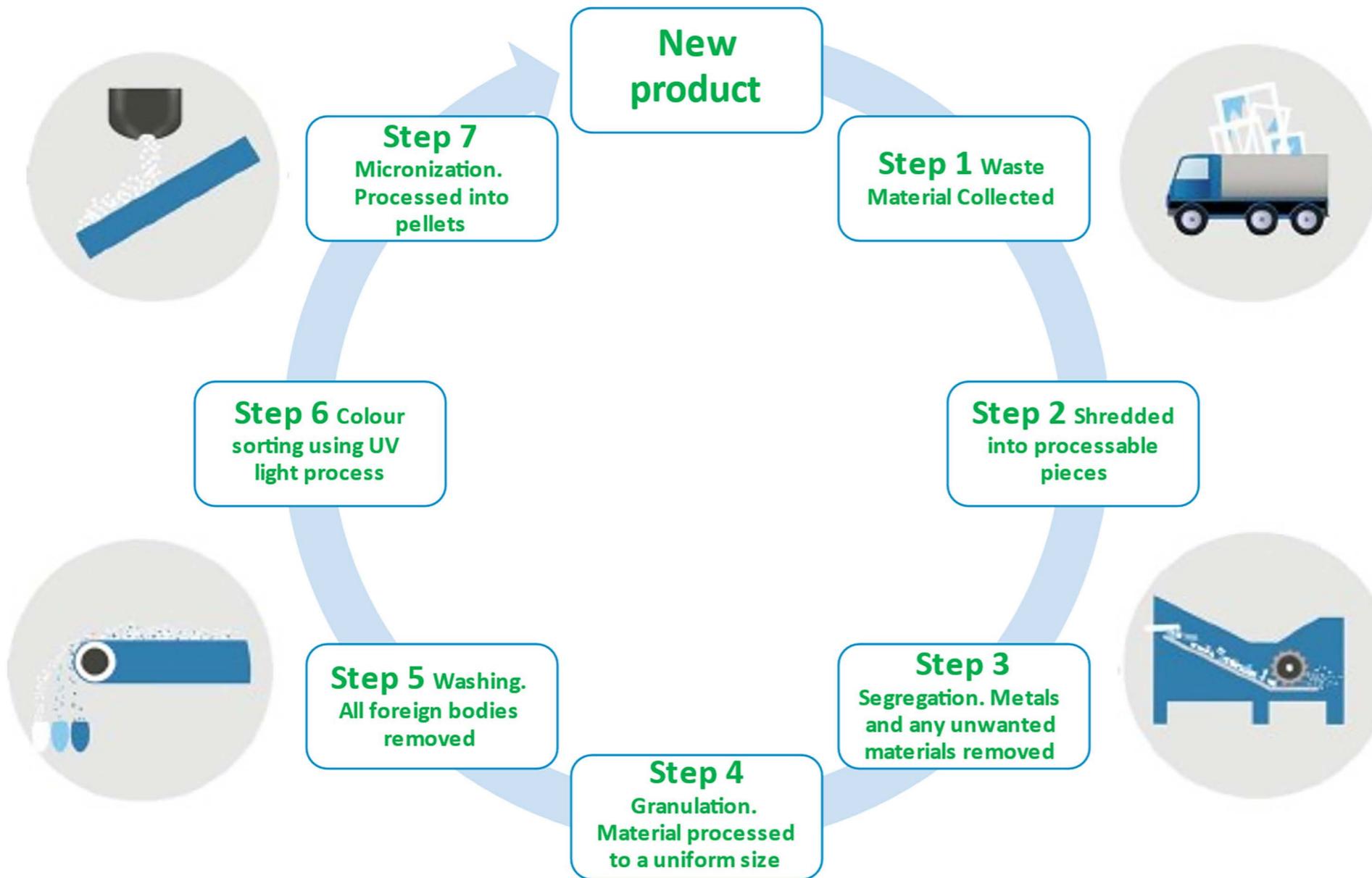
The use of our lightweight products promotes:

- Fewer deliveries to site
- Less fuel intensive
- Reduces impact on environment
- Reduced imposed load on building structure



Recycling process

Process takes approx. 7 days



Committed to Sustainable Development

- 771,313 tonnes of PVC recycled in 2019 by Vinyl Plus members
- 1.5 million tonnes of CO2 saved in 2019 by vinyl plus members
- Since 2000 and 5.7 million tonnes of PVC recycled by Vinyl Plus members and 11.4 million tons of CO2 saved

Long Term Maintenance

Beplas products are guaranteed for 20 years, are durable and built to last a lifetime of use. Our product requires minimum maintenance and can be cleaned using common household or industrial detergents.



Inclusive Environments

Beplas products come in a range of colours and textures. In accordance with design for inclusive environments, especially for the sight impaired and sufferers of Alzheimers Beplas recommend careful use of textures and contrasting/complementary colours to assist in navigation and visual comfort. Further information is available

here: dementia.stir.ac.uk/design/good-practice-guidelines/colour-and-contrast

CDM, Health and Safety, Wellbeing

Care should be taken when working at height to use proper safety systems and working platforms. Check MSDS for material handling information.

Product Samples



Concrete Ceramico



Concrete Grey



Concrete Light Grey



Copper



Granite

Samples of all products are available.

Swatches, Binders and
Individual sample pieces

Contact Mark Ashmore

Mobile 07775 157705

Email mark.ashmore@beplas.com

Suitable Substrates

Good quality fairfaced brick or blockwork. Well aligned joints bagged up flush. Straight to within 3mm over a 2m straight edge

Sand & cement rendering 1:3 to steel trowel finish.

12.5mm thick plasterboard.

Minimum 9mm W.B.P.

Minimum 9mm MDF.

Battens fixed at 400mm centres.

Ceramic tiles which are clean and securely bonded to substrate.

Certain sound painted surfaces (an adhesive test is advisable to ascertain compatibility).

Plastered surfaces - finished with steel trowel. (pink lightweight plasters generally not suitable).

Installation Temperature

A minimum ambient temperature of 14°C/57°F is required for installation.

Storage and Conditioning (on site)

Sheets should be stored flat, fully supported and left for 24 hours to attain the ambient room temperature prior to installation (min 14°C).

Substrate Preparation (by others)

Wall substrate must be dry and free from dirt, dust and grease. Remove any wallpaper, loose paint and/or other foreign matter that might impair adhesion.

Remove high spots and fill depressions in substrate surface.

Panels Supplier:

Beplas Hygienic Walls and Ceilings Ltd

Unit 7 Helix Business Park, New Bridge Road, Ellesmere Port, CH65 4 LR

Tel: 0800 413 758 Fax: 0151 355 7970

Reference:	Description:	Size:
K465047	Komastyle Deco Colour: Granite D30	2500 x 1250 x 8mm
K465082	Komastyle Deco Colour: Rusty Brown D31	2500 x 1250 x 8mm
K465083	Komastyle Deco Colour: Concrete Light Grey D32	2500 x 1250 x 8mm
K465084	Komastyle Deco Colour: Uni White D50	2500 x 1250 x 8mm
K465085	Komastyle Deco Colour: Uni Yellow D51	2500 x 1250 x 8mm
K465086	Komastyle Deco Colour: Uni Anthracite D52	2500 x 1250 x 8mm
K465087	Komastyle Deco	2500 x 1250 x 8mm

	Colour: Uni Light Grey D53	
K465089	Komastyle Deco Colour: Structure Steel Grey Cross D77	2500 x 1250 x 8mm
K465090	Komastyle Deco Colour: Leather Brown D78	2500 x 1250 x 8mm
K465091	Komastyle Deco Colour: Oak Rustical D01	2500 x 1250 x 8mm
K465093	Komastyle Deco Colour: Old Oak D02	2500 x 1250 x 8mm
K465094	Komastyle Deco Colour: Light Oak D03	2500 x 1250 x 8mm
K465095	Komastyle Deco Colour: Light Oak D04	2500 x 1250 x 8mm
K467791	Komastyle Deco Colour: Concrete Grey D33	2500 x 1250 x 8mm
K472602	Komastyle Deco Colour: Concrete Ceramico D34	2500 x 1250 x 8mm
K472603	Komastyle Deco Colour: Stone Grey Ceramic	2500 x 1250 x 8mm
D35K472604	Komastyle Deco Colour: Texture Vintage Grey D79	2500 x 1250 x 8mm
K472604	Komastyle Deco Colour: Texture Vintage Brown D80	2500 x 1250 x 8mm

Fire Rating

The majority of the complex composite Komastyle is a class 2 (BS476 part 7) fire rated Celuka sheet product. Class 1 (BS476 part 7) fire rated sheet available upon request.

Method of Fixing

Use Beplas adhesive or GPPA600 or Multibead.

Joint Detail

All panel joints should be covered with aluminium division bars, colour matched PVC joint strips or tongue and grooved.

Reference:	Size:
K5576867 (Aluminium joint strip)	3000 x 8mm

Edge Detail

Exposed panel edges should be closed with aluminium or PVC colour matched capping sections:

Reference:	Size:
K576785 (Aluminium capping strip)	3000 x 8mm

Corner Detail

Internal corners should be covered with either high impact aluminium or PVC colour matched corners, or have site thermoformed corners:

Reference:	Size:
K576868 (In/out corners)	3000 x 20 x 20mm

Abutments

- To window frames, door frames. Ask for Beplas detail drawing E4.
- To resin type flooring. Ask for Beplas detail drawing E5.
- To quarry tile flooring. Ask for Beplas detail drawing E6.
- To vinyl flooring. Ask for Beplas detail drawing E7.

Finishing

Apply Beplas Food grade silicone sealant (Ref. PSNW) in mouldings and around all panel edges, fasteners and fixtures.

Service Preparations

Allow a 3-4mm gap around all holes for Beplas FDA approved silicone sealant (Ref. PSNW).



About Beplas and Komastyle

Beplas is a leading supplier of interior surface solutions for hygienic applications. With the UK's most extensive range of internal wall and ceiling lining systems and ancillary products, we offer complete hygienic environments.

Whatever your industry, from healthcare, education, food and drink manufacturing to hospitality and retail, we have a solution to meet your requirements. All Beplas products are available on a supply-only basis or fully installed by our network of approved installers.

We supply hygienic cladding all over the UK and around the world.

We can help throughout the construction process from initial concept through to completion, our experienced staff have the knowledge and skills to guide you every step of the way. When it comes to hygienic environments, Beplas is the company to trust.

Samples of all products are available.

Swatches, Binders and
Individual sample pieces
Next day sample service

Contact Mark Ashmore

Mobile 07775 157705

Email mark.ashmore@beplas.com



KOMASTYLE
DECORATIVE PANELS



Beoplus
THE HYGIENIC WALL & CEILING COMPANY

The premium brands with
a global reputation