

<b>Product Description</b>	Surfaceform Relief is a range of seamless sculptural wall surfaces made from a series of pre-cast panels that are bonded & screwed to the substrate. The panel joints are then filled and sanded, and a final decoration is applied to achieve a seamless sculpted surface.
<b>Manufacturer</b>	Surfaceform
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<b>Location</b>	As per drawings
<b>Design</b>	Inverted Fluted
<b>Panel Sizes</b>	Panels can be created as bespoke sizes as per project requirements.
<b>Components</b>	Glass Reinforced Gypsum (GRG)
<b>VOC Content</b>	No Measureable VOC Contents
<b>Fire Rating</b>	The Surfaceform relief product non-combustible and rated as Class A1 is providing no contribution to fire in accordance with EN 13501-1
<b>Recycled Content</b>	17% (minimum)
<b>Finishes</b>	Supply & Install: The finish can be filled and sanded for a seamless look ready for decoration with Paint.
<b>Colour</b>	Natural White gypsum
<b>Sealer</b>	Defined by selected finish
<b>Lighting</b>	Lighting is very important and should be carefully considered to ensure it complements each of the designs. To get the best results it is important to light the surface to achieve the optimum interplay between highlight and shadow. The walls can either be down lit, up lit or even cross lit for any design that runs vertically. The angle of incidence for the light source to the face of the wall can vary depending upon the effect required, but as a guide we would recommend that the light strikes the wall surface at an angle of between 8-25 with 15-18 degrees being about the optimum. For a 3m (10) high wall you would set the halogen spots into the ceiling about 300-400mm (12-16) from the face of the wall. The light will be striking the wall at about 8-12 1m (34) from the floor, 12-15 at 1.5m (5) and 19-23 at 2m (68) up. For even more dramatic effect it is possible to install LED colour change Luminaire lighting in combination with a programmable DMX control system. This makes it possible to wash the wall in almost any colour, have different colours fading in and out or any number of unique programmable coloured lighting effects.

<p><b>Panel Specific Details</b></p>	<p>Design: Inverted Fluted                  Dimensions (MM): 1200x800x15D                  Weight(M2): 15KG                  Finish: Suitable for painting by others – spray painting is recommended                  Orientation: Vertical</p>
<p><b>System Weight</b></p>	<p>The panel dimensions vary depending upon the design, but most designs are either 1800mm x 600mm (70-<sup>7</sup>/<sub>8</sub>" x 23-<sup>5</sup>/<sub>8</sub>") or 1200mm x 800mm (47-<sup>1</sup>/<sub>4</sub>" x 31-<sup>1</sup>/<sub>2</sub>"). The overall thickness of the panels may vary from 14mm – 25mm (<sup>1</sup>/<sub>2</sub>" – 1") depending upon the depth of the sculpting to the surface for the different designs. The panels vary in weight depending upon the actual design and the weight of the panels will vary from 11 – 20kg /m2 (3 - 4.5lbs/ft2).</p>
<p><b>Technical Characteristics /Other</b></p>	<p>Mould &amp; mildew resistance, ASTM C109M: =&gt;33Mpa, ASTM C-348: =&gt;10Mpa</p>
<p><b>Programme:</b></p>	<p>Relief is installed onsite as late in the build as possible and may need to be protected during completion of the project. Drying times will vary with site conditions.</p>
<p><b>Lead Time</b></p>	<p>10-12 weeks from order to allow for batching and batch sample approval (Subject to workload)</p>
<p><b>Drying Time</b></p>	<p>It is recommended to allow the adhesive to dry before the jointing agent is applied. The jointing agent should also be allowed to dry fully before any paint finishes are applied. Drying times will vary with site conditions.</p>
<p><b>Substrate</b></p>	<p>Substrate is critical to achieve a good finish and should allow for the product to be well aligned when fixed. It is important that a solid flat surface with no bumps or hollows is provided for fitting. any internal external corners must be plum to allow for a straight alignment of the panels and to achieve a true straight corner.</p> <p>Surfaceform panels are non-combustible, however the substrate to which the panels are to be applied must be constructed in accordance with the minimum fire ratings that are required for the project.</p> <p>To achieve an accurate installation that will not crack over time it is necessary to have a substrate that can be screwed or fixed directly into and that is inherently stable and unaffected by changes in temperature or humidity.</p>

Surfaceform recommend that the substrate is constructed from one layer of 12mm plywood followed by a layer of 12.5mm foil backed plasterboard/drywall. The reason for using foil backed plasterboard is to ensure that the moisture for the bonding adhesive does not permeate into the plywood and cause it to expand or move. If foil backed plasterboard is unavailable, then apply a suitable moisture block primer to the plywood at least 24 hours prior to fixing a layer of standard plasterboard / drywall (GWB). A suitable primer is to be used as a moisture block for the plywood layer. Other suitable substrates include two layers of Hardie Villaboard, Blueclad board or one layer of versapanel by Euroform followed by one layer of foil backed plasterboard. Surfaceform Relief will be installed onto a double layer of plaster board, but it is necessary to insert self-tapping aluminium drywall plugs into the wall for each screw.

**SUBSTRATE TOLERANCES** - It is critical that the substrate to which the panels are to be applied is solid, flat and true without any sudden bumps or deviations. Bumps or flares in the wall will cause misalignment between the panels which may remain visible in the finished work.

If the design is to run around an internal or external corner, it is vital that the corner is vertical otherwise it may be necessary to pack out one or both walls to ensure a straight and true corner. Acceptable tolerance +/- 1mm in 600mm (+/- 1/32 in 24) & +/- 3mm in 1800mm (+/- 1/8 in 72).

**DESIGN** - Surfaceform panels are only suitable for internal use or areas that are not exposed to the elements or large temperature fluctuations. Surfaceform does not recommend any single, seamless sculptural wall exceeds 40m (400ft<sup>2</sup>) in surface area, with no linear run longer than 10m (30 ft), as with larger walls there is a risk of small hairline cracks developing between the panels due to slight substrate movement or thermal expansion and contraction. (If asked to undertake larger expanses of wall it will be at client risk).

**INTERNAL & EXTERNAL CORNERS** - It is possible to create both internal and external corners with Surfaceform designs. Please note however, that it is a time-consuming process that will add additional cost. You should be aware of this when specifying Surfaceform walls in situations where there are multiple changes of surface plane within a small area. It is not possible to run a Relief wall around an entire room and have the pattern joining up to itself again.

External corners are created by cutting and mitring the panel and then installing the panels around the corner. 2mm of the panel is lost in the cutting and mitring process but this is made up with the filler. The nose of the corner is then hand shaped with a rasp file or sandpaper to create a pencil round that still reflects the sculptural shape of the corner.

Internal corners can also be created by mitring the panels. However, in mitring the panel, a section of the design is lost with the consequence that the sculpted lines of the surface will not align. It is therefore necessary to use two panels instead of one which can lead to significant panel wastage.

	<p>CURVED WALLS - designs can be installed onto curved walls provided they are of a consistent radius. The minimum radius for curved walls is 2500mm (8 feet). All the panels are custom made for each project to the required radius and special packing crates are made to support the curved panels. There are additional costs for the mould bases, additional casting time and the custom-made crates.</p> <p>PLASMA TV DETAILING FOR A FLUTED WALL - The Eurofox batten system provides a support frame for the Surfaceform Relief wall and provides good ventilation to the back of the TV. The Eurofox Battens are clad with a single layer of 12mm Plywood or moisture resistant Medite MDF. The TV aperture is cut into the MDF using a CNC router to the exact dimensions +1mm for clearance. The Plasma TV is fixed onto an extendible mounting bracket which enables it to be pulled out and demounted in the event of any technical problems with the TV. The precise cutting of the aperture ensures that when the TV is pushed in flush with the wall a consistent shadow gap is achieved all around.</p>
<p><b>Installation</b></p>	<p>The panels are attached to the substrate (or metallic sub frame) with adhesive and mechanical fixing.                  Site templates will be required.                  Areas with great temperature variations are not suitable.                  Areas greater than 35msq or 9M in length will need an expansion joint designed into the finish.                  Larger walls are prone to small hairline cracks appearing on the surface due to substrate movements.</p>
<p><b>Programme</b></p>	<p>Finish is installed on site as late in the build as possible and may need to be protected during the completion of the project. Prior TBC at Order stage.</p>
<p><b>Damage Areas</b></p>	<p>Minor damage can be filled with a repair filler or Surfaceform Repair Pack. Fill the damaged area slightly proud of the surface and as the repair material hardens, scrape back any excess filler to leave the repair flush with the surface. Repeat this process a second time if necessary and then sand down smooth ready for re-decoration. For larger scale repairs please contact Surfaceform on the number below and arrange for us to do repair or: Ask us for your own maintenance and repair kit which includes tools, repair materials and instructions.</p>

This document was created as a general guide for Surfaceform pro ducts and to help with specifications. This is a general overview and offers no guarantee for any problems that may arise. Surfaceform or its employees will not be responsible or liable for any claim or action taken against them in relation to advice offered by this document.