



Szerelmey Faience - Extrusion Production Process

Unlike hand produced faience, extruded faience is mass produced using a largely automated process resulting in a machine-made finish and high production output. Extruded faience achieves a uniform look and is useful for very large areas of cladding in simple, regular shapes. Extrusion facilities have colour laboratories and are able to produce a great range of colours, finishes and textures.

The size and shape of extruded elements can be limited in terms of their height/depth/width by the size and configuration of the kilns, or the capacity of the extrusion machine. However, generally, extruded elements can be produced to a longer length than hand produced faience.

There is currently extensive development going into the extrusion process and facilities are looking at methods to produce more complex elements.

Different suppliers will vary slightly in their production methods, but will have the same general processes involved, of which the following is a summary.

Concept and Design

As with hand produced faience, the process begins with initial consultation between Szerelmey and the architect/client to discuss the concept, design, colours and textures. We will advise on feasibility and consult with our suppliers – invariably we will take the client to visit one of our suppliers. This enables the client to understand the process of production from start to finish and also highlights the versatility and equally the limitations.

Once the client has finalised their drawings the Szerelmey team begin designing the installation methods and suitable fixings.

Making the Die

Once the profile shape has been agreed by the client and supplier, a metal die is produced. Extrusion works on clay being pushed through the metal die, at pressure, to produce the profile shape. Producing the die is expensive, so the more variation in profile shapes, the greater the cost implications.

Creating the Pieces

Each extrusion facility will vary slightly in their method, but they will all be very familiar with the type of clay they use. The clay is regularly tested for water content and therefore shrinkage, and is carefully monitored. Before the clay is worked it will pass through a magnet to remove any iron tracings (this applies to hand produced clay too). The clay will be fed via a mechanised system into the extrusion machine. The project-specific die will be attached to the “mouth” of the extrusion machine, and the clay will be forced through this at pressure, to create the profile of the elements. The pressure the clay is forced through the die is crucial, and is closely monitored. As the pieces leave the die they are cut into lengths that are approximately 10% larger than the finished element needs to be - this is to allow for shrinkage in the kiln.



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Drying

The pieces are allowed to air dry, flat on racks, in special drying areas before being transferred into automated drying rooms. The air is circulated to ensure the clay dries evenly.

Glazing

The pieces are glazed. The “rules” of glazing are the same as those in Hand Production; the glaze is applied in thin layers, with the glaze component reacting to the heat to produce colour. However, in most extrusion facilities the glaze is applied by machine, not hand.

Through Body Colour

Colour can be achieved through the material without glazing. This is termed through body colour and is the result of a combination of clays, stains and minerals which are mixed with water and fired at high temperatures. Through body colours will not fade.

Kiln Firing

The pieces are kiln fired, with the process taking up to three days – generally, but not always, kilns at extrusion facilities are low in height (up to 140mm). This can have implications to the size and shape of the elements. Unlike the static kilns used for hand production, generally the kilns used in extrusion are tunnel kilns. The elements enter at one end and are slowly passed through the kiln until they emerge from the other end. The heat varies through the kiln, being hottest at the centre.

Cutting to Size

Once the pieces have been fired they are measured again and cut to the exact length required. If the ends are required to be glazed then the pieces have to be twice fired which has cost implications.

Fixing and Installing

Szerelmey’s specialist team custom design the fixings and installation methods for the external and internal faience cladding to accommodate virtually any design. The team then manages and implements the installation. Generally extruded faience is fixed using an open jointed rain screen system.