

## What do façade engineers do?

Façade engineers concern themselves with everything to do with a building's external envelope above ground level. Many names can be used to describe the envelope, for instance:

- Cladding
- Curtain wall
- Stonework
- Glass
- Masonry
- Other materials and cladding types

Some façade engineers are also skilled in roofing.

Façade Engineers will consider the performance of such materials and systems in various respects:

- Weathertightness
- Structural behaviour
- Interaction with the primary structure
- Thermal gains and losses through the façade
- Occupant comfort and energy efficiency
- Shading
- Condensation
- Ventilation
- Durability
- Sustainability
- Natural light admittance
- Fire behaviour of the building envelope
- Acoustic performance
- Safety and serviceability
- Security
- Maintenance and buildability

Façade engineers provide advice on both existing and new buildings. They may be involved in design, working alongside the architect, QS and structural and mechanical engineers, or may work within contracting or manufacturing. Alternatively, they may be involved in surveying or diagnostic and remedial work. Some façade engineers are involved in research and testing.

## What is a façade engineer?

Façade engineers come from a range of backgrounds but most usually architectural, structural or building physics. In order then to become a facade engineer, they have then developed a wider breadth of cladding skills and a deeper knowledge than they would encounter within their original discipline.

Many façade engineers will be **generalist façade engineers**. These are able to advise across the full range of materials, systems and performance types.

**Specialist façade engineers** will typically first have attained a level of knowledge across all façade types and then have chosen to specialise in one particular aspect of façade engineering. Examples are façade engineers whose emphasis is in building envelope physics, using analytical modelling skills; or façade engineers that specialise in a particular cladding material such as stone or glass. Parallels exist with other professions with generalist and specialist divisions e.g. legal where there are solicitors and barristers, and medicine where there are general practitioners and consultants.

It may be difficult for clients at the inception of their project to decide which type of façade engineer they require. A general practice façade engineer is best placed to determine this for the particular circumstances of a client's individual project and advise on façade specialisms that may be needed.

## What value can façade engineers contribute to a project?

- Performance led design. Delivering facades that do what is required of them!
- Excellence in design
- Risk control
- Driving cost out
- Continuity through fabrication and installation stages
- Attention to quality as the design becomes a physical reality
- Verifying performance.
- Cladding performance when the occupants move into the building
- Troubleshooting when problems occur

## How does this differ from what others in the design team already do?

Facades have become complicated beyond the skills of architects, structural and mechanical engineers. Facades require a dedicated engineer with a particular range of skills and experience, who understands their behaviour and can undertake their design, manufacture and installation better, more efficiently and more comprehensively than can a traditional architect, structural or mechanical engineer.

## The role of the SFE in setting standards

The SFE was established in order to:

- Act as a qualifying body for competency in the façade engineering profession. This involves assessment of candidates' experience and knowledge in facades and their skills to handle client's façade requirements professionally and competently.
- Protect clients' interests by allowing them to identify competent façade engineers through the membership grading system.
- Act as a learned body maintaining and raising the technical and professional standards of the façade engineer

The SFE is not a Trade Body. Membership is not achieved simply by subscription.

## What levels of responsibility might the different grades of membership of the SFE be expected to take?

### **Affiliate**

This is an entry level grade and as such, the bearer of this grade of membership will not yet have demonstrated the level of skill and professionalism in facades to be entrusted with a project without supervision.

### **Associate**

This is an intermediate grade. Bearers of this grade of membership might be expected to deliver certain aspects of a project, whilst working under the supervision of a Member or Fellow.

### **Member and Fellow**

The bearers of these professional grades of membership are considered capable of having the skills and experience and being competent to undertake delivery of a client's façade needs without supervision. Where Members and Fellows practise in a specialised area of façade engineering e.g. building envelope physics, they are considered to be sufficiently responsible and aware of the need to involve broader skilled façade engineers where required.

## How to involve a façade engineer in your project.

- Interview several candidate façade engineers in order to match their particular emphasis to the needs of your project.
- Insist upon individuals holding Membership of the Society of Façade Engineering.
- Involve façade engineers early in order to gain maximum benefit from their input.