



TIMBER FACADE SYSTEM

SCA Curtain Wall



SCA SmartTimber

SCA Curtain Wall.

Timber facade system for the future

SCA Curtain Wall is a prefabricated timber facade system that further develops the established curtain wall principle. By replacing conventional steel solutions with a load-bearing timber frame, it creates a facade solution with lower climate impact, significant design freedom and high precision in both production and installation. Each curtain wall element reduces carbon dioxide emissions by one tonne compared with traditional systems, making the climate benefit tangible already at element level.

The system is developed for projects where sustainability, architecture and industrial construction need to work together. The elements are produced indoors under controlled conditions and delivered ready for installation, providing a predictable process from design to completed facade. SCA Curtain Wall is tested, approved and ready for the market.

With SCA Curtain Wall, a well-proven construction principle takes on a new form in timber, adapted to today's requirements and the way we will build in the future.

60% LOWER CLIMATE FOOTPRINT

The construction industry accounts for approximately 40% of global carbon dioxide emissions and will need to undergo significant change in the coming years to meet tomorrow's environmental requirements.

SCA Curtain Wall delivers at least 60% lower climate impact than conventional steel solutions and reduces carbon dioxide emissions by one tonne per curtain wall element. With a timber-based frame, demountable modules and available documentation for certifications, it is a documented climate choice.

The modules can be dismantled and lifted down for reuse or recycling when needed, creating a long-term sustainable solution throughout the entire life cycle. Climate data in the form of EPDs and supporting documentation for certifications is available.

ARCHITECTURE WITHOUT COMPROMISE

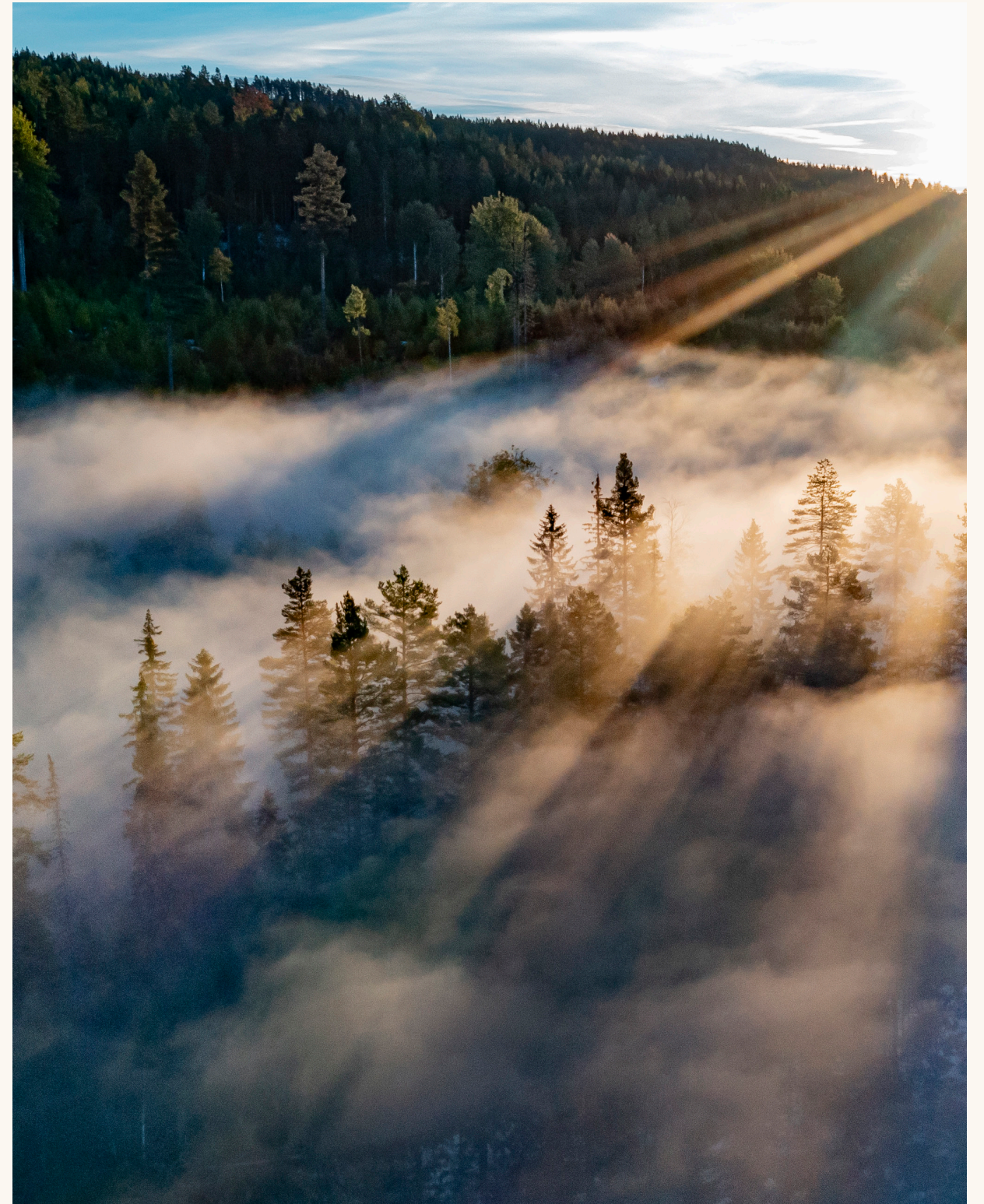
With SCA Curtain Wall, there is room for choice. A facade system can feature a glass surface across the full width of the module, several smaller glass areas, or no glass at all. There is also great flexibility in the choice of exterior facade materials, such as timber cladding, sheet metal, glass or ceramics.

The system offers extensive possibilities for adaptation. Projects often come with clear requirements from the client, ranging from energy performance to acoustic demands. With SCA Curtain Wall, the architect can design with variation and detail, giving the building a distinct identity in dialogue with its surroundings and strengthening the overall expression.

RELIABILITY FROM DESIGN TO FACADE

SCA Curtain Wall is delivered as finished elements, with glazing and facade materials already installed. Everything is completed before the elements are lifted into place. This makes the process cost-efficient, as no scaffolding is required, while also enabling projects where traditional scaffolding is difficult to use.

Construction time is shortened and the building is quickly made weatherproof. The system is prefabricated indoors under controlled conditions, providing a high degree of reliability and clear quality advantages. SCA Curtain Wall also creates a clear boundary between the structural frame and the external wall, making responsibilities easier to define throughout the project. The factory-produced elements reduce the risk of errors and contribute to an efficient, safe construction process with maintained quality.



Curtain wall – a building principle that changed the facade

Curtain wall is one of the most significant building principles in modern architecture. By separating the load-bearing structure from the facade, new possibilities were created for light, lightness, precision and industrialised construction. It is a technique with a long history and continued relevance for the facades of the future.

Behind many of the buildings that have come to define modern architecture lies a simple but crucial idea: to separate the load-bearing structure from the building's outer layer. When the external wall no longer needed to carry the building, new possibilities opened for architecture, material use and industrialised construction. Curtain wall introduced a light, non-load-bearing facade principle that brought together technology, aesthetics and function in a new way.

It was an innovation that changed more than the facade itself. Buildings could be made more open, more flexible and more precise in their expression. The facade was no longer a heavy boundary against the outside world, but a distinct layer of its own that could let in light, create rhythm and at the same time meet high requirements for climate performance, installation and efficiency. What may seem self-evident today was once a decisive shift in the way building was understood.

FROM INNOVATION TO MODERN CLASSIC

It's roots lie in the iron, glass and prefabrication technologies of the 19th century, but it was above all during the 20th century that curtain wall made its real breakthrough in the modern city. An early and often-cited example is the Hallidie Building in San Francisco from 1918, which is often highlighted as one of the first buildings in which the glazed facade clearly appears as a separate layer in front of the structure. Here, it became clear what the new building logic could offer: lightness, transparency and a facade that not only protected the building but also gave it a new architectural expression.

In the post-war period, curtain wall became a natural part of modern urban development, including in Sweden. In Stockholm, this can be clearly seen in the Hötorg City towers, where the high-rise building and the industrialised facade system shaped a new city skyline. A few years later, Kulturhuset at Sergels torg gave the same building principle a more public dimension, with

the glass facade as an expression of openness, light and contact between building and city.

WHY THE TECHNIQUE REMAINS RELEVANT

What makes curtain wall so significant is its ability to combine several values at the same time. For the architect, it offers a high degree of freedom in working with proportions, light, material choices and expression. For the developer and the design process, it creates the conditions for high precision, efficient installation and clear interfaces between different parts of the building. And for construction more broadly, curtain wall has become an important part of the development towards more industrialised, predictable and resource-efficient processes.

The technique is well proven and has, for more than a century, been developed and refined in line with new requirements, new materials and new architectural ideals, while the basic principle has remained the same – to free the facade from its load-bearing function and thereby create greater opportunities in both design and construction. That is also why curtain wall remains so relevant.

From that perspective, SCA Curtain Wall becomes a natural continuation of a long, innovation-driven history. Here, a proven and well-established building principle takes on a new form in wood, built on the same core idea of lightness, precision and architectural freedom.



CURTAIN WALL SHAPES THE MODERN CITY

From the Hallidie Building in San Francisco to the Hötorgsskraporna towers in Stockholm, curtain walling developed from a technical innovation into an architectural ideal. The self-supporting facade system of glass and metal enabled lighter structures, generous daylight and rational, industrialised construction and came to define the silhouette of the modern city throughout the 20th century.

Challenges that drive development

A shared participation in a research project brought the architectural practice Equator and SCA together. It was there that a connection was established which would soon lay the foundation for the innovative facade system SCA Curtain Wall.

The starting point was that, at the time, Equator was working on a project in which a traditional facade system made of steel and aluminium was to be used. The client for the project was challenged to use more wood in the project, which brought certain challenges with it.

“Equator presented the challenges to us and identified a need for solutions that enable construction with lower climate impact, something we immediately responded to,” says Johan Larsson, Business Developer at SCA.

The problem lay in a lack of system-based solutions for the efficient use of wood in the construction industry. Through dialogue and market research, the idea emerged of a facade system in which carbon-intensive components are replaced with wood in order to reduce climate impact.

BALANCING A PROJECT'S CLIMATE IMPACT

In dialogue with customers, the new facade system has been well received. This is both because the system responds to requirements for low climate impact and because it can be used with all structural systems. Since the elements are installed by crane directly from the outside, the need for scaffolding is reduced, enabling both cost and time savings. In addition, installation is simplified in situations where it would otherwise be difficult to accommodate scaffolding.

- A major advantage is the time-efficient installation, which means that you quickly get a weathertight building, whether it is a new-build project or an extension, says Johan.

Johan compares a project's climate budget to a bucket that must hold the project's entire climate impact. If the structural frame is built in concrete, the bucket fills up very quickly. This, in turn, places demands on other parts of the project to maintain a low carbon level in order to meet the project's climate requirements.

By using SCA Curtain Wall, where components traditionally made of metal have been replaced with wood, the bucket fills up more slowly than it would if a traditional curtain wall system had been used.

- We do not mean that wood should be used for its own sake. The right material should be used in the right place, since different projects have different conditions. But the facade system can function as one piece of the puzzle in efficient material use, says Johan Larsson.

The construction industry is facing both stricter climate requirements and a world marked by uncertainty, which is increasing the need for stable and predictable solutions. With SCA Curtain Wall, there is a clear strength in the fact that the entire chain, from raw material to production and delivery, is located in Sweden. This creates reliability in both delivery and execution, while also enabling close collaboration throughout the project.

The initial market research clearly showed that the facade market is underdeveloped in many respects. The lack of prefabricated solutions and systems that meet the requirements for commercial properties points to a need for new ways of working. But where there are challenges, there are also opportunities.

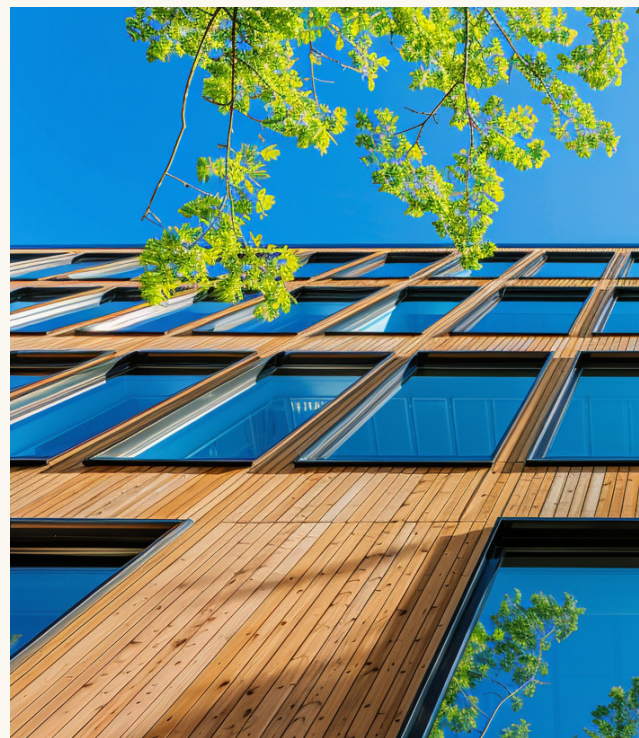
- The facade system has been tested and approved, and we look forward to delivering it in upcoming projects, Johan concludes.



PARTNERS IN THE PROJECT

The architectural practice Equator initiated the idea behind the system and has contributed expertise in facade systems, as well as developing the drawings. Norrlands Trähus produces the elements and has contributed knowledge of industrial production to the project. The company also has full-scale models of the system available for customers to view. SCA Wood has provided financing, project management and expertise in timber.





Facade system with architectural freedom

The requirements for sustainable construction influence many of the decisions made in a project. For Louise von Bahr, architect at Equator, this means working with solutions that both meet climate targets and create the right conditions for the architectural design.

Equator is one of three parties behind the development of SCA Curtain Wall, a facade system in which components traditionally made of metal have been replaced with wood. The result is a system that can reduce climate impact by at least 60 per cent.

- In projects today, climate impact is a key issue, not least because it affects both the requirements set and the conditions of the project, says Louise.

A TOOL FOR ACHIEVING CLIMATE TARGETS

SCA Curtain Wall consists of prefabricated elements manufactured by Norrlands Trähus and delivered to the construction site ready for installation. The facade system has been developed to be adaptable already at element level, with significant opportunities to vary the expression.

The system is a competitive alternative to traditional facade systems, while also giving architects and developers a concrete tool for achieving their climate targets.

- There are many projects where, for various reasons, you are forced to work with materials that have a high carbon footprint. In those cases, using SCA Curtain Wall can be a way to compensate and create favourable conditions for meeting the requirements set for the project, says Louise.

A SYSTEM DESIGNED FOR THE ARCHITECT

The system is designed so that each element can be adapted based on the needs of the project, with variation in, for example, cladding and insulation. At the same time, it creates a clear structure in which some parts can be fixed, while others can be developed freely to shape the building's architectural expression. For the architect, this means a flexible and user-friendly way of working, designed to meet the needs and challenges that arise throughout the project.

- It's like a menu, where you can choose different components depending on what the project requires," says Louise.

This gives the architect a flexible foundation to work from, where both function and expression can be developed within the framework of the system.

SCA Curtain Wall is manufactured from wood from the forests of northern Sweden, with production and installation carried out in close proximity to the raw material. This creates both reliability in delivery and more efficient transport.

- The fact that we can produce and deliver high-quality facade systems locally is, in my view, a major strength, says Louise.

The work on SCA Curtain Wall shows how new solutions emerge through close collaboration between architecture, industry and production. This type of system creates new opportunities to fundamentally influence both the construction process and climate impact.

- Today, architects have the opportunity to move from being passive recipients of solutions to actively contributing to improving them. I believe that we, as architects, need to become much better at engaging with production and driving product development at a larger scale, Louise concludes.



Shorter construction time and lower climate impact

Reducing construction time by several weeks can result in significant savings in larger projects. With a prefabricated wooden facade system, the building can quickly be weatherproofed and climate impact can be reduced by 60 per cent or more.

Peter Rhensbo is the CEO of Norrlands Trähus, one of the companies behind SCA Curtain Wall. For him, the key advantage is the ability to combine shorter construction time, lower climate impact and high precision in a single facade system. Behind the time savings is a high degree of prefabrication and a system that, in practice, moves a large part of the work from the construction site to the factory.

- One of the strengths of SCA Curtain Wall is that the system can be installed very quickly. You could install three facade elements per hour. In other words, you can get a great deal done in a single working day, says Peter.

Thanks to the prefabricated elements, the building envelope can quickly be made weather-tight, allowing interior work to begin immediately. The facade elements are installed by crane from the outside, which reduces the need for scaffolding.

- For larger projects, this means that the construction time can be shortened by several weeks, which can result in major cost savings, says Peter.

The system not only offers technical advantages, but also provides considerable architectural freedom, with the possibility of combining different facade materials and integrating large areas of glazing without compromising the efficiency of the building system.

CLIMATE REQUIREMENTS DRIVING NEW SOLUTIONS

The requirements for new-build projects to meet specific limit values for climate impact are increasing. This is driving a development in which material choices and construction methods are being reassessed.

- Today, we are actively working with many of our customers to minimise the amount of metal in projects, in order to reduce carbon levels and meet the climate targets set for the project. Being able to present a product that is almost entirely metal-free is therefore a major step forward, says Peter.

By minimising the amount of metal, SCA Curtain Wall can help reduce the project's overall climate footprint. At the same time, this is part of a broader transition in the construction industry, where stricter requirements for climate performance and efficiency are changing how projects are planned and delivered.

- We do not have a tradition of building taller timber buildings, which is why there is a knowledge gap that needs to be addressed. At the same time, the climate requirements mean

that we need to change the way we build, and that is where new solutions become an important part of development, says Peter.

PRECISION FROM DRAWING TO INSTALLATION

To achieve the full benefit of SCA Curtain Wall, it needs to be integrated early in the project so that the structural frame can be adapted and the solution can be both functional and efficient.

- Our projects are designed in 3D for a high level of precision. Combined with the fact that SCA delivers timber components with tolerances of around one millimetre, this allows us to produce elements that fit exactly. This creates predictability in both production and installation. Once in place, the system is flexible, with adjustment options in the suspension system, says Peter.

With architectural expertise, material knowledge and industrial production, all three parties behind SCA Curtain Wall can guide clients and designers at an early stage and ensure that the system is used in the best possible way. This creates the conditions to maximise efficiency and climate benefit in each individual project.

- To realise the full potential, we need to be involved early and work together with the project team. That is when we can really make a difference, Peter concludes.



Technical information

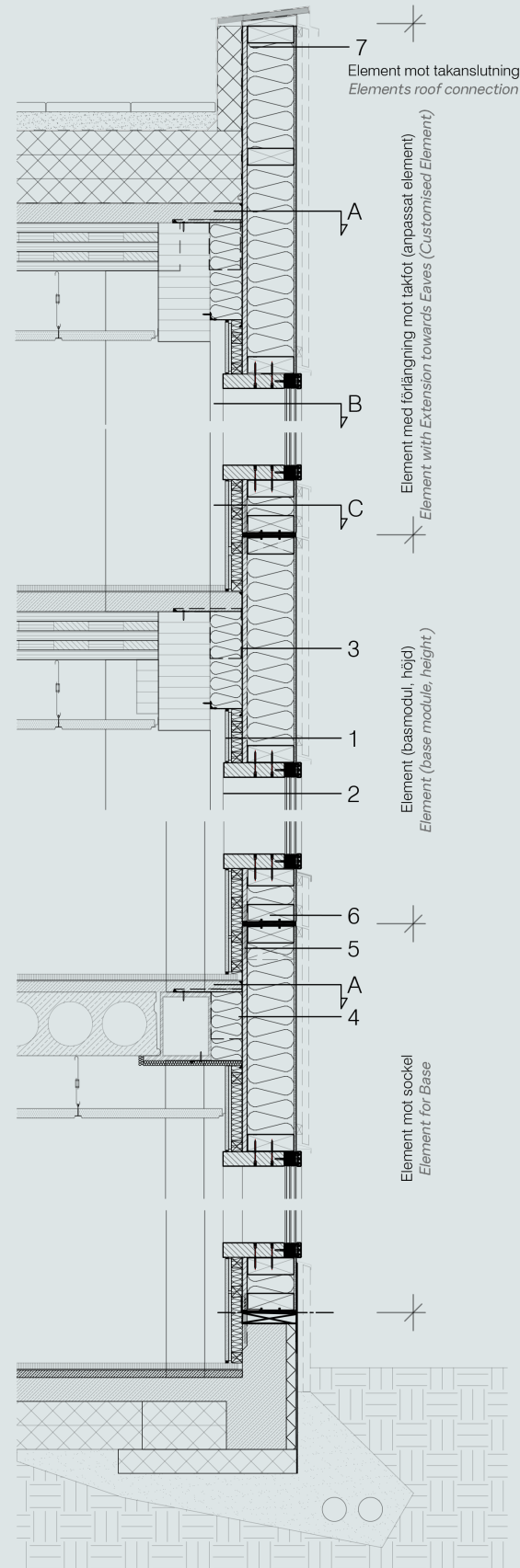
- Module (WxH): 2,7x4,0m
- Element thickness 224 mm
- Installation wall 70 mm
- Internal frame depth 250 mm
- U-value 0,16 W/m2K including installation wall
- Opening (KYM): 2.54*2.54 m (in max option: 2.72*2.54m)
- Reviewed on fire safety according to BBR and EKS
- Third-party tested according to SS-EN 13830 Curtain Walling - Product Standard
- Designed and dimensioned to meet requirements according to current Eurocodes

TECHNICAL DATA FROM THIRD PARTY TESTING

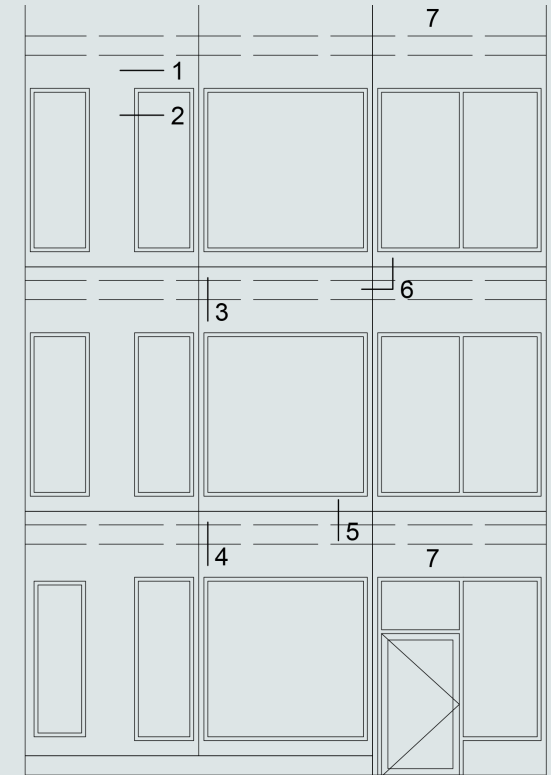
Technical data from third party testing conducted by IFT Rosenheim NB 0757. With reference to declaration of performance DoP-SCA-250701-CW and classification report 24-004302-PR01.

Essential charectistics	Reference EN 13830	Standard	Declared classification	Declared values
Watertightness				
Watertightness	4.4	EN 12154:1999	R7	Pmax 600 Pa No water penetration.
Dynamic Watertightness		EN 13050:2011		+168 Pa / +503 Pa No water penetration.
Resistance to windload				
Design load	4.6	EN 13116 2024	A4	(+) 1,06 kN/m2 (-) 1,34 kN/m2
Safety load	4.6	EN 13116 2024	A4	(+) 1,59 kN/m2 (-) 2,01 kN/m2
Impact resistance				
Internal/External	4.8	EN 14019:2016	I5/E5	950 mm drop height (1)
Air permability				
Air permability	4.15	EN 12152:2023	A4/A L4	±600 Pa (2)
Other characteristics				
U-value	4.14	EN ISO12631		0,16 W/m2K (3)
Max. characteristic total weight	4.5	EN 1991-1-1		0,83 kN/m2 (4)

1 Glas properties needs to be adapted to meet requirements on impact resistance.
 2 Same class and value declared related to total area (A4) and fixed joint length (AL4).
 3 Including installation wall.
 4 Calculated value.



Fasadsystemet kan appliceras till olika stomsystem.
 The façade system can be applied to different frame systems.



Exempel på öppningar i element.
 Examples of openings in elements.

The system is designed for the prefabrication of timber façade elements and is ideal for all constructions as it minimizes on-site assembly. The elements can often be lifted directly from transport, providing a simple and efficient installation with a ready-made wall.

The elements offer the client extensive design freedom while enabling rational manufacturing in a dry and controlled environment.

The system comprises a 70mm frame made of Swedish timber, infills with wood wool or other high-performance insulation, and glass profiles from Stabalux with 60mm Swedish timber frames. The cladding can be made of various materials such as wood, metal, or ceramics, limited only by imagination. An effective 3-step sealing system with rubber gaskets between the elements simplifies installation.

The system is developed for various structural systems, with customised hangings that accommodate both traditional steel and concrete frames as well as modern timber frames.

The profile system in openings can accommodate both double and triple-glazed insulated glass units and can be combined with operable building components.

Vertical and horizontal section 1:20

Elements
 The elements are clad with project-specific

façade cladding (e.g., wood or sheet metal).

- 1 Wall Construction
Cladding with fastening system.
Fiber cement board 9/11mm (depending on fire requirements).
Stud C24 195*70mm with mineral wool (wood wool, hemp as project choice).
Studs 45*70mm.
0.2mm vapor barrier.
20mm solid wood board.
Complemented on-site with installation wall:
45*45mm stud.
45mm mineral wool insulation.
2*12.5mm gypsum boards.

- 2 Stabalux system for windows with wooden frames, depth adjusted to the installation wall. Openings and inserts are project-specific.

- 3 Adjustable element suspension for glulam beam.

- 4 Adjustable element suspension for steel beam

- 5 Vertical interlocking brackets between elements

- 6 Specially developed seals between elements and other building parts

- 7 Customized elements for roofs, corners, etc. Designed for each project.

Sustainability

Growing, well-managed forests are the foundation of the value SCA creates. The forest is refined in competitive industries into products with long-term growing demand, while new trees are planted to secure the future. As an SCA customer, you are part of the positive future we help create.

We have built an integrated and well-developed industry that uses the whole tree to maximise its value. From the raw material, SCA creates renewable products that benefit customers around the world. We offer packaging paper, pulp, wood products, renewable energy, services for forest owners and efficient transport solutions. With 2.7 million hectares of well-managed forest in northern Sweden, Estonia, Latvia and Lithuania, SCA is Europe's largest private forest owner.

CHOOSE WOOD FOR THE CLIMATE

SCA Curtain Wall is made from raw material sourced from our slow-grown forests in northern Sweden. Where the properties of the raw material contribute to strength, dimensional stability and long service life. Control over both raw material and production creates strong conditions for traceability, documentation and responsible material use throughout the entire chain.

As a tree grows, it absorbs carbon dioxide. The tree is then turned into wood products that continue to store this carbon for a long time. A timber building can be used for a hundred years or more.

CONTACT



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