



NORDIC • SCANDIC • CONTINENTAL • TRADITION • PATIO

# Skaala Window Book

# Skaala Windows



## Skaala in brief

Skaala Windows and Doors Ltd is a Finnish company specialized in delivery and service of complete solutions for doors and windows and was established in 1956. Over the years Skaala has grown from being a local carpenter company to becoming one of the most influential, Nordic manufacturers in the business. Skaala has a large share on the domestic market and exports products to the other Nordic countries, Great Britain and Russia.

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## Skaala – Quality joinery since 1956

### The most comprehensive product family on the market

We can assure that you will find products that meet your needs and wishes from the most comprehensive window family on the market. In addition to the full range of windows, Skaala also offers a comprehensive variety of interior, exterior and balcony doors as well as sliding and folding patio doors for many needs.

### Tailor-made

Our production originates from the tailor-made philosophy of the 1950's. Today this means an optimized use of modern technologies, materials, methods and information systems in an industrial environment.

The Skaala products are always manufactured on a made-to-measure basis, both for new buildings and renovation projects. The customer is free to choose the dimension, shape, colour and glazing of the Skaala Windows, as well as ventilation components, spacers, ornamental lattices and other accessories that affect the functionality and appearance of the windows, such as Venetian blinds.

In addition, you are able to choose the spacer for the glass element, which matches the colour of the frame and is in harmony with the product's main colours. White and gloss colours as standard.

Skaala also offers you the possibility to design the inner frame for all of the windows; you can choose between a plain or decorated inner frame.

### Production of own insulating glass units

Skaala's own production of insulating glass offers modern and energy efficient solutions competitively without expensive special structures. Skaala cooperates closely with the leading glass manufacturer Pilkington. The benefits include:

- The best combined glass on the market: excellent thermal efficiency and solar control in the same window or door structure
- Inexpensive special glass options thanks to own glass production
- Flexibility and short delivery times
- 10 year density guarantee on Skaala products, other manufacturers only provide a 5 year guarantee.



#### Quality Timber Concept in all products – 2 high grades available

The laminate process uses slow grown Northern European red wood to ensure strength and performance. Finland is reputed as a European leader in ecological sustainability. Nothing is more environmentally sound than wood. All timber materials are sourced from sustainable, renewable and environmentally managed forests.

**Skaala Regular** is a high-quality timber product carefully selected from vast and well-maintained forests in the middle parts of Finland. The laminated and finger-jointed quality timber pioneered by Skaala ensures solid structures and good base for all surface treatments. Skaala Regular is used as standard in all products.

#### Skaala Premium – the ultimate enhancement

Skaala Premium timber is sourced from the Northern part of Finland, Lapland. The sustainability of the Premium timber is based on especially slow growth in demanding weather conditions. The density of the timber makes the material harder, which prevents bending regardless of high level of humidity and temperature. For Premium quality Skaala uses a selected network of small sawmills in order to ensure the top quality of the material used in window production. Premium Quality is delivered as an option.



## With Skaala Windows you save both energy and the environment

### Energy and environment

As a result of many years' research and development, Skaala opened Finland's first special production line for low energy windows in the beginning of 2008. The development work and low energy solutions were also rewarded by the Finnish Association of Civil Engineers (RIL) in 2007, since Skaala developed low energy windows and doors for the low energy apartment house project (MERA), which started in 2003. The award was given by the President of Finland.

In 2008 Skaala supplied Alfa windows for the first low energy apartment house building in Scandinavia. Finland is a renowned European leader in ecological sustainability.

### Environment and safety are important issues

Taking care of safety and the environment is truly a part of our daily routine. By safety we naturally mean both the occupational safety of our employees and the user safety of our products. The materials used in the manufacturing process are utilized fully and any waste is recycled almost altogether.

Our products are environmentally friendly in themselves. Due to their long-term durability and modest need of service they only tie down minimal resources, while their energy efficiency also decreases the residential energy consumption.





# Skaala Nordic



TIMBER  
HEART





Inward Opening Double Sash  
LOW ENERGY SOLUTION



# Skaala Nordic



## Nordic know-how for demanding building concepts

In modern construction and rebuilding, window solutions which consume little energy are often chosen. As a pioneer in the trade, Skaala offers the most energy efficient windows for modern building, with both operating and fixed constructions. Please note that an efficient soundproofing is also one of the standard qualities of an energy efficient window.

### Nordic know-how for demanding building concepts:

- Low energy and passive houses
- Massive log houses
- Renovation projects

The energy classification of the Skaala Alfa and Gamma windows is based on the current official system for energy classification of windows in Finland. Each window model has been tested using standardized methods that are independent of the operations at the research centre. To prove that the energy classified window has been tested, it is equipped with an official energy classification label.







**Alfa window**  
Frame depths  
U-Value down to  
dB-Value up to

175, 210 mm  
0,76 W/m<sup>2</sup>K  
Rw 51

## The Inward Opening Double Sash System

The Inward Opening Double Sash System offers:

- Top energy efficiency
- Excellent soundproofing
- Low maintenance – long life cycle
- Timber and timber-aluminium options

### Energy saving construction

The windows in the Skaala Alfa collection belong to the most energy efficient class of all, class A. The Alfa windows have been designed to correspond to the strict regulations on modern low energy construction.

The Skaala Alfa windows have been tested and proved to consume the lowest amount of energy of all the windows on the market. The Alfa windows are energy efficient in practice and reduce the need for heating energy considerably, thereby reducing the heating costs significantly. With the increase in energy prices, you will save more and more over time. Moreover, the efficient soundproofing of the windows has a huge effect on the comfort in the home.

Skaala also offers you the possibility to design the inner frame of the window - you can choose between a flat or decorated inner frame.



**Gamma window**  
Frame depths  
131, 175, 210 mm

In January 2009 Skaala's development version of the Alfa window won the grand window test conducted by a highly respected Finnish technical magazine, Tekniikan Maailma (TM). Test phases were executed and monitored by the Technical Research Centre of Finland.

Visit [www.skaala.com](http://www.skaala.com) to learn more about the test and results.

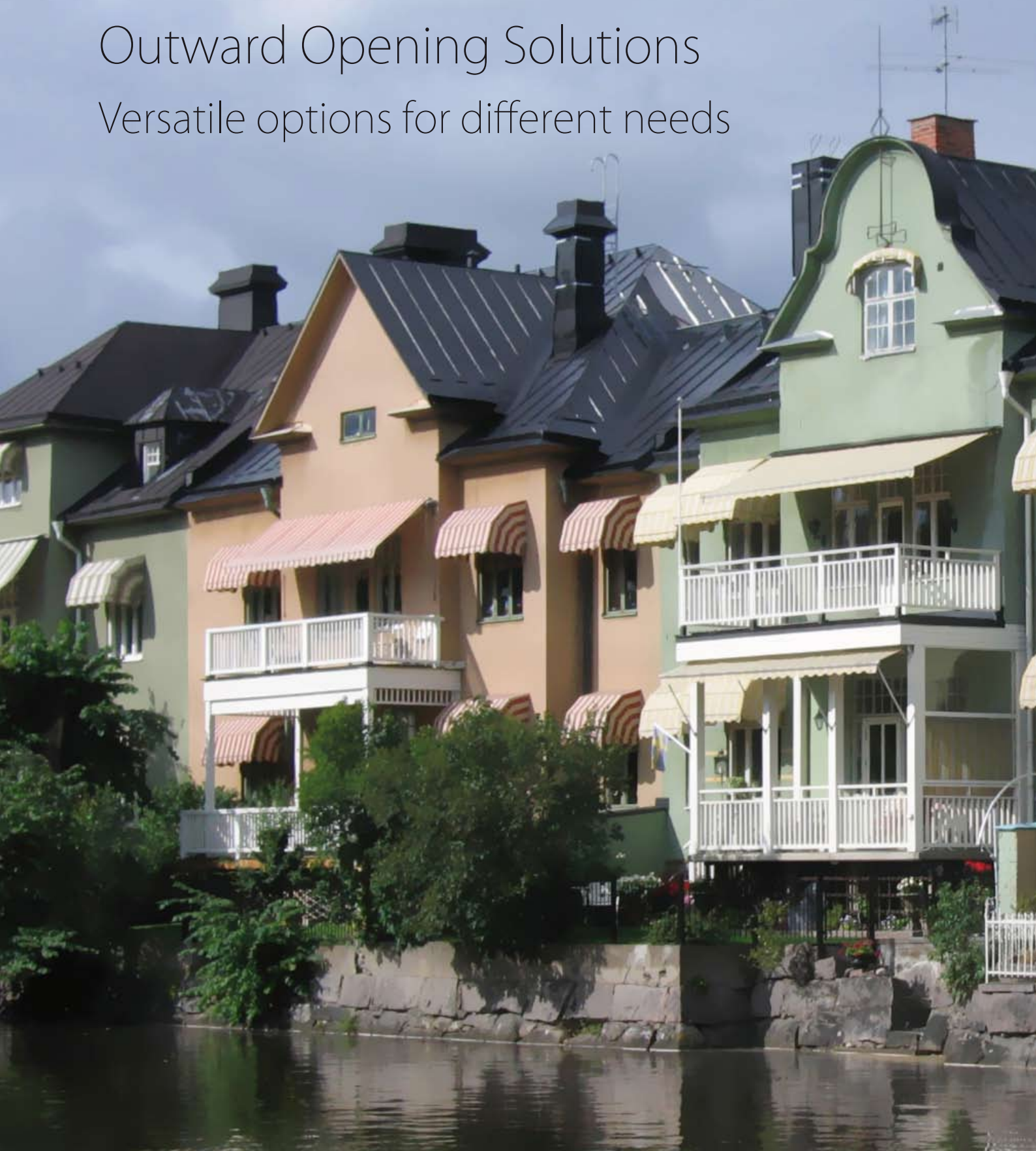








## Outward Opening Solutions Versatile options for different needs









# Skaala Scandic





## Outward opening windows

### Maintenance free

This product enjoys the best of both worlds by offering all the benefits of wood internally – natural, warm, and aesthetically pleasing – with the advantages of a durable and maintenance free exterior.

### Design

Using the same operating system options as the timber window, the Aluminium RAL colour options give a range of exciting possibilities. Together with the natural features of timbers', this combination offers excellent opportunities to deliver a high quality difference to any development.

### Choice

The aluminum clad timber at last gives every architect/developer the chance to explore a cost effective alternative to PVC or aluminium-only systems. This enhancement adds value to any apartment, office or civil project which requires low external maintenance with rich quality material values.

## Balcony doors

Among our outward opening HPN windows you will also find a high-quality outward opening balcony door. The outward opening HPN balcony doors are convenient high-quality Skaala products meeting all the needs of a modern balcony door. Available with a FIX lock and integral door stay, allowing the door to stay fixed in all positions. Problems with the wind slamming the door are a thing of the past.

As standard the door is equipped with a 25 mm hardwood threshold and can be used for mobility access. You can choose from our wide range of glazing options, for example acoustic glass which meets the demands of modern urban building regulations.

This door has the same profile as our windows and can therefore easily be combined with our HPN windows. HPN doors can be placed to be in line with the HPN windows using the same astragal options. Infill panels, which fully match the interior and exterior surface treatment, can be chosen to give Skaala HPN balcony doors a more personalized look.



## Outward Opening Window

### Function

Five opening systems give you the chance to freely choose the window which best meets your demands. All windows are equipped with high-quality hardware from PN.

### Construction

The combined structure of three-layer laminated Nordic pine prevents twisting and ensures accurate dimensions.

### Min-max width (depending on opening system)

Top-Turn 450 – 1900 mm

Side-Turn 450 – 1190 mm

### Min-max height (depending on opening system)

Top-Turn 490 – 1640 mm

Side-Turn 540 – 1840 mm

### Seal

HPN widows are made with a single seal made by Schlegel.

### Glazing

You can choose from the wide range of our different glazing options.

Our triple-glazed windows can reach a U-value down to 0.9

Optionally you can choose:

- Hardened safety glass and laminated security glass
- Obscure (sandblasted, textured, filmed)
- Acoustic soundproof glass
- Solar control
- Self-cleaning glass

### Equipment

All windows can be complemented with different glazing bar options such as clip on bars, glass dividing bars and plant on bars of different thicknesses.

The windows can also be equipped with trickle ventilators. The ventilator is only seen from inside with no visible vent hood on the outside.







#### Side hung rotating window (ST180)

Side hung fully reversible and easy to clean. Safe and easy to use. Stopper for the window opening. Can be used as emergency exit.

#### ST180°

Width 590 - 1190  
Height 400 - 1600  
Max weight 50 kg (3K4=1.7 m<sup>2</sup>)

#### Please note!

The width of the window sash must not exceed its height



#### Rotating window (TT180)

Top hung window fully reversible and easy to clean. Window that can be rotated 180 degrees. Safe and easy to use, integrated stopper for ventilation opening. Built in restrictor.

#### TT180°

Width 400 - 1500  
Height 550 - 1645  
Max weight 60 kg (3K4=2 m<sup>2</sup>)  
**Please note!**  
The width of the window sash must not exceed its height



#### Rotating window 45° (TT45)

Traditional top hung window with stay. Rotating window, easy to clean. Adjustable closing system which makes the window easy to operate.

#### TT45°

Width 400 - 1400  
Height 490 - 1600  
Max weight 60 kg (3K4=2 m<sup>2</sup>)



#### Side hung window (ST)

Traditional side hung window, also available as fully glazed door product with hardwood threshold. Right- or left-hand hinges, can be used as emergency exit.

#### ST

Width 500 - 1000  
Height 400 - 1600  
Max weight 50 kg (3K4=1.7 m<sup>2</sup>)  
**Please note!**  
The width of the window sash must not exceed its height



#### Side hung window (ST90)

Side hung window which leaves a gap between frame and sash on the hinge side when opening for easy cleaning. Side hung rotating window. Easy to clean, adjustable closing system which makes the window easy to operate, can be used as emergency exit.

#### ST90°

Width 500 - 900  
Height 400 - 1600  
Max weight 50 kg (3K4=1.7 m<sup>2</sup>)  
**Please note!**  
The width of the window sash must not exceed its height

Skaala Continental

High Performance  
Tilt and Turn Windows  
– Easy to use









# Skaala Continental





## Skaala Tilt & Turn Windows – functional perfection, easy to use

The fixed construction guarantees functionality even for larger windows, and the single handle system frees up more space for the elegant wood surface. Tilt & Turn Windows can be combined with more complex window elements. For example you can combine T&T windows with angled or arched frames.

By using only one handle, you can choose between any of the three functions you need:

1. Closed position
2. Turn position
3. Tilt position

Skaala also offers you the possibility to select the inner frame of the window – you can choose between a plain or decorated inner frame.

### Balcony Doors

The Skaala Continental collection also includes high-quality balcony doors, which match the window profiles and give a harmonious look on the facade. You will find the same convenient tilt and turn function as for the windows. The Skaala Continental balcony doors are available as timber and aluminium-timber-coated doors. You are able to choose the same astragal options as for the windows and the doors can be installed in line with the adjacent windows. A hardwood threshold is delivered as standard. Insulated lower panels can be selected from various options and made according to the measurements provided by the customer. The surface treatment of the panels is exactly the same on the outside as on the inside.





**Timber-aluminium window**  
Frame depth 105 mm  
U-Value down to 0,9 W/m<sup>2</sup>K  
with 2k + 1 double-glazed sash  
and 3k triple-glazed sash

## Skaala Tilt & Turn Window System

### Aluminium-clad tilt and turn windows

This product has the best of two worlds by combining all the benefits of wood internally – natural, warm colours and an aesthetically pleasing look – with the advantages of a durable and maintenance-free exterior.

The aluminium-clad tilt & turn windows are available in three models:

- 2k-Double-glazed sash
- 3k-Triple-glazed sash
- 2k+1

This model has a double-glazed inner wooden sash plus a single-glazed aluminium outer sash. This “double sash” provides excellent thermal and acoustic properties. It also gives the option for colour-matched blinds to be factory fitted between the two sashes, thus providing built-in and dust-free control of the light allowed to flow in from outside. This window model combines all of this, together with functional perfection.

Skaala also offers you the possibility to design the inner frame of the window - you can choose between a flat or decorated inner frame.



**Timber window**  
Frame depth 68 mm



**Timber-Aluminium balcony door**  
Frame depth 105 mm





### 1. Closed position

In closed position the window is solid and safe

- The solid wood and the top-quality fitting system keep the construction fixed, tight and soundproof.
- The window is equipped with standard multi-point-locking fittings and is thus well protected against intruders. The hinges are secured with screws and plugs in the wooden parts. There are two to six locking points on the frame, depending on the size of the window. The glazing beads are secured from the inside, which makes it impossible to remove the glass from outside without breaking it.



### 2. Turn position

In the turn position, the glass can be cleaned on both sides from inside the building without dangerous reaching or climbing.



### 3. Tilt position

In the first stage, the window opens to a ventilation position at a maximum of approx. 100 mm at the top. The stale air rises upwards and streams out through the top and fresh air flows in at the sides of the window. The flow of air is pleasant in every situation, so on a windy day there is no need to remove the window ornaments, curtains, flowers or papers placed on the windowsill.



### 2k+1 tilt & turn

- same tilt & turn features as for the double or triple models
- excellent thermal properties and noise proofing
- option for factory fitted and colour-matched blinds

# Skaala Tradition







# Traditional Sliding Sash

– Light, easy and elegant

# Skaala Tradition





## Traditional styles with modern techniques

The Skaala Sliding Sash offers all the traditional features of the sliding sash, elegant looks, easy use and good ventilation combined with the benefits of Nordic know-how.

Our engineered (3 layer laminated) wooden construction together with Skaala's state of the art treatment process (2 coat micro-porous hi-build paint, or staining and varnishing) provide a product that will give many years of trouble-free service and enjoyment.





## Skaala Sliding Sash Windows

Skaala has combined traditional styles with modern production techniques to produce a superior quality sliding sash window, which incorporates a tilting function on both sashes for easy cleaning.

Our window offers all the long-established features of the sliding sash – elegant looks, easy use and good ventilation in the home – combined with the benefits of Nordic wood engineering and finishing.

Our engineered 3 layer laminated timber construction together with Skaala's state of the art surface treatment process (two coat micro-porous hi-build paint, or staining and lacquering) provides a high-quality product that will give many years of trouble free service and enjoyment.

### Made to measure

Skaala windows are manufactured to measure and are ideal for both new buildings and window replacement projects.

### Window specification

- Wood: selected, slow grown, high-quality 3 layer laminated Northern Pine.
- Ventilated and drained 23 mm sealed glass unit.
- Glazing: Super Low-emissive glass and Argon gas filling as standard. Tempered safety glass, laminated security glass and self-cleaning glass are some of the many options available.
- Spiral Balances: preset to support the weight of each individual sash.
- Ventilation: Spilvent trickle vents which conform to UK Building Regulations.
- Weather-stripping: Vertical weather-strips at the top and at the bottom of the frame and jambs. Two-part seals for the sashes.
- Full factory finishing in two-coat paint, or two-coat stain and varnish.





Both upper and lower sash slide vertically. Upper and lower sash inside tilt positions enable the cleaning of the outer glass. Tilt position restrictor comes as a standard delivery according to construction law effective in Britain.

### Window Fittings

- Lockable white, brass or chrome Sash Fitch Catch.
- Brass or chrome Sash Lifts.
- Options: Window restrictors.

### Glazing Bars

Fine 15 mm conservation style simulating glazing bars with permanently attached wooden glazing bars. The glazing bars have matching spacer bars inside the insulating glass unit to define a perfect sight line.



# Skaala Patio







Sliding and Folding Doors  
Enlarge your living space



# Skaala Patio



## Freedom and flexibility

Skaala patio door provides you with a free passage to the garden, balcony or terrace. Patio door increases the usage of the indoor and outdoor space and creates a functional whole. The user-friendly and comfortable patio door is easy to open and close and makes the room more spacious. In addition, more natural light is allowed to flow in from outside. Patio door brings along new and interesting possibilities for the decoration of your home or holiday house.





## Tilt and slide doors

With the Skaala sliding door you get many different uses for the room and also make it brighter. One of the benefits with the sliding door, compared to a turning door, is that the sliding door requires less space.

### Use

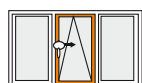
Can be used as a terrace or balcony door. The construction is planned for exterior use, but can also be used indoors for dividing rooms. The smaller models can also be used as windows.

### Function

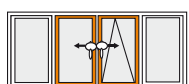
When opening, the sliding door element moves inwards before sliding over the next leaf (see other alternatives for utilization and models). The next leaf can either be of the fixed or sliding model. The sliding door leaf can also be opened for ventilation (so-called tilt function).



**Model A**  
1 sliding frame (left /right)



**Model G**  
1 sliding frame (left /right)



**Model C**  
2 sliding frames (left /right)  
without fixed middle rail



**Model K**  
2 sliding frames (left /right)

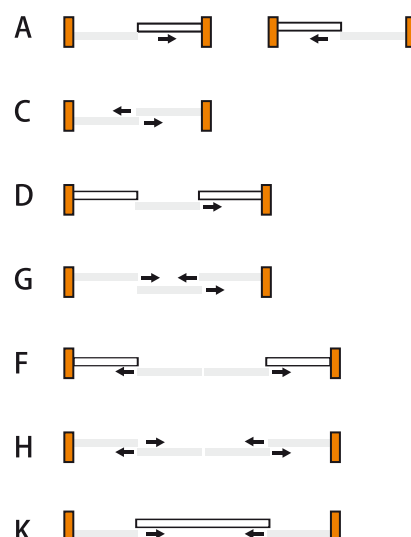
## Lift and slide doors

### Use

Can be used as a terrace or balcony door. This type of door has been designed for exterior use.

### Function

When opening, the sliding door leaf moves up before sliding over the next leaf (see other alternatives for utilization and models). The next leaf can either be of the fixed or sliding model.



## Folding doors

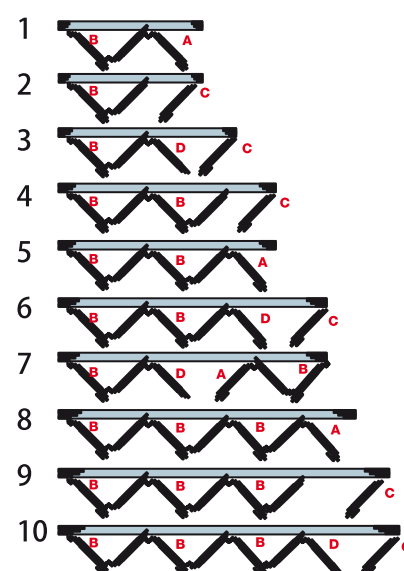
The folding door allows a large door leaf to open completely.

### Use

Can be used as a terrace or balcony door. The construction has been designed for exterior use, but can also be used indoors for dividing rooms.

### Function

The door leaves are connected to each other through hinges, on which they easily slide along the bars in the frame to one side (see pictures).



# Skaala Features

## – Tailoring your window

### **Tailor-made**

The Skaala products are always manufactured made-to-measure, both for new construction and renovation projects. The customer is free to choose from different Skaala Windows' dimension, shape, colour and glazing options as well as ventilation components, spacers, ornamental lattices and other accessories such as Venetian blinds that affect functionality and appearance.



### **Aluminium standard colours**

RAL 9010 (white)

RAL 8028 (brown)

Other RAL-colours on order



## Astragals

Skaala offers a wide range of astragals to personalize your own Skaala window. Choose our clip on bars, which will allow you to take the astragals off when you want to wash your windows. Clip on bars are a convenient solution for giving your window a personalized look. They are available as 30 mm for aluminium windows and 25 mm for timber windows. You need a more filigree solution for a more traditional look? Then our plant on bars (POB) is the right solution for you. Plant on bars are available as 15 mm, 30 mm and 60 mm and are glued onto the glass from both sides. They create an impression of glass dividing bars. We also offer solid posts, available as 56 mm, which divide the glass element.



## Glazings

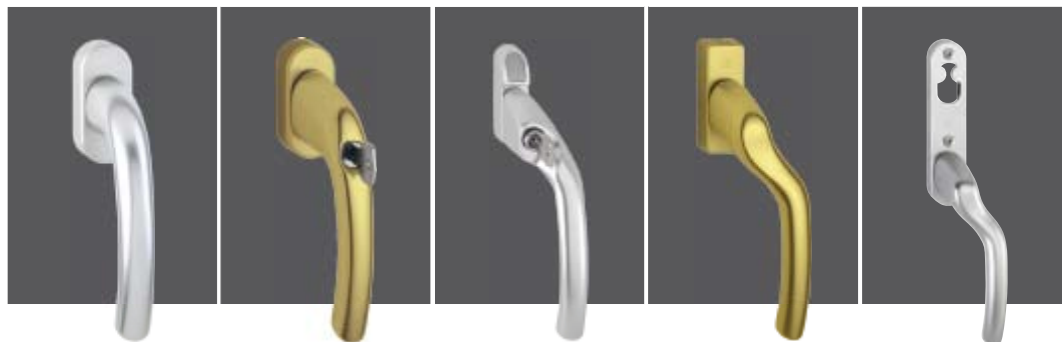
You have plenty of options: efficient UV-protection, self-cleaning glass, low-energy glazing structures with composite or aluminium spacers, security glass. Skaala has an own insulation glass production unit. A wide range of obscured glass options is also available.

### Thermal flow between sashes



## Handles

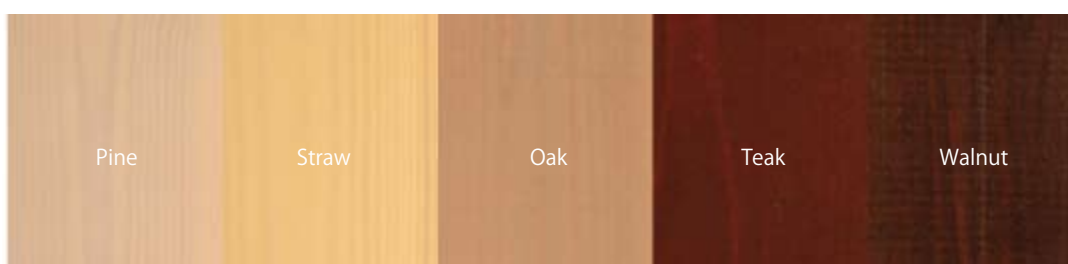
The Hoppe Tokyo handles have a contemporary style which compliments any interior design. The fully coordinated design adds the finishing touch to your Skaala product. Standard colours are white, brass and silver. Lockable and other security handles are available - please visit [www.skaala.com](http://www.skaala.com) to find out more.



## Surface treatment

The raw material of all wooden parts is the slow-growing Finnish pine, a renewable natural resource from the well-maintained forest. The surface treatment system is one of the most modern in Europe, and enables Skaala to use both water- and oil-based materials with great flexibility. Before the surface treatment process, all of the components are inspected so as to meet the criteria. The quality standard of the timber used (laminated structure, knotless on viewable surfaces) minimizes the defects of the natural material and provides a good base for any selected coat. The base coat preservative treatment is done before any colour coat or lacquer is applied. All of the products are finished with water-based paint and lacquers. Painted and lacquered window frames are surface treated three times.

### Standard stain colours





## Flagship Housing

Contractor: Lovell  
Location: Norwich, England  
Construction period: 2005-2006  
Project Description: The project consisted of 30 apartments for the social housing market. The site is situated in Madglen St. Norwich. The products chosen were Skaala Scandic timber windows, which meet the BS7590 secured-by-design standard. Skaala composite door sets were also supplied. These are fully compliant with the requirements of PAS23 & 24, offering high levels of protection against the weather and intruders.



## Sandwell Highrise

Contractor: Thomas Vale Construction  
Location: Birmingham, England  
Construction period: 2008  
Project Description: Refurbishment of existing high rise building's in line with the 2010 Decent Homes Standard. The choice of Skaala products has mainly been a consideration of the end user and also low maintenance, with good thermal qualities. The products chosen were the Skaala Continental - double glazed composite tilt & turn window, with internally beaded fixed lights, also supplied inward & outward patio doors to balconies.



## Kvarteret Knektabacken

Contractor: JSB – John Svensson Byggnadsfirma AB  
Location: Ronneby, Sweden  
Construction period: 2006  
Product: Skaala Scandic – aluminium cloated windows and balcony doors  
Description: Apartment renovation project for Ronneby community. The Skaala products chose were outward opening casement windows, mainly with solid mullions & inward and outward opening French-doors.



## Vidablick

Contractor: BWE, Bauwerkserhaltung AG  
Location: Ronneby, Sweden  
Construction period: 2006  
Product: Skaala Europe – aluminium-coated windows and balcony doors  
Project Description: Block of flats renovation project. Triple-glazed composite tilt & turn windows fulfilled all the customer is requirements; good thermal- & db-values as well as functionality





### Edelweiss

Contractor: Ahse Construction Ltd

Location: Almaty, Kazakhstan

Construction period: 2006-2007

Product: Skaala Europe tilt & turn windows, balcony and patio doors.

Project description: The Edelweiss project consist of 130 luxury building complexes, all having either 3 or 4 floors (~ 12 000 window units).



### Ayers house

Contractor: Customs Scandinavia LLC

Location: Utah, United States of America

Construction period: 2008

Product: Skaala Europe tilt & turn windows

Project description: Private house, angled and corner window solutions. Mountain location required air pressure valves in the glass unit.



[www.skaala.com](http://www.skaala.com)

**SKAALA®**  
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