

HAUFEN

wooden windows

1.0 Series 68mm



- **Top quality dark MERANTI 3-ply timber** from Malaysia, dried at 9° to 11° degrees of humidity, the density of the timber is set at a minimum of 450 kg/M3.
- Supply of treated timber in the appropriate cross-sections and specifications comes mainly from Munchinger, Germany, but also in collaboration with other European factories that can supply suitable treated timber.
- Case cross-section: 68 x 80mm
- Sash cross-section: 68 x 80mm
- In addition to the basic glazing profile, HAUFEN offers a **68mm slim series** with a sheet cross-section of **68 x 74mm** and a **78 series** with a reinforced cross-section profile of 78 x 80mm.



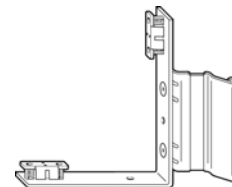
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1.1 Windows Mechanism

- The tilt-and-turn glazing, windows and balcony doors are standard equipped with perimeter mechanisms of the leading company **ROTO Frank NT** series with anti-corrosion protection.
- **Roto NT** features open and tilt function, automatic spaniolette on the left sash of bifolds, tilt safety and plastic hinge covers.
- The balcony doors have a built-in Bullet Catch Cam (Snapper) and discreet handle for easy handling from the outside.

Optionally available is the **Roto DESIGNO** mechanism range, featuring hidden hinges, also by Roto Frank.



Roto NT



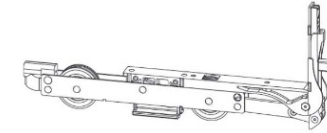
Roto Designo concealed hinges

- HOPPE handles, Secustik series in titanium, silver, bronze, brown, white colors.
- Many other type of handles available as an option.



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1.2 Sliding and Folding Mechanism



- Sliding **lift & slide** mechanisms: G-U / Siegenia Sliding, retractable, heavy duty with aluminum guide and profile sealing with top and bottom seals.
- Possibility of a hidden guide on the floor (**invisible rail**).
- HOPPE HS handles.



- **Folding** mechanisms: Roto Patio mechanisms for folding sashes (harmonica) with rolling roller and guide.

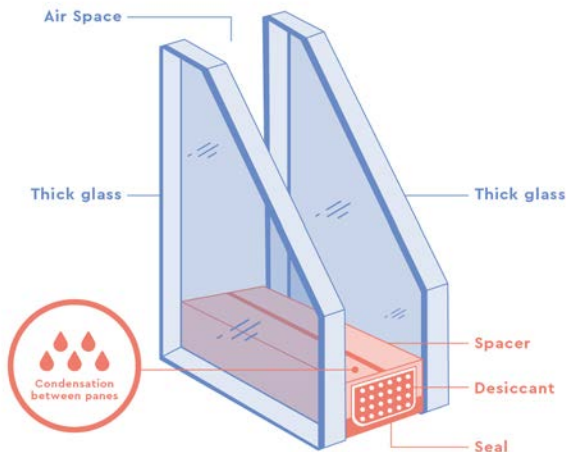


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2.0 Glazing

- Double heat-insulating energy **glass panes for glazing and external doors** (where applicable).
- Low emissivity extra clear glass panes, **TGI Warm Edge** with high performance spacer.
- Basic double glass pane version has a composition of 4mm/ 16argon/ 4mm Low-e and achieves a thermal conductivity index $U_g = 1.0$ (W/m²K) and noise reduction index $R_w = 31$ dB.
- Double-pane glazing with 3 panes and two gaps are available in the 78mm range. Their basic composition is 4mm Low-e / 12argon / 4mm / 12argon / 4mm Low-e, with thermal conductivity index $U_g = 0.7$ (W/m²K) and noise reduction index $R_w = 32$ dB.



Indicative type of glazing	width (mm)	U_g (W/m ² K)	TL (%)	R_w Value (*) (db)	kg/m ²	Profile 68mm	Profile 78mm
4 LE. / 16 argon / 4 Clear	24	1,0	71	31	20	o	
4 LE. / 16 argon / 6 Clear	26	1,0	70	34	25	o	
44.1 LE. / 16 argon / 4 Clear	28	1,0	69	35	30	o	
55.1 LE. / 16 argon / 4 Clear	30	1,0	69	35	35	o	
44.1 LE. / 12 argon / 44.1 Clear	28	1,2	69	36	40	o	
4 LE. / 12 argon / 4 Clear / 12 argon / 4 LE.	36	0,7	57	32	30		o
55.1 LE. / 16 argon / 64.1 LE.	37	1,0	59	41	52,5		o
* N.P.D.							

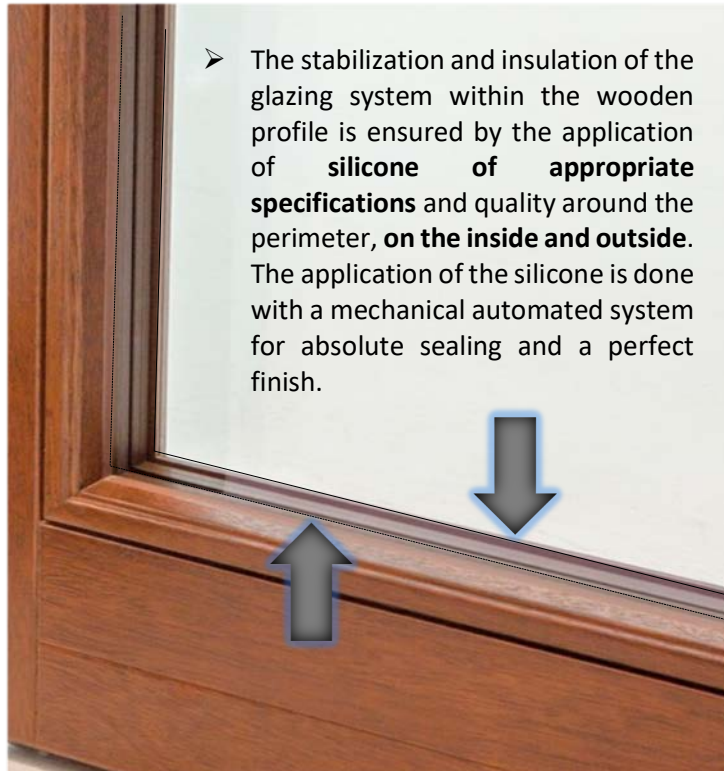
- Many other **glazing types** are also available, with specialized features such as **increased security, anti-burglary protection, increased sound insulation**, sun protection, opacity, etc.

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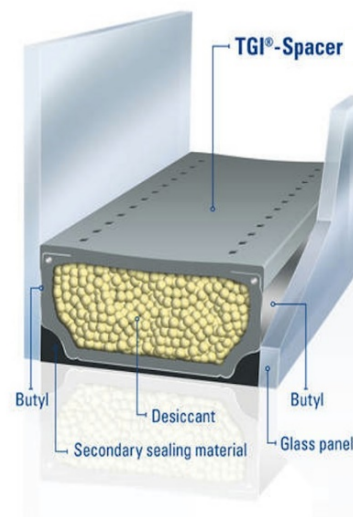


2.1 Glazing



- The stabilization and insulation of the glazing system within the wooden profile is ensured by the application of **silicone of appropriate specifications** and quality around the perimeter, **on the inside and outside**. The application of the silicone is done with a mechanical automated system for absolute sealing and a perfect finish.

- All glass panes are supplied by large EU factories (Saint Gobain, AGC glass, Guardian industries etc.) 1st quality clarity (extra clear) and in their standard composition in combination with the modern construction profiles of **HAUFEN®**, they give the frames the properties to achieve indicators thermal conductivity (e.g. $U_g=1.4$) that exceed the modern building energy specifications as well as the requirements of KENAK (regulation of energy efficiency of buildings).
- The use of modern type of crystal spacer is very important for the thermal insulation performance of the glazing. **TGI warm edge spacer** between the two (or three as the case may be) glass panes, but also the filling of the gap by **90% with argon**.

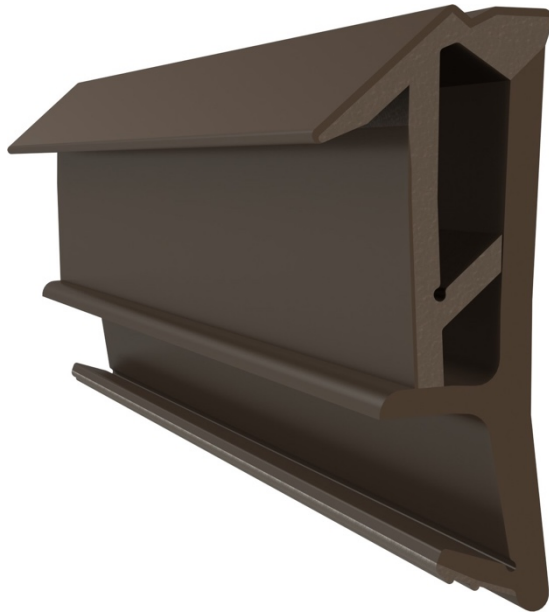




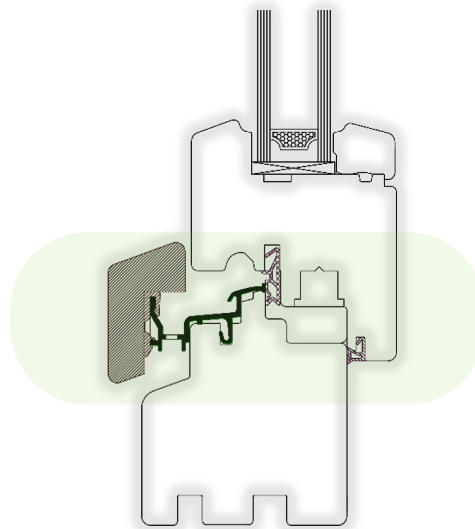
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3.0 Other glazing parts



- **Sealing** with three high-quality rubbers in various colors, for absolute waterproofing, sound and thermal insulation.
- One perimeter sealing rubber on the **frame** and two perimeter rubbers on the **sash**.



- An anodized aluminum **dripper** with perforations is placed on the lower transom of the glazing windows.
- For an aesthetically harmonious effect, the aluminum water dripper is covered in the windows with a **solid part of wood** in a suitable form.
- The water dripper and the profile design of the lower transom ensure proper **water drainage**.
- The system ensures increased water tightness in particularly adverse weather conditions and contributes to the **heat insulation and sound insulation** of the overall frame system.



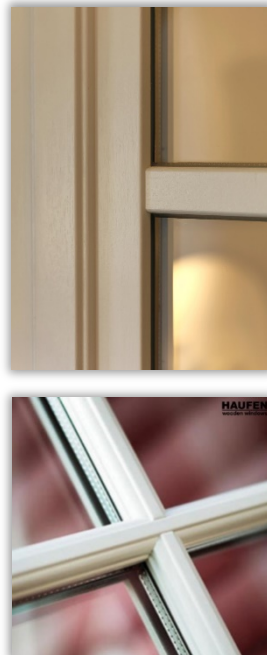
- Balcony doors feature an anodized sealing aluminum water **dripper** (bottom threshold), which is permanently fixed to the floor. The absence of a lower crossbar contributes to the low "step".
- For **traditional type balcony doors**, it is possible to build the lower part with a combination of the window dripper and a low wooden crossbar, resulting in a smaller obstacle.



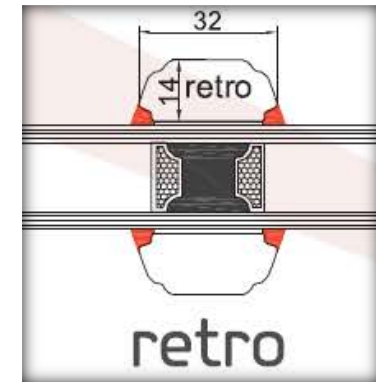
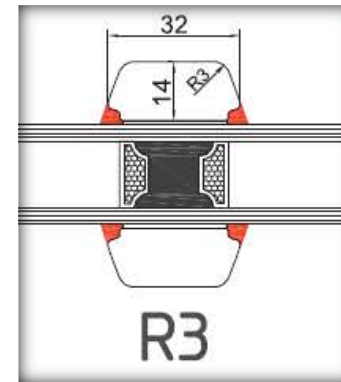
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3.1 Other glazing parts



➤ Indicative details of **decorative raised panels**.



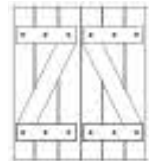
- **Decorative raised panels** are traditional wooden decorative elements that divide the glass into sections. They are made of solid wood, the same as that of the frame, and are produced in various cross-sections and forms.
- The most common type of decorative panels are solid wooden, 27-32mm cross-section, **glued in a special way to the glass**.



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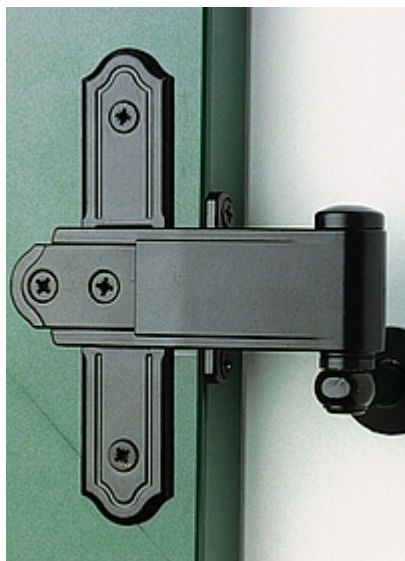
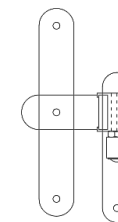
4.0 External Shutters



- **HAUFEN®** offers a wide range of shutters in various types and designs covering every aesthetic and architectural requirement.
- Shutters in “Fyllaraki” fixed grille, grille combined with Tabla, Paneled, plywood with horizontal or vertical CNC engravings or in any other desired design. There is the option of choosing horizontal decorative crossbars or 'Zeta' shaped crossbars.



- **Timber:** Grade A' Malaysian **Dark Meranti** (550 kg/m³), dried at 9° to 11°C moisture. The CNC-engraved shutters are manufactured using grade A' marine plywood.
- **Frame:** Made of solid wood with marine plywood elements. The frames of the shutters are manufactured with a suitable profile to provide the slot for the installation of the mechanism and the guides of the mosquito net (where applicable).
- **Sash:** 44mm thick, from solid wood (44 x 80mm or 44 x 70mm) or 40mm-thick A' quality marine plywood underlaid with or without CNC engraving.

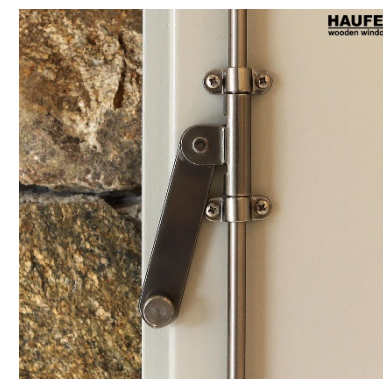
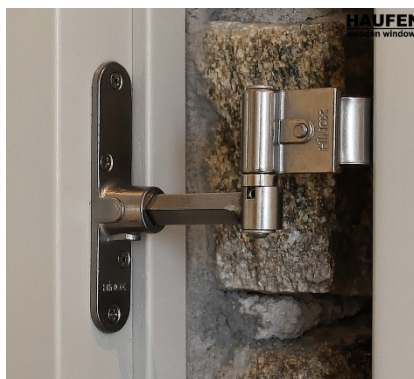


- **Mechanisms** and all metal parts placed on the shutters differ in terms of their type and material.
- The configuration of the building's masonry, the way of placing the shutters, the number of shutter sashes and the way of opening in relation to the masonry (extending **180°** leaves that open parallel to the external masonry or perpendicular to the masonry **90°**), determine each type of metal parts to be used.



- In the standard version of shutters, metal parts from Roto, **Fentro** series, are placed for 180° extending leaves or French for 90° vertical shutters in the masonry, available in black or white color but also in gray depending on the availability of the supplier.

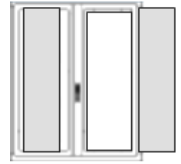
- For areas located near the sea where metal parts with **increased oxidation resistance** properties are required, **Didieffe stainless steel (inox 316) metal shutter** are optionally available. These can be painted in RAL colors upon request.



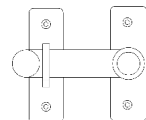
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5.0 Internal Shutters



- **Internal shutters** are an alternative method of shading the space compared to installing external shutters.
- These shutters are characterized as a more "light" construction than the external shutters, as they do not feature their own support frame, they open inside the room and are hung directly on the glass pane or the exterior door sash.

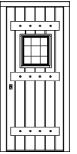


- Shutters have a thickness of 28mm and are manufactured either as a solid MERANTI timber frame with an internal **marine plywood board** or entirely manufactured from marine plywood and **can be flat or CNC engraved**.
- Shutters are hung on the sash of glazing with lightweight hinges (**anuba**) and secured with a traditional mechanical or magnetic metal hinge.
- Internal shutters are not suitable for construction in large dimensions, because due to their thin profile they can suffer from small distortions. They also become dysfunctional in the space due to their size.

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6.0 Entrance/External doors



- **HAUFEN® standard range exterior doors** technically follows the platform of the classic 68mm or 78mm glazing profile in order to achieve similar performance in terms of security, watertightness, heat insulation and sound insulation.
- Additionally, an economical series (ECO) of lower cost is also available in two designs, paneled or marine plywood with CNC engravings, for Hotels and business premises. It has a cross-section of 60mm, a rubber on the sash and economical sash suspension hinges. Eco does not lack essential technical characteristics from the standard series.

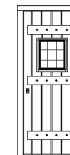
- HAUFEN® manufactures **a variety of models of exterior doors** such as Mansion, Classic, Paneled, Rambote, Rustic, Engraved, Modern, Horse doors as well as Heavy type of special design.
- The unique manufacturing technique of “ROHLING” panels from marine plywood in combination with plywood and special insulating material applied exclusively by HAUFEN® for the manufacture of exterior doors with CNC engraving, ensures high resistance to mechanical stress and prevention of distortions.



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6.1 Entrance/External doors



- **Timber:** Grade A' Malaysian **Dark Meranti** (550 kg/m³), dried at 9° to 11°C moisture.
- Types of external doors with **single panel with decorative CNC carvings (Rabote)** and/or decorative crossbars and their variations, are manufactured based on the "ROHLING" panel of marine plywood covered with transparent coating. The frame remains solid wood.
- **Frame with Cross-Section 68 x 81mm or other cross-section according to masonry requirements, from 3-ply timber.**
- **Sash** with 68 x 140mm section from 3-ply timber or 68mm thick from A' quality coated marine plywood (ROHLING).
- **Decorative raised panels** made in a combination of solid wood with marine plywood covered with transparent coating. Many panel designs are available, Classic, Bijoux, Prismatic, completely Flat, Engraved with designs or other types upon order.
- **Glass panes**, double heat-sound insulating Energy crystals are optionally installed, see section 2.0 and 2.1.
- **Two high-quality perimeter sealing rubbers** for absolute waterproofing, sound insulation and thermal insulation (one rubber in ECO).



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6.2 External doors Hardware



- HAUFEN® Exterior Doors are equipped as standard with four different types of Locks from the Safe C500 / C600 series by **Roto Frank A.G.**
- All locks are multi point (three or five points).
- 1. Pin type lock.
- 2. Hook type lock.
- 3. Pin & Hook type lock.
- 4. Tandeo type with automatic locking safety in 3 points.



- With the exception of "Tandeo" type, all locks have the option to add a module with an electric key so that it is possible to release the door with a remote command from a button or from smart electronic controlled access systems.

- Hinges fitted are three way adjustable, heavy duty SFS intec 3D.



- ECO series feature an adjustable SFS Anuba 20mm.

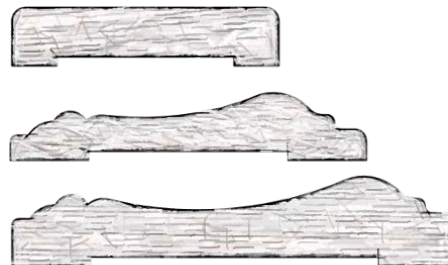


- In the lower part (floor) a fixed aluminum water dripper is placed for absolute waterproofness.
- Alternatively, an automatic windbreak is placed at the bottom of the sheet. This option applies to external doors that are not exposed to external environmental conditions, for example an apartment entrance.





- The internal **Sills** and the external **Joint Covers** are placed at the end of the frame with the masonry and cover the corresponding inside and outside of the frame.
- They are usually made of solid wood similar to the frame and have a careful **finish and a perfect surface and paint**, because they are actually part of the frame.



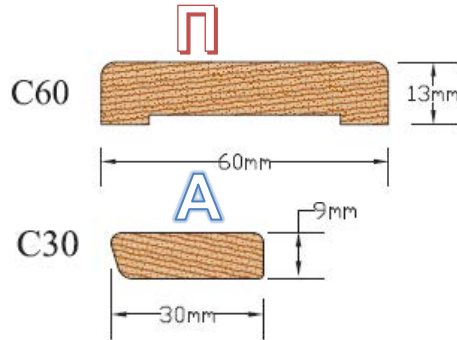
- In combination with **suitable sealing materials**, they offer insulation and waterproofing and contribute aesthetically to the final image of the frame.
- The window sills and joint covers are manufactured in **various cross-sections and forms** depending on the technical requirements of the construction and also the architecture that must be respected.



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7.1 Other parts of Windows



- The standard type (C60) of the **internal window sills** is solid, flat in shape and has a cross section of 13 x 60mm.

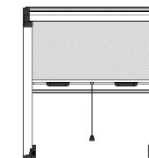


- The standard type (C30) of **external frame joint covers** is solid, flat in shape and has a cross-section of 9 x 3mm.

- **Decorative Panels** are wooden sections with a single surface. They are placed on the paneled models of the exterior doors but also on various types of shutters, such as fully paneled or a combination of grill/panel. Decorative panels are also found in balcony doors of glazed units in combination with glass.



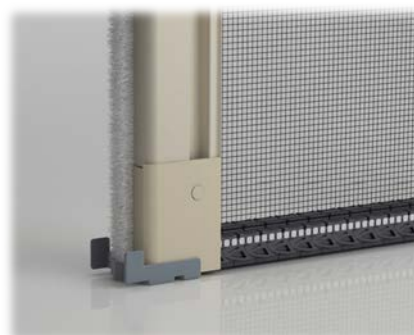
- **Decorative Panels** are available in various designs and cross-sections depending on their use. They are made of solid wood combined with coated marine plywood and require excellent quality materials and specialized techniques in order to achieve a perfect aesthetic result, but also long term reliability without distortions or cracks.
- All decorative panels, regardless of type, are painted independently of the frames and installed / **sealed** with the application of special silicone around the perimeter, inside and out.



- **HAUFEN® wooden windows** are technically compatible with most types of mosquito nets: vertical movement, horizontal movement, electrically driven, screens, etc.
- Basic types of mosquito nets are of vertical or horizontal movement. Each type of these has several variations related to the construction philosophy of the mechanism and the type of net used.



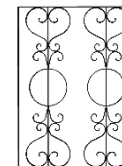
- **Vertical Movement nets** are usually used in windows of standard dimensions. They consist of the aluminum box where the roller of the net is located, the vertical anti-wind aluminum guides with a brush and the net of the screen which is classic Flat. They have an ascent deceleration mechanism (spring brake) upon release. They do not cover frame widths greater than 1.5m and have a relatively low cost.



- **Horizontal movement nets** are equipped with a roller or crawler case and aluminum guides. The case is of the quick release type and offers the possibility of easy removal and repair. The net is either plisse or flat. The horizontal nets are placed on balcony doors and cover a wide range of frame dimensions.

- **All aluminum parts** of the nets supplied by HAUFEN® are painted in the same RAL colors as the frame. In addition, HAUFEN® manufactures a solid and/or plywood casement extension with a special slot for the net in which most of the net components are hidden.





- **Safety iron grids** for the windows are stable, integrated "through" in a special, solid wood extra casement of the frame.



- The construction material is galvanized massive iron rods Ø14mm in horizontal or a combination of horizontal and vertical elements. They are painted in RAL colors.

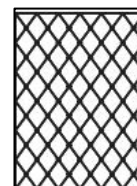
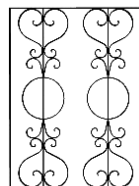


- **Solid stainless steel Ø14mm (inox)** iron bars are also available, which offer increased resistance to corrosion but can only be placed in a horizontal arrangement and not in a combination of vertical / horizontal. The color options are either natural inox or special stainless steel paint in RAL colors.

- The **extra frame** for placing the grids usually has a cross-section of 62 x 60mm with corresponding perforations in the pantograph depending on the design we want.

- The metal rods penetrate the frame vertically and horizontally, according to the holes that have been made in it and then the whole system is nailed to the masonry together with the casement of the frame.

- **Decorative Iron** grids placed on the exterior doors are fixed, manufactured in various designs, as an independent metal part of massive galvanized iron, usually with a cross-section of 4 x 12mm, or stainless steel. They are applied with screws to the appropriately shaped profile of the door.
- These are painted in RAL colors.



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10.0 Colors and Coatings



- The **painting process** and the quality of the colors are one of the most important factors in the long-term durability and aesthetics of wooden frames.
- All paints are **ecological - water-soluble** from **Teknos Gori** and are applied to the frames in a modern robotic automated painting line.
- All paints are "**open pore**" with elastic properties so that on the one hand they allow wood, which is a natural raw material, to "breathe" and on the other hand they fully guarantee the prevention of cracks (splits) of the paint surface.



- Specialized painting techniques and high quality paints **shield** the surface of the wood and ensure a perfect finish and long-term durability without the need for special maintenance.
- HAUFEN® wooden windows are painted in many shades of wood varnish or lacquer paints, covering the **RAL color chart** as well as the specialized **NCS color chart**.

- HAUFEN® uses ecological water-soluble paints from the leading company Teknos Gori, but also sometimes from Sigma coatings (a member of the PPG group), which guarantee an excellent finished surface, long-term resistance to harsh weather conditions with changes in temperature and humidity, effective paint protection from UV solar radiation, but also an easy care and maintenance process.
- The **paint cycle** applied is quite time-consuming since it lasts about eight days, is performed in **state-of-the-art robotic painting facilities** and includes **four (4) independent stages**.
- It starts with impregnation where the frame is completely immersed in a **Flow coating chamber** with fungicidal preservative ingredients, followed by the **painting stages** in varnish with pigment ingredients or with RAL or NCS colors. Between all the painting stages there is always the necessary drying time, the papering of the wood surface and the strict quality control of each individual work up to the final coat.



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Basic products chart and combinations of usual configuration																		
Profile Id.	Type of Item	Section in mm		Roto NT	Roto Designo (concealed)	Siegenia HS	Roto Patio fold	Roto Multi-point	3D hinges	Anuba	Roto Fentro	Didieffe stainless	1 Seal	2 Seals	3 Seals	Double Glazing	Triple Glazing	wooden Crosses
Window 68	Sash & Frame	68x80	68x80															
Window 68 Slim	Sash & Frame	68x74	68x80/74															
Window 78	Sash & Frame	78x80	78x80															
Window 78 Slim	Sash & Frame	78x74	78x80/74															
Sliding 68	Sash & Frame	68x80	55x164/246															
Sliding 50 slim	Sash & Frame	50x120	55x264/362															
Entrance 68	Sash & Frame	68x120	68x80															
Entrance 60 Eco	Sash & Frame	60x120	68x80															
Entrance 78	Sash & Frame	78x120	78x80															
Exterior Shutters	Sash	40/42mm																
FR 94	Extra Frame		94x62															
FR 111	Extra Frame		111/62															
FR 137	Extra Frame		137x72															
Interior Shutters	Sash	30mm																
C60	Architrave	13x60																
C30	Architrave	9x60																

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We Are Here...

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