Internorm®

WINDOWS

Highlights of Architecture

2013/14

QUALITY MADE IN AUSTRIA

Traun/Upper Austria
UPVC window, insulating glass and aluminium production

Sarleinsbach/Upper Austria
UPVC window and insulating glass production, extrusion

Lannach/Styria
Timber/aluminium production

Content

Design styles

studio
home pure soft
ambiente

Accessories

Handles
Sun protection
Colours
Large-scale elements

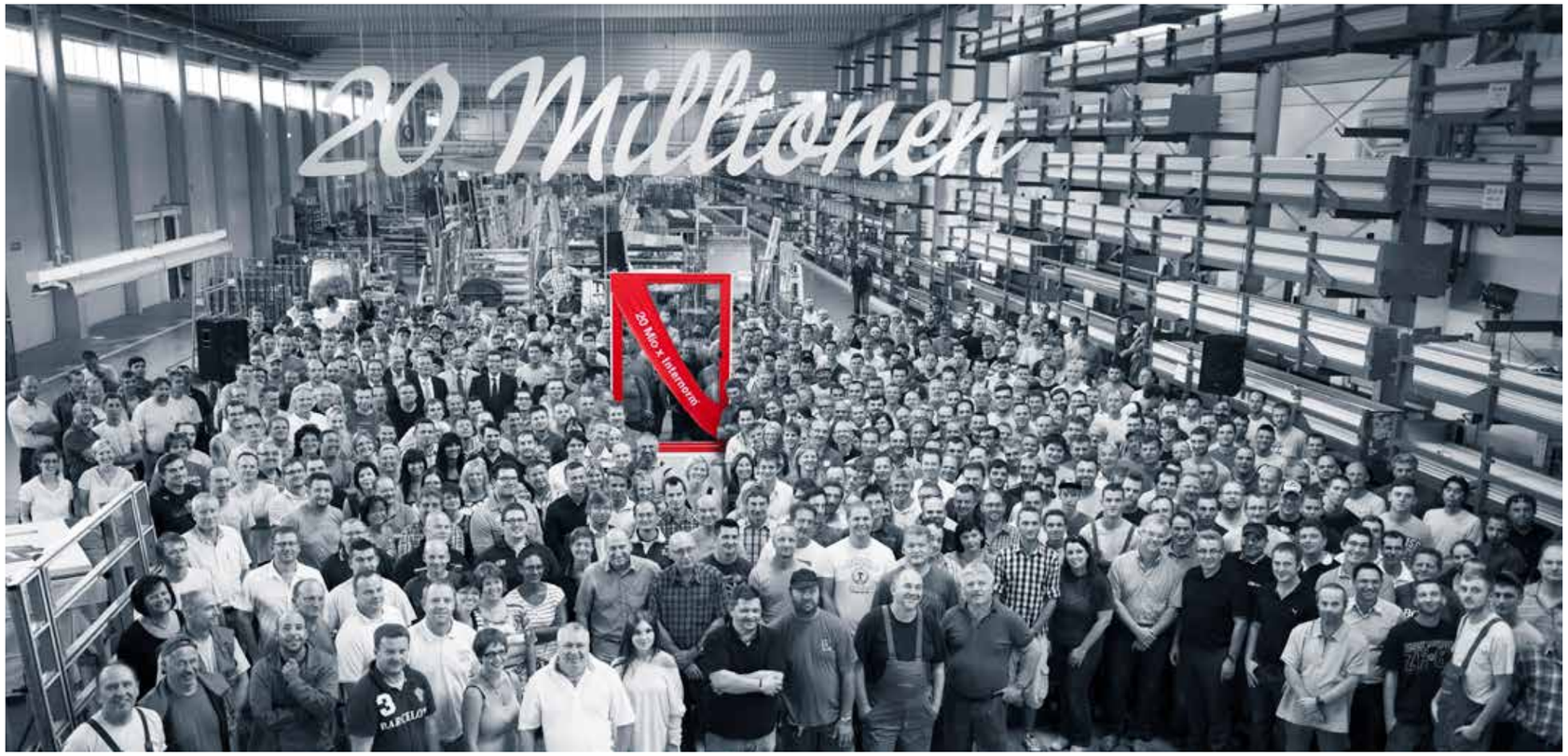
Comfort

Thermal insulation
Sound protection
Security
Locking

Internorm

TRUST EUROPE‘S NO. 1 WINDOW BRAND!

Left to right: Mag. Christian Klinger, Mag. Anette Klinger, DI (FH) Stephan Kubinger, MBA



We operate internationally and are Europe’s no.1 leading window brand. We employ more than 1,800 members of staff. Already, more than 20 million window and door units – 100% “Made in Austria” – have left out three production sites in Traun, Sarleinsbach and Lannach. From the invention of the UPVC window, up until the current high-tech and high-design innovations, our family company has been setting high standards all across Europe. Together with more than 1,250 distribution partners in 20 different countries, we guarantee you brand-leading product quality and a high level of service.

Apart from the exterior and interior appearance of a building, the highlights of architecture like windows and doors are of paramount importance to enable you to achieve your dream house. Wouldn’t everyone like to live in such a way that matches their lifestyle and reflects their personality best?
With Internorm you will find ideal solutions for your windows, doors, sun and insect protection which will match your lifestyle and way of living perfectly. The three design styles studio, home and ambiente are reflected through their individuality, diversity and comfort.

Sales of more than 20 million window and door units convey a very clear message: Internorm stands for quality, trust and innovative strength.

Put your trust and invest in Internorm windows and doors for a better quality of life, higher security and increase the value of your home!

Mag. Christian Klinger, Mag. Anette Klinger, DI (FH) Stephan Kubinger, MBA

Internorm

DesignStyles

Highlights of architecture

The architecture of a building reflects the people who live in it. Internorm is connecting people and buildings and can therefore offer individual styles of living to suit each need. With Internorm windows and doors you can fulfil your desires to have your ultimate dream house.

To help you find a window solution which meets your criteria for architecture, design and and comfort perfectly amidst the many possibilities in shape, colour and material, you can choose from three different Internorm design styles: studio, home and ambiente.

Therefore the question:

IN WHICH BUILDING DO YOU FEEL AT HOME?

studio

studio follows a very clear line in its design. This style with its cutting edge shapes and diminished appearance gives a contemporary and modern feel.

from page 12

home

pure

home pure meets the demands for a modern and straight-lined style creating bright living environments.

from page 28

soft

home soft feels friendly and cosy and offers many design varieties – from elegant to playful.

from page 42

ambiente

ambiente stands out with its traditional shapes – timeless classical and elegant. Its composition is elaborately designed and conveys a homely feel.

from page 54

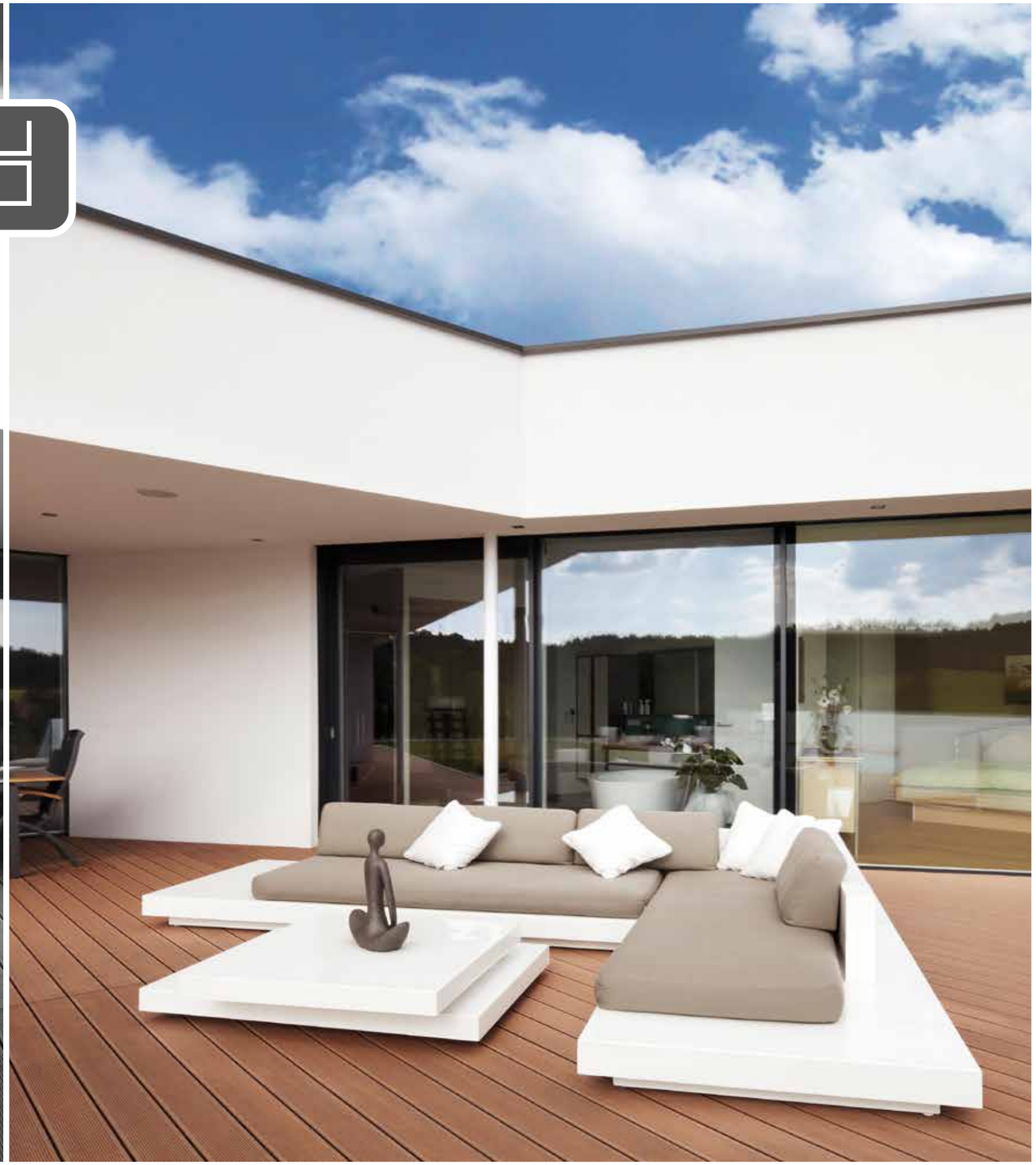
studio

ambiente

home pure

home soft

Styles/windows	Timber/aluminium	UPVC/aluminium	UPVC
studio	 **HF 200** ★★★★★ U_w up to 0.69 W/m²K  **HV 240** ★★★★★ U_w up to 0.63 W/m²K	 **KF 220** ★★★★★ U_w up to 0.74 W/m²K  **KV 240** ★★★★☆ U_w up to 0.80 W/m²K	 **KF 220** ★★★★★ U_w up to 0.74 W/m²K
home pure	 **HF 200** ★★★★★ U_w up to 0.70 W/m²K  **HV 240** ★★★★★ U_w up to 0.63 W/m²K	 **KF 500** ★★★★★ U_w up to 0.69 W/m²K  **KF 410** ★★★★★ U_w up to 0.62 W/m²K  **KF 200** ★★★★☆ U_w up to 0.81 W/m²K  **KV 240** ★★★★☆ U_w up to 0.80 W/m²K	 **KF 500** ★★★★★ U_w up to 0.69 W/m²K  **KF 410** ★★★★★ U_w up to 0.62 W/m²K
home soft	 **HF 300** ★★★★★ U_w up to 0.69 W/m²K  **HV 340** ★★★★★ U_w up to 0.63 W/m²K	 **KF 410** ★★★★★ U_w up to 0.62 W/m²K  **KF 200** ★★★★☆ U_w up to 0.81 W/m²K  **KV 340** ★★★★☆ U_w up to 0.79 W/m²K	 **KF 410** ★★★★★ U_w up to 0.62 W/m²K  **KF 200** ★★★★☆ U_w up to 0.81 W/m²K
ambiente	 **HF 300** ★★★★★ U_w up to 0.69 W/m²K  **HV 340** ★★★★★ U_w up to 0.63 W/m²K	 **KF 410** ★★★★★ U_w up to 0.62 W/m²K  **KF 200** ★★★★☆ U_w up to 0.81 W/m²K  **KV 340** ★★★★☆ U_w up to 0.79 W/m²K	 **KF 410** ★★★★★ U_w up to 0.62 W/m²K  **KF 200** ★★★★☆ U_w up to 0.81 W/m²K



studio

IDEAL FOR THE INDIVIDUALIST

Clear shapes and diminished appearance of studio **windows** fit perfectly with the architecture of your building. The large surface-flush systems emphasize your living style and can be integrated completely into the brickwork – only the glass pane remains visible.

There are no limits to your creativity – surfaces and colours can also be chosen according to your individual taste. Also available in the studio **accessories**: Handles, sun and insect protection, colours and large-scale elements.
All studio windows in the materials timber/aluminium, UPVC/aluminium and UPVC can be found under studio **comfort**.

Enjoy interesting insights and views under the studio **style** section!

MATERIAL INSIDE

UPVC OR TIMBER
white

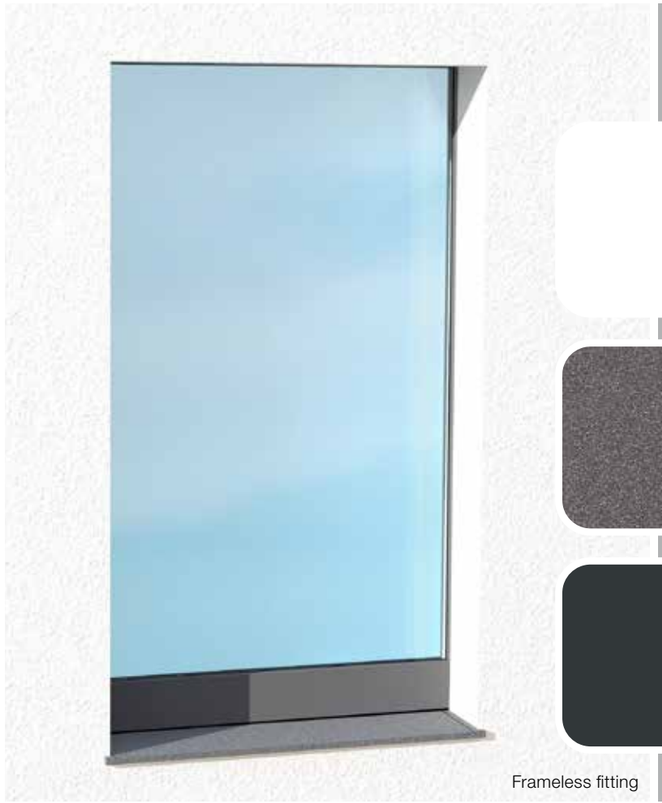
UPVC windows
UPVC/aluminium windows
Timber/aluminium windows

TIMBER
in all RAL colours

Timber/aluminium windows

TIMBER
in varnished and opaque standard colours

Timber/aluminium windows



Frameless fitting

MATERIAL OUTSIDE

UPVC
white

UPVC windows

ALUMINIUM
attachment clad in highly weather resistant colours

UPVC/aluminium windows
Timber/aluminium windows

ALUMINIUM
attachment clad in many RAL colours

UPVC/aluminium windows
Timber/aluminium windows

VIEW FROM THE INSIDE

Even down to the smallest details creates room for your self-fulfilment and the perfect environment to relax and withdraw from your everyday work. studio stands for a high standard of living and conveys a more unique and modern attitude towards life.

Individualisation
studio windows stand out through clear structures of interior architecture – highlight your unique style with surfaces and colours!

Surfaces
You can choose between long-lasting UPVC and natural timber in a wide range of colours.

Colours
The colour range – matching your studio window – can be found on page 19. An overview of all colours can be found on page 98.

VIEW FROM THE OUTSIDE

You see yourself as a trendsetter and possess a high affinity to technological progress. studio underlines your exclusive life style! With UPVC and UPVC/aluminium studio windows there is no difference in the outside view between fixed glazing and sash versions.

Individualisation
studio windows fit perfectly into the architecture of your home – highlight your individual style with surfaces and colours!

Surfaces
You can choose between long-lasting UPVC, weather-resistant aluminium in a wide range of colours and rich timber shades.

Colours
The colour range – matching your studio window – can be found on page 19. An overview of all colours can be found on page 98.

Fitting possibilities
studio windows allow for frameless architecture – this means rendered on three sides into the brickwork (with KF 400 and KF 405), classic architecture – fitting with completely visible window frame with narrow view widths and modern refurbishment – stylised sash/frame.

Material		Timber/aluminium			UPVC/aluminium		UPVC
							
		HF 200	**HV 240**		**KF 220**	**KV 240**	**KF 220**
Thermal insulation (in W/m²K) Coating SOLAR+ / LIGHT Best value		★★★★★ U_w = 0.80 / 0.73 U_w = 0.69	★★★★★ U_w = n.a. / 0.96 U_w = 0.63		★★★★★ U_w = 0.81 / 0.74 U_w = 0.74	★★★★☆ U_w = n.a. / 1.1 U_w = 0.80	★★★★★ U_w = 0.81 / 0.74 U_w = 0.74
Soundproofing (in dB)		★★★★★ 37 – 47	★★★★★ 41 – 45		★★★★☆ 35 – 43	★★★★★ 38 – 45	★★★★☆ 35 – 43
Security		★★★★☆ RC1, RC2	★★★★☆ RC1, RC2		★★★★☆ WK1, WK2	★★★★☆ WK1, WK2	★★★★☆ WK1, WK2
Locking		★★★★☆ concealed	★★★★☆ concealed		★★★☆☆ exposed	★★★☆☆ exposed	★★★☆☆ exposed
Dimensions mm							
Frame construction depth		85	85		71	71	68
View width frame/sash		114	114		98	102	98
View width flying mullion (2 sashes)		134	134		100	130	100
View width transom (2 sashes)		173	173		154	181	154
Opening types							
Fixed		★	★		★	★	★
Turn and tilt/turn		★	★		★	★	★
Tilt		★	★		★	★	★
Sliding windows		★			★		★
Lockable doors		★			★		★
Sliding doors		★			★		★
Doors with threshold		★	★		★	★	★
Outward opening doors							
Gaskets quantity		3	3		3	3	3
Bead gasket colour outside		black	black		black	black	light grey

Handles

Internorm offers a sophisticated selection of handles – here are a few recommendations from our range. More attractive designer handles are available from your Internorm distribution partner.

Standard handle G80
flat key hole cover plate
Part no. 36423

Standard handle G80
Part no. 36404

Standard handle G80
lockable
Part no. 36400

Handle Dallas
Part no. 36426

Sun and insect protection

The sun and insect protection systems complement the windows to a functional unit and support the design of the house facade.

Composite windows: Integrated between the panes, therefore provide privacy and sun protection – choose between blinds, Venetian blinds or Duette®

Venetian blinds: Optimum control and guidance of light and warmth through adjustable slats; can be combined with insect protection.

Attachment roller shutters: Completely fitted on to the window, can be combined with insect protection.

Insect protection: Fixed, turn, sliding or drop-down fly screen. Can be combined with sun protection.

Composite windows

Venetian blinds

Attachment roller shutters

Insect protection

Colours

Here is a selection of colours as a recommendation, matching your studio window. The complete colour range can be found in the overview from page 98.

Exterior colours

M916 | HM113 | HF735 | EL01 | EL02 | HM906 | HFM02 | HFM03 | HM716

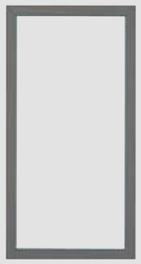
Interior colours

White | RAL1013 | FI916 | FI500 | FI501 | FI504 | LA600 | FI509 | RAL7040

Large-scale elements

Modern glass architecture through large-scale glazing and lift-and-slide doors, also with corner solutions in all-glass versions, XL size up to 12 m wide and 17 m² glass area.

Side entrance door
UPVC



Fixed glazing

Lift-and-slide door UPVC, UPVC/aluminium

Lift-and-slide door timber/aluminium

This range shows additional highlights of architecture – a recommendation matching the design style studio.
Further designs can be found in the overview from page 98 onwards.

KF 220
UPVC & UPVC/ ALUMINIUM WINDOW

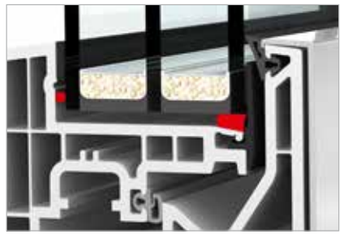
- Thermal insulation with standard triple glazing SOLAR+ (U_g = 0.6 W/m²K) U_w = 0.81 W/m²K
- Best thermal insulation **U_w up to 0.74 W/m²K** (with corresponding glazing)
- Soundproofing up to 43 dB (with corresponding glazing)
- 71 mm construction depth
- Sash in Vetro design allows frameless architecture
- Surface flush interior design
- Glass sash – no difference in outside view between fixed and openable elements
- Frameless glass architecture – window can be rendered on three sides
- Narrow view width up to 98 mm
- FIX-O-ROUND technology
- Triple gasket system
- Standard security
- Shortened aluminium attachment clad available upon request, for thermo-technical optimised construction connection

FIX-O-ROUND Technology

I-tec Glazing

UPVC VERSION
Along with the aluminium attachment clad version in all colours, the classic UPVC version in white is also available.

SOPHISTICATED DESIGN
Outside Vetro design (small recess from frame to glass edge).



I-TEC GLAZING FIX-O-ROUND TECHNOLOGY
Continuous all around fixing of the glass pane ensures better stability, thermal and sound insulation, burglary protection and functioning security.

KV 240
UPVC/ALUMINIUM COMPOSITE WINDOW

- Thermal insulation with standard triple glazing (U_g = 0.95 W/m²K) U_w = 1.1 W/m²K
- Best thermal insulation at low weight **U_w up to 0.80 W/m²K** (with 3light glazing)
- Soundproofing up to 45 dB (with corresponding glazing)
- 71 mm construction depth
- Flush design outside and inside also with square glass bead
- Integrated between the panes, therefore provides privacy and sun protection – i-tech shading available upon request.
- Fully concealed hardware upon request
- Narrow view width up to 102 mm
- FIX-O-ROUND technology
- 5 chamber system
- Triple gasket system
- Frameless sash facilitates easier cleaning and maintenance of the glass
- Standard security

FIX-O-ROUND Technology

I-tec Shading

I-tec Glazing

QUADRUPLE PROTECTION
Thermal, sound, sun and privacy protection all in one window. No additional structural provision necessary. No extra fitting necessary for sun protection systems.

FLUSH DESIGN
With this innovative composite window in modern square-edged design, integration into the facade is possible on three sides. Inside square-edged glass bead available upon request.

I-TEC SHADING
Available upon request with photovoltaic blind, Venetian blind or Duette with self-sufficient energy. Energy supply via integrated photovoltaic module, no extra fitting necessary, bi-directional wireless control.

HF 200
TIMBER/ALUMINIUM WINDOW

- Thermal insulation with standard triple glazing SOLAR+ and highly thermally insulating edge seal (U_g = 0.6 W/m²K) U_w = 0.80 W/m²K
- Also available with 48 mm glazing (U_g = 0.5 W/m²K without krypton) at best price/performance ratio
- Best thermal insulation **U_w up to 0.69 W/m²K** (with corresponding glazing)
- Soundproofing up to 47 dB
- 85 mm construction depth
- Classic, square-edged and straight exterior and interior design
- Highly thermally insulating thermal foam (HCFC, HFC and FC free)
- FIX-O-ROUND technology
- Fully concealed hardware
- Visible or concealed drainage
- Standard security
- Triple gasket system

FIX-O-ROUND Technology

I-tec Glazing

INGENIOUS GLAZING SYSTEM

Glass panes glued to the timber frame ensure good structural stability and high torsion resistance.

FLUSH DESIGN

Modern square-edged design outside and inside, integration into the facade possible on three sides.

TRIPLE GASKET SYSTEM

Three continuous gasket levels without interruption ensure high impermeability.

HV 240
TIMBER/ALUMINIUM COMPOSITE WINDOW

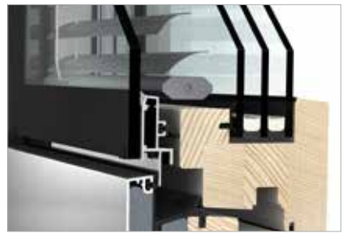
- Thermal insulation with standard triple glazing (U_g = 0.90 W/m²K) U_w = 0.96 W/m²K
- Best thermal insulation at low weight **U_w up to 0.63 W/m²K** (with 3light glazing) – passive house certified
- Soundproofing up to 45 dB (with corresponding glazing)
- 85 mm construction depth
- Modern interior design with square-edged sash
- Integrated between the panes, therefore provides privacy and sun protection – i-tech shading available upon request.
- Fully concealed hardware
- Highly thermally insulating thermal foam (HCFC, HFC and FC free)
- Quadruple glazing upon request – passive house certified
- FIX-O-ROUND technology
- Visible or concealed drainage
- Triple gasket system
- Frameless sash facilitates easier cleaning and maintenance of the glass
- Standard security

FIX-O-ROUND Technology

Passive house certified component

I-tec Shading

I-tec Glazing



MODERN GLASS APPEARANCE

With this innovative composite window in attractive glass appearance and modern square-edged frame design, integration into the facade is possible on three sides. Modern interior design with square-edged sash.

OPTIMUM DIMMING

The aluminium coated double Venetian blind (Duette®) ensures additional thermal insulation and excellent dimming (similar to the roller shutter).

I-TEC SHADING

Available upon request with photovoltaic blind, Venetian blind or Duette® with self-sufficient energy. Energy supply via integrated photovoltaic module, no extra fitting necessary, bi-directional wireless control.

Internorm

home

This style provides a beautiful living environment with a harmonic, pleasant atmosphere.
For people who like to create a more open living space for all their ideas. After all- home is best and most beautiful.

Your life style is characterised by a high quality and design awareness. Internorm home windows certainly live up to this claim – they represent better quality of life and living comfort. home windows are a skilful combination of modern age and tradition:

HOME PURE

home pure meets the demands of a modern and straight-lined style creating bright, light-flooded living environments for you and your family.

HOME SOFT

home soft feels friendly and cosy and offers many design varieties – from elegant to playful. An almost countless selection of window shapes – round, segmented, basket or pointed arch – Georgian/feature bars in many versions and further design elements like colours, handles etc. all add a harmonic style to your home.

home
pure

IDEAL FOR THE PURIST

The straight-lined, square shapes and modern design of the home pure **windows** underline the architecture of your building. The surface-offset systems adapt perfectly to your purist style of living.

There are no limits to your creativity – surfaces and colours allow plenty of room for individualisation. Also available in the home pure **accessories**: Handles, sun and insect protection, colours and large-scale elements. All home pure windows made of timber/aluminium, UPVC/aluminium and UPVC can be found under home pure **comfort**.

Enjoy interesting insights and views while exploring the home pure **style** section!

MATERIAL INSIDE

UPVC OR TIMBER
white

UPVC windows
UPVC/aluminium windows
Timber/aluminium windows

TIMBER
in all RAL colours

Timber/aluminium windows

TIMBER
in varnished and opaque standard colours

Timber/aluminium windows

MATERIAL OUTSIDE

UPVC
white

UPVC window

ALUMINIUM
attachment clad in highly weather resistant colours

UPVC/aluminium windows
Timber/aluminium windows

ALUMINIUM
attachment clad in many RAL colours

UPVC/aluminium windows
Timber/aluminium windows

VIEW FROM THE INSIDE

The straight-lined shapes of the home pure windows meets your demands of pure aesthetics. home pure stands for a high standard of living and reinforces your individual attitude to life in a puristic style.

Individualisation
home pure windows stand out through their square structures in interior architecture – highlight your unique style with surfaces and colours!

Surfaces
You can choose between long-lasting UPVC and natural timber in a wide range of colours.

Colours
The colour range – matching your home pure windows – can be found on page 33. An overview of all colours can be found on page 98.

VIEW FROM THE OUTSIDE

As a purist you place great importance on a high quality of life and possess a distinct awareness of style. home pure windows underline your active life style – make your purest dreams come true!

Individualisation
home pure windows fit perfectly into the architecture of your home – highlight your individual style with surfaces and colours!

Surfaces
You can choose between long-lasting UPVC, weather-resistant aluminium in a wide range of colours and rich timber shades.

Colours
The colour range – matching your home pure window – can be found on page 33. An overview of all colours can be found on page 98.

Material	Timber/aluminium		UPVC/aluminium				UPVC	
								
	HF 200	**HV 240**	**KF 500**	**KF 410**	**KF 200**	**KV 240**	**KF 500**	**KF 410**
Thermal insulation (in W/m²K) Coating SOLAR+ / LIGHT Best value	★★★★★ U_w = 0.81 / 0.74 U_w = 0.70	★★★★★ U_w = n.a. / 0.97 U_w = 0.63	★★★★★ U_w = 0.80 / 0.73 U_w = 0.69	★★★★★ U_w = 0.79 / 0.72 U_w = 0.62	★★★★☆ U_w = 1.1 / 1.0 U_w = 0.81	★★★★☆ U_w = n.a. / 1.1 U_w = 0.80	★★★★★ U_w = 0.80 / 0.73 U_w = 0.69	★★★★★ U_w = 0.79 / 0.72 U_w = 0.62
Soundproofing (in dB)	★★★★★ 37 – 47	★★★★★ 43 – 45	★★★★★ 35 – 46	★★★★★ 34 – 45	★★★★☆ 33 – 45	★★★★★ 38 – 45	★★★★★ 35 – 46	★★★★★ 34 – 45
Security	★★★★☆ RC1, RC2	★★★★☆ RC1, RC2	★★★★★ RC2	★★★★☆ WK1, WK2	★★★★☆ WK1, WK2	★★★★☆ WK1, WK2	★★★★★ RC2	★★★★☆ WK1, WK2
Locking	★★★★☆ concealed	★★★★☆ concealed	★★★★★ fully integrated	★★★★☆ concealed	★★★★☆ concealed	★★★☆☆ exposed	★★★★★ fully integrated	★★★★☆ concealed
Dimensions mm								
Frame construction depth	85	85	93	93	71	71	93	93
View width frame/sash	114	114	80	113	97	102	80	113
View width flying mullion (2 sashes)	134	134	117	133	119	130	117	133
View width transom (2 sashes)	173	173	139	187	170	181	139	187
Opening types								
Fixed	★	★	★	★	★	★	★	★
Turn and tilt/turn	★	★	★	★	★	★	★	★
Tilt	★	★	★	★	★	★	★	★
Sliding windows	★		★	★			★	★
Lockable doors	★			★				★
Sliding doors	★		★	★	★		★	★
Doors with threshold	★	★	★	★	★	★	★	★
Outward opening doors								
Gaskets quantity	3	3	3	3	3	3	3	3
Bead gasket colour outside	black	black	black	black	black	black	light grey	light grey

Handles

Internorm offers a sophisticated selection of handles – here are a few recommendations from our range. More attractive designer handles are available from your Internorm distribution partner.

Standard handle G80
flat key hole cover plate
Part no. 36423

Standard handle G80
Part no. 36404

Standard handle G80
lockable
Part no. 36400

Secustik handle G80
Part no. 34139
(only for KF 500)

Handle Dallas
Part no. 36426

Sun and insect protection

The sun and insect protection systems complement the windows to a functional unit and support the design of the house facade.

Composite windows: Integrated between the panes, therefore provide privacy and sun protection – choose between blinds, Venetian blinds or Duette®

Venetian blinds: Optimum control and guidance of light and warmth through adjustable slats; can be combined with insect protection

Attachment roller shutters: Completely fitted on to the window, can be combined with insect protection

Insect protection: Fixed, turn, sliding or drop-down fly screen. Can be combined with sun protection

Composite window

Venetian blind

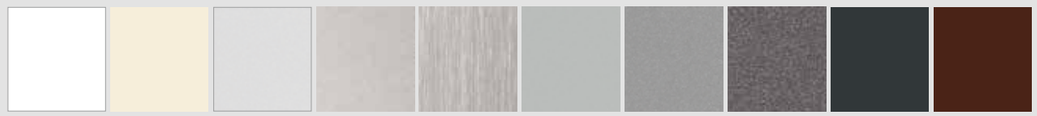
Attachment roller shutter

Insect protection

Colours

Here is a selection of colours as a recommendation, matching your home pure window. The complete colour range can be found in the overview from page 98.

Exterior colours



M916 HM113 HF735 EL01 EL02 HM906 HFM02 HFM03 HM716 HM817

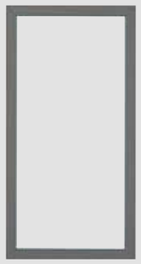
Interior colours

White RAL1013 FI916 FI501 FI503 FI505 FI502 LA602 RAL7040

Large-scale elements

Modern glass architecture through large-scale glazing and lift-and-slide doors, also with corner solutions in all-glass versions, XL size up to 12 m wide and 17 m² glass area.

Side entrance door
UPVC



Fixed glazing

Lift-and-slide door UPVC, UPVC/aluminium

Lift-and-slide door timber/aluminium

This range shows additional highlights of architecture – a recommendation matching the design style home pure.
Further designs can be found in the overview from page 98 onwards.

KF 500
UPVC & UPVC/ALUMINIUM WINDOWS

- Thermal insulation with standard triple glazing SOLAR+ and highly thermally insulating edge seal (U_g = 0.6 W/m²K) U_w = 0.80 W/m²K
- Best thermal insulation **U_w up to 0.69 W/m²K** (with corresponding glazing)
- Soundproofing up to 46 dB (with corresponding glazing)
- 90 mm construction depth
- Revolutionary I-tec locking as standard, this means fully integrated concealed hardware
- I-tec ventilation available upon request
- Stylish sash created through profiled frames – with the advantages of sash finished in all glass appearance
- More light through narrow view widths up to 80 mm
- Triple gasket system
- Visible or concealed drainage
- FIX-O-ROUND technology
- RC2 N as standard (without lockable handle) acc. to EN 1627–1630
- Multi chamber system with additional highly thermally insulating thermal foam (HCFC, HFC and FC free)
- Shortened aluminium attachment clad available upon request, for thermo-technical optimised construction connection

FIX-O-ROUND Technology

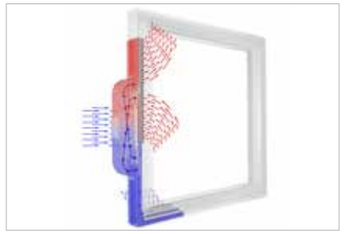
I-tec Locking | I-tec Ventilation | I-tec Glazing

UPVC VERSION

Along with the aluminium attachment clad version in all colours, the classic UPVC version in white is also available.

I-TEC LOCKING

Integrated locking flaps instead of locking pegs ensure the safe locking of the sash. Therefore, the standard hardware version already complies to RC2 N (without lockable handle) acc. to EN1627-1630, standard tested burglary protection.

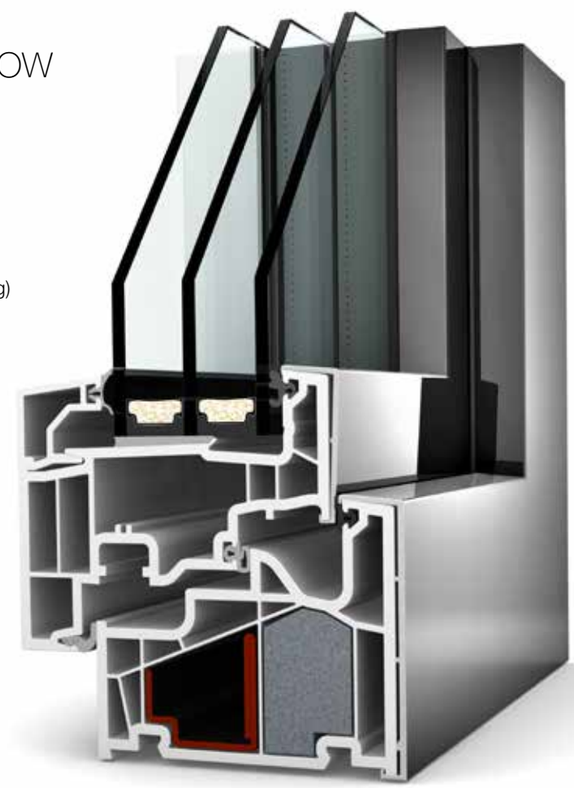


I-TEC VENTILATION

Continuous fresh air for the whole room and your well being. Uncontrolled airing leads to energy losses. The I-tec ventilator is equipped with a heat exchanger. 86 % heat recovery reduces the energy losses to a minimum.

KF 410
UPVC & UPVC/ALUMINIUM WINDOW

- Thermal insulation with standard triple glazing SOLAR+ and highly thermally insulating edge seal (U_g = 0.6 W/m²K) U_w = 0.79 W/m²K
- Best thermal insulation **U_w up to 0.62 W/m²K** (with corresponding glazing)
- Soundproofing up to 45 dB (with corresponding glazing)
- 90 mm construction depth
- Triple gasket system
- Fully concealed hardware
- Visible or concealed drainage
- FIX-O-ROUND technology
- Standard security
- 5 chamber system with highly thermally insulating thermal foam (HCFC, HFC and FC free)
- Shortened aluminium attachment clad available upon request, for thermo-technical optimised construction connection

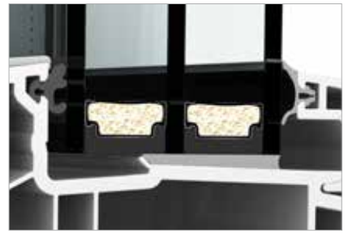


FIX-O-ROUND Technology

I-tec Glazing

UPVC VERSION

Along with the aluminium attachment clad version in all colours, the classic UPVC version in white is also available.



I-TEC GLAZING FIX-O-ROUND TECHNOLOGY

Continuous all around fixing of the glass pane ensures better stability, thermal and sound insulation, burglary protection and functioning security.

OUTSIDE GASKETS

In the UPVC/aluminium version you can choose between black and light grey gaskets for the outside.

KF 200
UPVC/ALUMINIUM WINDOW

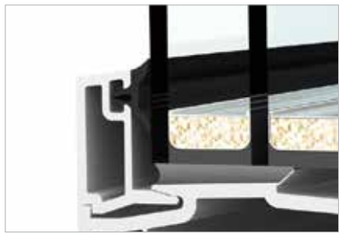
- Thermal insulation with standard triple glazing SOLAR+ (U_g = 0.7 W/m²K) U_w = 0.99 W/m²K
- Best thermal insulation **U_w up to 0.81 W/m²K** (with corresponding glazing)
- Soundproofing up to 45 dB (with corresponding glazing)
- 71 mm construction depth
- Narrow view width up to 97 mm
- Triple gasket system
- Fully concealed hardware available upon request
- FIX-O-ROUND technology
- Visible drainage
- Resistance class WK1 and WK2 tested (upon request)
- Standard security
- 5 chamber system
- Locking parts screwed into steel – from a certain window size on
- Shortened aluminium attachment clad available upon request, for thermo-technical optimised construction connection.

FIX-O-ROUND Technology

I-tec Glazing

TRIPLE GASKET SYSTEM

Three continuous gasket levels without interruption ensure high impermeability.



MODERN INTERIOR DESIGN

Square-edged glass bead with glazing thickness of 44 mm inside available upon request.

SQUARE-EDGED EXTERIOR DESIGN

This design in square-edged version is available exclusively with an aluminium clad.

KV 240
UPVC/ALUMINIUM COMPOSITE WINDOW

- Thermal insulation with standard triple glazing (U_g = 0.95 W/m²K) U_w = 1.1 W/m²K
- Best thermal insulation at low weight **U_w up to 0.80 W/m²K** (with 3light glazing)
- Soundproofing up to 45 dB (with corresponding glazing)
- 71 mm construction depth
- Flush design outside and inside also with square-edged glass bead
- Integrated between the panes, therefore provides privacy and sun protection
- Narrow view width up to 102 mm
- Triple gasket system
- Fully concealed hardware available upon request
- FIX-O-ROUND technology
- 5 chamber system
- Locking parts screwed into steel – from a certain window size on

FIX-O-ROUND Technology

I-tec Shading

I-tec Glazing

QUADRUPLE PROTECTION

Thermal, sound, sun and privacy protection all in one window. No additional structural provision necessary. No extra fitting necessary for sun protection systems.

FLUSH DESIGN

With this innovative composite window in modern square-edged design, integration into the facade is possible on three sides. Inside square-edged glass bead available upon request.

I-TEC SHADING

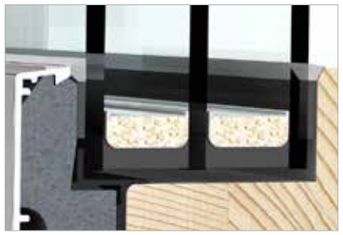
Available upon request with photovoltaic blind, Venetian blind or Duette® with self-sufficient energy. Energy supply via integrated photovoltaic module, no extra fitting necessary, bi-directional wireless control.

HF 200
TIMBER/ALUMINIUM WINDOW

- Thermal insulation with standard triple glazing SOLAR+ and highly thermally insulating edge seal (U_g = 0.6 W/m²K) U_w = 0.81 W/m²K
- Also available with 48 mm glazing (U_g = 0.5 W/m²K without krypton) at best price/performance ratio
- Best thermal insulation **U_w up to 0.70 W/m²K** (with corresponding glazing)
- Soundproofing up to 47 dB
- 85 mm construction depth
- Classic, square-edged and straight exterior and interior design
- Highly thermally insulating thermal foam (HCFC, HFC and FC free)
- Triple gasket system
- Fully concealed hardware
- Designer locking parts
- Resistance class up to WK2
- Visible or concealed drainage
- Standard security

FIX-O-ROUND® Technology

I-tec Glazing



INGENIOUS GLAZING SYSTEM
Glass panes glued to the timber frame ensure good structural stability and high torsion resistance.

FULLY CONCEALED HARDWARE
As standard no visible hardware parts – for better appearance, easier to clean and above all for better impermeability from the inside.

MODERN INTERIOR DESIGN
The timber/aluminium window HF 200 stands out through its modern, square-edged interior design.

HV 240
TIMBER/ALUMINIUM COMPOSITE WINDOW

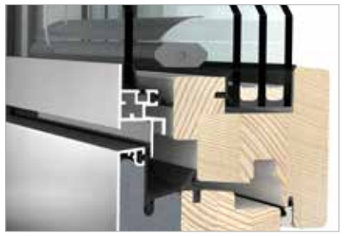
- Thermal insulation with standard triple glazing (U_g = 0.90 W/m²K) U_w = 0.97 W/m²K
- Best thermal insulation at low weight **U_w up to 0.63 W/m²K** (with 3light glazing) – passive house certified
- Soundproofing 44 dB as standard, 45 dB (with corresponding glazing)
- 85 mm construction depth
- Modern interior design with square-edged sash
- Integrated between the panes, therefore provides privacy and sun protection
- Fully concealed hardware
- Highly thermally insulating thermal foam (HCFC, HFC and FC free)
- Quadruple glazing upon request – passive house certified
- FIX-O-ROUND technology
- Visible or concealed drainage
- Triple gasket system
- Standard security

FIX-O-ROUND® Technology

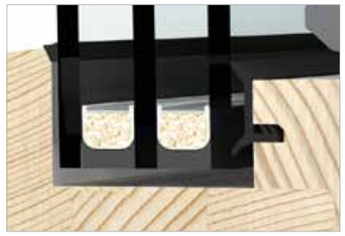
Passive house certified component

I-tec Shading

I-tec Glazing

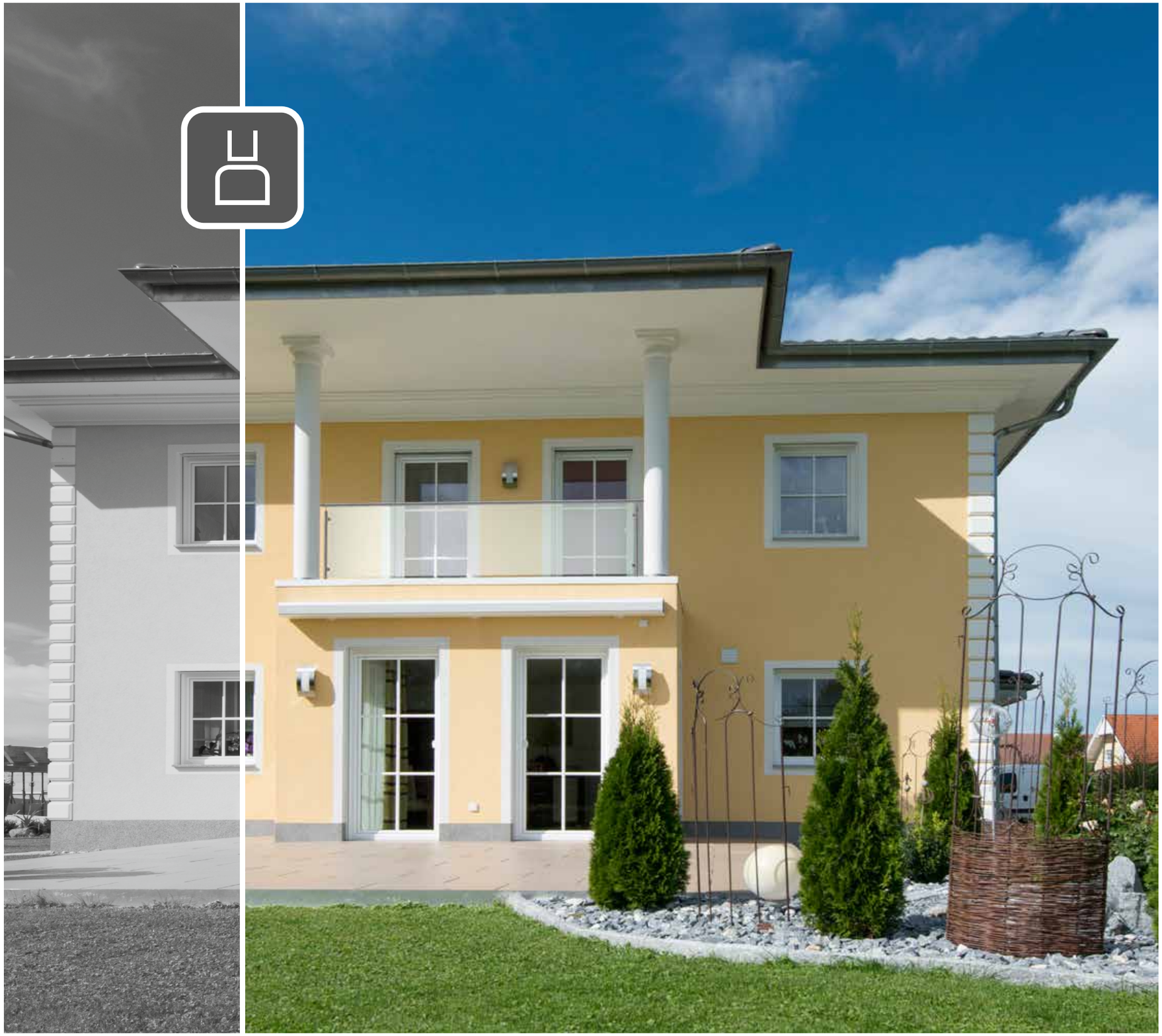


MODERN GLASS APPEARANCE
With this innovative composite window in attractive glass appearance and modern square-edged frame design integration into the facade is possible on three sides. Modern interior design with square-edged sash.



INGENIOUS GLAZING SYSTEM
Glass panes glued to the timber frame ensure good structural stability and high torsion resistance.

I-TEC SHADING
Available upon request with photovoltaic blind, Venetian blind or Duette® with self-sufficient energy. Energy supply via integrated photovoltaic module, no extra fitting necessary, bi-directional wireless control.



home
soft

IDEAL FOR THE SOPHISTICATED

Harmonic shapes and the soft-line design of the home soft **windows** characterise the architecture of your building. The rounded Internorm window systems adapt perfectly to your living style.

There are no limits to your creativity – surfaces and colours allow plenty of room for individualisation. Also available in the home soft **accessories**: Handles, sun and insect protection, colours and large-scale elements. All home soft windows made of timber/aluminium, UPVC/aluminium and UPVC can be found under home soft **comfort**.

Enjoy interesting insights and views under the home soft **style** section!

MATERIAL INSIDE

UPVC OR TIMBER
white

UPVC windows
UPVC/aluminium windows
Timber/aluminium windows

UPVC DECOR
Decor foils for UPVC surfaces in different colours

UPVC windows
UPVC/aluminium windows

TIMBER
in all RAL colours and varnished and opaque standard colours

Timber/aluminium windows

MATERIAL OUTSIDE

UPVC
white

UPVC windows

ALUMINIUM
attachment clad in many colours

UPVC/aluminium windows
Timber/aluminium windows

ALUMINIUM
attachment clad in patterned timber decor colours

UPVC/aluminium window
Timber/aluminium window

VIEW FROM THE INSIDE

The round shapes of the home soft windows meet your needs for harmony and cosiness. home soft stands for a good standard in life and creates generous space for your artistic abilities.

Individualisation
home soft windows stand out through round shapes in the interior architecture – highlight your individual style with surfaces, Georgian/feature bars and colours!

Surfaces
You can choose between long-lasting UPVC, decor foils for UPVC surfaces and natural timber in a wide range of colours.

Georgian/feature bars
Choose from an extensive range of Georgian/feature bars: glued-on and integrated Georgian/feature bars in different widths.

Colours
The colour range – matching your home soft windows – can be found on page 47. An overview of all colours can be found on page 98.

VIEW FROM THE OUTSIDE

You place great importance on a high quality of life and a cosy, comfortable home. Create a calm and pleasant living environment with home soft windows!

Individualisation
home soft windows adapt perfectly to the architecture of your home – highlight your unique style with surfaces, Georgian/feature bars and colours!

Surfaces
You can choose between long-lasting UPVC, weather-resistant aluminium in a wide range of colours and rich timber shades.

Georgian/feature bars
Choose from an extensive range of Georgian/feature bars: glued-on and integrated Georgian/feature bars in different widths.

Colours
The colour range – matching your home soft window – can be found on page 47. An overview of all colours can be found on page 98.

Material		Timber/aluminium			UPVC/aluminium			UPVC	
									
		HF 300	**HV 340**		**KF 410**	**KF 200**	**KV 340**	**KF 410**	**KF 200**
Thermal insulation (in W/m²K) Coating SOLAR+ / LIGHT Best value		★★★★★ U_w = 0.86 / 0.79 U_w = 0.69	★★★★★ U_w = n.a. / 0.99 U_w = 0.63		★★★★★ U_w = 0.79 / 0.72 U_w = 0.62	★★★★☆ U_w = 0.79 / 0.72 U_w = 0.81	★★★★☆ U_w = n.a. / 1.1 U_w = 0.79	★★★★★ U_w = 0.79 / 0.72 U_w = 0.62	★★★★☆ U_w = 0.79 / 0.72 U_w = 0.81
Soundproofing (in dB)		★★★★★ 34 – 46	★★★★★ 42 – 45		★★★★★ 34 – 45	★★★★☆ 33 – 45	★★★★★ 38 – 45	★★★★★ 34 – 45	★★★★☆ 33 – 45
Security		★★★★☆ RC1, RC2	★★★★☆ RC1, RC2		★★★★☆ WK1, WK2	★★★★☆ WK1, WK2	★★★★☆ WK1, WK2	★★★★☆ WK1, WK2	★★★★☆ WK1, WK2
Locking		★★★★☆ concealed	★★★★☆ concealed		★★★★☆ concealed	★★★☆☆ exposed	★★★★☆ concealed	★★★★☆ concealed	★★★☆☆ exposed
Dimensions mm									
Frame construction depth		93	93		93	71	83	93	68
View width frame/sash		114	114		113	112.5	91.5	113	112.5
View width flying mullion (2 sashes)		134	134		133	119	129	133	119
View width transom (2 sashes)		173	173		187	170	180	187	170
Opening types									
Fixed		★	★		★	★	★	★	★
Turn and tilt/turn		★	★		★	★	★	★	★
Tilt		★	★		★	★	★	★	★
Sliding windows		★			★	★		★	★
Lockable doors		★			★	★		★	★
Sliding doors		★			★	★		★	★
Doors with threshold		★	★		★	★	★	★	★
Outward opening doors									
Gaskets quantity		3	3		3	3	3	3	3
Bead gasket colour outside		black	black		black	black	black	light grey	light grey
Georgian bars (glued-on and integrated Georgian/ feature bars in different widths)		★	★		★	★	★	★	★

Handles

Internorm offers a sophisticated selection of handles – here are a few recommendations from our range. More attractive designer handles are available from your Internorm distribution partner.

Standard handle Aluminium natural
Part no. 33899

Designer handle Steel
Part no. 34615

Designer handle Athinai Chrome/stainless steel matt
Part no. 34596

Designer handle Bruxelles Chrome satined
Part no. 34592

Sun and insect protection

The sun and insect protection systems complement the windows to a functional unit and support the design of the house facade.

Composite windows: Integrated between the panes, therefore provide privacy and sun protection – choose between blinds, Venetian blinds or Duette®

Attachment Venetian blinds: Optimum control and guidance of light and warmth through adjustable slats; can be combined with insect protection

Attachment roller shutter and attachment mini roller shutter: Completely fitted on to the window, can be combined with insect protection

Insect protection: Fixed, turn, sliding or drop-down fly screen. Can be combined with sun protection

Composite window

Venetian blind

Attachment roller shutter

Insect protection

Colours

Here is a selection of colours as a recommendation, matching your home soft window. The complete colour range can be found in the overview from page 98.

Exterior colours

M916 | HF735 | HFM02 | HM304 | HM605 | HM803 | HDH14 | HDS03 | HDS07 | HFM21

Interior colours

White | FI916 | FI501 | FI502 | LA600 | LA601 | FI506 | FI508 | Oregon Decor | Golden Oak

Large-scale elements

Modern glass architecture through large-scale glazing and lift-and-slide doors, also with corner solutions in all-glass versions, XL size up to 12 m wide and 17 m² glass area.

Side entrance door
UPVC

Lift-and-slide door UPVC, UPVC/aluminium

Sliding door UPVC, UPVC/aluminium

Lift-and-slide door timber/aluminium

This range shows additional highlights of architecture – a recommendation matching the design style home soft.
Further designs can be found in the overview from page 98 onwards

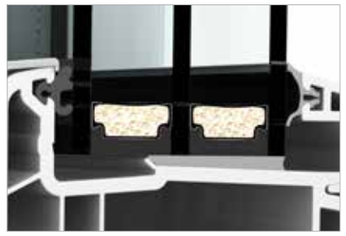
KF 410
UPVC & UPVC/ALUMINIUM WINDOW

- Thermal insulation with standard triple glazing SOLAR+ and highly insulating edge seal (U_g = 0.6 W/m²K) U_w = 0.79 W/m²K
- Best thermal insulation **U_w up to 0.62 W/m²K** (with corresponding glazing)
- Soundproofing up to 45 dB (with corresponding glazing)
- 90 mm construction depth
- Triple gasket system
- Fully concealed hardware
- Visible or concealed drainage
- FIX-O-ROUND technology
- Resistance class WK1 and WK2 untested (upon request)
- Standard security
- 5 chamber system with highly thermally insulating thermal foam (HCFC, HFC and FC free)
- Shortened aluminium attachment clad available upon request, for thermo-technical optimised construction connection

FIX-O-ROUND® Technology

I-tec Glazing

UPVC VERSION
Along with the aluminium attachment clad version in all colours, the classic UPVC version in white is also available.



I-TEC GLAZING FIX-O-ROUND TECHNOLOGY
Continuous all around fixing of the glass pane ensures better stability, thermal and sound insulation, burglary protection and functioning security.

LIGHT GREY GASKETS
The gaskets in the UPVC version are light grey as standard.

KF 200
UPVC & UPVC/ALUMINIUM WINDOW

- Thermal insulation with standard triple glazing SOLAR+ (U_g = 0.7 W/m²K) U_w = 0.99 W/m²K
- Best thermal insulation **U_w up to 0.81 W/m²K** (with corresponding glazing)
- Soundproofing up to 45 dB (with corresponding glazing)
- 71 mm construction depth UPVC/aluminium or 68 mm in UPVC
- Narrow view width up to 97 mm
- Triple gasket system
- Fully concealed hardware upon request
- FIX-O-ROUND technology
- Resistance class WK1 and WK2 tested (upon request)
- 5 chamber system
- Locking parts screwed into steel – from a certain window size on
- Standard security
- Shortened aluminium attachment clad available upon request, for thermo-technical optimised construction connection.

FIX-O-ROUND® Technology

I-tec Glazing

UPVC VERSION
Along with the aluminium attachment clad version in all colours, the classic UPVC version in white is also available.

I-TEC GLAZING FIX-O-ROUND TECHNOLOGY
Continuous all around fixing of the glass pane ensures better stability, thermal and sound insulation, burglary protection and functioning security.

TRIPLE GASKET SYSTEM
Three continuous gasket levels without interruption ensure high impermeability.

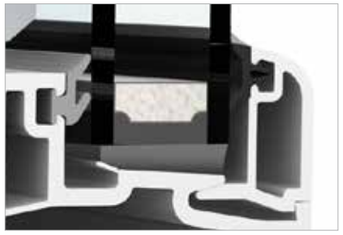
KV 340
UPVC & UPVC/ALUMINIUM COMPOSITE WINDOW

- Thermal insulation with standard triple glazing (U_g = 0.95 W/m²K) U_w = 1.1 W/m²K
- Best thermal insulation at low weight **U_w up to 0.79 W/m²K** (with 3light glazing)
- Soundproofing up to 45 dB (with corresponding glazing)
- 83 mm construction depth
- Narrow view width up to 91.5 mm
- Integrated between the panes, therefore provides privacy and sun protection
- I-tec shading available upon request
- Triple gasket system
- Fully concealed hardware
- FIX-O-ROUND technology
- Visible or concealed drainage
- 5 chamber system
- Locking parts screwed into steel – from a certain window size on
- Passive house certified version available upon request

Passive house certified component

I-tec Shading

I-tec Glazing



I-TEC GLAZING FIX-O-ROUND TECHNOLOGY
Continuous all around fixing of the glass pane ensures better stability, thermal and sound insulation, burglary protection and functioning security.

QUADRUPLE PROTECTION
Thermal, sound, sun and privacy protection all in one window. No additional structural provision necessary. No extra fitting necessary for sun protection systems.

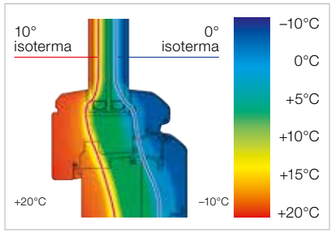
I-TEC SHADING
Available upon request with photovoltaic blind, Venetian blind or Duette® with self-sufficient energy. Energy supply via integrated photovoltaic module, no extra fitting necessary, bi-directional wireless control.

HF 300
TIMBER/ALUMINIUM WINDOW

- Standard triple glazing SOLAR+ – for optimum energy efficiency
- Thermal insulation with standard triple glazing SOLAR+ (U_g = 0.7 W/m²K) U_w = 0.86 W/m²K
- Also available with 48 mm glazing (U_g = 0.5 W/m²K without krypton) at best price/performance ratio
- Best thermal insulation **U_w up to 0.69 W/m²K** (with corresponding glazing)
- Soundproofing up to 46 dB
- 93 mm construction depth
- Highly thermally insulating thermal foam, (HCFC, HFC and FC free)
- Fully concealed hardware
- Resistance class up to RC2
- Standard security
- Visible or concealed drainage
- FIX-O-ROUND technology
- Triple gasket system
- With additional thermal foam, also available as passive house certified component acc. to Passivhaus-institut Darmstadt

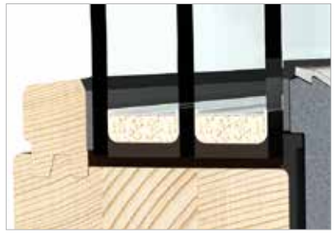
Passive house certified component

I-tec Glazing



OPTIMAL ISOTHERMAL GRAPH
Good thermal insulation, depicted by a favourable isothermal graph, ensures that the window will remain mostly free of condensation.

PERFECT GLAZING THICKNESSES
With the HF 300, glazing thicknesses from 24 - 48 mm are available depending on requirements.



INTERIOR DESIGN IN ITS PROPER STYLE
The glass bead which is glued on to the timber frame is rounded and matches the soft-line design perfectly.

HV 340
TIMBER/ALUMINIUM COMPOSITE WINDOW

- Thermal insulation with standard triple glazing (U_g = 0.95 W/m²K) U_w = 0.99 W/m²K
- Best thermal insulation at low weight **U_w up to 0.63 W/m²K** (with 3light glazing)
- Soundproofing 44 dB as standard, 45 dB (with corresponding glazing)
- 93 mm construction depth
- Through installation between the panes (blinds, Venetian blinds or Duette blinds) protection from damage and weather, smooth operation and solar powered drive.
- I-tec shading available upon request
- Fully concealed hardware
- Highly thermally insulating thermal foam (HCFC, HFC and FC free)
- Visible or concealed drainage
- FIX-O-ROUND technology
- Triple gasket system
- Available as passive house certified component with triple insulating glass in combination with additional glass pane.

Passive house certified component

FIX-O-ROUND® Technology

I-tec Shading

I-tec Glazing

SOFT-LINE DESIGN

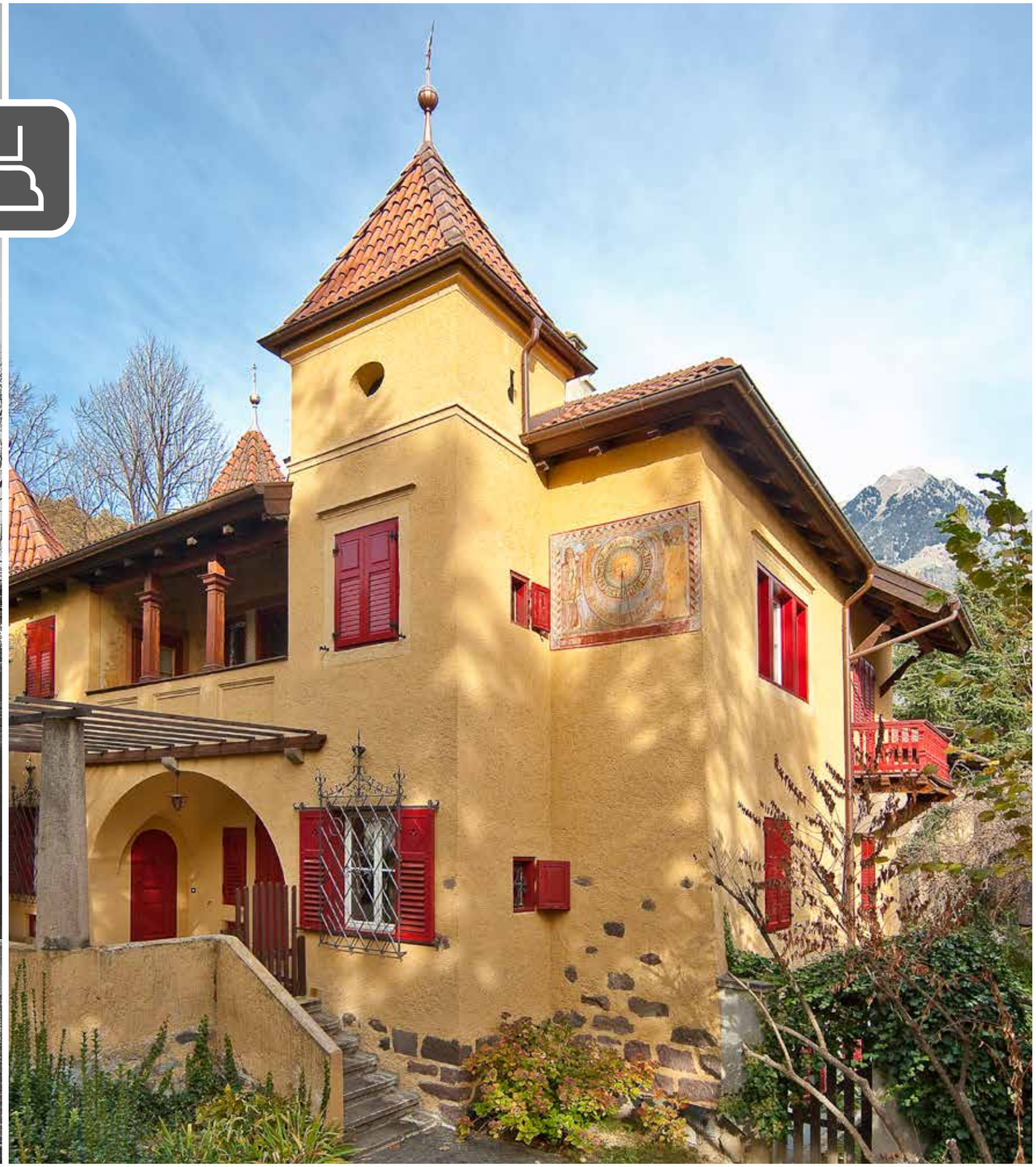
Harmony and aesthetics perfectly combined – achieved by rounding off all visible edges. Proven by many, this solid profile design can be integrated anywhere.

PASSIVE HOUSE CERTIFIED COMPONENT

HV 340 is also available in the certified version acc. to the Passivhausinstitut Darmstadt (PHI).

I-TEC SHADING

Available upon request with photovoltaic blind, Venetian blind or Duette® with self-sufficient energy. Energy supply via integrated photovoltaic module, no extra fitting necessary, bi-directional wireless control.



ambiente

IDEAL FOR THE TRADITIONALIST

Classic shapes and the traditional design of the ambiente **windows** characterise the architecture of your building. The proven Internorm window systems underline the unique personality of your home.

There are no limits to your creativity – surfaces and colours allow plenty of room for individualisation. Also available in the ambiente **accessories**: Handles, sun and insect protection, colours and large-scale elements. All ambiente windows made of timber/aluminium, UPVC/aluminium and UPVC can be found under ambiente **comfort**.

Enjoy the interesting insights and views under the ambiente **style** section!

MATERIAL INSIDE

UPVC OR TIMBER
white

UPVC windows
UPVC/aluminium windows
Timber/aluminium windows

UPVC DECOR
Decor foils for UPVC surfaces in different colours

UPVC windows
UPVC/aluminium windows

TIMBER
in varnished and opaque standard colours

Timber/aluminium windows

MATERIAL OUTSIDE

UPVC
white

UPVC windows

ALUMINIUM
attachment clad in many colours

UPVC/aluminium windows
Timber/aluminium windows

ALUMINIUM
attachment clad in patterned timber decor colours

UPVC/aluminium windows
Timber/aluminium windows

VIEW FROM THE INSIDE

The classic shapes of the ambiente windows create an exclusive and tasteful living ambience. Internorm ambiente windows stand for a high quality of life and offer many design possibilities.

Individualisation
ambiente windows stand out with traditional shapes in the interior design – highlight your unique style with surfaces, Georgian/feature bars and colours!

Surfaces
You can choose between long-lasting UPVC, decor foils for UPVC surfaces and natural timber in a wide range of colours.

Georgian/feature bars
Choose from an extensive range of Georgian/feature bars: glued on and integrated Georgian/feature bars in different widths as well as gold and lead Georgian/feature bars.

Colours
The colour range – matching your ambiente windows – can be found on page 61. An overview of all colours can be found on page 98.

VIEW FROM THE OUTSIDE

You place great importance on a high quality of life and an exclusive and elegant living style.
ambiente windows follow the shapes of art nouveau and classicism – from traditional houses to elegant country estates.

Individualisation
ambiente windows adapt perfectly to the architecture of your home – highlight your individual style with surfaces, Georgian/feature bars and colours!

Surfaces
You can choose between long-lasting UPVC, weather-resistant aluminium in a wide range of colours and rich timber shades.

Georgian/feature bars
Choose from an extensive range of Georgian/feature bars: glued-on and integrated Georgian/feature bars in different widths as well as gold and lead Georgian/feature bars.

Colours
The colour range – matching your ambiente window – can be found on page 61. An overview of all colours can be found on page 98.

Material		Timber/aluminium			UPVC/aluminium			UPVC	
									
		HF 300	**HV 340**		**KF 410**	**KF 200**	**KV 340**	**KF 410**	**KF 200**
Thermal insulation (in W/m²K) Coating SOLAR+ / LIGHT Best value		★★★★★ U_w = 0.86 / 0.79 U_w = 0.69	★★★★★ U_w = n.a. / 0.99 U_w = 0.63		★★★★★ U_w = 0.79 / 0.72 U_w = 0.62	★★★★☆ U_w = 0.79 / 0.72 U_w = 0.81	★★★★☆ U_w = n.a. / 1.1 U_w = 0.79	★★★★★ U_w = 0.79 / 0.72 U_w = 0.62	★★★★☆ U_w = 0.79 / 0.72 U_w = 0.81
Soundproofing (in dB)		★★★★★ 34 – 46	★★★★★ 42 – 45		★★★★★ 34 – 45	★★★★☆ 33 – 45	★★★★★ 38 – 45	★★★★★ 34 – 45	★★★★☆ 33 – 45
Security		★★★★☆ RC1, RC2	★★★★☆ RC1, RC2		★★★★☆ WK1, WK2	★★★★☆ WK1, WK2	★★★★☆ WK1, WK2	★★★★☆ WK1, WK2	★★★★☆ WK1, WK2
Locking		★★★★☆ concealed	★★★★☆ concealed		★★★★☆ concealed	★★★☆☆ exposed	★★★★☆ concealed	★★★★☆ concealed	★★★☆☆ exposed
Dimensions mm									
Frame construction depth		93	93		93	71	83	93	68
View width frame/sash		114	114		113	112.5	91.5	113	112.5
View width flying mullion (2 sashes)		134	134		133	119	129	133	119
View width transom (2 sashes)		173	173		187	170	180	187	170
Opening types									
Fixed		★	★		★	★	★	★	★
Turn and tilt/turn		★	★		★	★	★	★	★
Tilt		★	★		★	★	★	★	★
Sliding windows		★			★	★		★	★
Lockable doors		★			★	★		★	★
Sliding doors		★			★	★		★	★
Doors with threshold		★	★		★	★	★	★	★
Outward opening doors									
Gaskets quantity		3	3		3	3	3	3	3
Bead gasket colour outside		black	black		black	black	black	light grey	light grey
Georgian bars (glued-on and integrated Georgian/feature bars in different widths as well as gold and lead Georgian feature bars)		★	★		★	★	★	★	★

Handles

Internorm offers a sophisticated selection of handles – here are a few recommendations from our range. More attractive designer handles are available from your Internorm distribution partner.

Standard handle Aluminium natural
Part no. 33899

Designer handle Steel
Part no. 34615

Designer handle Athinai Chrome/stainless steel matt
Part no. 34596

Designer handle Bruxelles Chrome satined
Part no. 34592

Designer handle Brass polished
Part no. 34597

Designer handle Athinai Brass polished
Part no. 34595

Designer handle Atlanta Brass polished
Part no. 34750

Sun and insect protection

The sun and insect protection systems complement the windows to a functional unit and support the design of the house facade.

Composite windows: Integrated between the panes, therefore provide privacy and sun protection – choose between blinds, Venetian blinds or Duette®

Attachment roller shutter and attachment mini roller shutter: Completely fitted on to the window, can be combined with insect protection

Insect protection: Fixed, turn, sliding or drop-down fly screen. Can be combined with sun protection

Window shutter: Made of aluminium, with many design possibilities; can be combined with insect protection

Composite window

Attachment roller shutter

Insect protection

Window shutter

Colours

Here is a selection of colours as a recommendation, matching your ambiente window. The complete colour range can be found in the overview from page 98.

Exterior colours

M916 | HM304 | HM605 | HM817 | HM768 | HDH13 | HDS01 | HDS04 | HDS08 | DM01

Interior colours

White | Brilliant white | FI916 | FI501 | FI503 | LA600 | FI507 | LA602 | FI509 | Golden Oak

Large-scale elements

Modern glass architecture through large-scale glazing and lift-and-slide doors, also with corner solutions in all-glass versions, XL size up to 12 m wide and 17 m² glass area.

Side entrance door
UPVC

Lift-and-slide door UPVC, UPVC/aluminium

Folding-sliding door UPVC, UPVC/aluminium

Lift-and-slide door timber/aluminium

This range shows additional highlights of architecture – a recommendation matching the design style ambiente.
Further designs can be found in the overview from page 98 onwards.

KF 410
UPVC & UPVC/ALUMINIUM WINDOW

- Thermal insulation with standard triple glazing SOLAR+ and highly thermally insulating edge seal (U_g = 0.6 W/m²K) U_w = 0.79 W/m²K
- Best thermal insulation **U_w up to 0.62 W/m²K** (with corresponding glazing)
- Soundproofing up to 45 dB (with corresponding glazing)
- 90 mm construction depth
- Triple gasket system
- Gasket colour outside black or light grey (only in UPVC/aluminium version)
- Fully concealed hardware
- Visible or concealed drainage
- FIX-O-ROUND technology
- Resistance class WK1 and WK2 untested (upon request)
- Standard security
- 5 chamber system with highly thermally insulating thermal foam (HCFC, HFC and FC free)
- Shortened aluminium attachment clad available upon request, for thermo-technical optimised construction connection

FIX-O-ROUND Technology

I-tec Glazing

UPVC VERSION
Along with the aluminium attachment clad version in all colours, the classic UPVC version in white is also available.

HARMONIC INTERIOR DESIGN
The rounded glass bead fits perfectly with the classic design style ambiente

OUTSIDE GASKETS
With the UPVC/aluminium version you can choose between black and light grey gaskets for the outside.

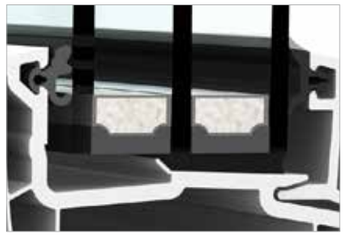
KF 200
UPVC & UPVC/ALUMINIUM WINDOW

- Thermal insulation with standard triple glazing SOLAR+ (U_g = 0.7 W/m²K) U_w = 0.99 W/m²K
- Best thermal insulation **U_w up to 0.81 W/m²K** (with corresponding glazing)
- Soundproofing up to 45 dB (with corresponding glazing)
- 71 mm construction depth UPVC/aluminium or 68 mm in UPVC
- Narrow view width up to 97 mm
- Triple gasket system
- Fully concealed hardware upon request
- FIX-O-ROUND technology
- Resistance class WK1 and WK2 tested (upon request)
- 5 chamber system
- Locking parts screwed into steel – from a certain window size on
- Standard security
- Shortened aluminium attachment clad available upon request, for thermo-technical optimised construction connection.

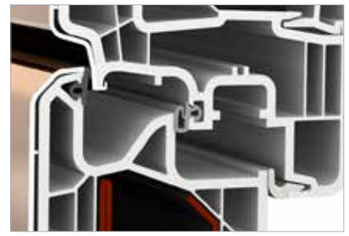
FIX-O-ROUND Technology

I-tec Glazing

UPVC VERSION
Along with the aluminium attachment clad version in all colours, the classic UPVC version in white is also available.



I-TEC GLAZING FIX-O-ROUND TECHNOLOGY
Continuous all around fixing of the glass pane ensures better stability, thermal and sound insulation, burglary protection and functioning security.



TRIPLE GASKET SYSTEM
Three continuous gasket levels without interruption ensure high impermeability.

KV 340
UPVC & UPVC/ALUMINIUM COMPOSITE WINDOW

- Thermal insulation with standard triple glazing (U_g = 0.95 W/m²K) U_w = 1.10 W/m²K
- Best thermal insulation at low weight **U_w up to 0.79 W/m²K** (with 3light glazing)
- Soundproofing up to 45 dB (with corresponding glazing)
- 83 mm construction depth
- Narrow view width up to 91.5 mm
- Integrated between the panes, therefore provides privacy and sun protection
- I-tec shading available upon request
- Triple gasket system
- Black or light grey gaskets
- Fully concealed hardware
- Visible or concealed drainage
- FIX-O-ROUND technology
- 5 chamber system
- Locking parts screwed into steel – from a certain window size on
- Passive house certified version available upon request

Passive house certified component

I-tec Shading

FIX-O-ROUND Technology

I-tec Glazing

SOFT-LINE DESIGN
Harmony and aesthetics perfectly combined – achieved by rounding off all visible edges. Proven by many, this solid profile design can be integrated anywhere.

CERTIFIED VERSION
Frames made of composite materials with thermally insulating thermal foam (HFCF, HFC and FC free) and thermally broken reinforcement.

I-TEC SHADING
Available upon request with photovoltaic blind, Venetian blind or Duette® with self-sufficient energy. Energy supply via integrated photovoltaic module, no extra fitting necessary, bi-directional wireless control.

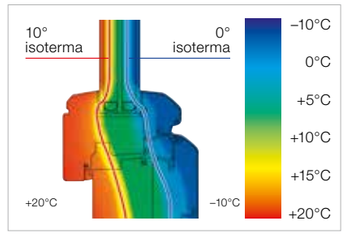
HF 300
TIMBER/ALUMINIUM WINDOWS

- Thermal insulation with standard triple glazing SOLAR+ (U_g = 0.7 W/m²K) U_w = 0.86 W/m²K
- Also available with 48 mm glazing (U_g = 0.5 W/m²K without krypton) at best price/performance ratio
- Best thermal insulation **U_w up to 0.69 W/m²K** (with corresponding glazing)
- Soundproofing up to 46 dB
- 93 mm construction depth
- Highly thermally insulating thermal foam (HCFC, HFC and FC free)
- Fully concealed hardware
- Resistance class up to RC2
- Visible or concealed drainage
- FIX-O-ROUND technology
- Triple gasket system
- With additional thermal foam also available as passive house certified component acc. to Passivhausinstitut Darmstadt
- Standard security

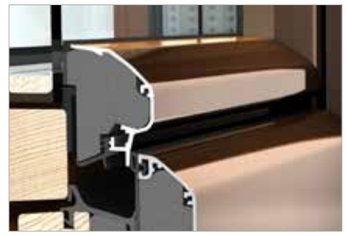
Passive house certified component

FIX-O-ROUND Technology

I-tec Glazing



OPTIMAL ISOTHERMAL GRAPH
Good thermal insulation, depicted by a favourable isothermal graph, ensures that the window will remain mostly free of condensation.



SOFT-LINE DESIGN
Harmony and aesthetics perfectly combined – achieved by rounding off all visible edges. Proven by many, this solid profile design can be integrated anywhere.

INGENIOUS GLAZING SYSTEM
Glass panes glued to the timber frame ensure good structural stability and high torsion resistance.

HV 340
TIMBER/ALUMINIUM COMPOSITE WINDOW

- Thermal insulation with standard triple glazing (U_g = 0.95 W/m²K) U_w = 0.99 W/m²K
- Best thermal insulation at low weight **U_w up to 0.63 W/m²K** (with 3light glazing)
- Soundproofing 44 dB as standard, 45 dB (with corresponding glazing)
- 93 mm construction depth
- Through installation between the panes (blinds, Venetian blinds or Duette blinds) protection from damage and weather, smooth operation and solar powered drive.
- I-tec shading available upon request
- Fully concealed hardware
- Highly thermally insulating thermal foam (HCFC, HFC and FC free)
- Visible or concealed drainage
- FIX-O-ROUND technology
- Triple gasket system
- Available as passive house certified component with triple insulating glass in combination with additional glass pane.

Passive house certified component

I-tec Shading

I-tec Glazing

QUADRUPLE PROTECTION

Thermal, sound, sun and privacy protection all in one window. No additional structural provision necessary. No extra fitting necessary for sun protection systems.

I-TEC SHADING

Available upon request with photovoltaic blind, Venetian blind or Duette® with self-sufficient energy. Energy supply via integrated photovoltaic module, no extra fitting necessary, bi-directional wireless control.

PASSIVE HOUSE CERTIFIED COMPONENT

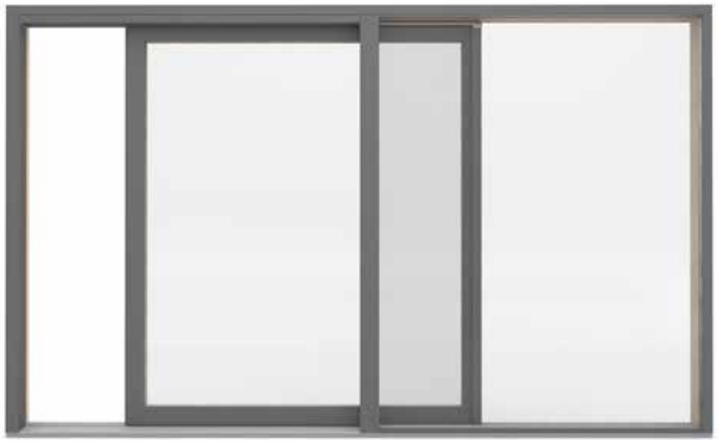
HV 340 is also available in the certified version acc. to the Passivhausinstitut Darmstadt (PHI). Triple glazing in combination with the additional glass pane meets the requirements of the “Passivhausinstitut”.

INTERNORM – TRENDSETTER OF THE WINDOW BRAND

With architecture true to its original style, demands on design, security and energy efficiency of the windows are rising.
Internorm, being the leader of innovations, sets higher standards in the brand.
The new ingenious lift-and-slide door HS 330 and the new UPVC and UPVC/aluminium window KF 410 stand out through innovative technologies.
Fully integrated locking, fully integrated ventilation, shading with self-sufficient energy – Internorm offers a series of revolutionary technologies under the title ‘I-tec’.

INGENIOUS – THE NEW LIFT-AND-SLIDE DOOR HS 330

The new timber/aluminium lift-and-slide door paves the way to unique perspectives. The narrow frame constructions and large glass areas allow generous amounts of light into the building creating a spacious living environment. The new glass fibre threshold technology together with standard triple glazing offers highest thermal insulation – also suitable for passive houses – and high torsion resistance. The low threshold prevents tripping hazards and is ideal for wheelchair accessibility.



The square-edged and modern design of the HS 330 stands out through a continuous aluminium appearance without glass beads inside or outside. It is available in all Internorm window colours and matches all timber/aluminium window systems perfectly. The integrated system parts in the sash are milled in flush and enhance the complete design of this lift-and-slide door.

The lift-and-slide door features a continuous timber appearance also in the fixed element. The patented glazing system enables glass exchanges even with completely rendered frames. You can choose between three handle versions whereby the design is adapted to the respective window system design style – rounded or square. Additionally, the lift-and-slide door can be equipped with Venetian blinds Raff F (Venetian blinds with cord tensioner), slats with light control (with Raff F and Raff S) and a wide insect protection frame.

HS 330

TIMBER/ALUMINIUM LIFT-AND-SLIDE-DOOR

- Thermal insulation **U_w up to 0.67 W/m²K**, passive house suitable
- Standard **triple security glazing** with 54 mm glazing thickness for best thermal insulation
- 6 mm **toughened glass panes** protect from injuries when glass breakages
- Modern, **square-edged appearance** inside and outside
- **All-glass corners** for modern architecture
- **Large-scale elements** – easy lifting and sliding of the sash up to 400 kg sash weight
- From 150 kg sash weight on **additional carriages** on the bottom for perfect smooth running of the sash
- Highly thermally insulating **glass fibre threshold** for optimum thermal insulation and stability
- Low threshold – suitable for **wheelchair access**, covered with timber profile in the area of fixed element
- **Guide rail** – **concealed** in frame – **with integrated bump stop** – for perfect appearance, smooth running and optimum burglary protection
- Resistance class **RC2**
- Fixed element glazing is directly in the frame – **no visible sash profile**, more light through narrow view widths
- In closed state, sash is situated behind transom, therefore **undisturbed view**
- **Opening width of the sash** can be adjusted in such a way that the opening clearance is not reduced.
- **Narrow frame profiles** for greatest possible view – door can be rendered completely on three sides – therefore, only glass is visible from the side element
- **Patented glazing system** enables glass exchange even with completely rendered frame
- Three attractive **handle designs**
- Aluminium surface allows **unlimited choice of colours**

I-tec Glazing

FIX-O-ROUND Technology

SOPHISTICATED TIMBER APPEARANCE

The lift-and-slide door even features continuous timber design in the lower threshold area.

PERFECT DESIGN

No sash screwed into the fixed element, can be rendered on three sides – for perfect glass appearance.

ENERGY SAVING GLASS FIBRE THRESHOLD

For optimum thermal insulation and stability, low version for easy wheelchair access.

A CLASS APART
THE NEW UPVC WINDOW KF 500

The revolution in window construction

The UPVC/aluminium or UPVC window K F500 is equipped with a completely new locking system: Instead of protruding locking pegs integrated flaps ensure the safe locking of the sash. KF 500 offers high security without functioning restrictions in WK2 resp. RC2N (without lockable handle) as standard.

Modern design

The design is puristic, the view widths are 30 % less. With this narrow UPVC window there are no visible glass beads on the inside; sash and fixed glazing look identical from the outside. The high proportion of glass provides more light for the interior.

KF 500
UPVC & UPVC/ALUMINIUM WINDOW

- Thermal insulation with standard triple glazing LIGHT and highly thermally insulating edge seal (U_g = 0.5 W/m²K) U_w = 0.73 W/m²K
- Best thermal insulation **U_w up to 0.69 W/m²K** (with corresponding glazing)
- **I-tec locking:** locking is fully integrated in sash – no visible locking parts in window frame, easy cleaning
- WK2 resp. RC2N as standard (without lockable handle) without functioning restrictions
- 30 % less view heights of frame and sash
- Puristic design – ideal for the design style home pure
- High glass proportion for more light
- Glass sash: same outside view with sash and fixed glazing
- No visible glass bead inside
- Optionally with **I-tec ventilation:** integrated, motoric ventilation with heat recovery (86 % efficiency) and pollen filter

FIX-O-ROUND® Technology

I-tec Locking | I-tec Ventilation | I-tec Glazing

Outside view

Inside view

Internorm®

KF 410
UPVC & UPVC/ALUMINIUM WINDOW

- Thermal insulation with standard triple glazing SOLAR+ and highly insulation edge seal (U_g = 0.6 W/m²K) U_w = 0.79 W/m²K
- Best thermal insulation **U_w up to 0.62 W/m²K** (with corresponding glazing)
- Soundproofing up to 45 dB (with corresponding glazing)
- 90 mm construction depth with 48 mm glazing
- ISO spacers as standard
- Available in the three design styles: home pure, home soft and ambiente
- Triple gasket system
- Fully concealed hardware
- Drainage visible or concealed
- FIX-O-ROUND technology
- Resistance class WK1 and WK2 untested (upon request)
- Standard security
- 5 chamber system with highly thermally insulating thermal foam (HCFC, HFC and FC free)
- Upon request with shortened aluminium attachment clad for thermo-technical construction connection

DESIGN STYLE: HOME PURE

FIX-O-ROUND® Technology

I-tec Glazing

OUR TOP OF THE CLASS – THE NEW UPVC WINDOW KF 410

All of Internorm‘s top features can be found in this new window: The standard version in the KF410 already stands out with great features like SOLAR+ glazing, FIX-O-ROUND technology, ISO spacers, fully concealed hardware and many more.

Top values
KF 410 is equipped with top values in all performance areas of a modern window system – from insulation and construction depth to security and design, standard ISO spacers and special coated triple insulating glazing SOLAR+.

With an overall energy transmission value (g) of 62 % on one hand it uses a large part of solar energy and due to the high insulation value (U_w = 0.79 W/m²K), on the other hand, it keeps the heat inside the building. With LIGHT coating (g value 50 %) and ISO spacers the new UPVC window achieves a top thermal insulation value of 0.72 W/m²K.
Hardware and drainage is fully concealed.

Key to the high thermal insulation is the 5 chamber system with foam inserts and the triple gasket system. The construction depth of KF 410 is 90 mm, the glazing thickness is 48 mm. The window system is also available with an aluminium attachment clad and carries a 30 year warranty on functioning.

INSIDE VIEW: HOME PURE

DESIGN STYLE: HOME SOFT

DESIGN STYLE: AMBIENTE

Internorm

I-tec Ventilation

FRESH AIR AND ENERGY SAVING

Fresh air and energy saving are the main advantages of the directly integrated ventilation in the window. With I-tec ventilation the rooms are aired automatically, energy efficiently and according to the requirements.

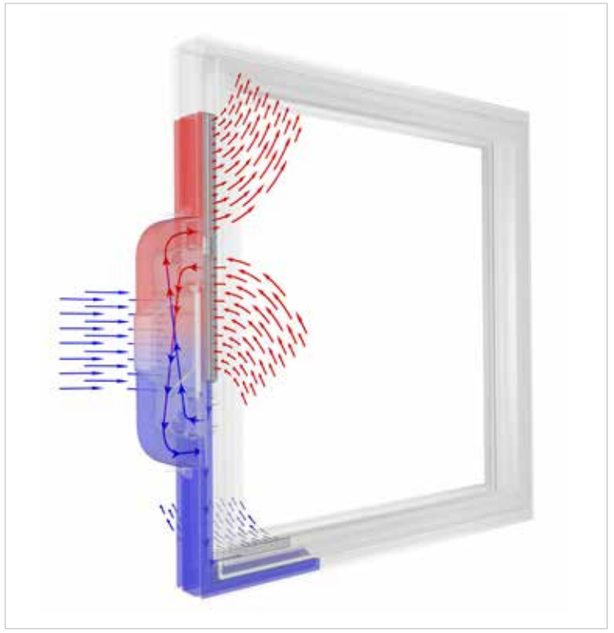
Health
Fresh air ensures wellbeing, good sleep, high concentration and high performance. Even allergy sufferers can breathe again – the optional fitting of filters prevents fine dusts and flower pollen from entering. Through the regulated I-tec ventilation also mould formation is prevented.

Energy saving
Uncontrolled quick maximum air exchange or permanant airing can lead to high energy losses. The I-tec ventilator is equipped with an integrated **heat exchanger** with high efficiency. Energy losses are reduced to a minimum through the achieved 86 % heat recovery.

Design
The I-tec ventilator is completely integrated into the new home pure **window system KF 500**. On the outside and inside of the window only narrow ventilation grids are visible. Contrary to conventional ventilation systems there is neither interference with the interior or exterior architecture nor high energy losses resulting from uncontrolled quick maximum air exchange or permanent airing. Fitting the ventilator is carried out in the same process as installing the window.

Comfort
Windows with integrated I-tec ventilation supply the rooms permanently with fresh, clean air. At the same time damp and used air, unpleasant smells and pollutants are automatically exchanged for fresh air. The control element is fitted directly on the window, thus enabling convenient operation of the ventilator.

Security
The I-tec ventilation system also increases security as the window remains closed for the air exchange and therefore, the burglary protection remains intact. When leaving the house there is no uncertainty if the windows were closed after airing.



Continuous fresh air for the whole room and your well-being

Narrow ventilation grids

I-tec Locking

THE INVISIBLE LOCKING SYSTEM

The innovative locking is the first real revolution in hardware systems since introducing the turn/tilt hardware at the beginning of the 1970‘s. For many years Internorm has been using concealed hinges as standard. Additionally, Internorm is applying the same principle to the window frame – no visible hardware.

I-tec locking is currently used with the home pure UPVC & UPVC/aluminium window KF 500 and is revolutionary in more than one aspect: No visible locking parts on the frame are necessary – instead of protruding locking pegs, integrated flaps ensure the safe locking of the sash. The connections of the locking flaps are carried out invisibly in the hollow chambers of the sash profile.

Convenient cleaning
Cleaning of the frame is made easier as there are hardly any locking parts. The few parts on the sash hardly protrude and in between the parts is the smooth, easy to clean UPVC surface of the profile.

Security which convinces
Windows with I-tec locking comply already in their standard version with resistance class RC2N (with lockable handle and burglary resistant glass RC2) acc. to EN 1627-1630 – as standard tested burglary protection.

Perfect stability and sophisticated design
The ingenious construction enables 30 % less wide view widths. Generous window sizes and energy saving triple glazing require heavy sash versions. The window is held by a four-joint hinge at the bottom and a stay-arm hinge at the top. The new construction of hinge parts allows sash weights of up to 130 kg in compact design.

Advantages at a glance:
- 30 % less wide view widths of frame and sash
- RC2N as standard without functioning restrictions
- Trendsetting thermal insulation as standard $U_w \leq 0.69$ W/m²K

No more visible locking parts – smooth, easy to clean UPVC surface

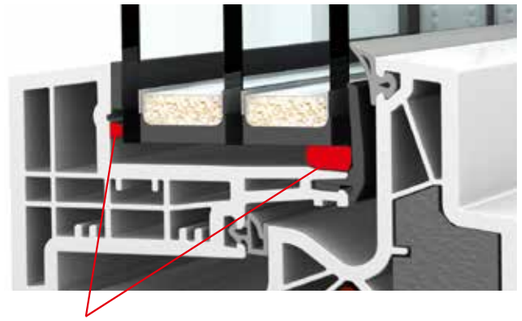
Locking flap

I-tec Glazing

FIX-O-ROUND® Technology

INNOVATION ALL AROUND

Many window panes are only connected to the frame in very few positions. Internorm uses FIX-O-ROUND technology as standard for a continuous all round fixing. The advantage of this technology lies in the continuous connection of the window frame with the glass pane. This improves stability, thermal insulation and soundproofing, burglary protection and functioning of the window for its entire lifespan.



FIX-O-ROUND technology

The welded sash frame is tensioned from corner to corner.

The glass pane is set into the frame and centred.

The remaining gap between glass and frame is filled with glue all around.

By fitting glass beads or cover beads the glue joint is covered.

I-tec Shading

SHADING WITH SELF-SUFFICIENT ENERGY

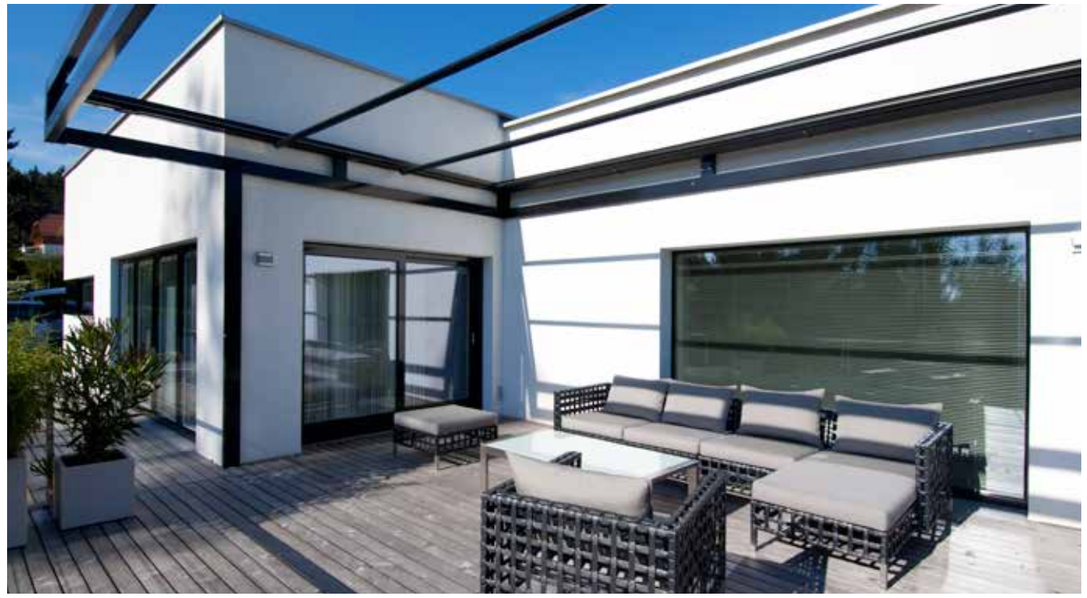
The energy which is needed and used at the window, should also be produced by the window. The first product which follows this principle is the new motor driven composite sun protection – blind, Venetian blind or Duette®.

Photovoltaic sun protection with self-sufficient energy
All Internorm composite window systems can be equipped with motor driven shading without external power supply.The energy is gained directly at the window by a photovoltaic module which is integrated into the cover which supplies the electro motor self-sufficiently. The energy is stored in a battery and is available when required. Permanent charging of the battery is carried out already with diffuse day light.

Advantages:
No energy costs, no extra fitting and no chiselling work is necessary as no electric cables are needed. Consequently, this sun protection is ideal in refurbishments as there is often no power supply available. I-tec shading is ready to use straight after the window has been installed and can be retrofitted to almost any Internorm composite windows. The bi-directional control occurs via wireless – several blinds, Venetian blinds or Duette® blinds can be controlled in combination.

The bi-directional remote control offers the following additional functions:

- Lock/unlock function: You can lock your settings so that no one else can find them, save them or interfere with them – they become practically invisible.
- Individual fixed position: This enables you to allocate each blind/Venetian blind or Duette® a specific position and control it easily via a key combination.



Internorm

OUTWARD OPENING BALCONY DOOR

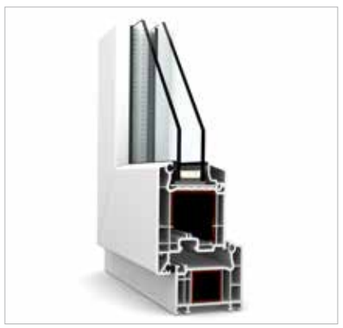
- Thermal insulation with standard triple glazing U_g = 0.7 W/m² K, U_w = 1.0 W/m² K
- Best thermal insulation, U_g = 0.4 W/m² K with krypton filling, U_w = 0.76 W/m² K, passive house certified.
- Sound proofing 34 dB, Rw as standard, 44 dB, R_w with corresponding glazing
- Thermix glass spacer
- 5 chamber system with 70 mm construction depth
- Wall thickness 3 mm acc. to RAL-A class
- Fully concealed hardware
- Visible or concealed drainage
- Double gasket system with high-quality gaskets

OUTWARD OPENING BALCONY DOOR

The classic design of this outward opening balcony door is timeless with its slightly rounded outlines and shapes, and can be perfectly combined with various architectural styles – be it modern or traditional, new buildings or remodelling. The technology on the inside is highly convincing: Multi-chamber profiles make use of the insulating properties of air and therefore achieves high thermal insulation.

exterior view

interior view



UPVC VERSION

Along with the aluminium attachment clad version in all colours, the classic UPVC version in white is also available.

ROUNDED EDGES

Harmony and aesthetics perfectly combined – achieved by rounding off all visible edges. This solid profile design can be integrated anywhere.

FULLY CONCEALED HARDWARE

As standard no visible hardware parts – for better appearance, easier to clean and above all for better impermeability from the inside.

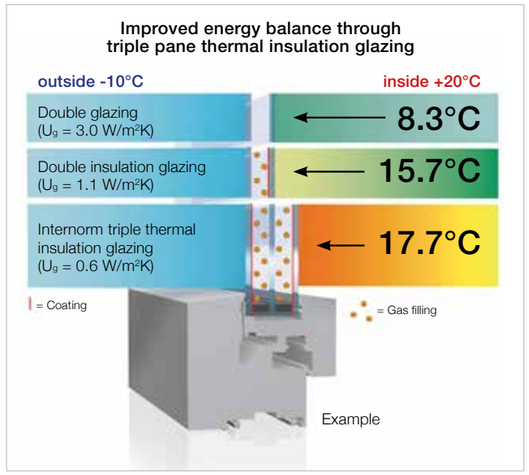
Internorm

ENERGY SAVING GLAZING

The fact that around 30 % of the warmth of a house is lost via the windows, explains the rising demand for highly thermally insulating windows. In order to fulfil the trend of innovative highly insulating triple glazing solutions, Internorm has expanded with a third insulating glass line and with that, now becomes Austria‘s largest manufacturer of insulating glass.

Insulating space between the glass panes
Heating costs can be saved by applying thin precious metal coatings on to the glass surface and by using noble gases in the spaces between the glass panes. The noble gases used are **argon and krypton which have a considerably lower thermal conductivity than air and therefore, additionally reduce the heat loss towards the outside.** The differences in the thermal insulation value U_g are the result of different coating structures and noble gases. Furthermore, triple glazing compared to double glazing accounts for even better thermal insulation values.

Triple thermal insulation glazing
The highly insulating properties of Internorm window systems with triple thermal insulation glazing compared to double glazing allow up to 40 % more glass areas with the same amount of heating costs.



By using such insulation glazing the energy balance is improved considerably and thus keeps the heating costs low. With the **special coating of SOLAR+** you can achieve further solar gain resulting in additional natural heating.

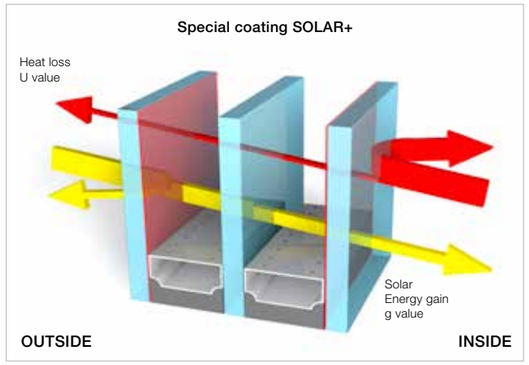
SOLAR+
INTERNORM‘S NEW, ENERGY EFFICIENT STANDARD GLASS

Internorm‘s standard glass is characterised by its special coating SOLAR+. The triple insulating glass features **extremely high thermal insulation**, as well as an **overall energy transmission factor** (g value) which can otherwise only be achieved at this level with double glazing. Due to this exceptional rate of thermal insulation (U_g) and energy transmission (“g value”) this glazing is perfectly suitable for implementing in solar buildings. Especially in cold seasons it uses low solar radiation to its optimum and keeps the gained heat in the building. The **high g value** makes it possible even in not ideal building positions or in not precisely south-facing glazing positions to optimise the gain on passive solar energy.

Here the windows are the heating
With triple glazing SOLAR+ the overall energy transmission is 20 % higher than with standard triple glazing. Thus the **solar energy gain** also increases by 20 %. Through the glazing you have **additional free of charge heating!**

A plus point for climate protection
Efficient use of energy is one of the most important measures against climate change. Internorm‘s climate protection windows achieve optimal solar gain and guarantee maximum thermal insulation thanks to the energy saving triple pane technology and the innovative special coating SOLAR+. This reduces emission of CO_2 and SO_2.

More light – more brillancy: SOLAR+
The high transparency of SOLAR+ creates warm brightness on the inside of the building – an important asset especially during the dark winter months.



g value:
The overall energy transmission factor (g value) indicates how many percent of incident solar energy will reach the room through the glass. Identical glass thicknesses according to EN 410 result in a **g value of 61 %** and a **light transmission of 73 %.**

Technical values triple glazing SOLAR+
U_g values acc. to EN 673:
- SOLAR+ 36 mm: 4b/12gAr/4/12gAr/b4 U_g 0.8 W/m²K
- SOLAR+ 40 mm: 4b/14gAr/4/14gAr/b4 U_g 0.7 W/m²K
- SOLAR+ 42 mm: 4b/15gAr/4/15gAr/b4 U_g 0.7 W/m²K
- SOLAR+ 44 mm: 4b/16gAr/4/16gAr/b4 U_g 0.7 W/m²K
- SOLAR+ 48 mm: 4b/18gAr/4/18gAr/b4 U_g 0.6 W/m²K

SOUNDPROOFING

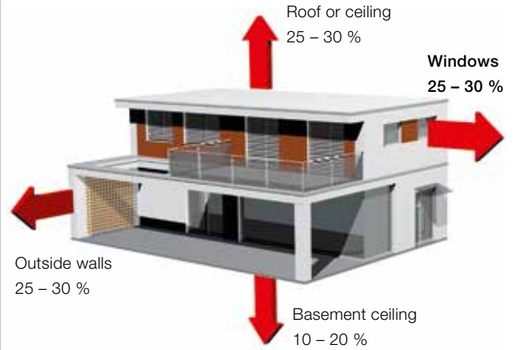
Interference of noise is unpleasant and can – given the right intensity and duration – affect the human body negatively. Noise is perceived through changes of air pressure, which are received through the human ear and passed on to the brain.
Soundproofing of a window is measured in decibel. The higher the value, the better the soundproofing.
Soundproofing states how much sound energy from the original sound energy is allowed to pass through. At an insulation of 10 dB 1/10 of the original sound energy passes through, at 20 dB 1/100, at 30 dB 1/1000 etc.
Humans perceive a reduction of 10 dB as halving the noise. Soundproofing of a window is dependent on frame material, insulating glass, impermeability of the window and the construction connection.

SOUND VOLUME

Hearing threshold level	=	0 dB	very quiet
Pin dropping	=	10 dB	
Rustling of leaves, clock	=	20 dB	
Whispering	=	30 dB	quiet
Quiet talking	=	40 dB	
Residential street, birds	=	50 dB	
Talking, radio	=	60 dB	loud
Loud talking, street	=	70 dB	
Heavy traffic	=	80 dB	very loud
Shouting, hooting	=	90 dB	
Circular saw	=	100 dB	unbearable
Compressed air hammer	=	110 dB	
Jet plane	=	120 dB	
Explosion, rocket	>	150 dB	

THERMAL INSULATION

As a building can lose approximately 25 to 30 % of its energy through the windows, the thermal insulation of the windows is especially important. Energy transfer through the windows is not only heat loss – due to the transparency of the glass, an energy gain is also achieved.



Possible overall temperature losses in a badly insulated house

If correctly planned with well laid out window surfaces (i.e. large south-facing window surfaces), the energy balance of the building can be influenced considerably.
A window's thermal insulation depends on the frame material, the insulating glass and the impermeability of the window. The **parameter for the insulating capability** of the window is the **U value. The lower the value, the better the thermal insulation.** Additional features like roller shutters and window shutters improve the U value.

WINTER THERMAL PROTECTION

The aim is to reduce the energy loss through the transparent building components – windows and facades – during the heating period to an economically feasible amount and in due course to reduce emission of CO_2 through heating. The parameter of the **heat transmission coefficient U_W** is stated **in W/m²K** (Watt per square metre kelvin), which is either mathematically calculated according to EN ISO 10077 or metrologically established according to EN ISO 12567. The following factors influence the heat transmission coefficient U_W:

- Heat transmission through the glazing U_g
- Heat transmission through the frame U_f
- Linear heat loss coefficient of composite glass edge ψ

SUMMER HEAT PROTECTION

This mainly serves to ensure the thermal comfort in a room during the warm season. Overheating due to solar irradiation through the windows into a room should be preferably avoided using constructive measures. Guidelines concerning upper limits in temperatures are stated in national standards (e.g. ÖNORM B 8110/3):

- Upper limits in temperature t*, day time ≤ + 27 °C
- Upper limits in temperature t*, night time ≤ + 25 °C

NEW BUILDINGS

Build energy efficiently
Not only passive houses help with saving energy – also the conventional building of houses can help to save much energy and CO_2. The necessary know-how is of paramount importance. Your **Internorm distribution partner** will glady advise you.

Energy performance certificate
Since 2006 an energy performance certificate has been obligatory for new buildings in the EU. It is a kind of registration document for your house and contains worthwhile information like e.g. energy requirements, energy loss through individual building components and through ventilation, energy gain from the sun as well as the heating load of your building. These details are very valuable for calculating different options at a later renovation or remodelling of the house.
The most important parameter in the energy performance certificate is the so-called **energy parameter**. It indicates the most common comparable value which describes the thermal quality of the building shell and states how much **heating energy per square metre living area per year** is required. The energy parameter is given in **kWh/m²a**.

Window size and orientation
Position your windows mainly south-, west- and east-facing to be able to use the sun best. Large south-facing window areas create good energy balance and bring light and life into your rooms.
To avoid overheating of the rooms, consider in the planning stages to install sun protection systems. Additionally, insect protection systems can be integrated.

Orientation of doors
Please note that entrance doors should be fitted in weather-protected positions. When fitting entrance doors with dark surfaces in unprotected south-facing areas, the sun can cause very high surface temperatures on the door which can lead to functionality problems. West facing doors need to be sufficiently protected from driving rain.

What is important for a perfect window
We would like to help you turn your ideas into reality to really feel at home with your new windows. For further information please find a **checklist** on page 90.

REMODELLING

High energy prices, climate protection and the introduction of energy performance certificates all lead to the fact that an investment in sustainable remodelling of your house will pay off quickly. “Old energy dumps” can be easily replaced with modern, highly thermally insulated Internorm window systems, which will save heating costs.

Lower energy consumption FROM THE START
The most effective and also the most economical way to reduce these emissions, is to find measures to lower the energy consumption right from the start.
This notion becomes even more interesting, if you note where these CO_2 emissions originate from: the well-known “sinners” industry and traffic each account for approximately a third, but roughly 40 % come from badly insulated buildings.
As 25 to 30 % of the heat in a house escapes through the windows alone, this results in an increased need for heating and cooling. Using modern windows could already save tons of CO_2 every year. If all windows in an average house with 20 windows aged 25 years would be replaced with new passive house windows, every year almost two tonnes of CO_2 could be saved. In case these old windows are old single glazed windows, which are even less insulated, the number would rise to almost five tonnes.
This is why Internorm develops trendsetting window solutions and is the only window manufacturer in Europe with nine passive house certificates from the Passivhausinstitut Darmstadt, Dr. Feist. In the market segment of highly thermally insulating windows, Internorm clearly is the market leader in Austria and Europe.

More energy efficiency using highly thermally insulating Internorm window systems
Window solutions are an investment with a lasting value.

For this reason, any quality conscious person carrying out remodelling works should make use of the security of a brand name. For only brand name windows will keep their promises in the long run: exactly fitting and individual windows and energy conservation solutions – **highly thermally insulating, economic and environment friendly.**

Passive house certified and certified Internorm window systems with triple glazing not only considerably reduce the annual CO_2 output, they are also extremely economic. Internorm, with all of its lowest energy and passive house window systems, is the first place to contact, when you want to stop “heating the outside through your windows”. Additionally, the standard energy efficient glass SOLAR+ will provide a gain in solar energy.

Thermal remodelling – just professional
Your demand when remodelling: less heating costs – more energy efficiency and sustainability – simply better quality of life! Internorm will be happy to fulfil your requirements and you will save doubly: on the one side low heating costs due to high energy efficiency – by improved window insulations and on the other side due to the **correct and therefore impermeable construction connection**.
For this, you can count on the best trained and certified installation professionals of your **Internorm distribution partner!**

For combining the best windows with the services offered by the highly qualified Internorm distribution partners will provide you with the following advantages: extremely long lifespan, high weather resistance and reliable functionality, long term living quality and warranties lasting for many years.

Internorm

Ludwig Walter House/Carinthia: Dobratsch Summit House at 2143 m altitude. Architect DI Weratschnig, Transform Architekten ZT-GmbH

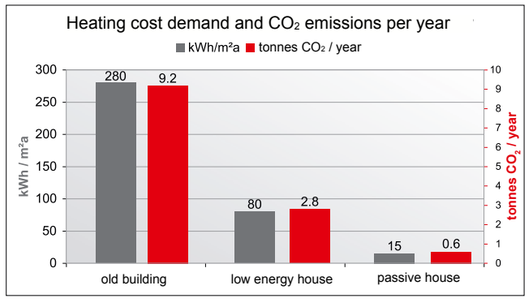
PASSIVE HOUSE WINDOWS: DUAL CAPACITY

The window in a passive house plays a prominent role in two ways – firstly, the heat loss despite large glass surfaces can be reduced and secondly, windows increase the possibilities for heat gain through solar irradiation. **Internorm's highly thermally insulating windows** fulfil this seemingly contradictory dual capacity exemplary: thermal insulating glazing as used in passive houses achieves **U_g values of up to 0.4 W/m²K**. The used glazing has two **infrared reflecting coatings** and is filled with argon or krypton. This brings inside surface temperatures of the glass pane near room air temperatures and the radiator under the window becomes unnecessary.

In comparison U_g values of conventional windows often lie at around 2 W/m²K. The overall energy transmission (g value) with triple glazed Internorm windows lies at around 50 %, depending on coating and gas filling. Using these window systems in the UK in south-facing houses with little shade the heat gain even between December and February is greater than the heat loss. Besides the **glazing** however, you have to consider the **insulation** of the window frame as well as thermal bridges at the **glass edge** and in the **connecting area** window to wall. Otherwise any positive heat gain would be cancelled out immediately.

Essential principles for the construction of passive house windows:

- Highly thermally insulating glazing
- Highly thermally insulating frame
- Thermally optimised composite edge
- Expert installation, thermally optimised



Sustainable investment

A passive house provides consistent, comfortable temperatures in **winter**, as well as in **summer** without using conventional heating or air conditioning systems. Using the existing temperature provded through solar irradiation through the windows as well as the heat from appliances and inhabitants is sufficient, the necessary **heating energy** for a passive house is **only 10 % of that needed for a conventional house.**

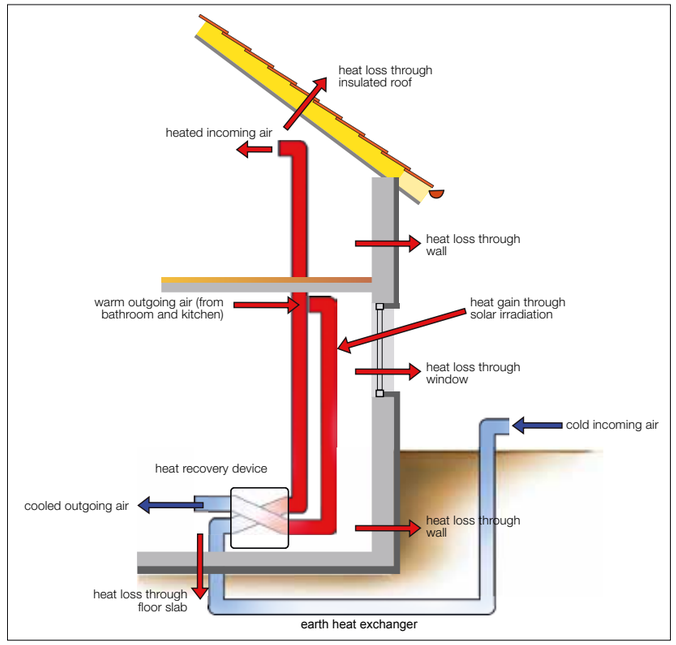
Optimised energy demand

This results in an annual heating demand of **not more than 15 kWh/m²a**. The overall energy demand including warm water and household electricity for a passive house is **less than 120 kWh/m²a**. The heating load of a passive house is not more than 10 W/m², for a room of 30m², this results in a heating load of approximately 300 Watt – just to illustrate: the heating power of a tea candle is 30 Watts already. **This means that 10 tea candles are enough to heat 30 m² in a passive house.** These extraordinary savings are rooted in the two basic principles of **minimising thermal loss** and **optimising thermal gain**.

What is important for passive houses

One of the major characteristics is the utilisation of existing energy – minimising thermal losses and at the same time optimising thermal gain, are the basic principles. But merely combining passive house certified components is not enough to reach a passive house construction standard: The whole thing is more than the sum of its parts – mutual interactions between the distinct components necessitate integral planning to fulfil three basic demands:

- Heating demand < 15 kWh/m²a
- Primary energy demand (heating/warm water/house appliances) < 120 kWh/m²a
- Pressure difference air exchange n50 < 0,6 h-1, i.e. at a pressure difference of 50 Pascal the air flow must be less than 60 % of the building's volume per hour.



The passive house needs an impermeable outside shell and optimised thermal insulation with integrated ventilation in both directions: Fresh air is sucked into the building underground through the ventilation pipe, pre-heated by the earth, and led to the heat recovery system. There, the energy of the used air is passed on to the fresh, filtered, cold air using a heat exchanger. Here, the energy stored in the used air, which would normally be lost in traditional airing, is utilised.

From there, air is led into the living areas and distributed with special nozzles in order to avoid draughts. The air is sucked out of sanitary areas and the kitchen, in order to avoid the spread of unpleasant smells throughout the house.

Venetian blind with daylight deflection

IDEAS FOR PERFECT SHADING

Sun and insect protection systems complement the windows to a functional unit and support the design of the house facade.

Composite windows: Integrated between the panes, therefore provide privacy and protection from the sun – choose between blinds, Venetian blinds or Duette®, optional with sun protection with self-sufficient energy (I-tec shading)

Venetian blinds: Optimum control and guidance of light and warmth through adjustable slats; optional with daylight deflection – can be combined with insect protection

Attachment Venetian blinds: Optimum control and guidance of light and warmth through adjustable slats, can be combined with insect protection

Attachment roller shutters: Completely fitted on to the window, can be combined with insect protection

Attachment roller shutters and attachment mini roller shutters: Completely fitted on to the window, can be combined with insect protection

Insect protection: Fixed, turn, sliding or drop-down fly screen. Can be combined with sun protection.

Window shutters: Made of aluminium, with many design possibilities, can be combined with insect protection

Inside blind

Window shutter

Drop-down fly screen

Turn or friction frame

Sliding frame

Composite window

Venetian blind

Attachment roller shutter

Attachment roller shutter

Mini attachment roller shutter

As Europe‘s leading and largest active international window brand, Internorm looks back on over **80 years of experience** in trendsetting window and door solutions of exceptional reliability and longevity. We can guarantee the following:

Warranty 10 YEARS

- No unnatural colour changes or cracked surfaces due to weather influences for white window and door profiles made of UPVC, with the exception of mitre cracks.
- No unnatural colour changes or cracked inside surfaces due to weather influences for foil-coated window and door profiles made of UPVC, with the exception of mitre cracks.
- No unnatural colour changes or cracked surfaces due to weather influences for anodised or powder coated window and door profiles made of aluminium.
- No condensation between the panes of insulating glass.
- The function of the wood, thermal foam and aluminium profile compounds is guaranteed for all Internorm timber/aluminium window systems, provided that the Internorm installation and maintenance guidelines have been adhered to.
- The function of the adhesive and the sealing of insulation glass panes with the window profiles is guaranteed for all Internorm timber/aluminium window systems, provided that the Internorm installation and maintenance guidelines have been adhered to.
- The glue connection of glued Georgian/feature bars.

Warranty 5 YEARS

- PVD coated door handles are guaranteed against corrosion if there is no mechanical damage.
- No unnatural colour changes or surface cracks due to weather influences in door fillings. There is no guarantee for changes in the surface appearance as a result of dirt.

Warranty 3 YEARS

- No unnatural colour changes or surface cracks due to weather influences for roller shutter profiles made of UPVC.
- No unnatural colour changes or surface cracks due to weather influences for anodised or powder coated roller shutter and blind profiles made of aluminium.
- The function of the window or door fittings is guaranteed, provided that the Internorm installation and maintenance guidelines have been adhered to.

Assurance 30 YEARS

Furthermore Internorm guarantees safe-guarding that Internorm products can be repeatedly serviced by our experts in such a fashion (original parts not obligatory), to retain their full function for a period of 30 years. However, this presupposes that the frame construction (frame and sash) is not damaged. The 30-year period starts from the production date. The services required to maintain the functionality, including the materials required, labour etc. will be invoiced according to the currently valid rates.

Warranties / Extract:
The full wording of our warranty conditions, the exact preconditions for the application of the warranty, and what you should do in the event of a claim, can all be found in the Internorm Maintenance Care and Warranties Manual. You will receive this booklet when your Internorm products are delivered. In addition, it is obtainable from any Internorm distribution partner.

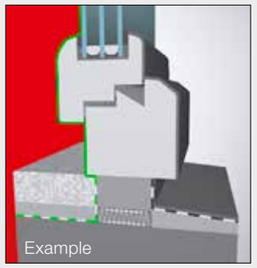
CORRECT FITTING IS OF PARAMOUNT IMPORTANCE!

Professional fitting of windows and doors is required for perfect functionality and long-term usability. Thermal insulation and impermeability play also an important role in building houses. Severe thermal loss can occur especially in the connecting area to the brickwork. Practise has shown that this is the exact area where condensation and mould can form. Therefore, pay special attention to the right building connection – this depends on an impeccable installation. Fitting should only be carried out by trained personnel such as your Internorm distribution partner, who can guarantee you installations according to the most up-to-date technology, compliance to the standards and observance to the structural-physical principles which are necessary when installing windows.

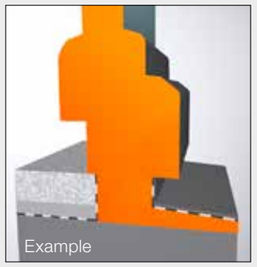
Important points to consider when fitting windows:

- **Room air temperature, room air humidity:**
  The connection to the wall (construction connection joint) needs to be closed off permanently airtight from the inside. This prevents damp warm room air entering into the joint, cooling off and forming condensation and mould.
- **Thermal insulation/soundproofing:**
  The middle level of the construction connection joint needs to be filled up completely with insulation material (PU foam or mineral fibre insulation material). This level undertakes thermal insulation and soundproofing, but not the function of sealing off against wind or humidity.
- **Outside air temperature, rain, wind etc.:**
  The connection to the brickwork needs to be permanently wind and driving rain tight from the outside. These requirements do not only apply to the window, but also to the window cill connection area. Should humidity enter from the inside, it needs to be able to escape to the outside via the sealing (permeable).
- **Own weight:**
  Load bearing occurs via packers, fixing is carried out via frame rawl plugs or wall anchors. The fixing distances are depending on the frame material. Nailing does not comply with the state of the art.
- **Movements of the frame construction/building:**
  Deformations through wind and service loads (leaning against it), changes in length due to temperatures and sagging due to the design of the building (especially with large openings) need to be adjusted by mechanical fixings and distance blocks.

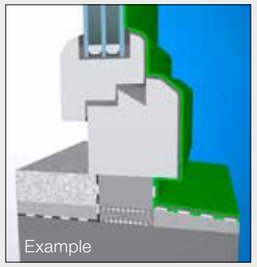
Three sealing levels offer reliable protection – inside as tight as possible, outside as tight as necessary:



The sealing on the **INSIDE** divides the room climate from the outside climate. It prevents forming of condensation in the joint area. Use sealing foil or permanent elastic sealing material like e.g. silicone.



The **MIDDLE** seal between the window frame and the wall needs to be filled up completely with thermal insulation material. This guarantees the necessary thermal insulation and soundproofing.



The seal on the **OUTSIDE** needs to offer protection from wind and driving rain. These requirements do not only apply to the window, but also to the window cill connection area.

Checklist for your window purchase

Reasons for window purchase

- ☐ new building
- ☐ remodelling

Type of building

- ☐ single family house or block of flats
- ☐ low energy house
- ☐ passive house

Selection of frame material

- ☐ timber/aluminium
- ☐ composite UPVC/aluminium and timber/aluminium
- ☐ UPVC/aluminium
- ☐ UPVC

Window designs

- ☐ shapes (rectangle, round arch, angular construction, bespoke constructions etc.)
- ☐ fixed elements
- ☐ window divisions: single sash or several sashes, fan lights
- ☐ colours (all RAL colours, timber decor, metallic decor, stainless steel colours, timber colours etc.)
- ☐ glass
- ☐ Georgian/feature bars (divisions, types etc.)
- ☐ handles

Opening types

- ☐ tilt/turn
- ☐ turn
- ☐ tilt
- ☐ fixed glazing
- ☐ lift-and-slide
- ☐ slide
- ☐ fold-and-slide
- ☐ lockable doors
- ☐ outward opening doors

Products “all around the window”

- ☐ integrated sun and privacy protection = composite window
- ☐ sun and privacy protection (roller shutters, Venetian blinds, window shutters, inside blinds, photovoltaic blind, Venetian blind, Duette®)
- ☐ insect protection
- ☐ burglary protection
- ☐ additional features such as fully integrated ventilation, child proof lock, tread guard, closing protection, security glass etc
- ☐ designer handles
- ☐ house entrance doors

Thermal insulation

- ☐ energy saving potential: saved heating costs due to highly thermally insulating windows
- ☐ passive house suitable thermal insulation U_W ~ 0.8 W/m²K
- ☐ low energy house suitable thermal insulation U_W = 0.8 up to 1.0 W/m²K
- ☐ higher thermal insulation U_W = 1.0 up to 1.2 W/m²K
- ☐ standard version U_W = 1.2 up to 1.3 W/m²K

Soundproofing

- ☐ high noise level (e.g. airport, railway tracks, heavily frequented roads) – needs soundproofing with R_W = over 40 dB
- ☐ medium noise level (e.g. normal road traffic, longer distances from sound sources) – needs soundproofing with R_W = 36 to 39 dB
- ☐ low noise level (e.g. rural housing) – needs soundproofing with R_W = 32 to 35 dB

Which ventilation options do I need?

- ☐ continuous ventilation with or without fan
- ☐ fully integrated ventilation
- ☐ night-vent ventilation
- ☐ manual opening of window (tilt/turn)

Fitting of windows

- ☐ qualified specialist fitting with good practise standards (e.g. ÖNORM, RAL etc.)
- ☐ planning of fitting with good practise standards – together with Internorm distribution partner

Care and maintenance

- ☐ maintenance contract with qualified Internorm distribution partner
- ☐ maintenance through personal contribution
- ☐ observation of Internorm handbook/warranty, care and maintenance

Window quotes – When comparing always observe this:

- ☐ window measurements
- ☐ glazing
- ☐ hardware
- ☐ construction depth
- ☐ accessories
- ☐ surface version
- ☐ thermal and sound insulation values (acc. to test certificates)
- ☐ number of gaskets
- ☐ design
- ☐ certification mark
- ☐ integrated technologies

Warranty services

- ☐ on profiles (discolouration, cracks, show of condensation on insulating glass)
- ☐ on surfaces
- ☐ on glazing
- ☐ on function
- ☐ reliability of the window manufacturer as warrantor
- ☐ market brand as security

What services can I expect?

- ☐ measuring of windows
- ☐ detailed, transparent quotes with images
- ☐ fitting
- ☐ maintenance
- ☐ others

Please note:

- ☐ local construction regulations
- ☐ adherence to possible design templates
- ☐ funding
- ☐ delivery timescale

Price/performance ratio regards personal demands:

- ☐ manufacturing quality
- ☐ comprehensive warranties and longevity
- ☐ maximum energy efficiency – perfect thermal insulation – low heating costs
- ☐ climate protection: lower CO_2 emission through superior thermal insulation
- ☐ burglary protection
- ☐ uncomplicated care and maintenance
- ☐ cost effective care and maintenance
- ☐ quick amortisation of the investment
- ☐ value retention for decades

Internorm

GLAZING SYSTEMS

The **thermal insulation** of a window depends on the frame material, the glazing and the impermeability. The parameter is the U value – the lower the figure, the better the thermal insulation.
The **soundproofing** of a window depends on the frame material, the glazing and the joint permeability. The parameter is the dB value – the tighter a window closes, the better the insulation performance.

U_w = thermal insulation of the window acc. to EN 10077-1 (calculated) or acc. to EN 12567-1 (tested) (is stated in Watts per square metre Kelvin = W/m²K); the following tables state this value per Internorm window system – with stainless steel or ISO spacers respectively
U_g = thermal insulation of the respective glazing
R_w = soundproofing of the window acc. to DIN EN 20140-3 (stated in decibel = dB)

* test certificate available

Composite window

KV 340

KV 240

HV 340

HV 240

Glass	glass code		KV 340 blind open Uw W/m²K	KV 340 blind open Rw dB	KV 340 blind closed Uw W/m²K	KV 340 blind closed Rw dB	KV 340 Duette closed Uw W/m²K	KV 340 Duette closed Rw dB	KV 240 blind open Uw W/m²K	KV 240 blind open Rw dB	KV 240 blind closed Uw W/m²K	KV 240 blind closed Rw dB	KV 240 Duette closed Uw W/m²K	KV 240 Duette closed Rw dB	HV 340 blind open Uw W/m²K	HV 340 blind open Rw dB	HV 340 blind closed Uw W/m²K	HV 340 blind closed Rw dB	HV 340 Duette closed Uw W/m²K	HV 340 Duette closed Rw dB	HV 240 blind open Uw W/m²K	HV 240 blind open Rw dB	HV 240 blind closed Uw W/m²K	HV 240 blind closed Rw dB	HV 240 Duette closed Uw W/m²K	HV 240 Duette closed Rw dB
4//3bESG/10Kr/ 2TVG/10Kr/b3ESG	37F	3LIGHT	0.80* (st. steel) 0.79* (ISO)	38*					0.81* (st. steel) 0.80* (ISO)	38					0.76 (st. steel)	40	0.72 (st. steel)	40	0.66 (st. steel)	40	0.78 (st. steel)	40				
6//3bESG/10Kr/ 2TVG/10Kr/b3ESG	37F	3LIGHT	0.80* (st. steel) 0.79* (ISO)	40*					0.81* (st. steel) 0.80* (ISO)	40					0.76* (st. steel)	42*	0.72* (st. steel)	42*	0.66* (st. steel)	42*	0.78 (st. steel)	40				
4//3bESG/12Ar/ 2TVG/12Ar/b3ESG	37G	3LIGHT													0.80 (st. steel)	40					0.82 (st. steel)	40	0.77 (st. steel)	40	0.69 (st. steel)	40
6//3bESG/12Ar/ 2TVG/12Ar/b3ESG	37G	3LIGHT													0.82 (st. steel)	40					0.82* (st. steel)	41	0.77* (st. steel)	41	0.69* (st. steel)	41
4//6/14Ar/b4	22L	LIGHT	1.1* 1.0* (st. steel)	42*	0.98*	42	0.89	42	1.1	41*					1.02	43*	0.95	43*	0.83	43*						
6//6/14Ar/b4	22L	LIGHT	1.1 1.0 (st. steel)	44*	0.98	44	0.89	44	1.1	43*					0.99*	44*	0.92*	44*	0.81*	44*						
4//4ESG/16Ar/b4	26L	LIGHT	1.1	40*		40		40	1.1	40*					1.00	43	0.93	43	0.83	43						
6//4ESG/16Ar/b4	26L	LIGHT	1.1	42*		42		42	1.1	42*					0.97*	45*	0.90*	45*	0.80*	45*						
4//4bESG/8Kr/4/ 8Kr/b4	3TV	LIGHT													Passive house certified component 0.80/43						Passive house certified component 0.80/43					
6//4bESG/8Kr/4/ 8Kr/b4	3TV	LIGHT													0.72*	45*	0.69*	45*	0.63*	45*	0.72*	44*	0.69*	44*	0.63*	44*
															Passive house certified component 0.80*/45*						Passive house certified component 0.80*/44*					

Thermal insulation and soundproofing values for windows depend on size and version. The stated values apply – as defined acc. to standards – to single sash windows, size 1230 x 1480 mm and in the versions stated in the test certificates. Sizes and versions deviating from this can achieve different values.

TRIPLE GLAZING

UPVC and UPVC/aluminium window

KF 200

KF 220

KF 410

KF 500

Glass	glass code		U_g / R_w	g	KF 200 alu	KF 200 st. steel	KF 200 ISO	KF 220 st. steel	KF 220 ISO	KF 410 st. steel	KF 410 ISO	KF 500 st. steel	KF 500 ISO
4b/14Ar/4/14Ar/b4	38K	LIGHT	**0.6**/31	50	–	0.92*/33	0.88*/33						
		SOLAR+	**0.7**/31	61	1.0*/33	0.99*/33	0.95*/33						
4b/12Ar/4/16Ar/b4	3UH	LIGHT	**0.6**/35	50	–	0.92*/36*	0.88*/36*						
		SOLAR+	**0.7**/35	61	1.0*/36*	0.99*/36*	0.95*/36*						
6b/10Ar/4/16Ar/b4	3UG	LIGHT	**0.7**/39	49	1.0*/40*	0.99*/40*	0.95*/40*						
		SOLAR+	**0.8**/39	59	1.1*/40*	1.1*/40*	1.0*/40						
4b/10Ar/4/14Ar/ b4/2F/4(VSG-S)	3N7	LIGHT	**0.7**/42	50	1.0*/43*	0.99*/43*	0.95*/43*						
		SOLAR+	**0.8**/42	61	1.1*/43*	1.1*/43*	1.0*/43*						
4b/12Ar/4/12Ar/b4	3NK	LIGHT	**0.7**/31	50	1.0*/33*	0.99*/33*	0.95*/33*						
		SOLAR+	**0.8**/31	61	1.1*/33*	1.1*/33*	1.0*/33*						
4b/12Kr/4/12Kr/b4	3NL	LIGHT	**0.5**/31	51		0.85*/33*	0.81*/33*						
		SOLAR+	**0.6**/31	61		0.92*/33*	0.88*/33*						
4b/18Ar/4/18Ar/b4	3N2	LIGHT	**0.5**/34	50				0.78*/35*	0.74*/35*	0.76*/34*	0.72*/34*	0.73*/35*	0.69*/35*
		SOLAR+	**0.6**/34	62				0.86*/35*	0.81*/35*	0.83*/34*	0.79*/34*	0.80*/35*	0.76*/35*
6b/18Ar/4/16Ar/b4	33U	LIGHT	**0.6**/39	49				0.86*/39*	0.81*/39*	0.83*/40*	0.79*/40*	0.80*/39*	0.76*/39*
		SOLAR+	**0.6**/39	60				0.86*/39*	0.81*/39*	0.83*/40*	0.79*/40*	0.80*/39*	0.76*/39*
6b/15Ar/4/14Ar/ b4/2F/4(VSG-S)	34P	LIGHT	**0.6**/43	49				0.86*/43*	0.81*/43*	0.83*/43*	0.79*/43*	0.80*/43*	0.76*/43*
		SOLAR+	**0.7**/43	60				0.93*/43*	0.89*/43*	0.90*/43*	0.86*/43*	0.88*/43*	0.84*/43*

TRIPLE GLAZING

Timber/aluminium window

HF 300

HF 200

HF 200

Glass	glass code		U_g / R_w	g	HF 300 st. steel	HF 300 ISO	HF 200 st. steel	HF 200 ISO	HF 200 st. steel	HF 200 ISO
4b/12Ar/4/12Ar/b4	3NK	LIGHT	**0.7**/31	50	0.86*/35*	0.84*/35				
		SOLAR+	**0.8**/31	62	1.0*/35*	0.90*/35				
4b/12Kr/4/12Kr/b4	3NL	LIGHT	**0.5**/31	51	0.71*/34*	0.70*/34				
		SOLAR+	**0.6**/31	62	0.82/34*	0.77*/34				
4b/15Ar/4/15Ar/b4	3PC	LIGHT	**0.6**/34	50	0.79*/36*	0.76/36				
		SOLAR+	**0.7**/34	62	0.86*/36*	0.83/36				
4b/18Ar/4/18Ar/b4	3N2	LIGHT	**0.5**/34	50	0.72*/35*	0.69*/37*	0.74*/35	0.70*/36	0.73*/35	0.69*/35
		SOLAR+	**0.6**/34	62	0.80*/35*	0.76*/35*	0.81*/35	0.77*/36	0.80*/35	0.76*/35
2/1F/2b/18Ar/3/18Ar/ b2/1F/2 (VSG)	34H	LIGHT	**0.5**/35	49	0.73*/37*	0.72/37	0.76/37	0.72/37	0.75/37	0.72/37
		SOLAR+	**0.6**/35	60	0.82/37	0.78/37	0.83/37	0.79/37	0.82/37	0.78/37

Handles

Handle G80
Part no. 36423

Handle G80
Part no. 36404

Handle G80
Part no. 36400

Secustik handle G80
Part no. 34139
(only for KF 500)

Handle Dallas
Part no. 36426

Standard handle aluminium natural
Part no. 33899

Designer handle steel
Part no. 34615

Designer handle white
Part no. 33896

Handle with push button
Part no. 33885

Designer handle Bruxelles chrome satined
Part no. 34592

Designer handle Athinai chrome/ stainless steel matt
Part no. 34596

Designer handle Athinai brass matt/ aluminium steel
Part no. 34594

Designer handle Bruxelles brass polished/chrome
Part no. 34590

Designer handle brass polished
Part no. 34597

Handle lockable brass
Part no. 33886

Designer handle Athinai brass polished
Part no. 34595

Designer handle Bruxelles brass polished
Part no. 34591

Designer handle Atlanta brass polished
Part no. 34750

Glass types

Chinchilla

Masterpoint

Spotlyte

Wired glass

Linea

Mastercarré

Kathedral hammered

UADI

Satinato white

Ornament 504

Altdeutsch K

Reflo

Care & maintenance

Hardware fit

Hardware oil

Care product for gaskets

Intensive cleaner

Decor cleaner

Powder cleaner

Powder polish cleaner

Cleaner for anodised surfaces

Polish cleaner for anodised surfaces

SPACERS

Besides aluminium and stainless steel spacers the Internorm **ISO spacer** achieves the highest overall energy efficiency of the window system.

SECURITY GLAZING

The **single pane security glass** (ESG) offers increased resistance against mechanical and thermic tensions. The **laminated security glass** (VSG) offers burglary protection through active and passive security. The splinter-free glass with a highly tear-resistant, viscoplastic intermediate layer also ensures protection from injury.

IMPORTANT INFORMATION

For print and production reasons, **colour deviations** between images in the Window book and the original products are possible. Your Internorm distribution partner will gladly show you original colour samples. **Designer glass** cannot always be depicted completely true to the original in colour and structure. To prevent misunderstandings please refer to glass samples provided by your Internorm distribution partner. Due to physical reasons under certain climatic conditions the outer glass pane in the gap between the panes of **composite windows** where the sun protection is, can show condensation. **More detailed information** on all relevant subjects and further advice can be found on www.internorm.co.uk

SURFACES AND COLOURS: INTERNAL SIDE OF WINDOW

UPVC

UPVC white

Decor foils*

Brilliant white | Cream white | Oregon decor | Golden oak

* For all UPVC window systems except KF 500, KF 400 and KF 405

TIMBER

Standard colour spruce, varnished

FI500 | FI501 | FI502 | FI503 | FI504

FI505 | FI506 | FI507 | FI508 | FI509

Standard colour larch, varnished

LA600 | LA601 | LA602

Standard colour spruce, opaque

FI916

Timber type spruce | Timber type larch

Due to printing and manufacturing technology colour deviations between illustrations in this brochure and original products may occur. Your Internorm distribution partner will gladly show you original colour samples.

SURFACES AND COLOURS: EXTERNAL SIDE OF WINDOW

ALUMINIUM ATTACHMENT CLAD

Standard colours

M916 | HM113 | HM735 | HM906 | HM704 | HM907 | HM803 | HM817 | HM768

HM304 | HM716 | HM605

All standard colours are highly weather resistant except M916 (facade quality)

Stainless steel colours

EL 01 Stainless steel matt look | EL 02 Stainless steel gloss look

Metallic decor colours

DM 01 Dark green | DM 02 Grey | DM 03 Dark grey

HDS colours

HDS01 | HDS02 | HDS03 | HDS04

HDS05 | HDS06 | HDS07 | HDS08

Intensive colour appearance, however colour tolerances possible.

Timber decor colours

HDH17 Light grey | HDH14 Light brown | HDH12 Middle brown | HDH13 Dark brown

HDH colours have a lively timber appearance being hand-finished with pattern coating, however colour tolerances are possible.

hirest colours

HF916 | HF113 | HF735 | HF704 | HF716 | HF817 | HF768 | HF304 | HF605

HFM01 | HFM02 | HFM03 | HFM04 | HFM05 | HFM21 | HFM22

For surface versions HF (highly weather resistant fine structure), HFM (highly weather resistant fine structure metallic), HM (highly weather resistant standard colour) and HDH (highly weather resistant timber decor colour) a special highly weather resistant powder coating is applied.

UPVC

UPVC white

Special colours

A variety of design possibilities are offered by the Internorm RAL colour range (facade quality).

Internorm

TRENDSETTING SOLUTIONS FOR WINDOWS AND DOORS

Internorm is Europe‘s largest window brand with over 20 million window units produced. Internorm is not just the market leader, but the knowledge leader – due to its extensive experiences since 1931.

As a pioneer in the field, Internorm was the first licensee to manufacture UPVC windows in Austria.
The foresight of the company, technological know-how and an excellent feel for design led to continuous peak performances.

As the only window brand in Europe with nine passive house certificates, Internorm represents the leading expertise in energy efficient windows and doors, and is the market leader in Europe for highly thermally insulating window systems.

You can rely on our market leading product quality and specialist dealers of high competency, right from the initial consultation, through to installation, and up to after sales service. With Internorm you acquire the highest security, increase the quality of life and the value of your home.

CERTIFICATIONS AND AWARDS

Austrian State Emblem

Austrian Quality Label

CE certification

TÜV

Produktqualität
Kunststofffenster
EN 14351-1 : 2006
Nr.: 191 6025173

Institute for Window technology Rosenheim

Passive House Institute Dr. Feist, Darmstadt

RAL Quality Seals

KlimaHaus Certificate

Minergie® Certificate

Energy Globe
(Project Schiestlhaus)

Interest Group Passive House Austria

Climate Association Town Traun

Secured by Design
Official Police Security Initiative

RIBA CPD Providers Network

BBA Approval Inspection Testing Certification
Certificate 12/4880

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