



Finest technology  
for Motorhomes

## Product Catalogue 2017

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Finest technology  
for Motorhomes

## **KCT - tempered safety glass window**

Build in from leading manufacturers of motorhomes, expedition mobiles as well as for mobile medical offices.

### **Key points:**

- flush with external wall
- tempered safety glass
- intruder protection
- excellent ventilation
- allows ventilation even during rain
- one-hand operation
- double sealed
- welded corners
- paintable frame
- steel-reinforced frame
- dual steel locking points
- hinge mechanism integrated in frame
- lockable position for airing
- infinitely variable opening
- easily cleanable
- elegant finish

Additional protection through our new developed armor-plate.



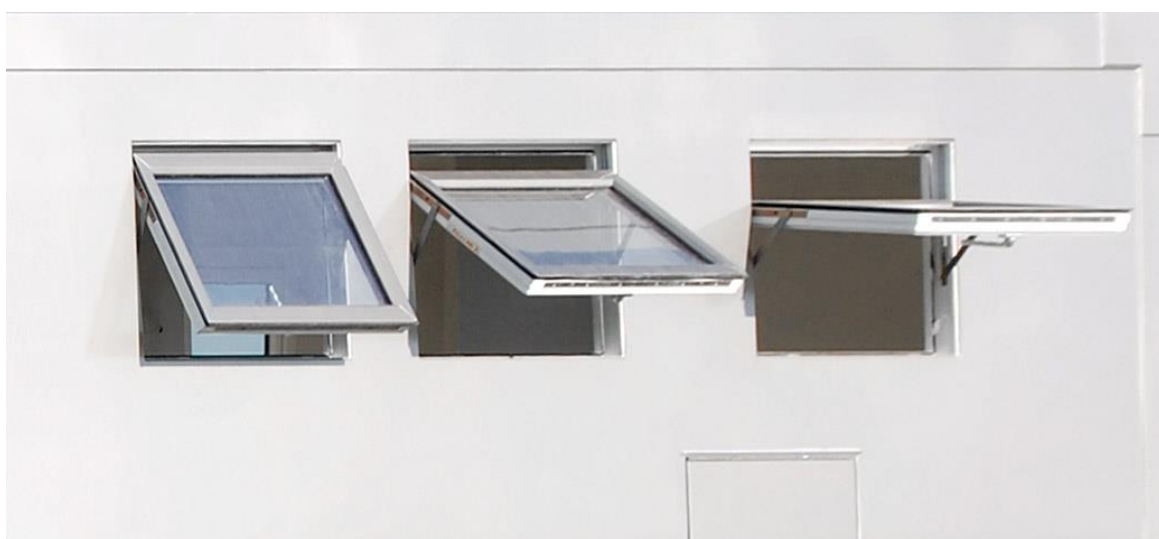
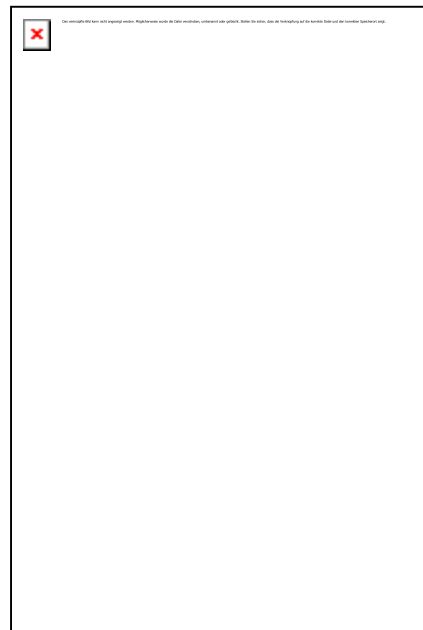
## An overview

### Opening an Airing

KCT windows can be opened to any position since they are not restricted by inflexible hinges. The opening positions allow very effective ventilation for airing. Stale air inside can easily escape upwards without being blocked by the window.

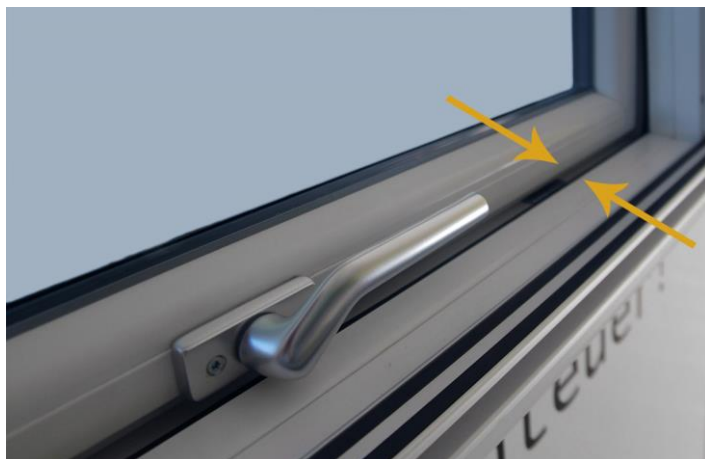
It is even possible to air your vehicle in the rain without getting wet!

This is achieved by means of a sealing at the upper edge of the window which prevents the intrusion of water up to an opening angle of 20°. Upon further opening, the sash moves away from the seal and allows optimal ventilation. Even in this position, dripping water is drained off to the outside.



*infinitely adjustable airing positions*

## Airing and Locking



*outer locking position*

To air the vehicle during a thunderstorm or during the night, KCT-Windows can be securely locked in the outer locking points of the frame.

To save the hinge mechanism from vibrations and due to legal issues, however, the windows have to be closed completely when moving.

To achieve a high security level combined with great ease of use, the double locking system has been constructed out of metal and can be operated comfortably by one central handle.

The handle is attached to the sash with sufficient distance to the pane to keep the glass from being smeared by the hand when opening or closing the window.



*open window with the locking slots*



## The Opening Mechanism

The friction stay hinge mechanism which is integrated into the frame allows infinitely variable opening position up to the maximum opening angle. This construction makes the window extremely easy to clean and you can always enjoy an unspoiled view of the landscape outside.



## Construction Details

The windows are built by a combination of professional handcraft and modern CNC techniques. This accounts for the high quality, the technical precision and the aesthetic finishing.

The high-quality plastic frame and sash are metal-reinforced and UV stable. All parts attached, such as the hinge mechanism, the handle and the locking plates are screwed to frame and sash.

The corners of the windows are welded to give them great stability. We offer KCT-windows in various standard sizes. Individual sizes are also possible.

All components are chosen with regard to longevity, i.e. zinc-plated steel, aluminum and zinc diecast parts. For sealing, high-quality EPDM-rubber is used.

KCT windows have absolutely no thermal bridges – a big advantage that you will immediately notice. No more dripping condensation water or frost as you get with standard aluminum frames. Maximum heat insulation is achieved through successive insulation chambers inside the frame sash.



## Steel reinforcements

Zinc plated steel sections integrated in the plastic frame ensure that the tensile and compressive stress affecting the cabin can be absorbed. Besides reinforcing the frame they also provide a solid fixing for the fittings and thus for an increased security level.

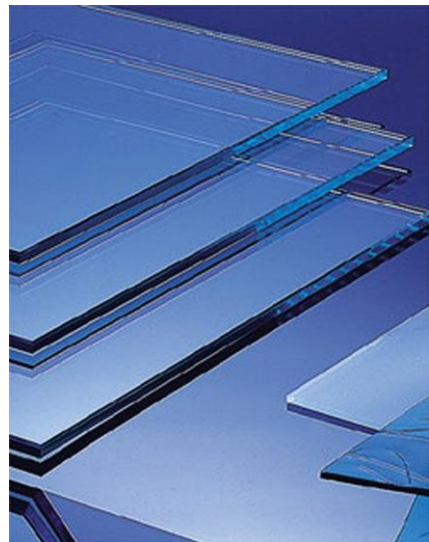


*These steel sections reinforce the plastic frame.*

## Glazing

KCT-windows are double-glazed with tempered safety glass with a special thermal coating and a gas-filled airspace to minimize heat loss. Thus, they achieve insulation values of a modern house window.

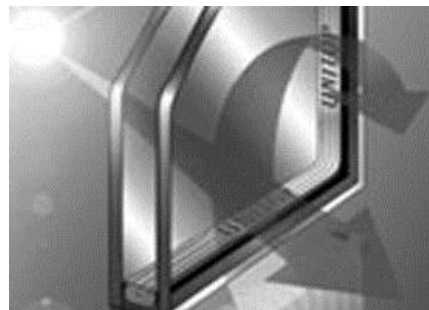
To increase the insulation capacity even more, special spacers are used to ensure that the windows are free of thermal bridges.



*Tempered safety glass*

Additional to the heat insulation coating you can also choose our sun-protection coating. Both options – heat insulation and sun-protection are covered by this high-tech coating.

All our coatings are color-neutral and do not lead to a dimming of the interior room, as is often the case with tinted plastic windows.



*Cross section – glass with thermal coating*

Furthermore our panes are constructed for high elevations – you can cross passes up to 4000 m absolutely trouble-free – without bursting of the window panes. Extensive vacuum chamber tests have proved that our windows can withstand heights up to 7000 meters (and beyond)!



## Cleaning the windows

Another advantage of the special opening mechanism is the easy cleaning of the outer pane from the inside.

Furthermore, edges and corners which are hard to clean have been avoided.

The smooth, antistatic coated surface of the plastic frame can easily be cleaned with water and dishwashing detergent or our special cleaner.



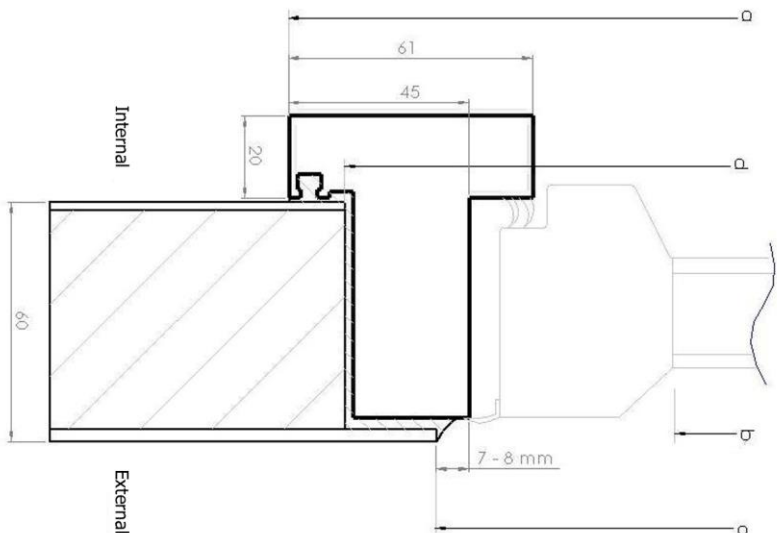
*It's easier to clean from inside*



*without using a ladder – no more climbing*

# Technical data

## Dimensions and sizes



### Dimensions

KCT - Windows are available in five standard sizes.  
Individual sizes are also possible.

Width/Height in mm

a	b	c	d	Weight incl. shade
Overall	Viewable	Outer Laminate	Inner Laminate	
440x600	220x380	364x524	412x572	16Kg
600x440	380x220	524x364	572x412	16Kg
820x500	600x280	744x424	792x472	21Kg
940x500	720x280	864x424	912x472	25Kg
940x550	720x330	864x474	912x522	27Kg
800x600	580x380	724x524	772x572	23Kg
1000x600	780x380	924x524	972x572	28Kg
1200x600	980x380	1124x524	1172x572	34Kg

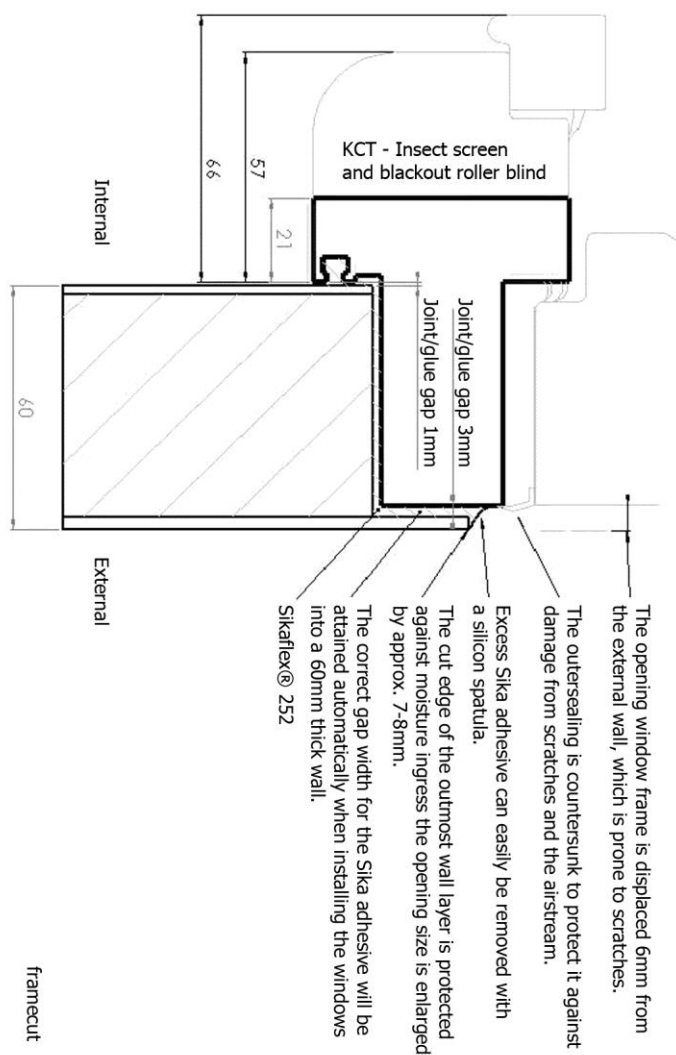
### Possible dimensions for individual sizes

b	Viewable	c - 220 mm
c	Outer Laminate	c - ca. 76mm
d	Inner Laminate	d - ca. 28 mm

cross section

## Technical data

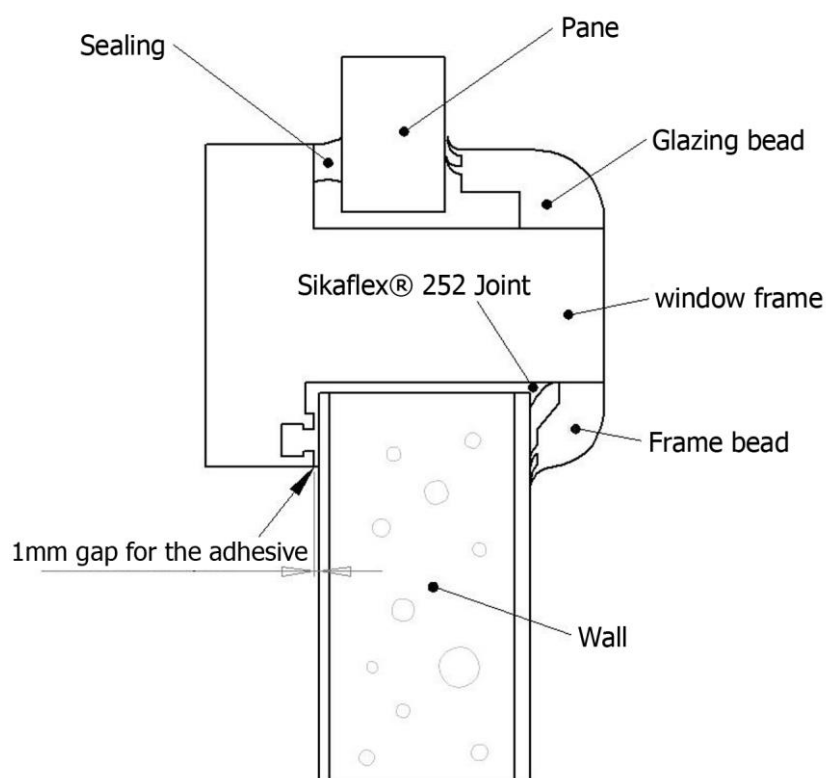
### Installation recommendation



### Installation recommendation for the Window Frame

## Technical Data

Installation example: 40mm wall thickness



## **Sika – Instruction for use**

GRP (glass reinforced plastic) – surface preparation:

- Thoroughly remove foam and residual adhesive, for example with a beveled-edge chisel. It is ok to remove the top layer of the GRP-laminate.

Window frame – surface preparation:

- Roughen to a matt surface
- Remove dust
- Clean with Sika Cleaner 205
- Minimum cleaner airing time 10 min. max. 2 hours
- Apply primer with a cloth, brush or felt ball
- Allowed min. drying time of 30 minutes, max. 24 hours

**Attention: Not apply primer to visible areas because it will etch the plastic surface!!**

Application and Adhesive:

- Apply construction adhesive Sika 252. Avoid air entrapment.

**Attention: Do not use Sika 221 or other adhesives – they are not suitable!**

Please take account to:

- adhere a proper gap width for the adhesive
- max. gap width 6 – 8 mm
- do not use other cleaners like acetone, because they can disturb the curing process of the adhesive

All required consumables are available.

## KCT – Armor plate

Additional protection is offered by our newly developed KCT armor plate.

This armor plate serves as an additional protection against break-in, vandalism as well as to camouflage the expedition vehicle as a truck.

Furthermore you can use the armor plate during shipments of your expedition vehicle, for a safe stopping in unpatrolled areas as well as for driving through large cities and areas affected by conflicts.

This armor plate can be hanged from the vehicle interior to the open window sash and will lock automatically when closing the window.

When opening the window it unlocks again and can be easily removed by lifting. Of course, the armor plate can also be applied on from the outside of the vehicle. To apply the armor plate on the window it takes less than 1 minute.

It requires no tools!

For KCT windows, which were installed flush with the outside wall there is no change, it means, also together with the armor plate the window closes flush.

This armor plate is made of stainless steel, which ensures high strength and corrosion resistance. Its surface is graved with linen pattern, which is paintable for example in your car's color.



*Attaching of the armor plate*



## KCT - insect screen and roller blind (ISR)

### Key points:

- Protection against mosquitos
- Blackfly and pollen screen are available
- Infinitely variable roller blind
- Metal construction
- Sealed frame
- Individual sizes possible
- Outstanding robustness



*Insect screen and sun shade  
– as required*

### Further highlights:

- Washable black glass fibre mesh
- Reflective, sun-blocking fabric, tear-proof, can even be rolled up in cold conditions
- Non-wearing magnetic locking system
- Tightly seals even bis screens
- Complete black-out possible
- Can be mounted above skylights and doors
- Easily cleanable
- Easily disassembled
- One-hand operation even with long blinds
- No loose locking components (no rattling!)
- Sliders and bearings made of POM plastic
- Easy operation



*ISR – frame wide open*



*Insect screen and sun shade  
– on the jar*

## Construction details

Malaria and yellow fever are probably the most well-known but unfortunately not the only insect-borne travel diseases.

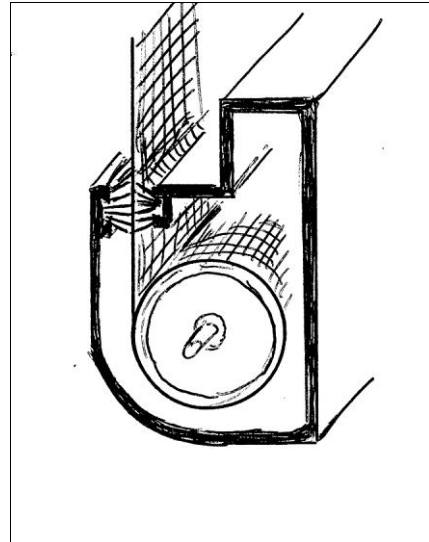
To protect you from these diseases and their annoying carriers inside your vehicle, the KCT insect screens are equipped with an elaborate brush mechanism which reliably keeps out our winged „friends“.

As an alternative to the mosquito screen and the blackout roller blind, we offer a close-meshed glass fibre net, which works both as a poller filter and as a blackfly screen. The roller blind frame contains two screens, each can be one of the following types:

- mosquito screen
- blackfly screen
- roller blind (blackout screen)

For example, a combination of blackfly screen, mosquito screen and the anti-glare coating for the window glass ensure excellent protection against heat and insects.

Due to its self-supporting frame, the KCT-ISR can be mounted on regular vehicle windows, roof lights or doors. Regular windows and insect screen often leave openings, such as ventilation slots, roller spindles or pleats in the screen material, through which insects can invade your vehicle.



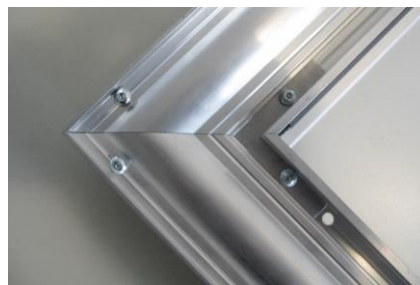
*Cross section – elaborate  
brush mechanism*



*Mosquito- and blackfly-  
meshwork*

## Materials used in the ISR

The frame is made of powder-coated aluminum. The frame components are screwed together with two steel angle brackets per corner.



*frame with corner connection*

The connecting angle brackets are made of high quality steel. Eight such components are used for every ISR, which makes the ISR extremely solid and durable. Furthermore, ISR's of more than two meters in height are feasible.

The screen handrails are made of silver anodized aluminum profiles. Integrated into each of the handrails is a pair of magnetic strips as well as a sealing strip. The handrail is fixed to the screen and strong plastic sliders within the frame guarantee a fluently movement.



*hand rail*

The blackout screen fabric is made of a white, tear- and light-proof fabric. In contrast to commonly used foils, it remains flexible in the cold and can still be rolled up. To improve heat reflection, the exterior surface is coated with silver paint.

The insect screen mesh is made of a black glass fibre mesh, which is extremely tear-proof. The black color makes it almost invisible. The smooth surface of the mesh is moisture repellent, soil-resistant and easily to clean. You can choose between two different types: a mosquito screen, which is optimized for ventilation and a close-meshed blackfly net, designed to block blackflies, pollen, etc..



*mesh*

The bearings and sliders are made of POM, a durable plastic, which does not become brittle. This ensures long-lasting, excellent gliding properties. POM plastic is normally used in industry for the production of components such as a toothed wheels and even car jacks.

The sealing strip, fixed at the lower handrail, is made of EPDM elastomer. It prevents dirt ingress into the roller blind casing.



*POM-parts*

## Handling and functioning

The roller blind is usually mounted to the upper part of the frame and can be moved to any position without needing a catch to lock it in place.

If required, as during a cross-country drive for example, it can be securely locked in its rolled up position. Usually, the insect screen is mounted in the lower part of the frame and when required can be attached to the magnetic strips of the (upper) roller blind. Therefore, when the two screens are attached the lower screen can also be moved into any position.

The blackout and insect screens can be easily separated with just one hand by locking the upper handrail in its upper position and pulling the insect screen downwards. The handrail can be detached from its locking position by tilting it slightly.



*sealing strip*

## Examples of use

KCT-ISR can be mounted to windows, doors and dormer windows as well as to passages. At the door -ISR the meshes mosquito and blackfly are mounted laterally. An additional handrail for the use from outside is put on.



*Fitting to a dormer window*

## Installation

The ISR is delivered fully assembled and can easily be fitted to the window – using the existing fasteners and then firmly fixed with four screws.

If you intend to use the ISR without a KCT-window, the fasteners can be ordered separately and screwed or riveted to the wall of the vehicle.

For the fitting to a door or a dormer window the ISR is mounted directly to the wall or the ceiling.



*Fasteners*



*Fitting on a ceiling*

## KCT - porthole

### Key points:

- Key points:
- tempered safety glass
- official approval and homologation for road service
- no thermal bridges
- withstands heights beyond 7000m
- fit for cross country drives
- stainless steel frame
- solar glass
- thermal glass
- fixed glazing
- ease of assembly



*KCT - porthole*

This porthole is a fixed glazing which cannot be opened. The frame is made of satin stainless steel.

The glazing consists of two safety glass panes which were processed with special spacers to a insulating glass pane.

To increase the insulation capacity the inside glass is equipped with a special thermal coating. This coating reflects the thermal radiation back to the vehicle. To achieve an additional insulation the interstice of the pane is filled with a special rare gas.

All our coatings are safely inbedded in the interstice of the pane and interact only the long-wave thermal radiation. The short waves of the light can still pass.



*Interior view*

### Dimensions:

Diameter glass: 300 mm  
Diameter section: 355 mm  
Diameter frame: 383 mm  
Wall thickness: 60mm  
Weight: 3,3 kg



## KCT - SysLock

### Locking device for vehicle construction

The KCT-locking device consists of these 5 components described below:

- recessed pan handle lock with door handle
- 3-point lock
- lock-plate
- lock cylinder
- lock cylinder cover and frame



*Component locking system*

### The recessed pan handle lock

The recessed pan handle lock is made of GFK (glass-fibre plastic)-glass reinforced laminate. It is handcrafted in Germany out of materials which are used in aviation.

Through using this high quality materials we achieve highest strength combined with a very thin wall thickness. All these are reasons for a high stability as well as for an elegant appearance of your door, as the recessed pan handle lock overlaps only 2mm. The recessed pan handle lock is tinted white and paintable in car color.



*recessed pan handle lock*

### The handle:

The handle is made of stainless steel and joint with the recessed pan handle lock through an O-ring seal. After loosen the handle screw joint you can remove the mortise lock form the shank without damaging the door. You can also prevent free-riding when disassembling the handle leaf and using it like a key.



*Door handle*



## The lock

The KCT-lock is a mortise lock which is designed for special purpose vehicles and in particular for motorhomes.

## Handle-operated bolt

The advantage is a higher pressure to the bolts and an exact locking on the door sealing. The key is only used for locking the mechanism and without any further functions.

## 3-point-locking

We offer a 1-point version as well as 4 lengths with 3-point locks which are especially designed for the vehicle construction. All bolts were anchored in their own tooth profile. Blind holes in the bottom profiles which can get dirty are no longer necessary.

## Corrosion protection

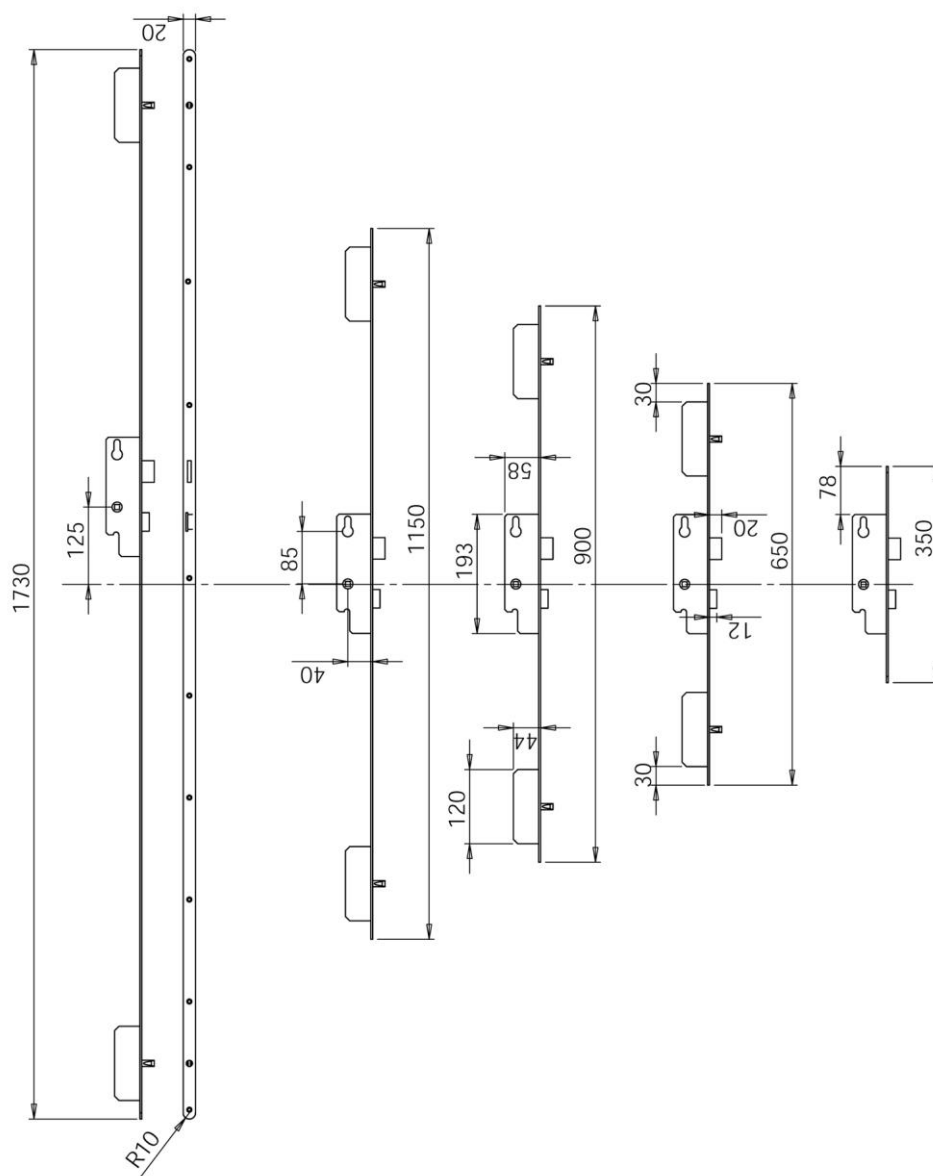
The lock cover (see figure, marked) is made of stainless steel and the housings are zinccoated. Adjustable closing from right to left. Through pushing the handle into its upper ending position and then moving the switching pin, the catch unlocks and you can turn it by 180°. Through turning back in its starting position the catch will lock again.

Steel construction: We do not use any wear parts out of brass.



*motise lock, housing and lock cover (pointing arrow)*

## Dimensions and sizes



## KCT - lock plate

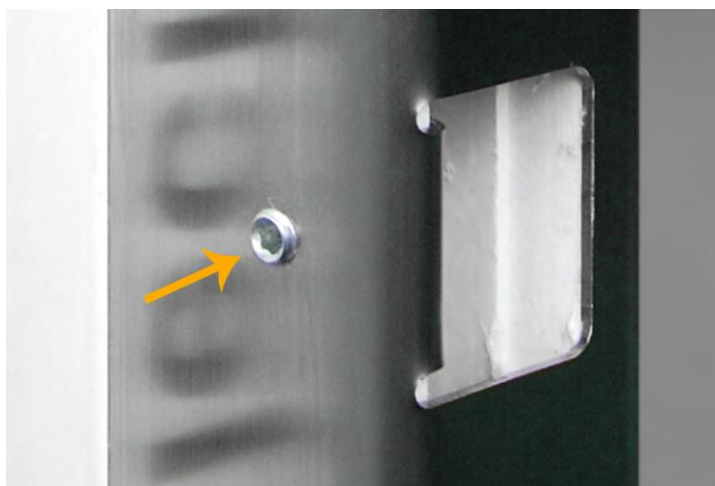
We offer fine-brushed stainless steel sheets suitable to all lengths of locking devices. They were used to secure the anchor bolts as well as an edge protection (flaps).



*Lock plates*

### Fitting:

- Pin the lock plate on the wall and use it as marking template for the bolt notches.
- Put off the lock plate and recess the marks with a router.
- Round over the notches with a file.
- Glue on the lock plate with Sikaflex 252.
- Copy the holes on the front side of the plate into the CFRP-frame (drill diameter 3.2mm, core diameter M4) and cut a M4 thread into the drill-holes.
- Bend the metal butt strap (with wood) into the pre-stamped tabs of the frame.
- Screw “slightly” adjusting screws into the M4 threads (use threadlocker) in order to justify the bearing gap.



*adjusting screw*



*bent metal butt strap*



*glued on lock plate, interior  
view door frame*

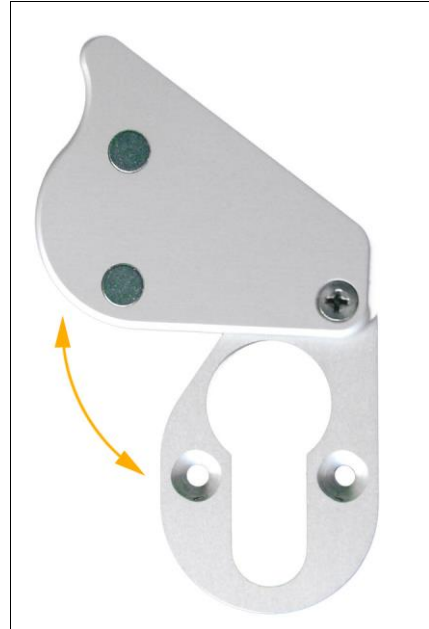
### **KCT – Lock cylinder cover and frame**

The lock cylinder cover and frame is especially designed for the KCT - recessed pan handle lock and made of all-metal. Of course, it can also be mounted on all DIN-locking cylinders, independent on de KCT - recessed pan handle lock.

The material is anodized aluminum, which is coated non-stick.

Interlocking is achieved via 4 special magnets, which tightly pull together the grounded surface of the gliders until a capillary gap between them results. This gap is so small, that water penetrates into it, but thanks to its surface tension is not able to flow through. To say, the water seals itself.

Available in two versions: right and left.



*lock cylinder cover and frame*

### **KCT - marking gauge**

For easy installation of the KCT - recessed pan handle lock we offer a marking gauge. By using this marking gauge you can exactly mark all necessary drilling holes for the door handle and the locking cylinder.

This marking gauge is made out of stainless steel and simply pushed onto the door leaf. Now you can mark all necessary positions inside and outside.

We have always some marking gauges on stock, so you can easily borrow one.



*marking gauge*

### **KCT - door seal**

This seal is especially designed for doors with GRP (glass reinforced plastic) step profiles, which are used in expedition vehicles production.

This KCT seal has such an adhesive back, that will be durable and almost inextricably with the underground. For subsequent removal of the mechanical tool is needed.

In addition to first equipment you can also replace leaking seals, which almost have been screwed. Due to the glue back the KCT seal is easily to install.



*door seal*

#### **How to install:**

- Remove old seal
- Degrease underground
- Apply seal
- Remove plastic film
- Press on seal

Our door seal affixes to almost all smooth surfaces, such as GRP, paint, metal, etc..

A surface free of dust and grease is required.

Please do not hesitate to ask for samples to make adhesion tests.



*hafted corner*

## Care and Cleaning

### Stainless Steel:

Fingerprints, water stains, salt crusts, and similar stains can be completely removed from stainless steel surfaces with light silicone spray, just spray on the silicone spray and dry down with a cloth. As a side effect the surface is sealed against new dirt and all moving parts will receive an additional lubricating film. Of course you can also use special stainless steel cleaner, which were offered.



*Spray on Silicone Spray*

### Galvanized steel parts:

We also recommend Silicone Spray for the care of the galvanized window fittings. The silicone oil prevents tarnishing and corrosion of the metal parts and keeps them smooth-running.



### Plastic Frame:

To remove dirt it is the best to use warm water and dish liquid. For stubborn dirt, we offer a special polish. Please do not use solvents as thinner or acetone, since these can damage the plastic surface.

### Power-coated Surfaces:

For example the frame of the blinds, these can be cleaned such as plastic surfaces. Please do not use solvents such as thinner or acetone.



### Anodized aluminum surfaces:

You can clean it such as stainless steel surfaces with silicone spray, hot water with dish liquid or plastic polish.

*Dry down with a cloth*



The design is well-proportioned and easily to clean. It does not require any platform for the glazing. For this reason, no water remains in puddles, which leave salt or dirt crusts on the glazing when evaporating.

#### Versions:

The KCT®HartGlasHatch is available in 2 versions (see technical data sheet). Hinges and latches are made of high-quality stainless steel (V4a). The powder-coated attachments are also made of stainless steel (V2a). The gas spring is painted black. The frames are made at KCT as glass fiber insulation frames. The glazing consists of safety glass, which is combined to insulating glass composite.

#### Special advantages:

##### ***Sun protection coating***

In contrast to other hatch constructions, the reflection coating of the safety insulating glazing of our hatch effectively prevents the vehicle from being heated up.

##### ***Anti-burglary protection/durability***

These has been the main reasons of construction, on which the solid frames, latches and hinges are attributed. Due to this, we had to compromise the total weight.

##### ***Insect protection***

The insect-screen and sun blind is the reliable "ISR" from KCT. Therefore the hatch also can be ordered with a fine mesh fabric in the "blackfly" version.



*The larger HartGlas®Hatch*



*The smaller HartGlas® Hatch*



### KCT-lengthening of your hand

A small assistant to close the wide open hatch covers again, when the handle is not reachable. It also helps with opening.



### Safety insert for large hatches

The safety insert is placed between the hatch frames from the vehicle interior, when the hatch is open. It fixes itself by closing the hatch. Due to this, the high protection against burglary can be increased once again.



## Technical Data Sheet:

- Outside dimension above roof
  - Large hatch: 1020 x 710mm
  - Small hatch: 560 x 560mm
- Outside dimension below roof
  - Large hatch: 976 x 670mm
  - Small hatch: 515 x 515mm
- Exit measurements:
  - Large hatch: 780 x 480mm
  - Small hatch: 320 x 340mm
- Possible roof thickness: 40 – 80mm
- Cut out dimensions:
  - Large hatch: 655 x 960mm
  - Small hatch: 500 x 500mm
- Weight:
  - Large hatch: 29kg
  - Small hatch: 16kg
- Overhang below roof at roof thickness of:
  - 40mm = 45mm
  - 50mm = 35mm
  - 60mm = 25mm
  - 70mm = 15mm
  - 80mm = 5mm

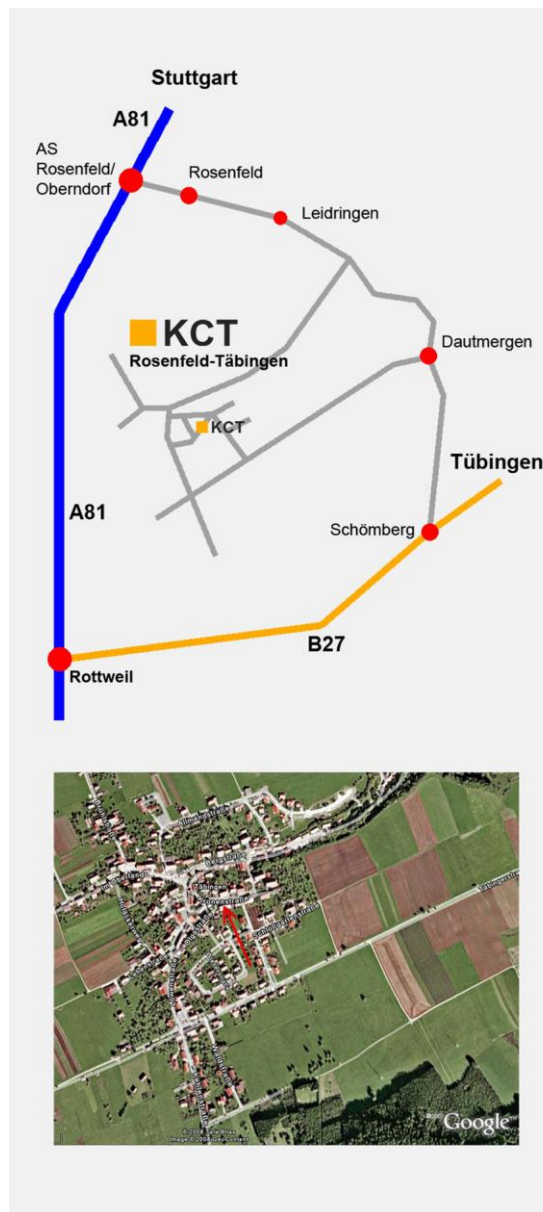


## Summary

- Fully insulating
- Safe to walk on
- Almost scratch-resistant because of realglass
- No puddling on the glazing
- Suitable at high altitude
- Smoothy opening to any position
- Metal locks
- Burglar-resistant
- Stainless steel fittings
- Sun protection coating/UV proof glass
- Glass fiber insulation frame
- Rotting resistant
- Sealed on two levels
- Insect-screen and sun blind
- With a few simple adjustments fits into an existing "Dometic Heki 1" opening
- A patent application has been filed



## How to find us:



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for Motorhomes

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We wish you a successful planning and technical implementation of your project.

Enjoy your expedition mobile.

Your KCT – Team



Finest technology  
for Motorhomes

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