

Installation instructions for external  
blinds, (roller shutters) roll-up in the  
system: TOP-MOUNTED type SKT  
(OPOTERM) TOP-MOUNTED SKT  
type (OPOTERM) with MOSQUITO  
NET

## **General recommendations**

The roller shutter may only be installed by a trained installation team.

Please observe the applicable occupational health and safety regulations, in particular those concerning safe work with electrical devices and working at heights.

Before starting the mounting work, please read this manual carefully and follow its recommendations.

**It contains the necessary information to ensure correct installation and use of the SKT (OPOTERM) roller shutter.**

The manufacturer recommends transportation, storage and stocking of the roller shutters only in the HORIZONTAL POSITION on the flat surface in the package protected against damage.

The roller shutters must be delivered to the installation place as a complete set, according to the list of components included in the delivery.

**Unloading and mounting of the blinds must be carried out with the necessary precautions.**

**NOTE: The methods of fitting roller shutters presented in this manual are treated as examples.**

**Assembly tools [1]**

# I ROLL-UP TOP-MOUNTED BLINDS SYSTEM OF SKT (OPOTERM) TYPE

## 1. Unpacking the roller shutter

Before installation work begins, the goods must be unpacked and checked for quantity and quality, according to the list of components attached with delivery.

a) Roller-shutter box of SKT (OPOTERM) type, two-chamber guides with a seal, adaptive profile [2], connectors for side covers, mounting anchors, screws for mounting the guides and connectors for side covers [3]



b) Types of manual drives used (options):



Coiler (belt),  
strap holder (belt) [4].



Cassette with gear for strap (belt),  
cassette fixing plate, crank [5].



Crank, Cardan joint 45° or 90°.  
with bellhousing [6].



Crank, Cardan joint 45°  
or 90° with eye [7].

**-when installing roller shutters with an electric drive, drill a hole for the actuator cable in the place of the planned electrical installation.**

## 2. Installation order

a) Check the dimensions: width and height of the window opening [8], [9].



b) Check dimensions: width and height of the window [10], [11].

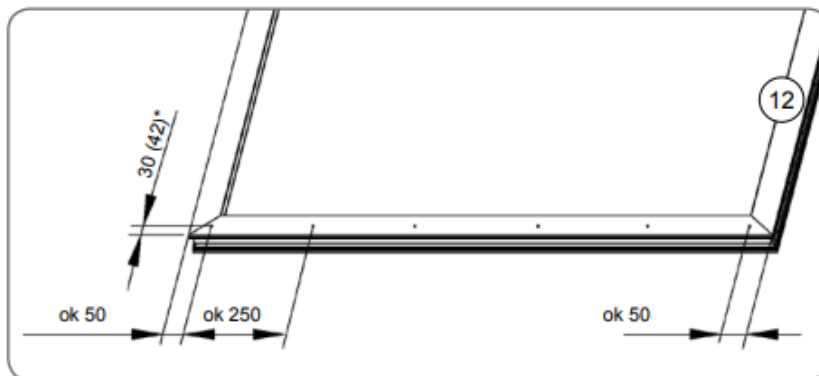


c) Check dimensions of guides,

d) Mark the screwing points for the truss head according to the following formula [12] intended for mounting the guides on the window or door frame [13], [14], [15].

$$\text{NUMBER OF SCREWS} = \left[ \frac{(\text{LENGTH OF THE GUIDE} - 1000)}{250} \right] + 4 \times \text{number of guides}$$

- when installing roller shutters on PVC or timber joinery, mount the truss head directly into the frame.
- when mounting roller shutters on aluminium joinery, drill holes for truss head with a  $\varnothing 2 - 2.5$  mm drill bit.



Note: \* - 42 mm value only when using narrow guides PPA35/12, PPA35/17



e) Particular attention must be paid to lining up the screws [16], and the force applied during screwing must be selected so that it does not distort the nipple, which may result in an inability to slip. The pressure force during screwing must be adjusted so that the nipple is not deformed, which may result in the inability to slide (engage) the guides onto the screws [17], [18].



f) Remove any contamination from the top of the window frame that may hinder the installation of the adaptive profile.  
 g) Before screwing on the adaptive profile, it is advisable to seal the upper part of the frame with expanding adhesive tape. Apply the tape to the degreased surface of the frame.  
 h) Attach the adaptive profile to the window frame with equal spacing on both sides (**approx. 15 mm**)



i) Mark the screwing points for the self-drilling screws with a flat head [19], [20] according to the formula below.

$$\text{NO. OF SCREWS} = \left[ \frac{\text{ADAPTIVE PROFILE LENGTH} - 1000}{250} \right] + 4 \text{ pcs.}$$

**NOTE: The length and type of self-drilling screws with a flat head should be appropriately selected depending on the thickness of the window frame so as to obtain the maximum secure connection of both profiles.**

j) Extra attention must be paid to the straightness and flatness of the adaptive profile [21], and the clamping force during screwing must be chosen accordingly, so that it does not distort the profile, which may result in the inability to sliding of the box onto the adapter

k) The screwed-on adaptive profile should fit tightly to the outer edge of the frame.

l) In order to facilitate the assembly of the box, it is recommended to spray the snap locks adapter with silicone



m) On the outer edges of the adaptive profile, mark the places where the guides overlap the profile, which must be completely removed. This can be done before screwing the profile to the window frame [22], [23].

n) Place the window in a vertical position so that the adaptive profile is on top of the window frame.

o) Slide the roller shutter box onto the adaptive profile from the side, or snap the box onto the entire length of the adaptive profile [24].

**p) Do not use hammers or other tools when carrying out the above.**



q) After installing the box on the window, check the bristlestrip in the guides and, if necessary, secure them against accidental fall out (glue additionally) and then slide the guides into the box. The guides must fit tightly on the bottom edge of the box [25], [26].

r) Screw the side cover connectors LPB - RO [27] to the box sides using galvanised screws WKR 4.2 x 16.



s) After screwing the connectors the box should be placed perpendicularly to the window frame and screwed, paying special attention to the alignment of both elements. For screwing, the above-mentioned screws or self-drilling screws with flat heads may be used, appropriately selected depending on the thickness of the window frame to obtain the maximum secure connection of the roller shutter with the window [28], [29].



t) Depending on the method of mounting the window with roller shutter to the lintel, the appropriate number of KMO mounting anchors must be inserted into recesses in the upper profile of the PSG box [30], [31], [32].



u) Installation of the window including the roller shutter must be carried out in accordance with current standards and building practice. Install the window with the roller shutter in the window opening using anchors or screws as recommended by the window manufacturer [33], [34], [35].



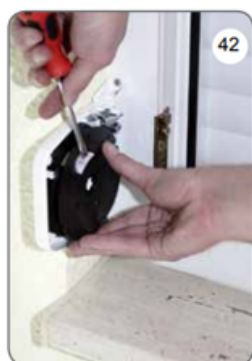
v) For sealing the connections between the roller shutter and the window hole, low-expansion mounting foam should be used. The use of other materials or in excessive amounts may cause damage to the roller shutter by deformation, or excessive expansion of components and malfunction.



w) After the installation foam has dried, lower the roller shutter curtain to the window sill, open the access panel of the box [36] pull out the insulation elements [37] check the state of connections of the hangers with the winding tube and the curtain [38].



x) Remove the locking pins [39] and open the roller [40] by levering one side of the housing with a screw. Screw the roller to the window frame with the screws [41]. Hook the tape on the hook bar by tightly holding the cover of the spring, turn and release the locking device [42]. With the roller installed and the curtain lowered, 2-3 rolls of tape [43] should be wound onto the spring drum. Close the roller cover [44].





y) Check all connections for correctness. Perform functional test of the roller shutter [45].



z) Pull the roller shutter curtain into the box, insert the insulation elements one by one, check correct positioning relative to the curtain. Close the access panel of the box [46], [47].

Remove protective foil from the box and the guides and from other components.

Train the user on how to operate the roller shutter.

Provide the user with the operation and maintenance instructions, guarantee and sign the acceptance protocol.

### 3. Other notes

a) Installation of NT/XPS plaster carrier on SKT OPOTERM box

The NT/XPS plaster carrier is made of extruded polystyrene (XPS styrodur) covered with a self-adhesive coating on one side and crosswise

grooving on the other side which improves adhesion of the plaster mortar. Before gluing the board, the surface of the box should be cleaned and degreased [48], then the board should be cut to fit the height and width of the box. The cut of the board should be made from the side of the protective foil.

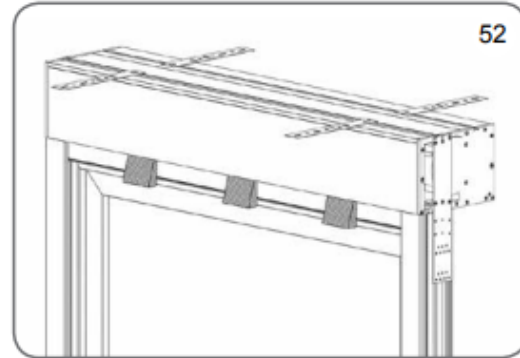
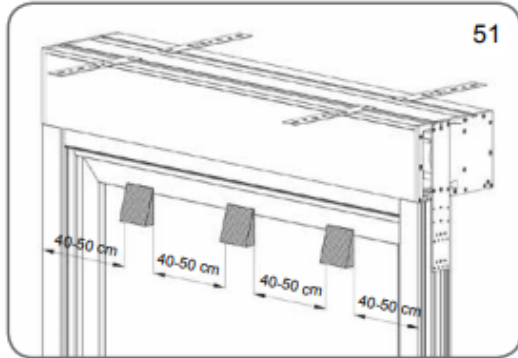
To glue the carrier to the box, remove the protective film with the adhesive coating [49] and then evenly apply and press for 10 seconds [50].

**NOTE: NT/XPS plaster carrier is dedicated to thin layer plaster in ETICS or BSO systems. The plaster carrier should be installed (plastered) in accordance with ETICS and BSO technology recommendations within 3 months from being exposed to atmospheric conditions (roller shutters installed on the building site).**

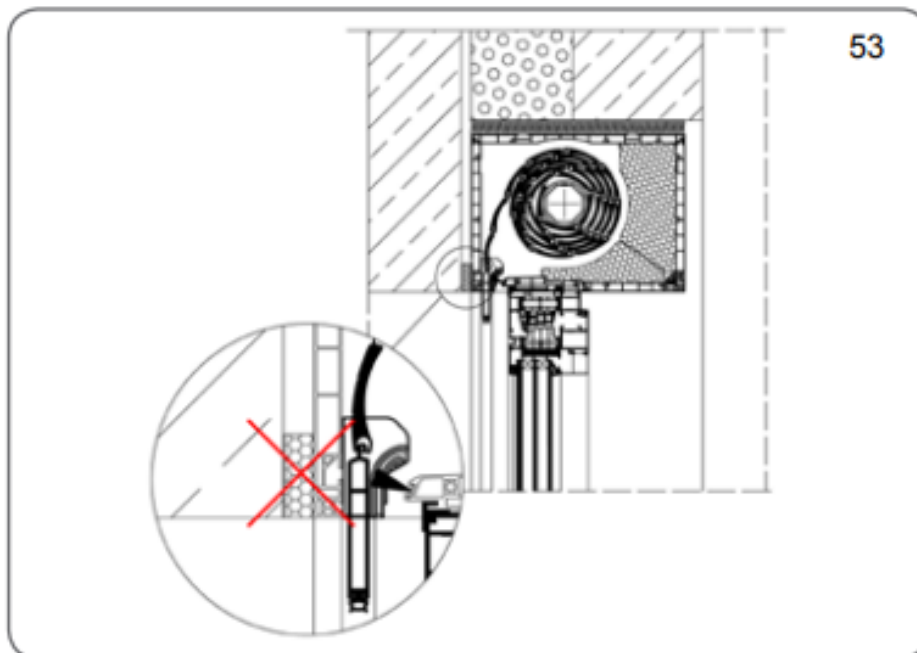


b) External covering of the SKT OPOTERM box

When the box is being built up (plastering and insulation), the side profile of the box (box face) shall be secured against bending inwards. For this purpose, wedges (KLM) shall be inserted at a spacing of 40-50 cm between the side profile and the bottom profile of the box [51, 52] before it is built up. The wedges must be removed after the plastering work has been carried out.



**NOTE:** No expansion strap may be used between the box body and the box side profile at the bottom edge of the box [53].

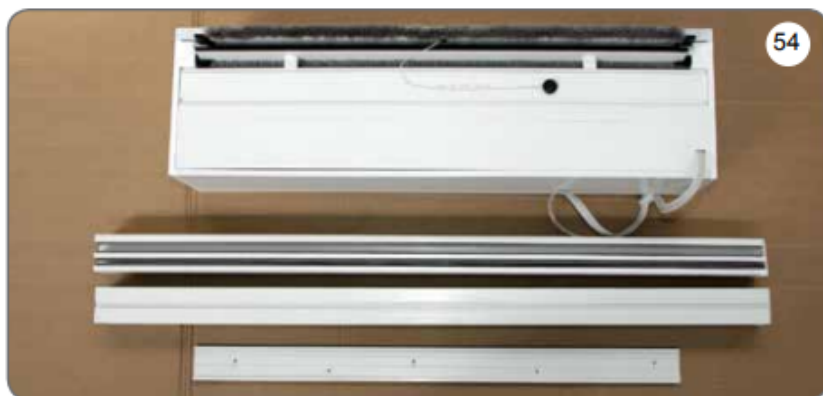


## II SYSTEM OF TOP MOUNTED BLINDS SKT (OPOTERM) WITH MKT.

### 1. Unpacking the roller shutter.

Before installation work begins, the goods must be unpacked and checked for quantity and quality, according to the list of components attached to the delivery.

a) Roller-shutter box of SKT (OPOTERM) type with MKT, two-chamber guides with a seal, adaptive profile [54], connectors for side covers, mounting anchors, screws for mounting the guides and connectors for side covers [55].



b) Types of manual drives used (options):



Coiler (belt),  
strap holder (belt) [56].



Cassette with gear for strap (belt),  
cassette fixing plate, crank [57].



Crank, Cardan joint 45° or 90°  
with bellhousing [58].



Crank, Cardan joint 45°  
or 90° with eye [59]

-when installing roller shutters with an electric drive, drill a hole for the actuator cable in the place of the planned electrical installation.

## 2. Installation order

a) Check the dimensions: width and height of the window opening [60], [61].



b) Check the dimensions: width and height of the window [62], [63].

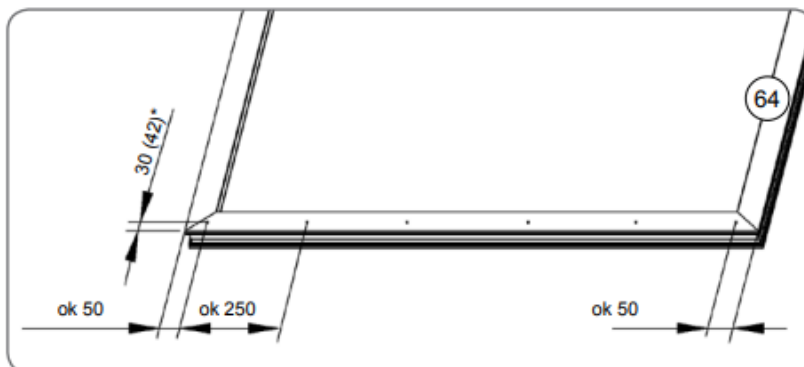


c) Check dimensions of guides.

d) Mark the screwing positions for the truss head according to the following formula [64] for mounting the guides on the window or door frame [65], [66], [67].

$$\text{NUMBER OF SCREWS} = \left[ \frac{(\text{GUIDE LENGTH} - 1000)}{250} \right] + 4 \times \text{number of guides}$$

- when installing roller shutters on PVC or timber joinery, the truss head should be screwed directly to the frame.
- in case of installation of roller shutters on aluminium joinery, drill holes for truss head with a  $\varnothing 2 - 2.5$  mm.



**Note:** \* - 42 mm value only when using narrow guides PPA35/12, PPA35/17



e) Special attention must be paid to lining up the screws [68] and the force applied during screwing must be appropriately selected so that it does not cause distortion of the screw head, which may result in the inability to slide the guides on the screws [69], [70].



f) Remove any contamination from the top of the window frame that may hinder the installation of the adaptive profile.  
 g) Before screwing on the adaptive profile it is advisable to seal the upper part of the frame with adhesive tape. The tape should be applied to the degreased surface of the frame.  
 h) Attach the adaptive profile to the window frame with equal distances on both sides (**approx. 15 mm**).



i) Mark the places for fastening the self-drilling screws with flat head [65], [66] according to the following formula:

$$\text{NUMBER OF SCREWS} = \left[ \frac{\text{LENGTH OF ADAPTIVE PROFILE} - 1000}{250} \right] + 4 \text{ pcs}$$

**The length and type of self-drilling screws with a flat head should be selected appropriately depending on the thickness of the window frame so as to obtain the maximum secure connection of both profiles.**

j) Extra attention must be paid to the straightness and flatness of the adaptive profile [73], and the clamping force during screwing must be chosen accordingly, so that it does not distort the profile, which may result in the inability to sliding of the box onto the adapter.

k) The screwed-on adapter profile should fit tightly to the outer edge of the frame.

l) In order to facilitate the assembly of the box, it is recommended to spray the snap locks of the adapter with silicone.



m) On the outer edges of the adaptive profile, mark the places where the guides overlap the profile, which must be removed. This can be done before screwing the profile to the window frame [74], [75].

n) Place the window in a vertical position so that the adapter profile is on top of the window frame.

o) Slide the roller shutter box onto the adapter profile from the side, or snap the box onto the entire length of the adapter profile. the whole length of the adaptive profile [76].

**p) Hammers or other tools must not be used during the above operation.**



q) After installing the box on the window, check the bristlestrips in the guides and if necessary, secure them against accidental fall out (glue additionally) and then slide the guides into the box. The guides must lie tightly on the bottom edge of the box [77], [78].



r) The connectors for the side covers LPB - RO [79] are screwed to the box sides with galvanised screws WKR 4.2 x 16.



s) After screwing the connectors the box should be placed perpendicularly to the window frame and screwed, paying special attention to the alignment of both elements. For screwing, the above-mentioned screws or self-drilling screws with flat heads may be used, appropriately selected depending on the thickness of the window frame to obtain the maximum secure connection of the roller shutter with the window [80], [81].



t) Depending on the method of mounting the window with roller shutter to the lintel, an appropriate number of KMO mounting anchors into recesses in the upper profile of the PSG box [82], [83], [84].



u) Installation of the window including the roller shutter must be carried out in accordance with current standards and building practice. Install the window with the roller shutter in the window opening using anchors or screws as recommended by the window manufacturer [85], [86], [87].

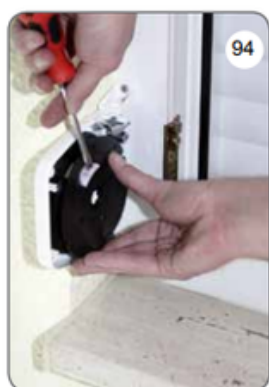
v) For sealing the connections between the roller shutter and the window hole, low-expansion mounting foam should be used. The use of other materials or in excessive amounts may cause damage to the roller shutter by deformation or excessive expansion of components and malfunction.



w) After the installation foam has dried, lower the roller shutter curtain to the window sill, open the access panel of the box [88] pull out the insulation elements [89] check the condition of hangers' connections to the octagonal roller tube and the curtain [90].



x) Remove the safety pins [91] and open the coiler [92] by levering one side of the cover with a screwdriver. Screw the roller to the window frame with the screws [93]. Hook the strap to the catch by holding the spring cover tightly, turn and release the lock [94]. With the coiler installed and the curtain lowered, 2-3 rolls of strap should be wound onto the spring drum [95]. Close the coiler cover [96].



y) Check all connections for correctness. Perform functional test of the roller shutter [97].



z) Pull the roller shutter curtain into the box, insert the insulation elements one by one, check correct positioning relative to the curtain. Close the access panel of the box [98], [99]. Remove protective foil from the box and the guides and from other components. Train the user in operation of the roller shutter. Deliver operation and maintenance manual, guarantee and sign acceptance protocol to the user.

### 3. Other notes

a) Installation of NT/XPS plaster carrier on SKT OPOTERM box

The NT/XPS plaster carrier is made of extruded polystyrene (XPS styrodur) covered on one side with self-adhesive coating and on the other side with crosswise grooving which improves adhesion of the plaster mortar. Before sticking the board, the surface of the box [100] should be cleaned and degreased, then the board should be cut to the height and width of the box. The cutting of the board should be done from the side of the protective foil. To glue the carrier to the box, remove the protective foil protecting the adhesive layer [101] and then apply evenly and press for 10 seconds [102].

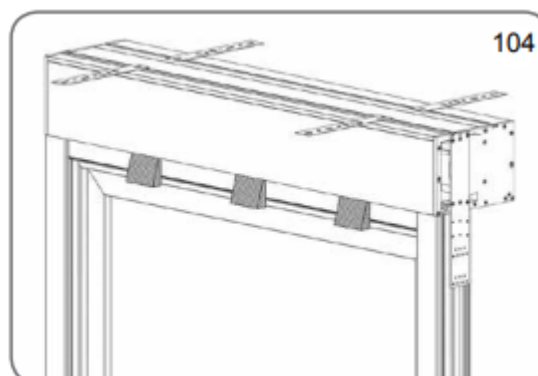
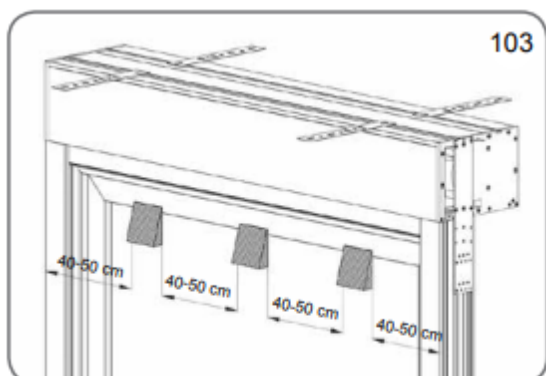
**NOTE: NT/XPS plaster carrier is dedicated to thin layer plaster in ETICS or BSO systems. The plaster carrier should be (plastered) in accordance with ETICS and BSO technology recommendations within 3 months from installed being exposed to atmospheric conditions (roller shutters installed on the building site).**



b) External installation of OPOTERM SKT box

When carrying out the box building work (plastering and insulation) the side profile of the box (box face) shall be protected against bending inwards. For this purpose, wedges (KLM) shall be inserted at a spacing of 40-50 cm between the side profile and the bottom profile of the box [103, 104].

The wedges must be removed after the plastering work is done.



**NOTE:** No expansion strap may be used between the box body and the box side profile on the bottom edge of the box [105].

