

## **Installation and maintenance instructions for fire, smoke and soundproof wooden doors EI30 / Rw40dB**

The fire resistance of the wooden doors has been determined in accordance with the test standard EN1634-1:2014+A1:2018; smoke resistance in accordance with the standard EN 1634-3:2004; the self-closing ability in accordance with the standard EN 1191:2012; and classified according to the standard EN13501-2:2016. The value of the weighted airborne noise insulation index  $R_w$ , measured in the laboratory and determined according to the standard ISO 717-1, is  $R_w(C;Ctr)=40(-2;-5)$  dB. The permitted dimensions and other accessories according to the approved technical specification, ANNEX Z of the certificate of conformity.

This is a product designed to ensure human safety, so read this manual carefully before installation. The person responsible for the construction work must ensure that the following requirements are met. The signed installation and maintenance manual must be available if necessary and will be added to the building's as-built documentation later.

Order No. \_\_\_\_\_

Client: \_\_\_\_\_

Responsible person (name, signature) \_\_\_\_\_

Door's marking: \_\_\_\_\_

Installation company: \_\_\_\_\_

Installer (name, signature) \_\_\_\_\_

Date: \_\_\_\_\_

### **Upon receiving the delivery:**

Check that the specification and quantity of the goods correspond to those indicated in the accompanying documents (invoice). Certified doors have the corresponding markings on the hinge side, at the height of approx. 1,700mm. Please submit comments and complaints to the seller within 7 days of receipt of the goods.

To protect the products from dirt and possible mechanical damage during transport and handling, the door sets are always delivered assembled and packed in a polyethylene plastic bag. Corrugated cardboard boxes are attached to the longer sides of the frame for extra protection. One side of the box shall bear the following data:

- Production order number;
- Client ID
- Production order pos. No.
- Door set's dimensions or module marking, e.g. M10x21
- The opening direction of the door set (left or right hand door).

The transport packaging is not suitable for long-term storage of products on site.

In the event of transport damage, a corresponding note must be made on the consignment note of the transport company upon receipt of the goods. It is not permitted to install a defective or damaged product without the permission of the manufacturer ! The door factory shall not reimburse the additional costs caused by the installation of damaged products.

### **Pre-installation storage**

The doors are packed in transport package that only protects the door set during transport and handling. When moving by hand, it must be considered that larger door sets can weigh more than 80 kg; falling onto a corner must particularly be avoided. Doors must be stored indoors in a dry

place with an even temperature; outdoor storage is not permitted! The products must be stacked horizontally on a flat, dry base with at least three supports of the same thickness per door height to distribute the weight evenly. Veneered doors must be protected from direct sunlight to prevent fading and the resulting differences in colour. The doors are made of wooden materials, which tend to swell under the influence of moisture, and in the worst case, this can lead to cracking of the finishing layer and breakage of the adhesive joint.

*The manufacturer accepts no liability for moisture damage caused by improper storage or by on-site processes being or having been in progress (casting, tiling, finishing, etc.).*

## Installation of the doors

Fire doors are intended to close the passages between the fire compartments of heated work and living quarters. The door leaf's gaps inside the frame are designed to ensure the required performance characteristics of fire doors, therefore installation work must be carried out with special care and we strongly recommend the use of an experienced installation team.

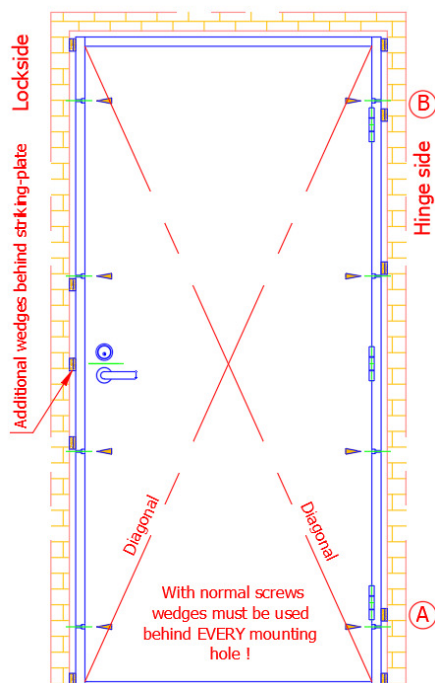
The manufacturer is not liable for errors or possible inconveniences during operation due to incorrect installation.

**The door leaf or the frame must not be machined or adjusted in any way and accessories not intended for them must not be fitted to them!**

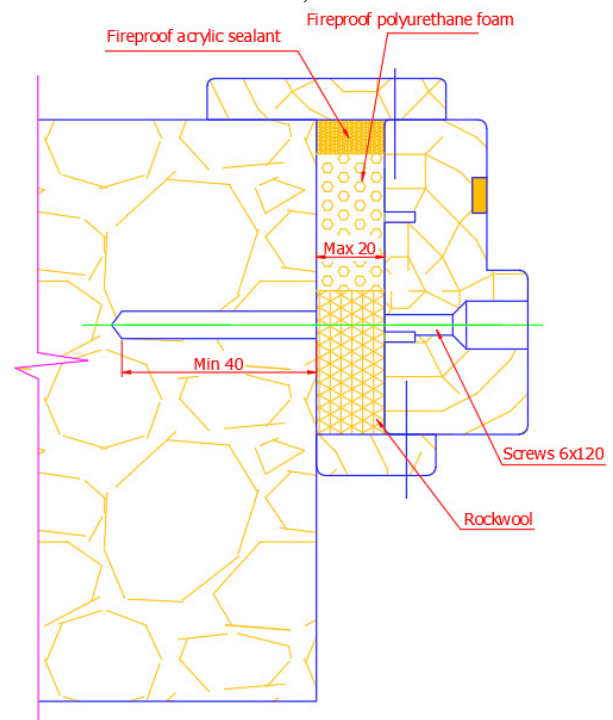
When installing the door set, proceed as follows:

1. Carefully remove the door from the package; then remove the door leaf from the frame by lifting the door leaf off the hinge pins. Lean the door leaf stably on the adjacent wall, first placing pieces of corrugated cardboard between the lower edge of the door leaf and the floor and between the upper edge of the door leaf and the wall to prevent damage to the door leaf or the wall. Make sure that the structural opening in which you want to install the fire door is 20-30mm larger than the outer dimensions of the frame; the maximum permissible distance is 20mm between the sides and 30mm at the top. If the gaps to be sealed around the door are larger, the opening must be corrected.
2. Make sure that the surface below the door sill is smooth and level. If necessary, support the gap under the door sill with wedges or wooden blocks to prevent possible deflection when stepping on it.
3. Lift the frame into the opening and fasten it with wedges at the upper and lower corners, to be at right angles and in the vertical position (see **Figure 1**); check the levelling of the top jamb with a spirit level. The structural opening must be dry!
4. Start fastening the frame at the lower hinge of the hinge-side vertical beam; if necessary, drill a hole in the wall through the mounting hole in the frame, for a dowel. Place additional wedges or a support block above the mounting hole (behind the lower hinge) and secure the frame firmly with screws, Ø6\*90/120mm, see **Fig. 1, pos. A**. The fasteners must be selected according to the type of wall (concrete, brick, lightweight block, wood, etc); if necessary, consult the seller of the fasteners. The depth of the fastening screws in the wall must be at least 40 mm. The recommended installation method is with special adjustable frame screws, Ø6\*120 mm (JAMO Schraube Typ 4, AW 30, galvanised steel, manufactured by Adolf Würth GmbH & Co. KG). If the gap between the wall and the frame is 10mm or less, screws measuring Ø6\*90 mm can be used for the installation. Plastic or metal dowels according to the wall type can be used, having the dimensions of at least Ø8\*40 mm.
5. Then place additional wedges or a support block under the upper mounting hole (behind the upper hinge), check again the verticality of the hinge-side vertical beam, using a long spirit level, and fasten, see **Fig. 1, pos. B**.
6. Proceed in the same way with the rest of the mounting holes on the hinge-side vertical beam; make sure that the frame is not curved and is completely vertical, then tighten the screws completely. If special follow-up-adjustable frame screws are used to fasten the

- frame, the wedges behind the mounting holes can be omitted in some places, but in no case at the outer corners or behind the top / bottom hinge, see **Figure 1**. For safety reasons, wedges or a support block must also be placed behind the strike plate.
7. Wedge, support and secure the vertical beam on the lock side of the frame, checking its verticality from time to time with a long spirit level. Check that the door opening (light opening) is of the same width; adjust with screws and wedges if necessary. Place the door leaf in the frame. Make sure that the door leaf opens and closes freely; if necessary, make readjustments to the vertical frame on the lock side so that the front surfaces of the door leaf and the frame are flush for the entire height of the frame. (The locking of the latch-bolt and the pressure on the seals can be slightly adjusted with the strike plate after final installation and sealing).
  8. Check that the operating gaps between the frame and the door leaf are equal and within the range of 1.5-3mm. Fine adjustment of the door leaf's gaps inside the frame is made after the final installation and sealing of the frame, see "Adjusting the hinges" below. Care must also be taken to leave gaps between the vertical frames and the top jamb / door sill, tightening the corner wedges if necessary.
  9. Check that the diagonals are equal, and the vertical beams are vertical in both directions, then tighten the fastening screws on the lock side completely.
  10. The mounting holes must be covered with plastic caps (included).
  11. The gap between the door frame and the wall is sealed with mineral wool (A2-s1, d0), fireproof polyurethane foam (Soudafoam FR or similar), and fireproof acrylic sealant (Soudal Firecryl or similar) **on the room side** (the warmer side), see **Figure 2**. Sealant use must be careful because even a smallest drop of density degrades the sound insulation qualities; the recommended thickness of the layer is 10-20mm. When sealing, care must be taken to ensure that the frame does not bend due to excessive use of sealing materials.
  12. The installation gap is covered on both sides with suitable architraves, min thickness 12mm.



**Figure 1.** Fastening the door frame in the structural opening. To prevent the frame from twisting and to reduce the gaps between the vertical beams and the top beam and the door sill, paired wedges or support blocks must also be placed in the lower and upper corners



**Figure 2.** The installation gap between the door frame and the structural opening is filled with mineral wool and fire-resistant urethane foam and sealed on the room side with a fire-resistant sealant

**Remember:** Fire and sound proof wooden doors are heavy and care must be taken when manually moving them or when installing them.

A special silicone seal is used in the door leaf, which exerts a back pressure when closing the door; due to that, it may happen that sometimes the door does not close properly.

Manually check that the locking bolt locks.

## Adjusting the hinges

The door hinge N3248-110 TMKSS used allows for vertical and horizontal adjustment

### Door leaf adjustment up/down, see Figure 3

Remove the protective cap **1** from one door hinge (using a 5mm Allen key).

By turning the Allen bolt **2** below it clockwise (using a 5mm Allen key), the door leaf moves upwards (one full turn raises the door leaf by 1mm); turning it counter clockwise, the door leaf moves downwards. After the door leaf has risen to the desired height, adjust the other hinges in the same way so that the weight of the door leaf is evenly distributed between the hinges. Slightly tighten the upper protective caps **1**.

### Adjusting the door leaf's side gaps inside the frame, see Figure 3

Open the door leaf so that you can easily access the frame-side fastening screws of the hinges.

Loosen the middle hinge's fastening screws **3** by approx. 1.5 turns, using a Phillips screwdriver.

Turn the adjusting bolts **4** clockwise (using a 4mm Allen key) to increase the door leaf's gap inside the frame on the hinge side (one full turn moves the door leaf by approx. 2mm). Tighten the adjusting bolts **4** all to the same depth; carefully tighten the fastening screws **3**. If necessary, make the same adjustments at the upper hinge. It is important that the axis of the middle hinge be in line with the axis of the upper and lower hinges. Finally, retighten the fastening screws **3** of all hinges.

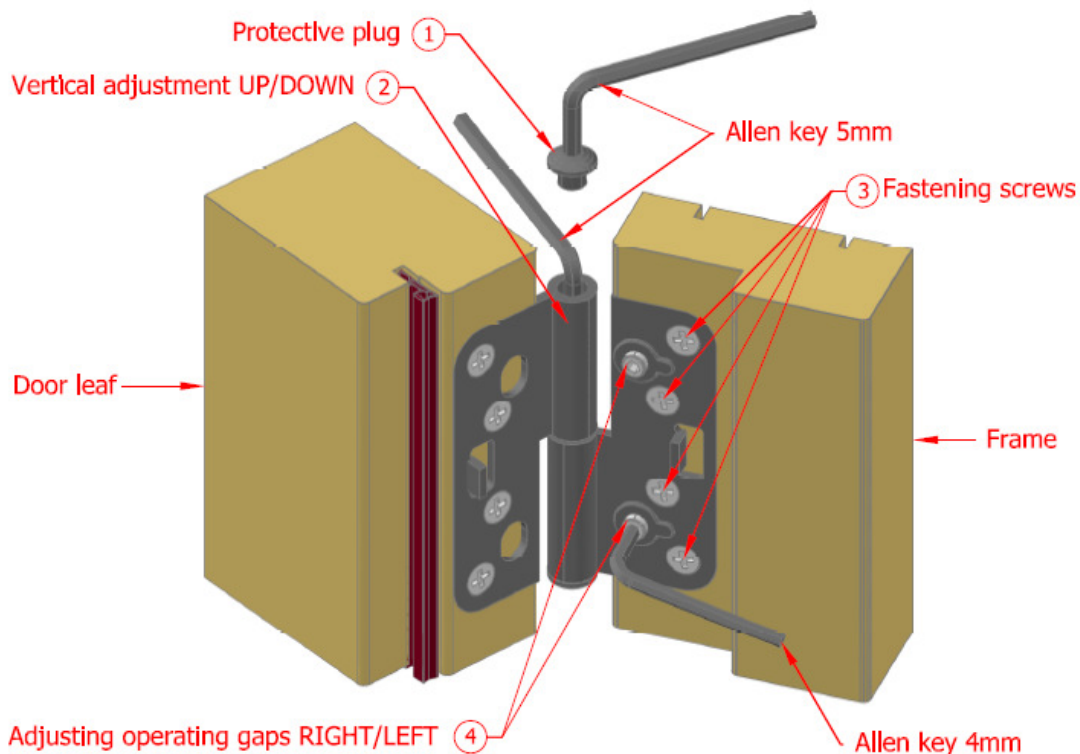


Figure 3. Adjusting the hinges

**Remember:** Adjusting the hinges corrects the position of the door leaf in relation to the frame (gaps); it is not possible to eliminate the warp of incorrectly installed frames. Regular lubrication of the door hinges twice a year improves their performance and prolongs their service life.

## **The use of masking tapes and protective films on doors**

When finishing the surfaces adjacent to the door, it may be necessary to cover the door leaf and its frame with masking tapes.

The following must be considered when taping:

- Follow the tape manufacturer's instructions.
- In outdoors, the tape must be moisture-proof and UV-resistant.
- The surfaces to be taped must be clean and dry.
- Remove the tape as soon as possible, after 3-4 days at the latest. Softeners added to improve the adhesion of the adhesive layer of the masking tape may damage the finish.

*If in doubt about the suitability of the tape, try it on a smaller and less visible surface first.*

*The manufacturer accepts no liability for defects due to improper use of the tapes – tears in the veneer layer, changes in the colour of the finishing layer, or peeling.*

## **Maintenance of fire and smoke doors**

Fire and smoke doors are frequently used products and play an important role in the fire safety of the whole building, so the building owner is obligated to ensure that all opening fillings are fully operational and regularly inspected at least once a year.

The maintenance of fire and smoke doors includes assessing the door set and its surrounding structure, inspecting the self-closing ability, inspecting the automatic closing in case of an AFAS, inspecting the bolt's action and the door's ability to remain closed, and other activities required for the maintenance of such doors.

Maintenance work must be documented by the owner.

## **Operation and maintenance of escape doors and locks**

Escape doors and locks must be regularly inspected by a person appointed by the employee responsible for the building or in the company. The frequency of inspections shall be determined by the responsible employee, but they must take place at least quarterly. The inspection and, where necessary, maintenance of escape doors and locks must ensure that they function properly in an emergency.

If the door on an escape route is a fire door, the fire door must also be checked once a quarter.

## **Maintenance of locks**

For proper operation of the lock, lubricate all moving parts with lock oil at least once a year. Check that the bolts on the handle, the lock frame and the keyhole are properly tightened. Remember that locks only work if doors are properly closed. As a special silicone seal is used in the door leaf, which exerts a back pressure when closing the door, the locking of the deadbolt must be checked manually by pulling or pushing the door leaf.

## **Maintenance of surfaces**

Varnished, painted and oil-impregnated surfaces must be kept dry. Any stains must be removed immediately to prevent them from drying out or soaking in. Clean the surface of a painted, varnished or laminated door with a soft cloth; if necessary, using a general-purpose cleaner in the prescribed ratio with water. The cleaning agent should be sprayed on the cloth, not on the surface to be cleaned. If, after cleaning, the surface remains wet for more than 30 seconds, the surface should be dried, not allowed to dry on its own.

We recommend cleaning the door glazing with a standard glass cleaner, using a soft cleaning cloth.

Do not use soluble organic compounds such as acetone, alcohol, benzene, nail polish remover, etc. to clean the surfaces of doors and frames. Also, pastes and liquids containing bleaching and abrasive substances, scouring powders, brushes and other mechanical aids must not be used.

When using disinfectants containing alcohol, never spray them on painted or varnished surfaces, but pour or spray them on a soft cleaning cloth and then clean the handles, keyholes, rosettes, and other surface mounted fittings.

## Closing device

A fire door must be equipped with a closing device which corresponds to the intended use of the door and the door parameters (width, mass) in terms of its closing force and other characteristics, according to the manufacturer's specifications, and ensures complete closing of the door. Door closers shall comply with the harmonised standard EN 1154 "Window and door accessories – Controlled door closers – Requirements and test methods" and bear the corresponding CE marking. The **third** digit of the door closer's numerical code indicates the force of the door closer according to the width and weight of the door leaf and should be at least **4**, i.e. suitable for closing a door leaf weighing **up to 80 kg**.

The **fourth** digit of the door closer's numerical code characterises the fire resistance of the closer:

- Class **0**: not suitable for use on fire doors;
- Class **1**: suitable for use on fire doors.

The closing device must not be adjustable so that the door remains fixed open or that the closing device can be detached from the door leaf without the use of tools.

In the case of a hinged double-leaf door, of which only one side is opened daily and the other side is kept locked, the closing device need only be on the first-mentioned (active) door leaf.

A closing device does not have to be used on the exterior doors of apartments and on technical room doors and maintenance doors that are kept locked in normal use.

If the use of a room requires the door to be kept open at all times, the door must be fitted with a closing device which closes the door automatically in the event of fire.

For double doors with a closing device on both door leaves, a closing coordinator must be used to close the door leaves in the correct order. Both leaves of the door set must lock upon closing.

A quick-bolt or automatic bolt must be used to lock the passive door leaf of a double door. By way of exception, a flush bolt can be used only on the exterior doors of apartments, on the doors of accommodation rooms, and on technical room doors and maintenance doors that are kept locked in normal use.

The manufacturer reserves the right to make changes.