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# FIREPLACE USER AND MAINTENANCE MANUAL

TIILERI FIREPLACES

TIILERI  
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# INSTRUCTIONS FOR USE

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## SET-UP

The ability of the floor to support the fireplace must be verified before installation.

In houses with a wooden foundation, a separate foundation will be needed to support the fireplace.

## CONNECTING THE FIREPLACE TO THE CHIMNEY

The fireplace is to be installed on a stable stone or concrete base. The foundation must be able to withstand the weight of the chimney and firewall structures. When connecting the fireplace to an old chimney, its condition and drawing ability must be checked by a chimney-sweep and the chief designer must assess its suitability for the site. A construction engineer must be consulted if necessary when assessing the strength of various structures. The fireplace must be connected to a chimney that is at least the size specified by the manufacturer.

A brick chimney is the best choice, as its fire-resistance classification can be as high as T600. A brick chimney also retains heat, as with an open fireplace.

In models connected from the bottom, the connection is behind the bottom part of the chimney or on the side. The bottom edge of the chimney access must be at least approx. 70 mm above the floor. The total height of the chimney access is three layers of bricks, that is, approx. 220 mm. The chimney access of a fireplace is made in connection with masonry work.

A fireplace connected from above is easy to build even in new homes that have space reserved for a fireplace but no chimney. All models connected from above include a connection bushing for a steel chimney.

A steel chimney can be connected directly to the top of the fireplace. If a billet chimney is used, the structure requires a supporting base (delivered separately).

If fireplaces are located on the same floor and use the same fuel, two fireplaces can be connected to one chimney. The chimney must be sized so both fireplaces can be used at once. Each fireplace must have its own damper.

## SAFE DISTANCES

- The safe distance from the exterior of the fireplace is 50 mm.
- The safe distance from the frame of the fireplace is 150 mm.
- The safe distance above the fire chamber is 150 mm from the burning material. (Note! Venla-Air 400 mm).
- There must be at least 600 mm of space in front of the ash hatches for maintenance.
- The front of the fireplace must be 1000 mm from the material being burned.
- Protective gloves must be worn when handling the rear hatch, as the hatch and handle may be very hot.
- The non-flammable safety area in front of the fireplace must extend at least 100 mm over the width of the fireplace hatch and 400 mm from the fireplace's front surface.

The fire wall should also be ventilated.

At least 10 mm of insulation wool must be installed between the fireplace and the fire wall if the frame of the fireplace is in contact with the wall.

If the exterior wall of the fireplace (85 mm brick + 10 mm insulation wool) runs all the way around it, an air flow space of 50 mm between the fireplace and non-flammable material is sufficient.

If the fire wall is non-flammable and its exterior wall runs all the way around it, a 5-15 mm expansion joint, which can also be filled with insulation wool, is sufficient.

A permit must always be obtained for building a fireplace. The buyer should contact local construction and fire authorities when planning to purchase a fireplace.

## DRYING A NEW FIREPLACE

After masonry work is completed, the fireplace must be left to dry with its hatches and dampers open for 2-4 weeks depending on conditions. If conditions are damp and cold, an air heater can be used to facilitate drying.

**Note! A fire cannot be lit in the fireplace during this time.**

## FIRST BATCH OF WOOD AND START-UP

After the drying period, cautiously begin to heat the fireplace. During the first week of use, burn a small amount of wood (1-2 kg) daily.

**After heating, the damper and fireplace's hatches must be left open so dampness can evaporate from new structures.**

During the second week of use, one full batch of wood can be burned, as per instructions for your particular fireplace.

From the third week on, the amount of wood can be slowly increased.

**Remember that heating the fireplace too much or too suddenly can damage it.**

## FUEL

Use only dry wood as fuel, with dampness of less than 20%. Wood should be brought inside the previous day, so its surface can dry and warm up before you burn it. If wood is damp, the fire's temperature cannot rise high enough, emissions increase and the efficiency ratio decreases.

Store wood in a dry space sheltered from rain where air can circulate freely. It is best to chop wood into suitably-sized firewood in the spring. Leave the wood to dry over the summer in a covered, open space. Late summer or autumn is a good time to stock up on firewood.

A suitable diameter for firewood is 4-10 cm, and the recommended length is 25-33 cm. Always split round logs, as they will ignite faster and wood burns best when enough of its interior is exposed.

**Never burn flammable fluids, trash, waste or other substances not suitable for the furnace. Never burn painted or treated wood, particle board or other boards containing glue, as the substances they contain raise the temperature of combustion gases to a dangerous level and can overheat or damage the chimney and fireplace or cause a chimney fire.**

## DAILY HEATING

### *CHECKING THE GRATE AND ASH CHAMBER*

Check that the grate is clean and the ash chamber is not full. To empty the ash chamber, open the hatch and empty the ash into a metal container with a lid. A clean grate and empty ash chamber ensure sufficient air flow to the fire, which is needed for efficient burning so you get the best possible efficiency ratio from your fireplace.

### *CHECKING AIR FLOW*

Open the chimney damper. If necessary, stop the range hood's fan and mechanical ventilation or use the fireplace switch. When you first start the fire, you can also briefly open a window. Fresh air can also be circulated near the fireplace directly from outdoors. If the fireplace has not been used for a long period of time, check that it draws properly before lighting a fire. You can easily check this by crumpling up a small piece of paper into a ball and burning it in the chimney or through the fireplace's ash hatch. The smoke must flow up the chimney.

### *LIGHTING THE FIRE*

To light the fire, use dry wood 20 – 70 mm in diameter. Place the wood horizontally as per the instructions for your specific fireplace. (Appendix 1) If possible, leave a bit of space between the ends of the wood and the fireplace wall. A 50 mm space must be left at the top of the Tiileri's grate for air circulation. The wood can be placed for example similarly to a stack. There are 1 – 2 rows of holes between the Tiileri's grate and the wall, which always allow air to flow across the top of the wood. This enables carbon monoxide to burn off efficiently and all energy from the wood is optimally captured. Place a couple of pieces of wood horizontally on top of the pile and place birch bark, paper or small sticks under it, and then light the fire. When starting the fire the ash hatch must be fully open, and you must close the fireplace hatch once the wood has caught fire. When the fire is burning well, you can reduce the air intake so the fire burns evenly.

Wood can also be placed vertically. Burning wood in a horizontal position, however, minimises emissions.

If the fireplace has a summer damper, it must be kept open only until the wood had caught fire. When using a summer damper, a chimney classification of T600 is recommended.

**Warning: The chimney may overheat, causing a fire hazard, if the damper is accidentally left open.**

### *ADDING WOOD*

Add wood when the previous batch has been reduced to coal or only small flames are still visible. Larger firewood is used in added batches than in the first batch. Added wood should be 60 – 120 mm in diameter. Add no more than the maximum amount specified in the instructions for your particular fireplace. When adding a new batch, the ventilator regulator can be briefly opened entirely until flames ignite and spread around and above the wood. This also minimises emissions. If wood is damp, use a smaller amount and open the ash hatch to increase air intake.

### *ENDING HEATING*

When there are no more visible flames, the coal will begin to burn, causing a large amount of carbon monoxide. At this point you can stoke and condense the coal. The damper must not be closed before the coal is entirely black and completely burned. Coal contains a large amount of energy and the Tiileri furnace ensures that the coal burns completely as cleanly and hotly as possible. When there is no more glowing coal in the furnace, you can close the flue and ventilation regulator completely. Remember that there may be hot coal in the ash for even a long period of time after burning, which can continue to smoulder and cause a carbon monoxide hazard. It is safest to empty the ash as often as possible.

## *SPECIAL INSTRUCTIONS FOR BAKING OVEN*

### **Preparing to build a fire in the baking oven**

Before using the baking oven, you should first burn a batch or two of wood on the fireplace side to heat the chimney, which improves its draw substantially compared to a cold chimney. A baking oven is structurally different from a fireplace, where there is almost no upward smoke space, so the draw of a pre-heated chimney ensures that combustion gases move in the correct direction. Open the ventilation regulator in the baking oven hatch fully. Close off air to the ash hatch and possible air regulators in the back hatch. Open the damper in the baking oven's flue. Pull out the knob on top of the oven

### **Placing wood in the baking oven and lighting it**

The size of one batch of wood is 3.0 – 4.5 kg. Place a log sideways at the back of the baking oven. Place the rest of the wood on top of it, so the ends of the logs at the back of the chamber are raised. Light from above. Place three small pieces of wood at an angle on top of the pile and kindling, a lighting brick etc. beneath them. When lighting from the top, combustion gases ignite and burn rather than entering the chimney unburned.

### **Adding wood to the baking oven**

The size of the batch to be added is oven-specific and must be learned through experience. Generally, when soot begins to burn in the baking oven's fire chamber, the temperature is sufficient. The baking oven's temperature is greatly affected by whether wood was burned in it the day before and whether the fireplace has been used before lighting the baking oven.

### **When wood has burned down to embers**

When wood turns into coal, the coal can be spread evenly on the grate, so it still transfers heat to the grates. Coal that is almost blackened is dropped through the ash hatch to the fireplace grate, where it finishes burning. (Open the hatch in the ash chamber so the grate and coal get air). The damper in the chimney can be closed slightly in this phase. Close the damper in the baking oven's flue. Push in the knob on top of the baking oven's hatch. Close the damper in the chimney entirely only once the coal has gone out completely. Place a thermometer inside the oven to check the temperature you achieved with the amount of wood burned. This enables you to estimate the amount of wood needed more precisely the next time. If wood is more damp than usual, a lot of heat energy is released as steam through the chimney, i.e. dry wood is important.

# MAINTENANCE INSTRUCTIONS

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## CLEANING AND MAINTENANCE

### *CLEANING THE FURNACE*

Clean the furnace only when it is cold. First, remove dirt and debris with a soft brush or a vacuum equipped with a soft brush. Do not use abrasive cleaning agents, sandpaper or steel wool to clean the furnace. Clean the grate by brushing off the ash and dirt.

The holes of the bottom grate behind the Tiileri's grate should always be cleaned of loose ash before a fire is lit. This ensures that the fire burns cleanly.

Empty ash regularly into a metal container with a lid well before the ash chamber is full.

### *CLEANING GLASS HATCHES AND FRAME*

Glass hatches must be cleaned regularly so soot does not adhere to the surface. Normal glass-cleaning products can be used to clean the glass hatches. Sooty glass can be cleaned best using ash. Use a moistened cloth and ash to wipe the glass. Finally, wipe the surface clean with paper towel.

### *MORTAR, CONCRETE AND LIME*

Splashes of mortar and concrete can be removed best when they have dried briefly on the surface of the brick. Dry material can be brushed off, and the rest then wiped off with a damp sponge or cloth.

Do not use hydrochloric acid to wash light-coloured or yellow brick. With these products, mortar and concrete splashes should be removed using weaker acids, for example vinegar acid or cleaning products that do not contain strong inorganic acids and can be used undiluted indoors, as well.

### *CHIMNEY-SWEEPING*

Chimney-sweeping must always adhere to local regulations and instructions. Cleaning of fireplaces and chimneys should be left to a professional. The Ministry of the Interior has issued the following regulation regarding chimney-sweeping: "Chimney-sweeping must be performed by a district chimney-sweep approved by the area's rescue department, or by a chimney-sweep in his employ. The owner or occupant of the property must ensure that fireplaces and chimneys are cleaned regularly. Fireplaces and chimneys in properties occupied year-round are to be cleaned annually. Fireplaces and chimney connections at private holiday cottages and in their saunas are to be cleaned once every three years. Fireplaces and chimneys at holiday cottages intended for non-private, regular use are to be cleaned annually. Chimney-sweeping must be done during the period when the holiday cottage is primarily in use."



If regularly scheduled chimney-sweeping is not done, the chimney may collect tar and **soot** which can cause a chimney fire. A chimney fire occurs when soot clinging to the inside of the chimney catches fire. During a chimney fire, the temperature can rise to 1200°C and the chimney may collapse.

**In case of a chimney fire, close the fireplace's ventilation regulators and chimney damper. Check the fireplace's and chimney's connections to other structures. Keep the furnace's hatches closed and contact the fire brigade. Do not try to put out the fire with water.**

**After a chimney fire, a chimney-sweep must check the fireplace and chimney before they are used again.**

## SAFETY

- Note the safe distances for the fireplace and chimney.
- Usually only one fireplace can be connected to a chimney. If fireplaces are located on the same floor and use the same fuel, two fireplaces can be connected to one chimney. Each fireplace must have its own damper.
- Use only material suitable for burning in a fireplace, primarily wood. Do not burn rubbish, waste or flammable liquids in the fireplace.
- Note that cast iron parts, latch surfaces and glass are very hot during use. Be careful not to touch them with your bare hands, and warn children about them.
- Do not leave the fireplace unattended when heating it.
- Check that the coal has fully gone out before closing the damper. Carbon monoxide forms when burning coal emits an odourless, colourless, invisible gas that can cause carbon monoxide poisoning.
- Make sure a chimney-sweep regularly cleans the fireplace and chimney.
- Follow the fireplace manufacturer's instructions about the maximum size of wood batches that can be burned. Do not heat the fireplace excessively.
- All national and local regulations and procedures must be adhered to when installing the fireplace.
- A carbon monoxide detector is a cheap life insurance policy.
- In the fireplace, the rear hatch is always kept closed while a fire is burning. Open it only to light the fire and add wood.

## WARRANTY

The warranty period for the Seppälän Tiili company's Tiileri fireplaces is five years. The warranty covers manufacturing and material defects in Tiileri parts. Fireplace hatches and cast iron parts are provided by an outside supplier and are covered by a two-year manufacturer's warranty starting on the day of delivery.

The warranty does not cover changes in the colour or size of bricks or small cracks in the furnace's surface, tile seams or interior that do not affect the safety and functionality of the fireplace. The warranty does not cover normal wear and tear or damage caused by improper use.

Defects in masonry work and installation as well as any damage they cause are the responsibility of the contractor that performed the work.

The functional warranty for Tiileri fireplaces is five years, as long as the masonry work was done properly according to the instructions included in the fireplace delivery. The functional warranty does not cover installation or masonry work or improper use. A condition of the functional warranty is that the chimney to which the fireplace was connected meets the requirements set by the Seppälän Tiili company. Functional problems caused by under-pressure in the room are not covered by the warranty. Sufficient air flow must be supplied to the area near the fireplace.

Tiileri is not responsible for changes or additions to structures made without the manufacturer's authorisation and approval.

Use only Tiileri's approved additional or spare parts.

## WARNING

Never burn pressure-treated or painted wood, plastic laminate, veneer, particle board, waste, milk cartons, pressurised products or similar fuels. Use of these materials voids the warranty.

Do not close the damper too soon. Glowing coal still produces a large amount of carbon monoxide. Empty cooled ash into a metal container. Ensure that the fireplace is not overheated. This can cause permanent damage.

Do not use liquids to start fires in the fireplace.

Do not light fires using newspaper or milk cartons. Use only kindling blocks, bark or pieces of wood.

Do not burn wet wood, maximum dampness 20%.

Do not use more than the allowed amount of wood. Batches of wood that are too large can damage the furnace, hatch and its glass.

Keep an eye on the amount of air flow. The amount of air can be larger at the beginning, but once the furnace and chimney have warmed up the amount can be reduced.

Always clean the grate before use.

Do not leave the fireplace unattended when heating it.

Wood must be placed as far as possible from the rear hatch. Flames must be sufficiently far from the glass in the hatch. Otherwise, the glass may turn grey and the colour of the hatch may change. Always remember to regulate the air flow properly so excessive air does not unnecessarily spread flames.

## TROUBLESHOOTING

### *CHIMNEY DRAWS POORLY*

Chimneys that draw poorly are one of the most common problems. If the chimney does not draw properly when warming is started, check the following:

- The chimney may be colder than the outdoor temperature if the fireplace has not been used in several days.
- The chimney may be damp. Evaporation of dampness uses up heat and decreases the temperature of combustion gases so they do not rise properly and drawing becomes poor. Try the following:
  - Keep the chimney damper open for a few hours before warming.
  - When necessary, warm the chimney for example with a hair dryer, gas burner or air heater.
  - It is recommended that protective sheets of metal (a "chimney hat") be placed on top of the chimney to prevent rain or snow from getting into the chimney.
- Mechanical ventilation may cause the room to be under-pressurised. Use a fireplace switch. Turn off the range hood. In two-storey houses, under-pressure downstairs is usually greater than in a lower house.
- Low pressure outdoors also weakens the drawing capability of a chimney. When warming the fireplace, try to ensure there is sufficient air flow.
- Chimney's minimum draw rate 12 hPa

TIPS FOR PROBLEMS WITH BURNING

Problem	Explanation	Action
Fireplace draws poorly	Chimney is blocked	Contact a chimney-sweep
		Check that the damper is open.
The fireplace smokes during lighting and use	Cold fireplace and chimney	Pre-heat the flues, for example with a hair dryer, air heater or burning paper.
	Under-pressure in the room	Use a fireplace switch. Shut off the range hood/ventilation/central fan or install a smoke -removal fan.
	The house is very airtight	
	Chimney/fireplace combination is leaking excess air	Check the seals on the chimney-sweeping hatches and the structure of the chimney.
	Dampers of fireplaces that are not in use may be open and reduce drawing.	Close other fireplace's dampers.
	A chimney that is too short draws poorly	Extend the chimney.
The fireplace smokes when it is windy outside	The chimney is too short in relation to the surrounding landscape, trees or buildings.	Extend the chimney or if necessary install a smoke-removal fan.
Fireplace draws too fast	Ventilation regulator is turned on too high. Drawing increases as the fireplace and chimney warm up.	Reduce air flow to the fire once the fireplace and chimney have warmed up.
Glass hatch becomes sooty	Wood is damp	Use only dry wood, dampness no more than 20%. Try placing the wood vertically.
Smoke escapes into the room when the hatch is opened.	This is caused by levelling off the pressure in the fireplace.  Open the fireplace hatch while the wood is still burning.	Do not open the hatch too quickly. Open the hatch only when there is only coal and very few flames left.
Black smoke	Wood has not fully burned, wet wood.	Use only dry wood, dampness <20%

## SAFE DISTANCES

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The regulations regarding fireplaces vary by country, and the valid regulations must be followed in each country. However, if a certain country has no detailed guidelines, we recommend that the Finnish regulations be used.

### FINLAND

When building a fireplace, the National Building Code of Finland, section E8 Masonry fireplaces, instructions 1985 (RT RakMk-20580) must be adhered to.

Surface temperatures of fireplaces	Safe distances (mm)		
	Horizontal	up	down
Warm surface (below 80 degrees), the lined section of fireplaces <ul style="list-style-type: none"> <li>- at a minimum 110 mm of masonry, which must not be next to the flames.</li> <li>- non-insulated soot hatches, which flames cannot reach.</li> </ul>	50	150	-
Hot surface (80-140 degrees), the unlined section of fireplaces <ul style="list-style-type: none"> <li>- 110 mm masonry, which borders on the furnace.</li> </ul>	150	250	50
Scalding hot surface (140-350 degrees) <ul style="list-style-type: none"> <li>- hatches in general</li> <li>- non-insulated soot hatches, which the flames can reach.</li> <li>- cast-iron stove tops</li> </ul>	500	600 1000	250

The safe distance above Tiileri baking ovens and fireplaces is 150 mm (temperature below 80 °C). The safe distances are air-flow spaces to burning material.

THE FIRE WALL MUST ALSO BE VENTILATED.

At least 10 mm of insulation wool must be installed between the fireplace and the fire wall if the frame of the fireplace is in contact with the wall.

If the exterior wall of the fireplace (85 mm brick + 10 mm insulation wool) runs all the way around it, an air flow space of 50 mm between the fireplace and non-flammable material is sufficient.

If the fire wall is non-flammable and its exterior wall runs all the way around it, a 5-15 mm expansion joint, which can also be filled with insulation wool, is sufficient.

A permit must always be obtained for building a fireplace. The buyer should contact local construction and fire authorities when planning to purchase a fireplace.

### SPARK AREA (SAFETY AREA)

The floor must be of non-flammable material in front of the furnace. It must extend 100 mm beyond the hatch horizontally and 400 mm in front. In practice, the isolated area in front of the fireplace should be the width of the entire fireplace.

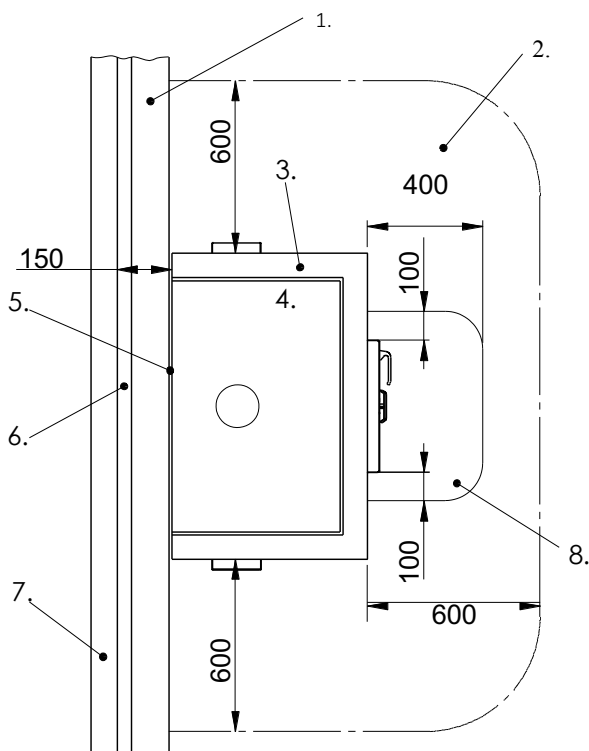
### REMEMBER THE CARBON MONOXIDE HAZARD

Non-extinguished embers create carbon monoxide, which is a life-threatening, odourless and invisible gas. Of particular note is the fact that embers buried in ashes continue to glow and create a danger for a long period.

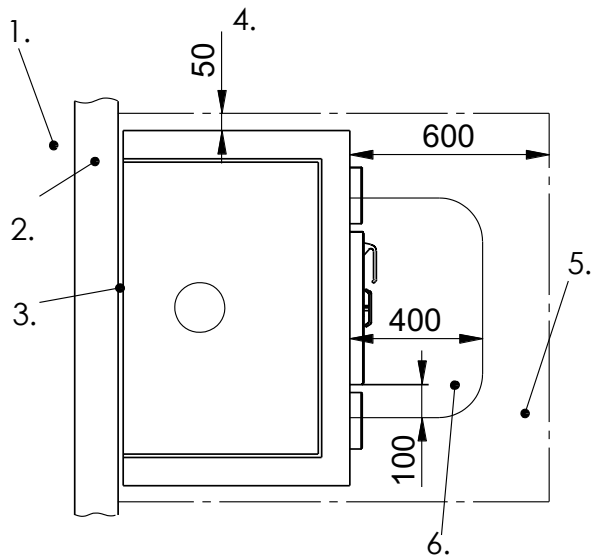
### STRAIGHT WALL FIREPLACES

The safe distance from the **lined section** is **50 mm** horizontally and 150 mm above.

The safe distance from the fireplace's **unlined section** is **150 mm** horizontally and 50 mm below.



1. Fire wall
2. Free working space must be reserved for the chimney-sweep in front of the soot hatch (600 mm)
3. Exterior
4. Frame
5. 10 mm insulation wool
6. Ventilating air flow space
7. Combustible wall
8. Non-combustible floor material

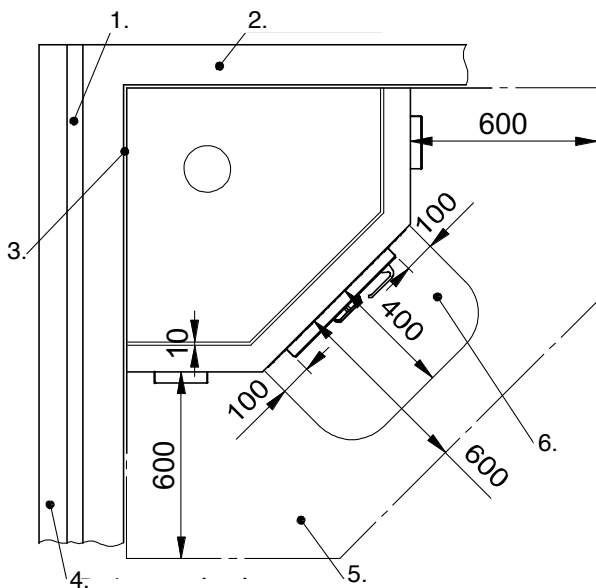


1. Air flow space ventilated behind the fire wall
2. Fire wall
3. 10 mm insulation wool
4. Safe distance from the lined section of the fireplace
5. Free working space must be reserved for the chimney-sweep in front of the soot hatch (600 mm)
6. Non-combustible floor material

### CORNER FIREPLACES

The safe distance from the **lined section** is 50 mm horizontally and 150 mm above.

The safe distance from the fireplace's **unlined section** is 150 mm horizontally and 50 mm below.



1. Ventilating air flow space
2. Fire wall
3. 10 mm insulation wool
4. Combustibile partition wall
5. Free working space must be reserved for the chimney-sweep in front of the soot hatch (600 mm)
6. Non-combustible floor material

## MASONRY INSTRUCTIONS FOR TIILERI FIREPLACES

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More detailed masonry instructions will be supplied with the fireplace.

**Note!** These instructions do not apply to models: Pikku-Lauri, Teemu, Maija, Venla Air, Veeti, Olivia, Emilia, Minna and Mikael

### MASONRY FOR THE INTERIOR

The interior frame, including the layers under the furnace and the layers above the cast-iron top, is laid with mass fire bricks using clay stove mortar, with a rise of 70 mm and a joint of about 12-13 mm. The furnace is laid with fire bricks from the bottom of the furnace up to the upper fire chamber using fireproof masonry mortar. When using fireproof mortar, the rise is 60 mm, the joint 3 mm. Between the fireplace and fire wall comes 10 mm insulation wool, against which the fireplace is laid.

Letter m in the furnace images means a module-size brick (85 mm). In corner fireplaces, binding between the interior and exterior is to be implemented according to the instructions.

The chamber is isolated from the frame using 10 mm wool. If steel is used for the lintels of the soot or ash hatches, pieces of wool must be placed at the steel ends due to thermal expansion. 20 mm wool must be inserted between the tie-beam and the chamber, so that the motion of the chamber would not impact the frame. On top of the cast-iron top, 50 mm of insulation wool will be placed.

### MASONRY FOR THE EXTERIOR

The exterior is fully insulated from the interior using 10 mm wool. The exterior is fully laid with coloured or normal masonry mortar. An open expansion joint is left between the exterior and the fire wall, or 10 mm wool is used. 73 mm rise in masonry, joint approx. 13 mm. Check the height of the interior before starting to lay the exterior and calculate the height of the exterior using the rise in question. The exterior should be a few centimetres higher than the firebox.

**NOTE:** In small fireplaces and baking ovens, a layer of bricks is laid on top of the firebox, so the exterior must be 73 mm higher than the firebox. The height difference can be levelled with mortar. However, the wool space is open all the way up. Check the external dimensions after the first layers of exterior – incorrect dimensions may cause problems in other layers.

Furthermore, if steel is used in lintels, pieces of wool must be placed at the ends due to thermal expansion. Fireproof tiles are to be laid under the fireplace door edge for protection, so that the bottom edge of the door frame sits on the tiles.



At the fireplace door, it is advisable to apply a 74 mm rise to have sufficient space for wool on top of the door. When using a Future door, a 75 mm rise must be used at the door, and a mortar layer of 10 mm must be laid below the brick tiles under the door.

## OTHER

If elevating layers are included in fireplaces, they are primarily placed in the upper fire chamber in the frame and above or below the pattern in the exterior, depending on the pattern. The bricks of elevating layers are marked with letters LK (extra layer).

In some fireplace models, an elevation of one layer can also be implemented under the fireplace. In fireplace baking ovens and general baking ovens, a thermometer is mounted on a finished fireplace. Thermometers with a shank are drilled through the back of the oven door, so that the hole reaches the cast-iron beam. The gauge of the shank is 6 mm.

**WARNING!** Drilling too close to the beam edge may damage the beam.

## MASONRY LINERS FOR MOUNTING SOOT AND ASH HATCHES

Masonry liners facilitate the mounting of soot and ash hatches in fireplaces. A masonry liner made of sheet metal is inserted together with the soot or ash hatch frame directly in the exterior masonry.

The frame of a cast-iron soot or ash hatch must be mounted in the masonry frame before laying it in the exterior masonry.

### *SOOT HATCH MOUNTING*

The actual hatch is removed from the soot hatch and only the cast-iron frame is pressed into the masonry liner. The frame is pressed on the side of the sheet metal sleeve, which has small protuberances. The protuberances cling to the cast iron and hold the frame tightly together with the sheet metal sleeve. Now the soot hatch frame and the sheet metal sleeve can be bedded directly into the exterior masonry with masonry mortar.

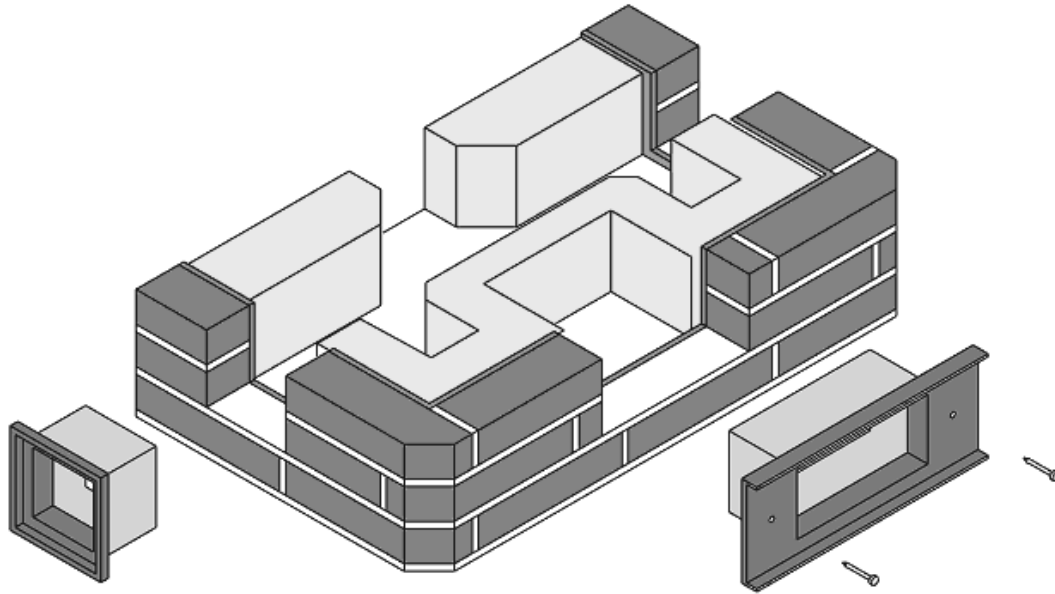
The upper edge of the cast-iron frame is worth protecting with packing tape to prevent any mortar drops from smudging the frame. The soot hatch can only be mounted once the masonry has dried.

### *ASH HATCH MOUNTING*

The cover of the ash hatch is removed from the frame. The cast-iron frame is pressed tightly into the sheet metal sleeve of the ash hatch. When the sheet metal sleeve is attached to the frame, it can be directly bedded into the exterior masonry with masonry mortar. Protect the upper edge of the frame from mortar drops with tape. On both sides of the frame (Euro) there is a hole, located at the horizontal joint. Once the exterior masonry has dried for a moment, the mounting of the ash hatch must be secured with brick screws.

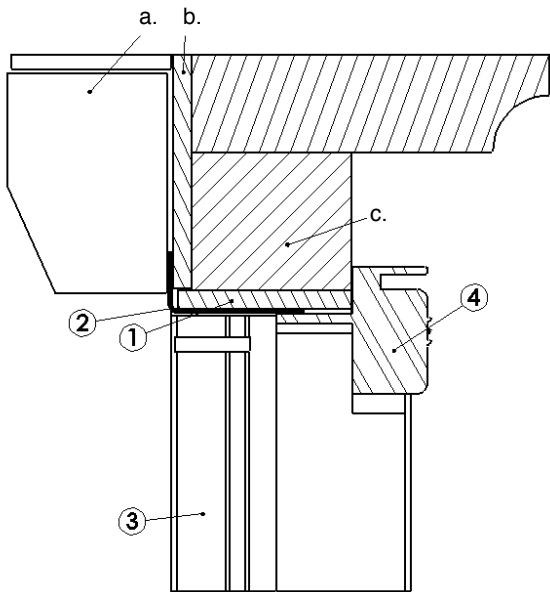
Brick screws come with the fireplace hatch package. The brick screw is driven into the semi-dry mortar joint and allowed to dry until the hatch of the ash chamber can be fastened onto the frame.

**Note!** The sheet metal sleeve can be bedded in the exterior masonry as it is, but if it collapses for whatever reason, ash or soot hatches cannot be mounted into the sleeves easily, and a tapered frame may break the exterior masonry.



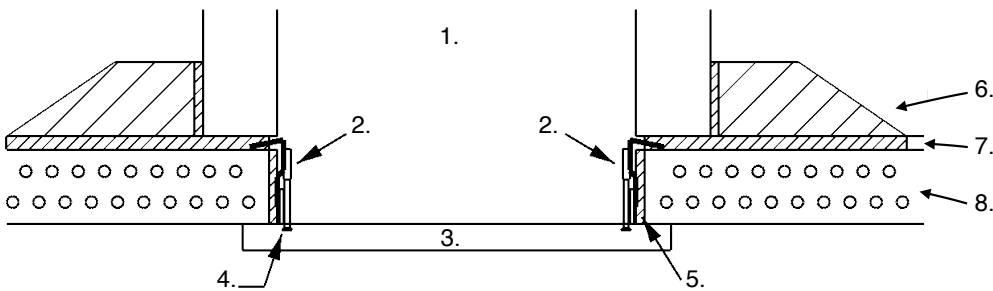
#### *FIREPLACE DOOR MOUNTING*

The fireplace door is fastened with two fastening sheets, on top of which the upper protective sheet is placed. The procedure for mounting the door begins by placing the upper protective sheet at the upper edge of the door opening, between the wool and the frame on top of the mounting sheets. The mounting sheets are correspondingly installed on both sides of the opening in the wool space remaining between the fireplace exterior and the frame. The door and the mounting sheets are connected through the holes in the fireplace door and the threaded parts in the sheet using 6 mm threaded screws; the door then tightens against the exterior brick. 10 mm of insulation wool is inserted on the sides and on top of the door to make the space between the exterior brick and fireplace door as tight as possible. The sheets replace the use of pins, screws or cast-iron grating.



- a. Lintel
- b. Insulation wool 10 mm
- c. Exterior brick
- 1. Insulation wool (95x414x10 mm)
- 2. Upper protective sheet (30x70x415/335)
- 3. Door mounting sheets + wool 2 pcs
- 4. Fireplace door

A cutaway view of the upper edge of the fireplace door. The parts should be installed in the order indicated by the numbers; wool and protective sheet first up, followed by the wool on the side and mounting sheets and finally the door. It is easiest to mount the door with the upper edge first so the protective sheet remains above the door frame.



- 1. Furnace
- 2. Door mounting sheet
- 3. Fireplace door
- 4. 6 mm retaining screw
- 5. 10 mm wool in between
- 6. Frame part
- 7. Wool space
- 8. Exterior brick

Figure above. A cut-away aerial view at the location of the furnace. Fireplace door mounting sheets are installed between the fireplace door frame and the exterior brick. 10 mm insulation wool is inserted between the mounting sheet and brick end. A 6 mm threaded screw is used for fastening.

### SPECIAL INSTRUCTIONS FOR THE MASONRY OF CORNER FIREPLACES

To obtain better binding of the exterior to the frame, binding wires must be placed inside the masonry. The binding wires are 3 mm steel wires (6 pcs), included in the package. The exterior is tied to the frame with the wire.

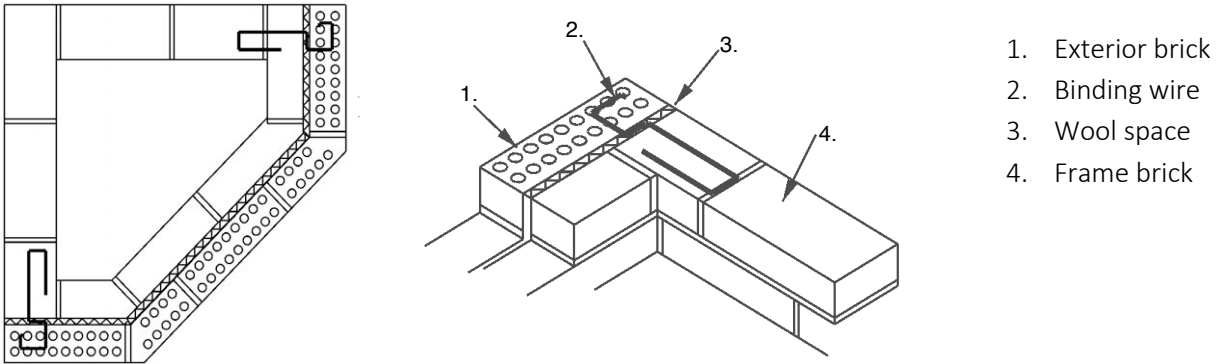
The wire must be bent into an S form so that there is a loop at both ends. The loop is smaller in the exterior than in the frame part. The middle horizontal bend in letter S must be 5 cm long.

The bend must be located at the wool space. The bend will yield when there are thermal movements in the exterior and interior, and does not cause cracks in the exterior.

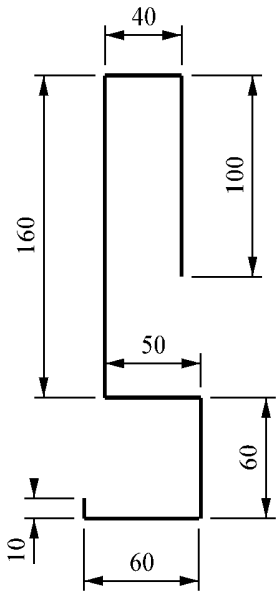
It is most important to place the binding wire in the layers, where the horizontal joints of the exterior and interior are approximately at the same level. If the joint is at a different level, the middle bend of the wire must not be vertical. The wire must be in a diagonal position to be able to receive vertical movement.

Installation layers of wires (interior): Pikku-Jussi (6, 12, 18), Jussi (5, 14, 22), Titta (5, 14, 22).

The figure shows the locations of binding wires.



*BENDING INSTRUCTION FOR BINDING WIRE*



The wire can be bent as shown in this figure. The wire does not necessarily have to comply with the figure. However, it is most important that the middle bend is approx. 5 cm long.

**NOTE**

Exterior bricks are sorted by length on the pallet. Tiles have no layer number. Individual brick measurements are numbered according to the layer.

Bricks are stacked by length onto different piles at the worksite. In this way, it is easier for the mason to take the bricks of the required length from the different piles, according to masonry instructions.