Uunisepät

This manual must be appended to the building’s usage and maintenance instructions.

Fireplace User Manual

Finland´s most beutiful heat-retaining fireplaces

Uunisepät

HEAT-RETAINING FIREPLACE MANUAL

– MAINTENANCE AND USE

Before heating up your fireplace for the first time, please read the instruction manual carefully. This way, you will get the most out of your fireplace and it will last for decades to come. As you will see, using your fireplace is safe and easy – you can enjoy the warmth and atmosphere it provides, worry free.

National, regional and local regulations must always be observed with regards to the fuel used and installation, as well as the use and cleaning of the fireplace. To guarantee the safety and effectiveness of the fireplace, always follow the instruction manual, unless any of the previously mentioned regulations dictate otherwise.

How the prefabricated fireplace works

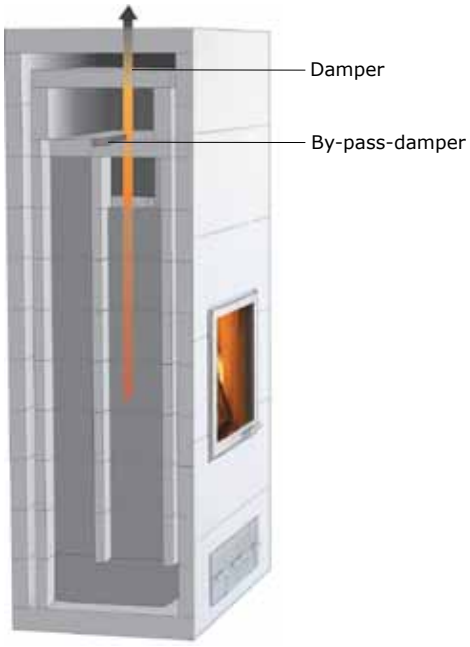
As the wood burns, the combustion gases rise to the upper section of the middle of the fire chamber and continue to circulate to the lower part of the chamber, from which they circulate to the flue.

In a double circulation fireplace, the combustion gases are led a second time to the outermost duct after the down-flow.

The fireplaces equipped with longer combustion gas circulation ducts (double circulation) are more effective at retaining heat, which enables more heat energy to be obtained from the wood. This way, less wood is needed for burning, heating is economic and emissions are also minimal.

Flue connection at the bottom

Double circulation



Straight draught, by-pass-damper open

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1. Fireplace Installation and Connection to the Flue

a. Foundation

It is best to make sure the foundation on which the new fireplace will be placed has the capacity to hold it. Reinforcing the foundation is usually not necessary if the building already has a place designated for a fireplace. Of course, this is the case when the fireplace will be installed in the place that was intended for it. Likewise, if a new fireplace is being installed where a fireplace of at least equal weight has once been, there should be no problems. However, the foundation of a massive fireplace that is being installed in an entirely new spot should be reinforced.

b. Safety distances

The safety distances of the fireplace from combustible materials are listed in the model-specific Declaration of Performance*. The minimum safety distances are:

From the sides	100
From the front	1000
From the top	150
From the back	100

c. Connection to the flue

The average combustion gas temperature measured for each fireplace model in a safety test is listed in the Declaration of Performance. This temperature must be taken into account to select a flue of the correct temperature class. All Uunisepät fireplaces are fully compatible with all flues supplied by the company. When connecting the fireplace to a flue of another supplier, the compatibility of the fireplace and flue must be considered.

As a rule, one fireplace is connected to one flue. Two fireplaces can be connected to the same flue if the fireplaces are placed on the same level and use the same fuel. When connecting two fireplaces to the same flue, the flue must be dimensioned properly to ensure the fireplaces can be used simultaneously. Both of them must have a damper. This means the temperature will be greater and we recommend using a class T600 flue.

d. Supporting the chimney onto the fireplace

Usually, the chimney is supported on the floor, but you can mount a chimney with one flue so it leads directly from the top of the fireplace. The maximum height of the IKI block flue is 9 meters when installed on top of the fireplace. The IKI steel flue (weight less than 50 kg/m, length less than 8 m) can also be supported by a non-flammable support structure, which is placed on the building's supporting structures.

**The Declarations of Performance can be found on the manufacturer's website www.uunisepat.fi*

2. Using the Fireplace for the First Time

a. Drying

Let the new fireplace dry out for about a week after installation, but at least five days at room temperature (over 15° C), with the flue dampers and doors of the fire chamber open. Use caution when lighting up the fireplace for the first time to allow the moisture in the concrete of the fireplace to evaporate slowly. Lighting up the fireplace too quickly and too drastically could shorten its life and even damage its structures.

b. Conditioning the fireplace

Begin using the fireplace by burning a small amount of wood daily for 4–5 days. On the first day, you should burn c. 1 kg of dried "sticks". A couple hours after the fire goes out, burn the same amount of wood. Over the following days, when the fireplace has cooled down, burn c. 2 kg of wood. The dampers should be left open after the first few times the fireplace has been heated to allow air to circulate constantly in the fireplace and the moisture to evaporate from the structures. Repeat the same procedure for the following days, increasing the amount of wood by c. 1 kg. The fireplace will be ready for normal use once it has been heated 4–8 times, depending on the size of the fireplace.

You should condition the fireplace if the building, fireplace or flue have not been used for a long time or have not been heated. Burn c. 2 kg of small, dry pieces of wood and leave the damper and fireplace doors open 2–3 hours before actually heating the fireplace up.

Condition the fireplace's baking oven as described above, in the fire chamber. Particular care must be taken when conditioning the oven's fire chamber, because the hand-casted fire chamber components are very damp. Burn a small amount of wood for 8–10 days. Burn a half a kilogram of sticks each day for 2 days, and then gradually increase the amount of wood to a kilogram; heat the oven like this twice. Repeat the same procedure by increasing the amount of wood by c. 1 kg per time you light up the fireplace.

3. Fuel

a. Wood as fuel

The fireplace is designed to be heated using wood, and therefore no other types of fuels should be used. All wood types and wood-based briquettes are suitable as fuel. Only use dry (relative moisture 12–20 %) and unprocessed wood. Dry wood burns well and yields the best possible results. If the wood is damp, the combustion temperature will drop, emissions increase and efficiency decreases. The moisture escaping from the wood can condense on the surface of the flue duct, weakening the draught and the fire may go out entirely. Storing freshly cut wood in a well-ventilated storage area protected from rain for at least one year will dry out the wood sufficiently for use in the fireplace. Take into consideration that different types of wood require different lengths of time to dry. The wood is dry if the pieces make a clear clapping sound when you bang them together. Bring the firewood inside to room temperature a day before you intend to burn it to warm it up and the surface of the wood has time to dry.

Use firewood that is 4–10 cm thick. The recommended length is 25–35 cm, according to the depth of the baking oven's fire chamber. Always chop round wood pieces to ensure they will burn properly. The following materials release toxic substances and substances harmful to the fireplace: impregnated or painted wood, particle board, furniture, juice cartons, plastic bags, PVC plastic, diapers and magazines, etc.

The calorific value of wood is relatively constant regardless of the wood type, i.e. when measured in volume, the denser or heavier a wood type is, the more energy it will yield as compared to the same amount of a less dense or lighter wood type. For example, you must burn a volume of 40 % more alder than birch to obtain the same amount of energy.

The fireplace is not designed for burning trash or waste.

Do not use liquid fuels, not even to light a fire in the fireplace!

Please note when heating a heat-retaining fireplace that the fireplace´s surface reaches it´s top temperatures after approx. 3,5 - 4 hours (Balladi 2h) from lightning.

b. The right amount of wood

The maximum amount of wood that can be burned in an Uunisepät fireplace during the course of a day is just under 1 kg/100 kg of the fireplace mass. There can be a maximum of three loads of wood/light-up/day. The best heating results are obtained by burning two full batches in the morning and one in the evening if necessary.

Uunisepät fireplaces and fireplace packages (Takat.fi)

The wood quantity depends on the weight of the fireplace:

Fireplace mass	ca 950-1100 kg	3 x 2,5 kg
”	ca 1250-1450 kg	3 x 3 kg
”	ca 1500-1900 kg	3 x 4 kg
”	ca 2000-2500 kg	3 x 6 kg

Light heat-retaining fireplaces

Balladi	1,5 kg + 2 kg + 2 kg
Iso Balladi	3 x 2 kg

Element fireplace cores (Takat.fi)

Erkkerisydän	3 x 4,5 kg
Iso sydän	3 x 6 kg
Normaali sydän	3x 4 kg
Pieni sydän	3x 2,5 kg
Takkaleivinuunisydän	3x 6 kg

THE LISTED WOOD QUANTITIES MUST NOT BE EXCEEDED!

The maximum quantities of wood are for heating up a cold fireplace. If the fireplace is warm, the amount of wood must be reduced to avoid over-heating. Use smaller pieces of wood if you do not intend to fill the fire chamber with wood. This keeps the burning process clean and produces less smoke. The fire chamber does not need to be filled completely if you use hard deciduous wood.

If the specified fuel quantities are observed, the combustion gas temperature will not rise above 320°C. (VTT 29072011_KUVAAJAT)

Over-heating and filling the fire chamber too full may damage the heating surfaces and the fireplace structure and may cause hairline cracks in the fireplace surfaces. If the temperature becomes too high in the fire chamber, the metal parts of the fireplace doors will change and the glass and finishes will get damaged.

4. Draught

a. Sufficient draught

- *Turn off the mechanical ventilation and the range fan*
- *Turn on the fireplace switch 5–10 minutes before lighting the fire*
- *If there is no fireplace switch in the building, open a nearby air supply vent or ventilation window. It is best to open these prior to lighting the fire*
- *If your fireplace is equipped with a chimney fan, the fan must always be on when you are burning wood*

Before lighting the wood, you must ensure that there is enough draught in the chimney. Temporary fireplace draught problems are almost always related to the flue. Draught is formed from the suction in the flue which is a result of hot air rising in the flue. After the fire is lit, hot combustion gases speed up the air flow quickly forming sufficient draught in the fireplace and it can be controlled using a fireplace draught control. The most common reasons are that the flue temperature is close to or even lower than the outside temperature. In this case, the flow in the flue is weak, has stopped entirely, or is even flowing in the wrong direction.

b. Draught problems

New fireplaces and flues are always cold and damp. A sufficient amount of draught may not necessarily be created in the flue. This is also often the case if the fireplace has not been used for a long period of time. There may also be moisture in the flue, fireplace or fire wood, which will become water vapour from the heat when a fire is lit. The water vapour, being significantly heavier than the combustion gases, stays in the lower ducts of the flue and fireplace, blocking the flow of the combustion gases. You will generally notice this as there will be a good draught in the fireplace at first, but after some minutes the draught will stop and the fireplace will begin to fill with smoke.

Draught problems usually arise when

- *the wood being burned is too damp,*
- *the fireplace has not been used in a long time, or*
- *the chimney does not have rain cap allowing water to enter the flue*

The moisture problem can be avoided by

- *burning dry wood and using small, very combustible wood when lighting up the fireplace*
- *not closing the damper entirely when you do not use the fireplace for a long time to allow the flue to "air out"*
- *putting a rain cap on top of the chimney and drying out the flue and fireplace as much as possible, for example using a fan, before making a fire in the fireplace*

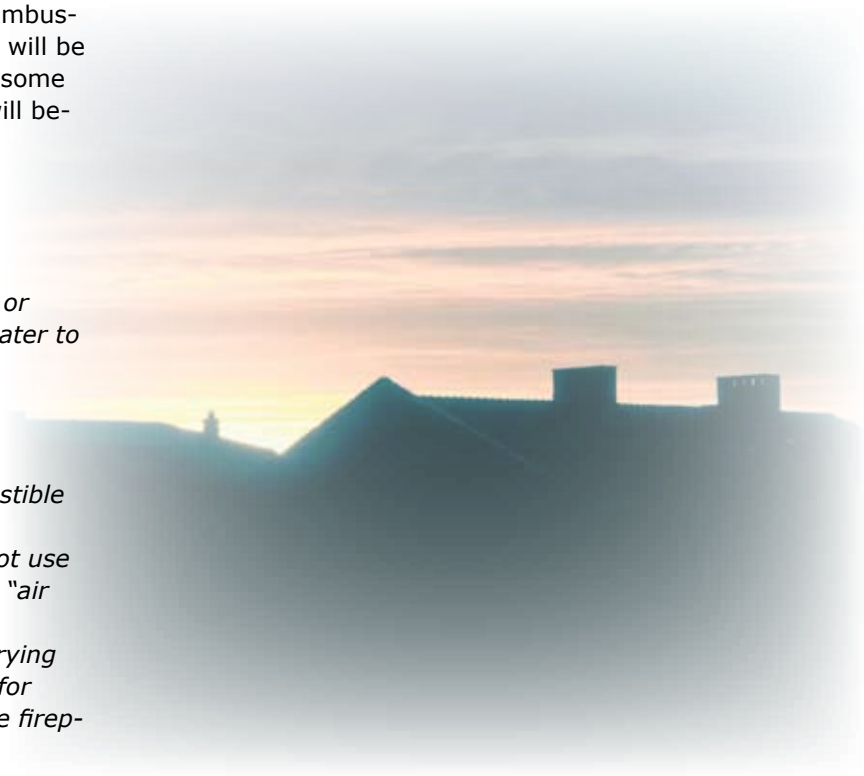
Other reasons for draught problems could be

- *poor chimney sweeping or ash removal*
- *negative pressure in the room*
- *blockage in the flue (i.e. birds or other animals, bird nests, needles, leaves, spider webs, weathered bricks etc.) fallen on top of the damper*
- *terrain, building location at the foot of a hill or among large trees*
- *weather conditions: in low pressure conditions, the draught in the fireplace is usually weaker, or*
- *blockage in the air filters*

If necessary, test the draught in the fireplace with a match or a burning piece of paper in the flue or fireplace sweeping hatch. If there is no draught, air will usually start circulating in the flue when something is burned in the sweeping hatch, such as a crumpled ball of paper from a page of a newspaper. This way, the air warms up the lower part of the flue and starts to rise upwards. There is enough draught when the suction in the chimney pulls the paper and the ashes upwards.

When the draught is good, an even stream of light grey smoke will flow out of the chimney.

Black soot is a sign of insufficient draught or wet fire wood.



5. Heating

a. Ash box and fire grate

Always keep the grate clean. The ash box should not get too filled with ashes. Before lighting a fire, check to see if the ash box is full and empty it if needed. Also keep the grate clean of ashes. To achieve effective burning, air must be able to pass freely from underneath the grate into the fire chamber and, at the same time, also cool the grate. This way, the grate will stay in good condition and last a long time.

b. Placing wood in the fire chamber

Vertically Place the firewood in an upright position against the back wall of the fire chamber. Wood and kindling are placed so that combustion air can circulate between the pieces of wood. Avoid filling the fire chamber too full. The distance from the spark catcher must be at least 10 cm.

Horizontally The best way to further reduce emissions is to burn shorter pieces of wood and place them horizontally. Place the larger pieces on the bottom and the smaller pieces on top. The wood pieces should be placed loosely overlapping.

c. Position of damper and ash box

First open the damper. If the fireplace has a by-pass damper, turn it to the open (= auki) position. Open the ash box about 2–5 centimetres.

d. Lighting a fire

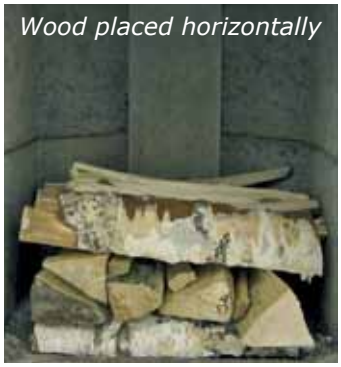
Use kindling to light a fire. When lighting a fire in the fire chamber for the first time, use thinly chopped clean, dry wood (diameter 1–2 cm). Light the wood by placing the kindling on the bottom of the grate (bark, briquettes, or newspaper) and pile wood kindling on top of it. To burn wood placed horizontally, light it from the top.

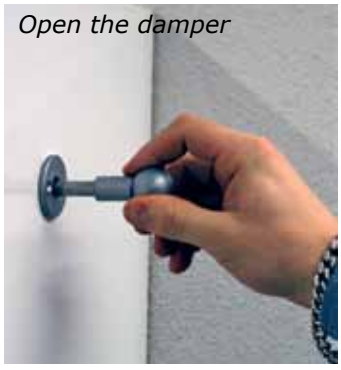
Never use liquid fuels.

Light the wood. After it is lit, close the fireplace doors.

If the fireplace has a by-pass damper, turn it to the "closed" position once the wood is lit. This way the combustion gases will begin to circulate in the ducts and the fireplace will start to retain heat. To heat the fireplace in the best possible way, it needs sufficient air supply and a high, hot flame. Make sure the fireplace gets enough air and the wood burns brightly. This way, the fireplace stores heat effectively and burning is clean. Do not hinder the burning by not allowing enough intake of combustion air. You can regulate the amount of combustion air by adjusting the position of the ash box.


Wood placed upright


Wood placed horizontally

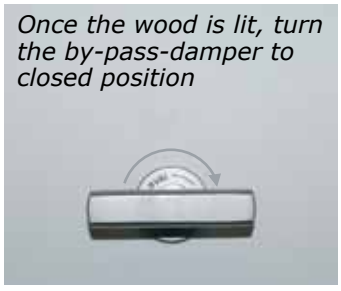

Open the damper


Turn the by-pass-damper to open position


Open the ash box


Use kindling to light a fire


Light horizontally placed wood from the top


Once the wood is lit, turn the by-pass-damper to closed position

Important! The by-pass damper is only kept open while the wood is being lit. If the by-pass damper is kept open for a longer period of time during burning, the temperature in the flue may become so high that the flue overheats and gets damaged or causes a fire hazard.

e. Adding wood

We recommend that you add wood when over half of the wood has burned, at least, and there are still some clear small flames visible. Adding wood in the ember stage (when the fire is dying down and the flames have faded out) can cause the wood to burst into flames and then the burning will not be clean.

1. *Close the ash box while adding wood.*
2. *You should also open the by-pass damper for a moment.*
3. *Open the fireplace's door slowly. This prevents ash from flying into the room. If there is negative pressure in the room, smoke may come inside.*

3a. *If necessary, use the poker to pull the embers to the edge of the grate so the grate is clear to add more wood. Add the next batch of wood. Place the wood upright against the back part of the fire chamber, preferably with the bark side facing the back wall.*

3b. *For horizontal positioning, add the wood on top of the embers loosely overlapping.*

4. *Close the doors after adding the wood.*
5. *The ash door should be opened again and left ajar.*
6. *Put the by-pass damper in the closed position.*

Avoid unnecessary stoking of the fire while it is burning. The speed of burning can be controlled by the size of the firewood, because wood burns by its area, not by its volume.

You can control the evenness of the burning with the ash door (gap 2–5 cm). A flaming fire requires more air; an ember fire requires less air. If the flames cause a humming all the way up the flue, make the gap of the ash door smaller.

The fireplace door is extremely hot during and after heating. **ALWAYS USE A TOOL** to open the fireplace door. It is strictly forbidden to touch the handle or door surface with your bare hands. Do not leave small children or pets near the hot door.

DO NOT LEAVE THE FIREPLACE UNATTENDED DURING HEATING

DO NOT USE A HEAT-RETAINING FIREPLACE AS AN OPEN FIREPLACE!

f. To stop heating

When the last batch of wood has burned down to embers, reduce the amount of air using the ash box. Pull the embers onto the grate from the side. This way the embers will burn effectively.

g. Closing the dampers

It is important to close the dampers at the right time. Close the dampers completely only when you are absolutely sure that the very last embers have gone out.

The damper closes off the flue, so air circulation stops and the heat does not escape. Heat is retained effectively and the fireplace stays hot for a long time. Closing the damper too soon can cause a carbon monoxide hazard.

During heating and after it, the fireplace surfaces and inner parts are hot. The surface of the fireplace reaches its peak temperature some hours after heating has stopped. For this reason, it is important to follow the user manual to avoid overheating the fireplace. The fireplace must not become so hot that you are not able to touch it with your hand.

The best heating results are obtained by lighting the fireplace daily. Avoid burning rubbish, glossy paper and wet wood and burning with too little draught, i.e. oxygen. This kind of burning is neither proper nor clean and causes pitch to form on the inside components. Pitch may catch on fire, which results in a soot fire. Soot fires must always be reported to the fire authorities.

BE CAUTIOUS WHEN USING THE FIREPLACE. DO NOT CLOSE THE DAMPER IN THE FIREPLACE OR IN THE FLUE TOO SOON, TO AVOID DANGEROUS CARBON MONOXIDE FROM FORMING!
Remember! Carbon monoxide is an odourless, tasteless and colourless gas, so be careful!

6. Baking oven

a. Cooking

1. To preheat the oven, first burn one full batch of wood in the fireplace (6–8 kg).

2. Burn a second full batch in the baking oven.

- *Open the oven's air intake and load about 4 kg of wood and light it.*
- *When the wood has burned, drop the glowing embers down from the coal box door.*
- *Close the oven's air intake.*
- *Open the ash box slightly, so the embers can finish burning in the fire chamber.*
- *When the embers darken, close the coal box door and ash box.*
- *Close the dampers completely when you are sure that the last embers have gone out.*
- *Place a thermometer in the oven to allow you to monitor when the temperature is suitable for cooking what you want to cook. The heat will stabilize and rise in the oven for some time once the embers have gone out in the fire chamber.*

You will attain and maintain the best cooking temperature when the oven is still warm from the previous day.

b. Simmering

- *Burn two full batches of wood in the fire chamber.*
- *When there are still some embers left, open the coal box door to allow the temperature in the oven to rise.*
- *Reduce the gap in the ash box slightly so that the last embers will burn evenly.*
- *When the embers darken, close the damper and the ash box to keep the heat from escaping and to maintain the temperature for simmering.*
- *Close the coal box door.*

You can also obtain a temperature for simmering when you have heated up the oven for cooking and let it cool down for some time afterwards. You can best attain and maintain a simmering temperature when the oven is still warm from the previous day.









7. Care and cleaning

a. Surfaces

Clean the tile and clinker surfaces with a damp cloth using normal domestic cleaning agents and solvents. We do not recommend the use of abrasive cleaning agents. You can remove soot easily with cleaning agents intended for soot removal, available at hardware stores.

If a normal cleaning is insufficient, you can best clean the seams in between the tiles with fine, dry, scouring steel wool or fine sand paper. If you clean the seams with a very wet cloth and cleaning solvents, the liquid will be absorbed into the seaming material and they will change colour.

b. Glass doors

The metal surfaces of the sweeping hatch and fireplace doors must be cleaned regularly with normal domestic cleaning agents. Special cleaning agents for glass doors can be purchased at hardware stores. For coloured steel parts, follow the separate instructions provided by the manufacturer.

c. Cleaning the ash box

The ash box should be emptied frequently, so that ash does not prevent the air supply from getting to the fire chamber. When removing the ash, use a container made of non-combustible material intended for holding ash. Made sure the ash has cooled completely before removing it. Remember that there may still be hot embers mixed in with the ash 24 hours after burning. Wood ash is environmentally friendly and good soil material. Do not put the ash in the compost. Ash can also be used as fertilizer.

The manufacturer is not responsible for unauthorized and unapproved changes or additions made to the structure for the fireplace. Modifications and additions may prevent the appropriate circulation of the combustion gases, which may cause hazardous situations.

If you find that the fireplace structures require repairs, please contact an assembler authorised by Uunisepät.

Only additional and spare parts properly assembled by a Uunisepät assembler are permitted for use.

8. Chimney Sweeping and Cleaning the Fire Chamber

Always abide by the national regulations of each country for chimney sweeping. It is best left up to the professionals, even if it is not required by law.

In Finland The Ministry of the Interior has issued a decree on chimney sweeping (539/2005). According to § 22 of the Rescue Act (468/2003), chimney sweeping is carried out by a district chimney sweeper approved by the regional rescue operation or by a chimney sweeper employed by the district chimney sweeper. The property owner or manager must ensure that fireplaces and flues are cleaned regularly. Permanent apartment fireplaces and flues are cleaned once a year. The fireplaces, flues and flue ducts of private holiday homes and their saunas are to be cleaned once every three years. Fireplaces and flues of recreational dwellings and saunas, which are not for private use but which are used regularly, must be cleaned every year. Chimney sweeping in holiday homes must be done during the main period of use.

The fireplace must be absolutely cold when it is being cleaned. We recommended asking the chimney sweeper to clean the fire chamber as well. At the same time, the chimney sweeper should inspect the safety distances of the fireplace and flues and the condition of the chimney ladders and sweeping scaffolding. The chimney sweeper must report the faults and defects to the property owner or manager. After a chimney sweeping, make sure that the sweeping hatches and ash box are properly set in their places. Close the sweeping hatches.

It is recommended to have the fireplace, as well as the connection and smoke flues, checked by a chimney sweep if they have not been used for a long period of time.

9. Safety

Always use caution when dealing with live flames. A fire alarm and carbon monoxide detector are essential in every home, as are fire blankets. Contact the fire department immediately in case of a fire.

The metal and glass parts of the fireplace doors reach a high temperature during heating. Avoid direct skin contact by using protective gloves or a door opening tool.

Do not leave the fireplace unattended while you have a fire in it.

KEEP THE FIREPLACE IN GOOD CONDITION – AND IT WILL KEEP ON BURNING FOR GENERATIONS TO COME!

10. Procedure in soot fire situations

Soot fires result from cracks and pitch formation in the fireplace and flues.

Damaged fireplaces and flues may cause soot fires. The reason for the damage may be age, improper use or a construction error. The lower part of the flue must be able to handle high temperatures, whereas the upper part must withstand extreme cold and weather. A cold chimney may also crack if it is heated too quickly or aggressively. This should be taken into account with summer homes during the winter.

The internal structure of the smoke flue must be able to withstand strong chemical strain. All combustion gases also contain water vapour, which may wet the chimney as it condenses. A wet chimney can be easily damaged as it freezes. In addition, the draught of a wet pipe is lower than normal as the combustion gas temperature decreases faster increasing soot condensation.
The danger of a soot fire is always present, burning wood generates water vapour, tar and soot elements, as well as acid. When wood burns properly and in the right conditions, the substances that accumulate in the fireplace and chimney are ash and coal.

If the draught of the flue is insufficient and its interior surface is colder than +70°C, a thick layer of combustible material, i.e. soot, can collect on its walls. When this material dries, it becomes shining soot, which is extremely flammable. Hot combustion gases or sparks may light the layer of shining soot. When burning, shining soot can quickly increase the temperature of the fireplace and flue to +700°C–1,400°C

1. *Always notify the fire department of a soot fire.*
2. *Do not attempt to extinguish a soot fire yourself.*
3. *If you observe a soot fire early on, you can contain it by closing the ash box and fire chamber doors, and the damper, if your fireplace has one.*
4. *After a soot fire, a chimney sweeper must check the fireplace and flue before the next heating.*

Soot fires can be prevented as follows:

1. *Inspect the condition of the fireplace and flue on a regular basis, and have all cracks checked by a professional and repaired sufficiently early on.*
2. *Dry wood and sufficient draught keep the flue in the best condition. Burning trash generates the most soot in the smoke flue.*
3. *The flue must also be swept regularly.*

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