

Heating correctly with wood

Protect health, save money!

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A Tyrolean environmental initiative
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Energie Tirol and other partners.

Heating correctly with wood



To achieve clean burning, high temperatures should be reached as quickly as possible in manually fed stoves such as free-standing and tiled stoves. This is because the formation of pollutants in flue gas is minimised at sufficiently high temperatures.

What should I look out for?

Only use wood that is untreated and dry.

Light from above and ensure there is a sufficient supply of air.

For safe operation carry out regular stove maintenance.

Heating incorrectly with wood ...

... **incurs high costs** due to lower heat production and the cleaning required.

... **contaminates air that is breathed in** with harmful pollutants, primarily fine dust particles.

... **damages the stove and chimney** due to condensate and deposits of soot and tar and in the worst case can lead to an uncontrolled chimney fire.

Heating correctly – a step-by-step guide



Clean the stove area of ashes.



Open the air and damper valves completely.



Place the wood loosely in the burning chamber.



Lay firelighter on the pile of firewood.



Place small sticks of wood in a cross on top.



Light from above.



Ensure a sufficient supply of air to produce bright, high flames quickly.



A strong blaze guarantees good combustion.



Only restrict the air supply once a good layer of embers has formed.



Tip

Regular cleaning, maintenance and inspection of the stove by a chimney sweep ensures safety and a good level of heat production. Old stoves use a lot of fuel, produce high dust particle emissions and should therefore be replaced.

Why light from above?

In order to achieve high temperatures as quickly as possible experts recommend that the firewood in stoves is lit from above. At first glance this seems strange, but it significantly reduces the emission of pollutants. The reason for this can be observed in a candle: The gases produced flow upwards through the hot flame and thus burn out completely. The fire is smoke-free within a few minutes.

What type of firelighters are recommended?

Use wood shavings soaked in wax or another firelighter to light the fire. Lay the wood shavings on the pile of firewood in the fire area and place small sticks of wood over them, ideally in a cross shape. Wood shavings, which are a natural product, have a long burning time and can be obtained from a specialist shop. Do not use paper or cardboard packaging as a firelighter – these can also produce pollutants.



How is the air supply regulated?

A sufficient supply of air is crucial for a strong blaze. To achieve this, open the air and damper valve completely before lighting and allow enough space between the pieces of firewood. Bright, high flames indicate good combustion. Only close the valves once a good layer of embers has formed. Open the air inlet again when adding more fuel. Unlike for tiled stoves, when operating free-standing stoves for a long period one or two wood blocks should be added continually.

When used in this way, the remaining ash is white or light grey and the fuel is fully combusted. Constantly sooty glass in free-standing stoves and black walls in the burning chamber indicate incorrect burning of fuel.



Tip

Wood briquettes have a high energy value, are dry and easy to handle and store. Because of the high energy value, pay attention to the number that are placed in the burning chamber (see operating instructions for the stove). A good firelighter is also particularly important because of the dense compression of the briquettes.

The ideal firewood

Water content, size and type of wood used are decisive factors in optimal heat production.

The moister the wood, the less heat is produced.

In order to achieve the ideal water content for combustion, which is 15 to 20 percent, the wood should be stored dry for about two years, ideally already chopped into pieces. You can recognise wet wood by its higher weight, bark that is difficult to remove and increased steam and smoke production during combustion.

The water content of the wood can be checked for a small contribution towards expenses. If you are interested, please contact the Tyrol Guild of Chimney Sweeps (Landesinnung der Rauchfangkehrer Tirol), Meinhardstraße 14, 6020 Innsbruck, Telephone 0590905-1404.

Small wood pieces

The size of the logs also affects the combustion process. For manually fed stoves and tiled stoves, stove wood with a length of 25 and 33cm respectively is recommended.

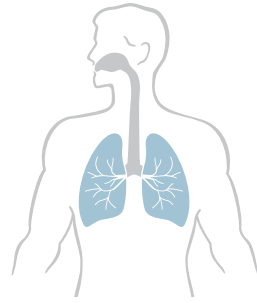
Spruce, fir or beech

The most common types of firewood in the Tyrol are the softwoods spruce and fir and the hardwood beech. Whilst it's true that softwoods burn quickly, they are cheaper and also dry more quickly. Hardwoods on the other hand have a high energy value and are particularly suitable for free-standing and tiled stoves.

Tip

Only buy wood from a specialist shop or from agricultural businesses. Only buy semi-dry wood if you have the facility to dry the wood to the necessary water content. The Tyrolean Chamber of Agriculture (Landwirtschaftskammer Tirol) can provide information on agricultural fuel suppliers.





Fine dust particles cause illness

Alongside traffic and industry, in winter domestic fuel is one of the main sources of high pollutant contamination of the air we breathe. Above all it is incorrectly fuelled and old wood stoves that reduce the air quality.

Added to this are the frequent temperature inversions in the Tyrol with too little air convection, which lead to a concentration of pollutants. Fine dust particles are a particular problem. They are not held back by the upper respiratory system and so can penetrate deep into the lungs. Possible consequences are respiratory and cardiovascular illnesses that can lead to a reduction in life expectancy.

Burning rubbish is dangerous and a criminal offence!

Burning waste poisons the air and the ground with dangerous substances like hydrochloric acid gases, formaldehyde and carcinogenic dioxins. The toxins are not only breathed in, they can pass into the food chain via the garden as well.

Burning rubbish also damages the stove and the chimney and leads to high cleaning costs. On top of this, anyone who burns household rubbish, plastic waste, waste wood and treated wood can expect to receive a fine.



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By taking note of a few simple tips when heating it is possible to use wood, which is a native energy source, as an economical and climate-friendly source of heat and to reap substantial benefits:

More money due to lower heating costs

Fuelling correctly with natural, dry wood and regular maintenance can reduce fuel costs by up to a third.

Healthier air due to fewer pollutants

Heating incorrectly releases harmful air contaminants and contributes significantly to fine dust particle pollution.

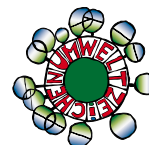
Greater independence due to native energy source

Heating with wood is climate-friendly, creates independence from international energy markets and is an important contribution to the Tyrol's energy future.



Replace old stoves

Old stoves use a lot of fuel, produce a high level of fine dust particle emissions and should therefore be replaced. When buying or building a new stove look for the Austrian eco-label. It guarantees that when used properly the equipment produces little pollution. Pellet stoves and tiled and free-standing stoves with automatic ignition controls are particularly recommended.



Ongoing maintenance and monitoring

Soot deposits reduce the production of heat and therefore the effectiveness of the equipment. As a result the stove should be cleaned regularly. For safety reasons the Tyrolean Fire Police Regulation (Tiroler Feuerpolizeiordnung) 1998 makes provision for regular monitoring of the chimney by the chimney sweep.

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**Further information and a video film on the topic can be found at
www.richtigheizen.tirol.**

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