Fuel Your Fire

Looking after your stove and flue is essential. Don't treat it like a furnace and use the right fuel. This will prolong the life of your stove and flue system and often prevents chimney fires. It will also stop your flue and stove from falling apart!
Environmentally, you also have a responsibility in using the right fuel to maintain air quality. Initiatives such as "Ready To Burn" from Woodsure will provide more information on this and where to find quality fuel suppliers.

Multi-fuel stove

If your stove is classified as multi-fuel, it can be used to burn 2 types of fuel; wood or smokeless fuel (never coal). If your appliance is a wood-burner, it is only designed to burn wood.
It is essential that multi-fuel stoves are only used to burn smokeless fuel on the provision that the flue can accommodate it. For example, twin wall flues and 904L and W3G graded flexible flue liners can withstand the high temperatures of combustion generated from this fuel. 316L grade liners are only meant for wood burning use.

Smokeless fuel

If you **only** intend to burn wood, please feel free to skip this section.

Important note

We wouldn't recommend burning smokeless fuel and wood at the same time. Instead, you should transition from one fuel to the other during the "ember" phase. Burning wood and smokeless fuel will produce too much soot and water that will convert into a tar called creosote. This is sticky and highly flammable that is a primary cause for chimney fires.

If you are using smokeless fuel, you should use this type of fuel sparingly. Just because your liner is able to accommodate smokeless fuel, we regularly see liners that have simply degraded over time because the running temperature combined with the copious amount of soot and water that is able to enter flue systems causes extensive damage and inevitably decreases the lifespan of the flue, and often the stove too.
Please use smokeless fuel sparingly.

Smokeless fuel is very different from household coal. Coal should **NOT** be used on your stove. Coal contains a large amount of petroleum coke that combusts at a very high temperature and damages stoves and flue components. It will likely warp your appliance and burn through your flue!

HETAS have tested and approved various types of smokeless fuels. However, there are only two types of smokeless fuel that we recommend you use on your stove.

1. Maxibrite
2. Supacite

They are both mined on a Welsh colliery. Unlike most other smokeless fuels, "Maxi" and "Supa" do not have any petroleum coke present or other harmful additives. They just contain anthracite and molasses (natural sugars that help ignite it).
They are slightly more expensive than other brands of smokeless fuel, but they are quality, and your stove and flue will love you for it!

Local Maxibrite & Supacite suppliers:

- K. Abrahams from Redruth - 01209 213803
- Semmens from Penzance - 01736 787643

You could contact Maxibrite to ascertain if there are other suppliers closer to you.

Wood

What a product!
This is our preferred fuel. If you choose the right type, it burns well, gives off plenty of heat, smells nice, produces little ash, is carbon neutral, and does not affect air pollution.
If you choose wrong, the heat output will be reduced; it will damage your stove and flue, cause health issues, stink, clog up your chimney and cloud your stove glass.
In a fuel nutshell, dry wood is the best type of wood.
Each species of wood produces varying heat. This is known as the calorific value. Ash has a high calorific value, so it is an excellent wood to burn.

Green logs

If you burn wet or "green" logs, you may as well be throwing a cup of water on your fire every time you put a log on. It will soon destroy your stove and flue, and it will also cause air pollution. "Particulate emissions" are released, which in turn have been proven to cause serious health issues such as lung diseases. Furthermore, the amount of heat released from a green log is minuscule as the fire spends the majority of time drying out the wood (that's the spitting and hissing sound you hear). By the time the log is ready to burn and give off heat properly, there is hardly anything left of it! Thus, rendering it an extremely inefficient process. Burning green logs is just bad news.

Moisture content

By now I've hopefully convinced you that you need to be burning dry logs. The moisture content of the wood will determine how "dry" it is.

A newly felled tree can have more than 50% moisture content.

All manufacturers of flues and burners recommend the minimum moisture content of wood to be used should be 20% and under.

A well-seasoned log should be 20% and under.

A kiln-dried log should be about 15-18%.

A moisture meter can be used to help determine the moisture content. Just whack it in the split end of the wood for immediate digital reading. They cost about £15.00.

Seasoned logs

Seasoned logs have been left to "season" outside.

A properly seasoned log will have been split and stacked correctly in a well-ventilated, dry place. A cover such as a slanted roof or a tarp will be used to keep the rainwater off. The lower layer of logs will be raised from the floor so that air can move, and moisture can escape. The exact type of wood and its geographical location will determine how long it needs to be "seasoned" until the moisture content is below 20%.

Two years is a reasonable amount of time to season wood if stacked correctly. The previous school of thought for 6-18 months isn't realistic to achieve moisture content under 20%.

Coincidentally if you buy seasoned logs, you should stack and store them correctly to continue seasoning them.

Kiln dried logs

Kiln dried logs have *actually* been kiln-dried. This process dries out the wood so that when it is put on a fire, it releases heat immediately.

For each type of species, the pure science behind it is that the dryer the log, the higher the calorific value. This just means that you get more heat from it. Therefore, a kiln-dried log produces more heat than a seasoned one.

As a consequence, unit for unit, kiln dried logs are more expensive. However, this shouldn’t put you off. If you use the logs wisely and don't have the stove on full throttle all the time, it will actually be financially better for you to buy kiln dried logs over any other type of wood. You will get more heat burning the kiln-dried logs than you would by burning other wood. It basically means that you will be using less fuel to heat your room.

Hardwood V's softwood

Hardwood is denser than softwood, therefore burns for longer. Typically, you will consume 3 hardwood logs at the same time that you burn 4 softwood logs, of the same size. The heat produced will be the same. Consequently, hardwood is more expensive.

How much wood will I need?

We can only guide you on this, as there are many variables involved. For example, the number of logs you will use may depend on the actual size of the log, how

efficient your stove is and how you use the appliance. There is also the factor of softwood V's hardwood, and kiln dried V's seasoned. You might be experiencing a cold spell, so you'll want to get the stove up to speed fast and kicking out a good bit of heat before allowing it to settle into its normal heating flow.

However, to give you an idea, most of our customers that own a new 5Kw stove inform us that on average they tend to burn about a kiln-dried hardwood log every 45 minutes to an hour of usage. Seasoned logs will burn faster and give off less heat, so you'll be burning more logs. If your stove is higher than a 5Kw stove, then this amount will likely double as you will be needing more logs to refuel to maintain the higher heating output.
So, if your stove is rated at about 5Kw, you might burn about 5 hardwood kiln dried logs per night. If you use the stove for 5 nights a week and use it from September through to March, you're likely to use about 700 logs (or about 850 seasoned hardwood logs/1000 seasoned softwood logs).

How much will it cost?

If you buy in bulk, you should expect to pay about £300-£350.00. This works out about £2 per night.
If you're able to burn smokeless fuel, you'll be able to bring this cost down to about £1-£1.50 per night. However, you'll need to clean the stove out nearly every time you use it as the smokeless fuel will need to burn from underneath, whereas wood likes a bed of ash.
If you're using kiln-dried wood, all you'll need to do is clean your glass once in a while and remove some of the ash about once a month!

Where to buy

We suggest that you shop around and see what offers are available.
There are many suppliers to be found.
Many of our customers rate Mark Willis Firewood, Cornish Firewood and Ashwin's as good firewood suppliers.
All the above companies are local to Cornwall and offer free delivery. Mark Willis and Ashwin's are smaller business' than Cornish Firewood.
If you want a low carbon footprint, Mark Willis and Cornish Firewood season and kiln dry their own firewood supplied by local forestry.

Whoever you buy from, expect the wood to be either be delivered loose (expect about 500 logs tipped onto your driveway), in crates or bags/nets. Some companies produce biodegradable bags instead of plastic. Most will include delivery in the price.
If you can get a crate delivered and have space for it, you'll only need to put a cover on it. Kiln dried logs in nets and bags can be stored in garage, or sheds. Seasoned logs would be best stored in a specific log store so that they can keep on "seasoning" and further drying out.

How to store wood

If you intend to season your wood yourself, you need to ensure that the wood is well stacked and is exposed to as much sun and wind as possible. These elements will

speed up the seasoning/drying time. Ideally, the wood should be stored off the ground and away from walls to allow air to move freely. There should also be a roof to prevent excess rainfall on the logs.

If you have already bought seasoned logs, it is still a good idea to continue seasoning them in order to get the logs as dry as possible. The dryer they are, the less water they contain and the more heat they will produce since the fire and energy aren't being wasted drying out the logs.

If you have bought kiln dried logs in bulk, they normally come in sacks or biodegradable bags. Keep an eye on them to ensure that they don't become mouldy.

Other forms of fuel

Wood briquettes

These briquettes are formed as cylinders or cubes from compressed woody biomass. A great product.

Pallets

These can be a great source of kindling. However, like all types of wood fuel, you should avoid any wood that is pressure treated or has any glue. This includes plywood. These glues and chemicals will be released on combustion and will not only clog up your stove and flue but will increase air pollution.

Timber offcuts (untreated)

We personally feel that this fuel is right to use in small doses. As it has low moisture content, the heat produced is immediate. It burns fast and hot; the fire can quickly be loaded up beyond its average working capacity, and when this happens, the stove and components tend to warp and become damaged.

Driftwood

Driftwood tends to have a high salt content. The salt will damage your appliance and cause it to rust. The moisture content will also be relatively high too.

Foraging

Unfortunately, this activity is mainly illegal. You'll likely need permission from the landowner. Most public land is run by the forestry commission and in 2008, the law was changed (due to health and safety!) to prevent the common man taking deadwood. Previously this law was made in the Magna Carta!

Our favourite fuel

As far as we are concerned, hardwood kiln dried logs are the best of fuels as they have a high calorific value and produce little ash.
Other suitable species include Oak and Birch.

Check out this poem on our webpage - *scroll down to the bottom of the page*.
We prefer to steer clear of smokeless fuels, which are fossil fuels. Mostly because burning this type of fuel adds to our environmental issues.

Use–fuel links

- How to store logs
- Wood as a fuel
- What not to burn
- Ready to burn
- How to start a fire
- How to start a mineral fuel fire (FAQ no.17)
- Simple advice on how to use the controls on your stove
- Mark Willis Firewood
- Cornish Firewood
- Ashwin's
- Maxibrite – Contact
- Maxibrite
- Supacite
- K. Abrahams
- Semmens
- FSC – Forests For All Forever