

Rules and Guidelines for Weathering of Wood Charcoal in Namibia

These rules and guidelines are a result of many years of practical experience and research in Namibia as to the best practice for weathering wood charcoal. The rules and guidelines are applicable to all producers of wood charcoal in Namibia. Furthermore, many of these guidelines are also contained in the Standing Operating procedures of shipping lines.

During the weathering process we must take different types of wood used for charcoal production into account, as these have different characteristics when it comes to the carbonisation process. We place the wood types into two categories. Please also note that you must also follow the permit conditions for wood species that are allowed to be harvested.

The two categories are listed in the table below:

Category 1	Density	Category 2	Density
<i>Dichrostachys cinerea</i> Sickle Bush • Sekelbos • Ongete • Omutjete	680 to 920 kg/m ³	<i>Colophospermum mopane</i> Mopane • Mopani • Omusati • Omutati	1,075 kg/m ³
<i>Terminalia sericea</i> Silver Cluster-leaf • Geelhout • Omugolo • Omusejasetu	715 kg/m ³	<i>Vachellia erioloba</i> formerly known as <i>Acacia erioloba</i> Camelthorn • Kameeldoring • Omumbonde • Ghuntu	1,185 kg/m ³
<i>Terminalia prunioides</i> Purple-pod Terminalia • Deurmekaarbos • Omuhama	770 kg/m ³	<i>Combretum imberbe</i> Leadwood • Hardekool • Omumborombonga • Munyondo	1,220 kg/m ³
<i>Senegalia mellifera</i> formerly known as <i>Acacia mellifera</i> Black Thorn • Swartha • Omunkono • Omusaona	800 kg/m ³		
<i>Vachellia reficiens</i> formerly known as <i>Acacia reficiens</i> Red Umbrella Thorn • Rooihaak • Omutsiyatsi • Omugondo	860 kg/m ³		
<i>Vachellia luederitzii</i> formerly known as <i>Acacia luederitzii</i> Kalahari Acacia • Baster-haak-en-steek • Omushu	850 kg/m ³		
<i>Rhigozum trichotomum</i> Three-thorn • Driedoring • Okatakambindu	800 kg/m ³		
<i>Vachellia nilotica</i> formerly known as <i>Acacia nilotica</i> Scented-pod acacia • Lekkerruikpeul • Omutyuula • Olufu	650 kg/m ³		

Weathering procedure for Category 1 type of wood charcoal

Process A:

During summertime we often experience extreme heat known as a heatwave. During as heatwave producers are advised to only open the kiln early in the morning (before sunrise) or preferably in the evenings. During the evening temperatures cool down more than during the daytime.

- Once the kiln is opened, the charcoal is raked open – it must not stay in a heap as it then takes longer to weather.
- The charcoal must stay on the ground for at least two weeks so that the charcoal can weather properly.
- Please avoid putting charcoal in a heap after a couple of days' weathering. The charcoal must lay open so that it can weather evenly. It must also get enough exposure to oxygen.
- After two weeks the charcoal should be sifted so that there is no sand and ash transferred to the bags transporting charcoal to the factory. Sand and ash is often the main cause for charcoal catching fire.
- At the factory there is another weathering period of 3 weeks prescribed. The reason for this is that there is no guarantee that producers have weathered the charcoal properly and to avoid any risk, factories must ensure that the 3 weeks are part of their procedures to ship charcoal.

Process B:

During wintertime temperatures are much lower than in summer and the process can be adapted slightly.

- Kilns should be opened again early morning before sunrise.
- Charcoal must be raked open as in Process A.
- Weathering period on the farm can be reduced to 10 days.
- Charcoal must be sifted to remove all sand and ash.
- Charcoal can be packed into bags and transported to the factory.
- Normal weathering procedure is applicable at the factory as for summertime.

Category 2 type of charcoal

Category 2 type wood has a much higher density as Category 1 and therefore requires longer weathering period on the farm.

The only difference to Category 1 is that in summertime, charcoal should weather for 4 weeks and not 3 and in winter 2 weeks in colder weather are sufficient.

General Notes

Please also observe the following, you require special permits for Category 2 wood. Observe the permit conditions before harvesting the wood. For camelthorn and leadwood, you are only allowed to harvest the dry wood. No growing trees may be harvested without a special permission from the Department of Forestry.

Safety precautions at the site of charcoal production need to be strictly followed. These include the following:

- 🔥 Fire-fighting equipment should always be ready at the burning station.
- 🔥 There must be enough water to extinguish a fire.
- 🔥 Firefighting equipment include fire beaters, knapsack sprayers, firefighting engines should be close by, e.g. at the main dwelling.
- 🔥 There must be fire breaks around the burning site. The fire break must be cleared of burnable biomass. Grass should be cut to 2 cm above ground. We recommend not to grade the area as this may lead to erosion.
- 🔥 All workers must be trained in basic firefighting.