

CHARCOAL & BRIQUETTE DRYER



In Association with SVCH-Technologii, Moscow (Russia)
ISO 9001:2015 | ISO 14001:2015 | ISO 45001:2018

ABOUT US

KERONE is now renowned for serving the specialized needs of customers with the best quality and economical process of Heating /cooling and drying products, manufactured in a high-quality environment by a trained and qualified workforce (special purpose machinery)

-  48+ Years Manufacturing Excellence
-  Great Sale Support
-  Highly Customized Product
-  Adherence to Standards
-  Sound Infrastructure
-  Team of experts Delivering Quality
-  Timely Delivery
-  Cost Effective Solutions



KERONE is a pioneer in application and implementation engineering with its vast experience and team of professionals.



KERONE is devoteded to serve the industry to optimize its operations both economically and environmentally with its specialized heating and drying solutions.



KERONE is having immense expertise in manufacturing and implementing various types of engineering solutions.



KERONE is possessing employee strength of more than 280+ experts continuously putting efforts for happy industrial engineering solutions.

WHY CHOOSE US

With decades of expertise, cutting-edge technology, and a customer-centric approach, Kerone Engineering offers tailor-made heating solutions that prioritize quality, flexibility, and cost-effectiveness. Benefit from our commitment to excellence, post-sales support, and innovative solutions for your unique heating needs. Choose Kerone Engineering for reliability, performance, and unmatched value.

MISSION

- ✓ To enhance the value of customer operation through our customer need centric engineering solution
- ✓ We are committed to provide our customers, unique and best in class products in Industrial heating drying and cooling segment with strategic tie-up for the technical know-how with renowned leader in the industry specific segment

VISION

- ✓ Turn into a world leader in providing specialized, top-notch quality and ecological industrial heating, cooling, and drying solutions across the globe.
- ✓ To attain global recognition as the best of quality and environment-friendly engineering solution company.

“

Enhance the value of customer operation through our customer need centric engineering solution.

”



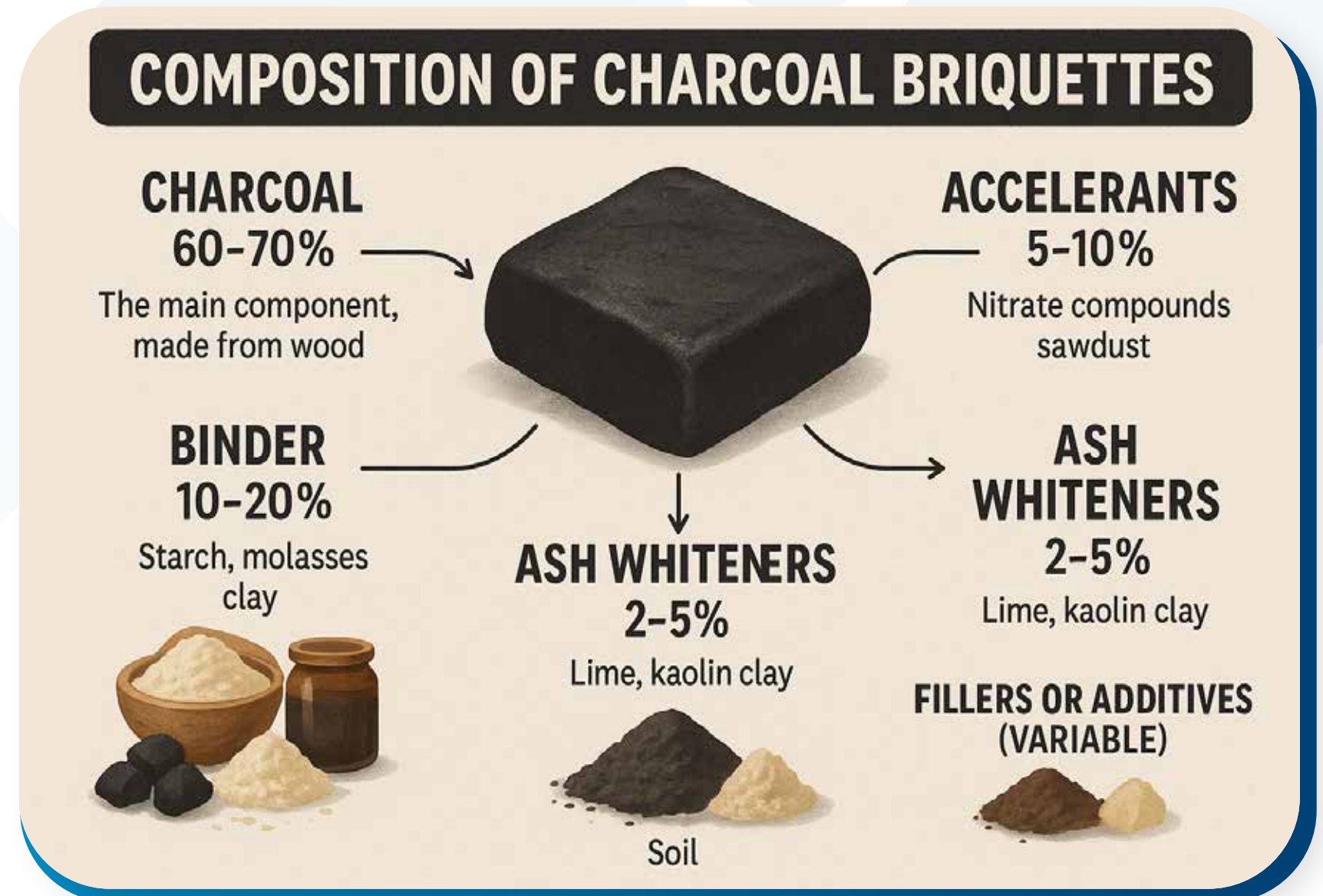
INTRODUCTION

- | A briquette is a compressed block of coal dust or other combustible biomass material used for fuel and kindling to start a fire. The term derives from the French word *brique*, meaning brick.
- | Charcoal briquettes are made by combining a binder (often soil, compost, or paper) with charcoal dust and water. The mixed materials are then compressed into a uniform solid unit (either by hand or in a mechanized press) and used like lump charcoal or firewood.
- | Charcoal briquette is a kind of fuel made by charcoal powder. Compared with traditional fuels, charcoal briquettes can not only generate heat continuously.



COMPOSITION OF CHARCOAL BRIQUETTES

The charcoal briquette is mainly composed of two parts, the charcoal which is used to provide heat and the minor ingredients. Charcoal is the product of incomplete combustion of wood or wood raw materials or pyrolysis under the condition of air isolation. Its main component is carbon, so it can be used as fuel. The minor ingredients include accelerants, white ash and briquette binder.



COMPONENT

Charcoal

- | Charcoal accounts for more than 70% of the entire charcoal briquettes. As the combustion material providing heat, the raw materials for charcoal can be various woods, such as beech, birch, hard maple, pecan and oak.

Accelerants

- | The charcoal briquette cannot fully contact with oxygen during the combustion process, so the accelerator is needed to accelerate the combustion.



White Ash

As one of the minor ingredients, white ash accounts for only 2% -3% of the charcoal briquette. But it plays a very important role in the burning process of charcoal briquettes

Briquette Binder

Due to the lack of plasticity, the binder needs to be added in the process of charcoal briquettes. The proportion of binder in the charcoal briquettes is about 5% - 7%.



Process of Making Charcoal Briquettes



Step 1.
Carbonization



Step 2.
Crushing



Step 3.
First Phase Drying



Step 4.
Briquetting



Step 5.
Second Phase Drying

PROCESS OF MAKING CHARCOAL BRIQUETTES

Carbonization

- Firstly, fire the raw materials in a rotary kiln. During the one-week combustion process, the temperature needs to be maintained at approximately 840-950 °F (450-510 °C)
- After the end of combustion, close the air inlet, and after one to two hours of exhaust, close the exhaust hole. After a two-week cooling period, empty the kiln and crush the carbonized wood (charcoal).

Crushing

- Use a hammer crusher or roller crusher to crush the carbonized wood. Although different types of wood such as bark, dry wood chips, wet wood and so on should be crushed to different sizes, generally they can be crushed into pieces of charcoal to 5mm below to make high-quality charcoal briquettes.



First Phase of Drying

Then a drying process is needed. If the water content exceeds the empirical upper limit, the temperature will rise and the volume will expand suddenly, which is easy to cause an explosion. If the moisture content is too low, it will be difficult to mold. Use a dryer to reduce its moisture content to the level required for briquettes formation by about half (to about 25%).



Briquetting

- Briquetting is a key step in charcoal molding. After the raw materials enter the ball press, they will be subjected to three kinds of forces, namely the main driving force of the briquette machine, the friction force and the centripetal force of the wall.
- Due to moisture, adhesives, temperature (about 105 °F or 40 °C) and pressure of the rollers of the briquetting machine, the charcoal briquettes can maintain their shape when they fall from the bottom of the machine.



Process of Making Charcoal Briquettes Manually



Wooden press

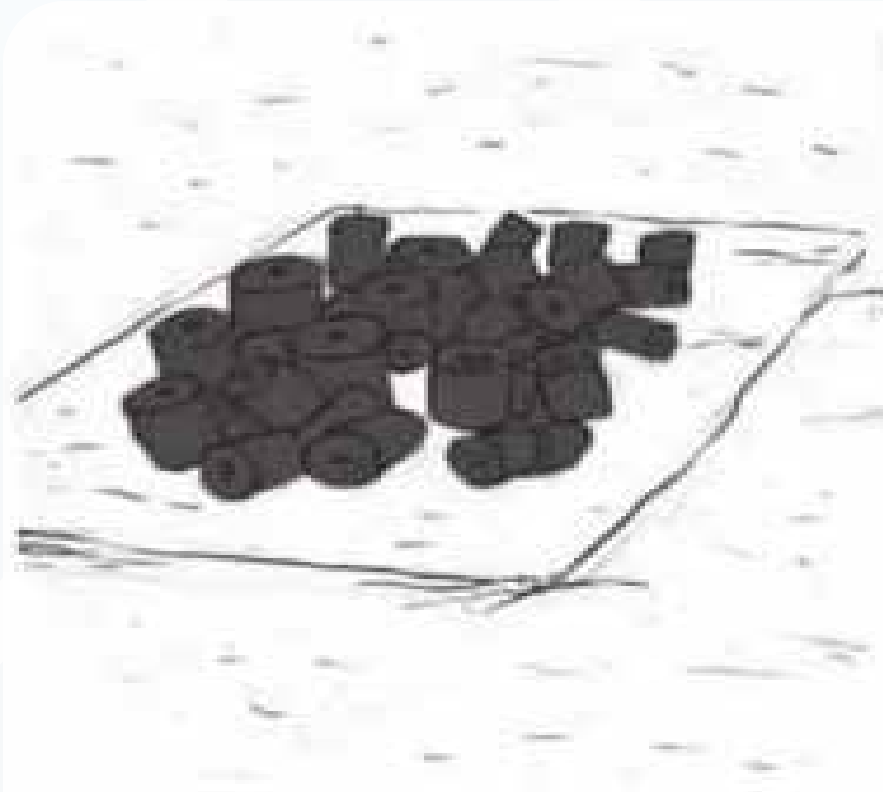


Metal press

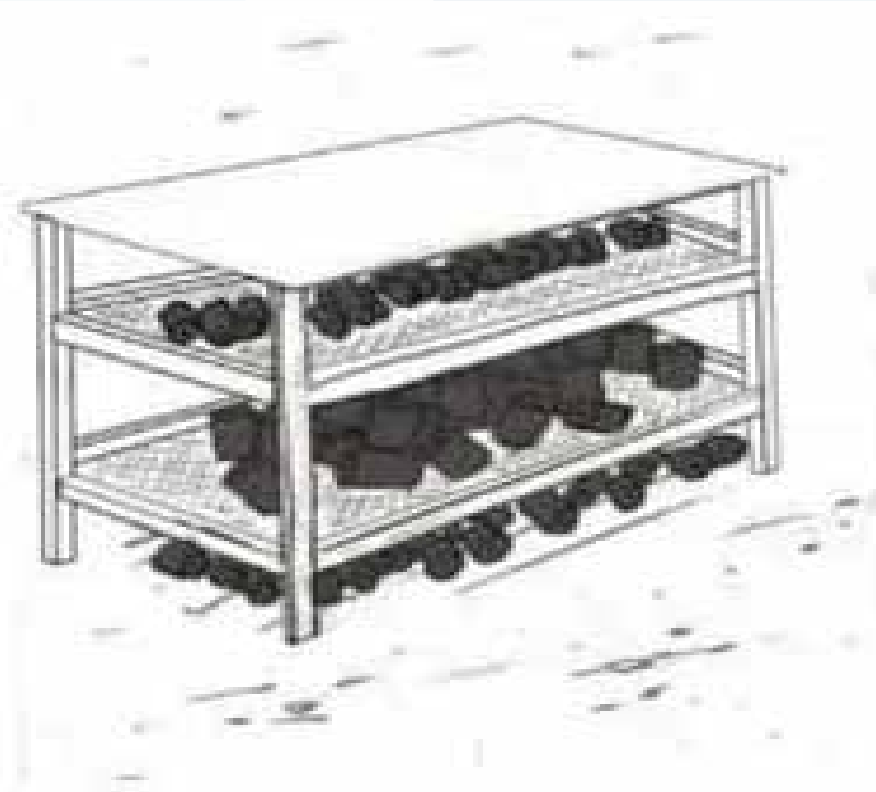
Second Phase of Drying

Feed the charcoal briquettes into the dryer for about three to four hours to heat them to 275 °F (135 °C) and reduce the moisture to about 5%.

After production, bag the charcoal briquettes immediately or stored them in silos. Following the above steps, charcoal briquettes will be produced at a production rate of 2200-20,000 pounds (1-9 metric tons) per hour.



A shady area on the ground



A drying rack



A shady rooftop

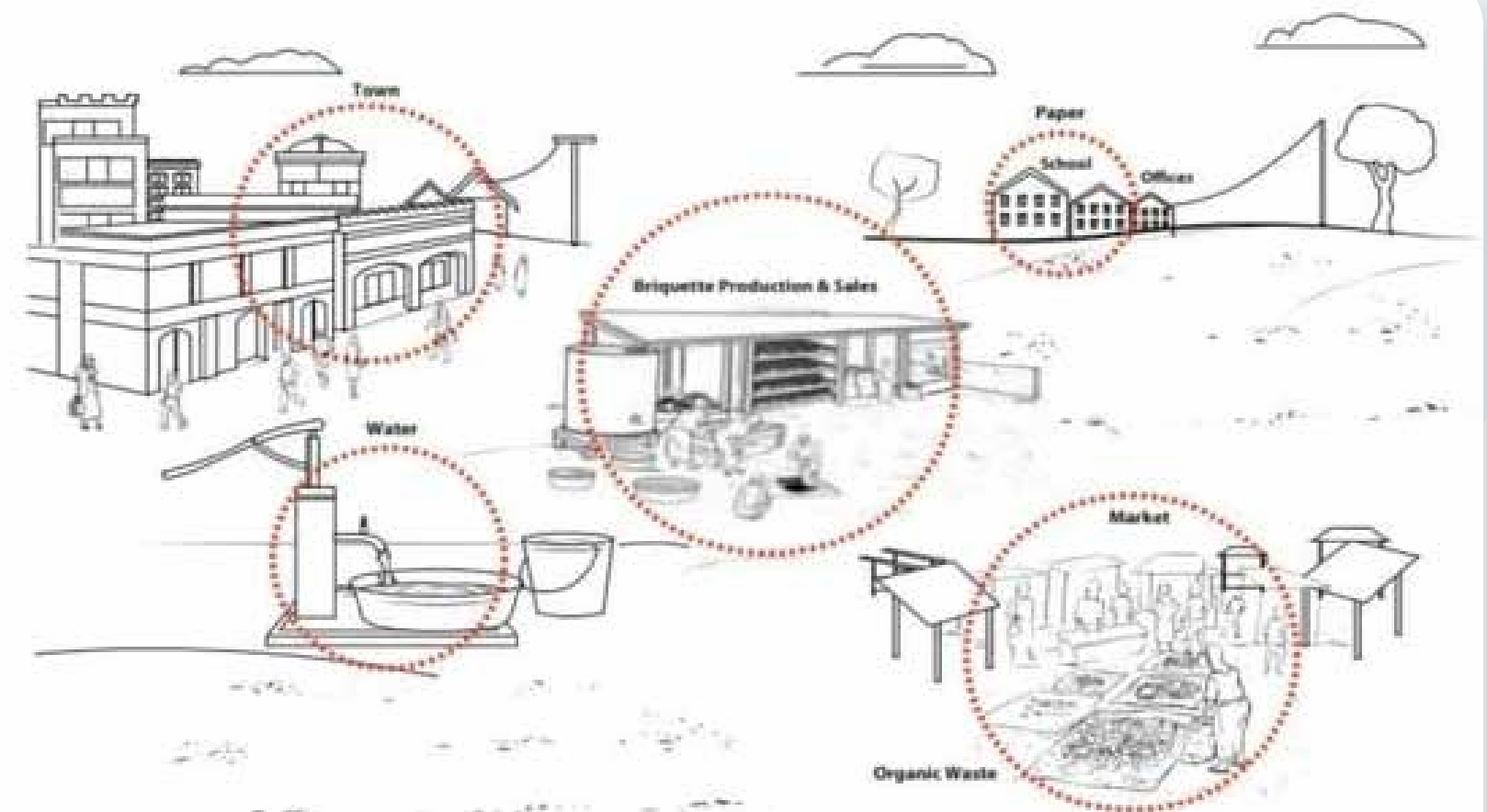
BEFORE PRODUCTION OF CHARCOAL BRIQUETTES

- Before beginning the production process some important decisions and arrangements need to be made.
- Selection of a suitable site.
- Building of production and selling units.

Site selection

An ideal site should be:

- Be within or near residential neighborhoods
- Be near sources of Water, Charcoal dust, Organic residues
- Have a suitable amount of production space



BUILDING OF STRUCTURES

Some basic construction needs to be done on site before production can begin. This may include:

Production unit including

| Open production space, Drying racks, Secure storage for raw materials, Water source/storage

Sales unit

| (if required and if land and resources are available)
Building of Structures



BENEFITS OF CHARCOAL BRIQUETTES

Economic

- | Cheap
- | Generates income and employment opportunities
- | Easy to make

Social

- | Similar to charcoal and firewood
- | Reduces time and energy collecting firewood
- | Compatible with daily chores

Health and Safety

- | Reduced health risks
- | Safe to use indoors
- | Increased variety of food able to be cooked
- | Increased safety of women and children

Environmental

- | Efficient burning rate
- | Low emissions
- | Mitigates climate change
- | Saves trees
- | Contributes to managing solid waste

Advantage of Charcoal Briquette



■ No Waste Material



■ No Waste gas



■ No Waste Liquid

TRUSTED PARTNERS

AFCONS

Technip



ISO 14001:2004



LLOYD'S

ZEPPELIN
WE CREATE SOLUTIONS



TATA
TATA CONSULTING ENGINEERS LIMITED

SC Shroff Consultants

STERLING & WILSON

THANK YOU

UNIT I

📍 4 & 5, Marudhar Industrial Estate, Panchal Road, Opp. Syndicate Bank, Bhayander (E), Mumbai-401105. (India)

📞 Contact Us
+91-22 48255071, 48255072

UNIT II

📍 Kerone Engineering Solutions LTD., Plot No. B-47, Addl. Midc Anandnagar, Ambernath (E), Dist. Thane (India)- 421506

📞 Contact Us
+91(0251)2620542/43/44/45/46

✉ Our Mails

info@kerone.com

sales@kerone.com

marketing@kerone.com

🌐 Website

www.kerone.com

www.kerone.net

www.keroneindia.com



SCAN HERE

