



Step by step



MANUAL FOR CONSTRUCTION AND OPERATION OF
TEZPAZ STOVE

INTRODUCTION

Inefficient use of wood and dung for cooking fuel have led to deforestation and serious erosion problems in Tajikistan. Over-use of fuel has also negatively affected agricultural lands. When dung that is normally left to fertilize fields is instead used for fuel, crop yields are significantly smaller.

The authors of this manual propose a solution to these risks: the Tezpaz Stove greatly reduces the amount of fuel required to cook, thus mitigating the risk of erosion, deforestation, and low-crop yields. The stove presented in this manual is easy to use and requires 50% less fuel.



Wasting fire in traditional stove

1. "TEZPAZ" STOVE

The "Tezpaz" - saves time and money! This stove is designed to make cooking easier and faster during the cold season.

The advantages of the Tezpaz stove are listed below.

The Tezpaz stove is easy to manage and is proven to be safe.



You can cook with different sized pots in the Tezpaz, from 12 to 20 liters in volume.



Smoke escapes through the chimney so it doesn't bother or harm the cook.



The Tezpaz lets you save 50% on fuel when you cook a meal for your family.

2. CONSTRUCTION OF “TEZPAZ” STOVE

The Tezpaz is built differently from traditional stoves. The Tezpaz is made from galvanized sheet metal and armature, whereas traditional stoves are made out of mud bricks.

Because of its unique look, construction of the stove might look difficult at first.

This manual shows how to build the Tezpaz stove step by step.

Construction of Tezpaz stove consists of the following steps:

Step 1. Drawing design of the stove.

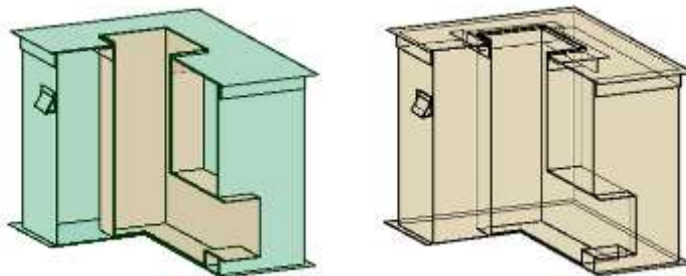
Step 2. Measurement and preparing the separate parts .

Step 3. Putting prepared parts together .

Step 1 2.1. DRAWING DESIGN OF THE “TEZPAZ” STOVE

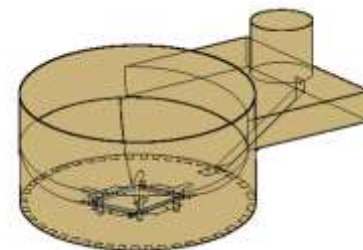
The “Tezpaz” stove consists of two parts

Part 1.



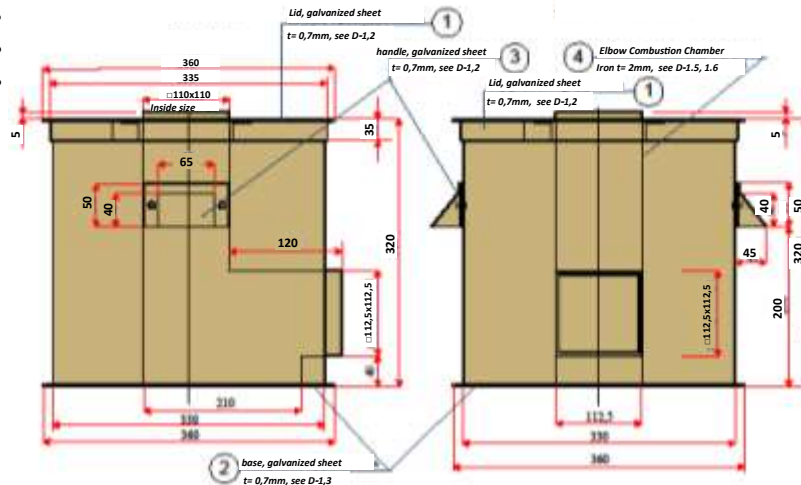
“Tezpaz” stove

Part 2.



**Cylinder shaped burner for placing
cooking pots.**

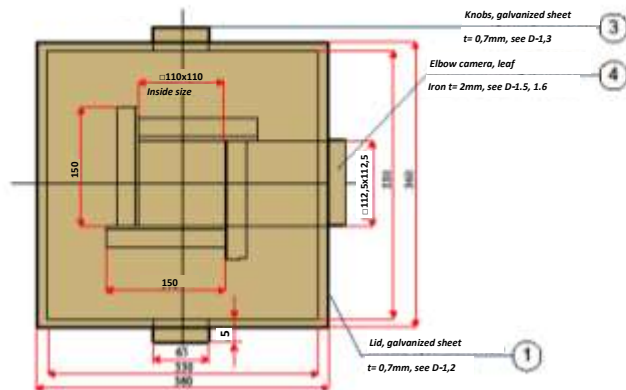
“Tezpaz” stove
View from the side



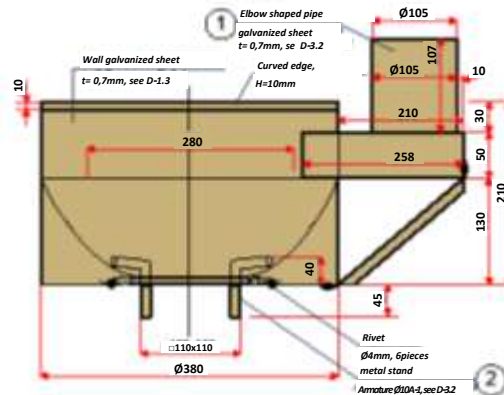
“Tezpaz” stove
View from front

PART 1.

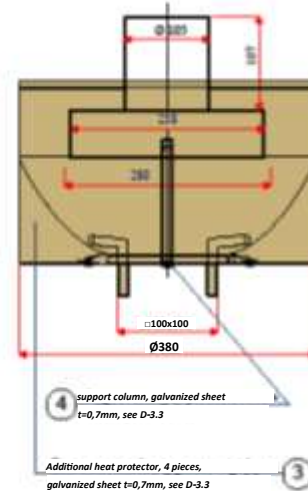
“Tezpaz” stove
View from above



**Cylinder shaped
burner,
View from the
side**

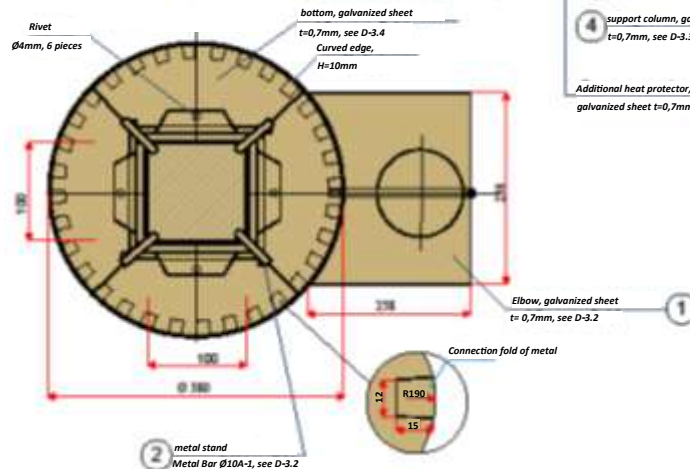


**Cylinder shaped
burner,
View from front**



PART 2.

**Cylinder shaped
burner,
View from above**



2.2. MEASUREMENT AND PREPARING SEPARATE PARTS OF “TEZPAZ” STOVE

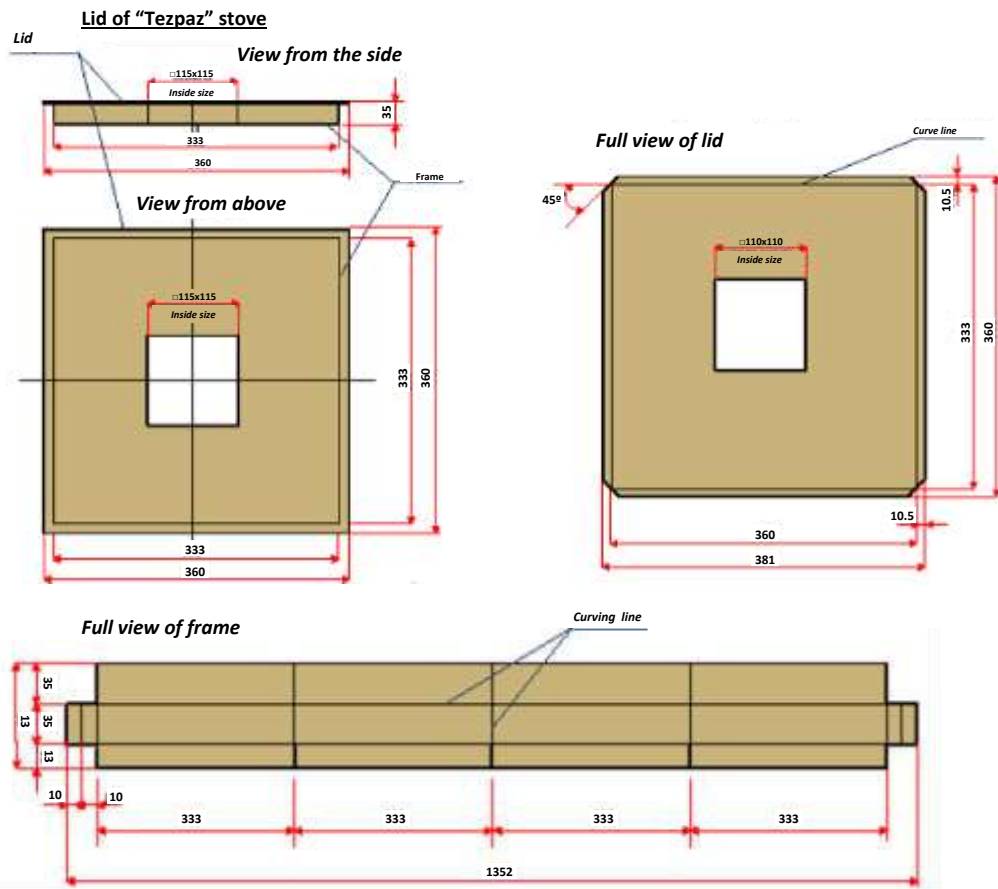
“Tezpaz” stove consists of the following parts and subparts:

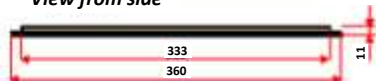
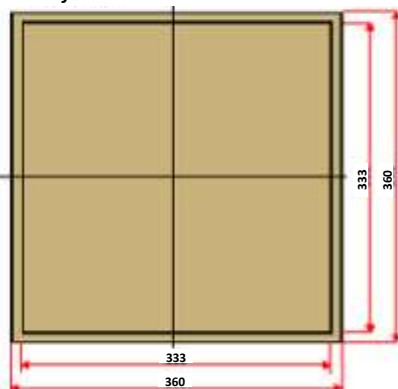
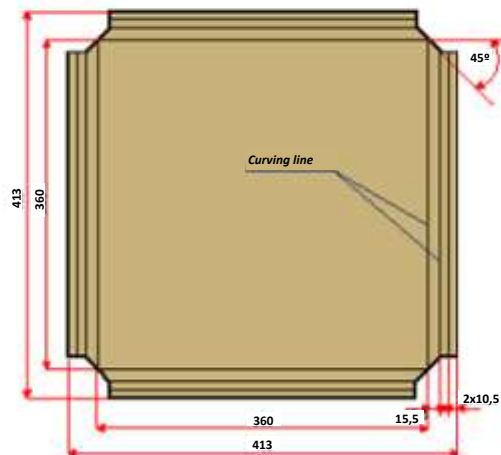
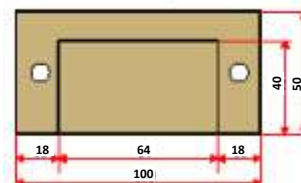
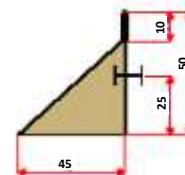
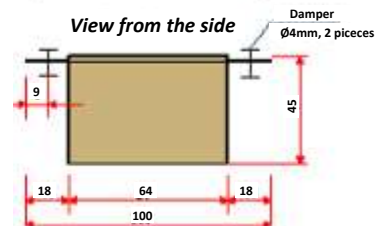
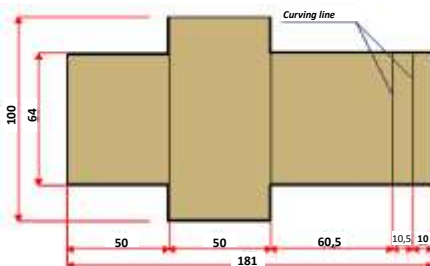
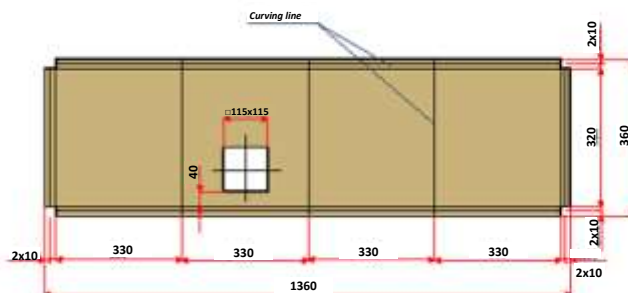
Part 1. «Tezpaz” stove:

- Parts of Tezpaz stove lid:
- lid;
- Lid frame of “Tezpaz” stove;
- Foundation of “Tezpaz” stove ;
- Handle of “Tezpaz” stove;
- Walls of “Tezpaz” stove;
- L- shaped chamber;
- Ashbox grate of “Tezpaz” stove

Part 2. Cylinder shaped burner:

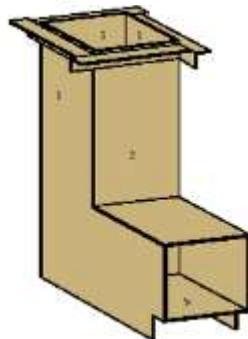
- Leg;
- Iron foot (foot, clamp, console);
- Additional insulation;
- Iron column
- Walls of cylinder shaped burner;
- Bottom of cylinder shaped burner.



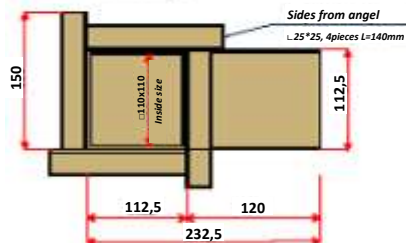
Foundation of "Tezpaz" stove**View from side****View from above****Full view of foundation****Handle of "Tezpaz" stove****View from the side****View from the side****View from the side****Full view of handle****Full view of Tezpaz stove walls**

L shaped chamber of Tezpaz stove

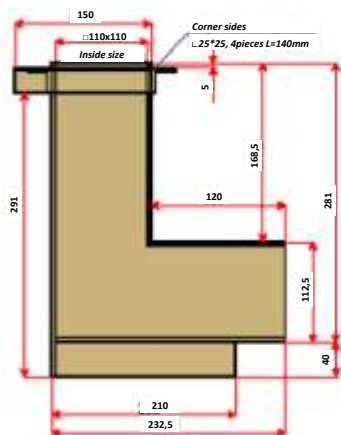
General view



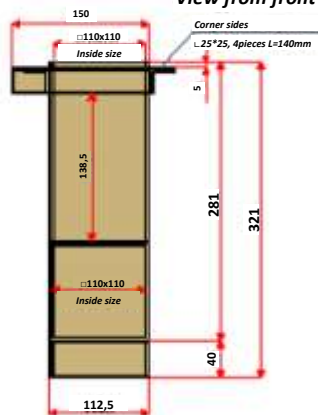
View from above



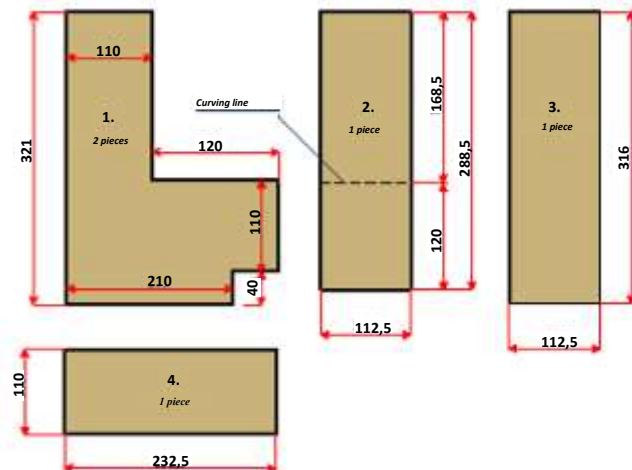
View from the side



View from front

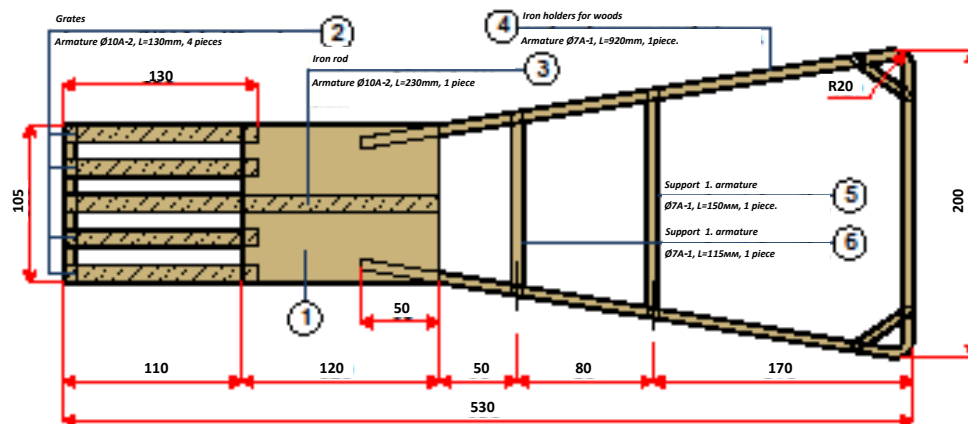


Chamber parts

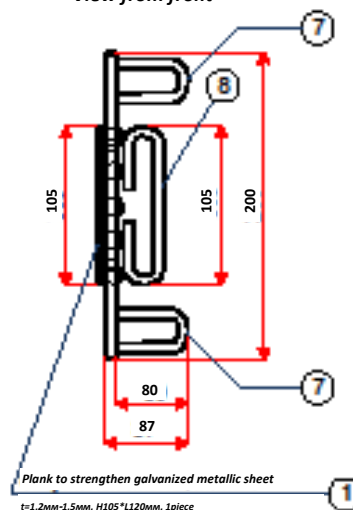


Iron grate of Tezpaz stove ash-box

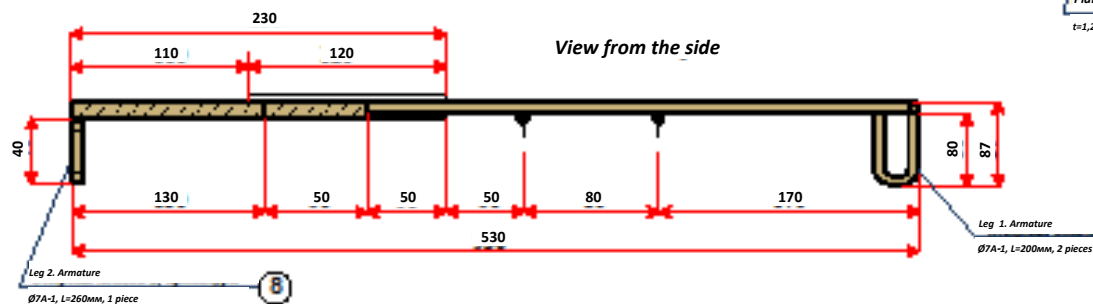
View from above



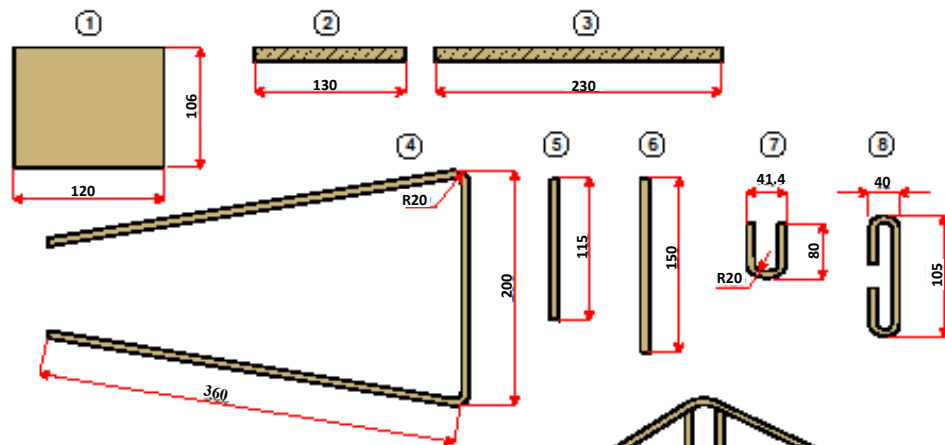
View from front



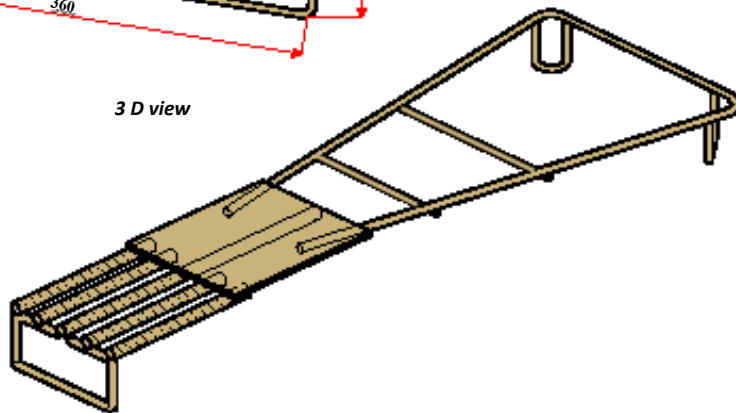
View from the side

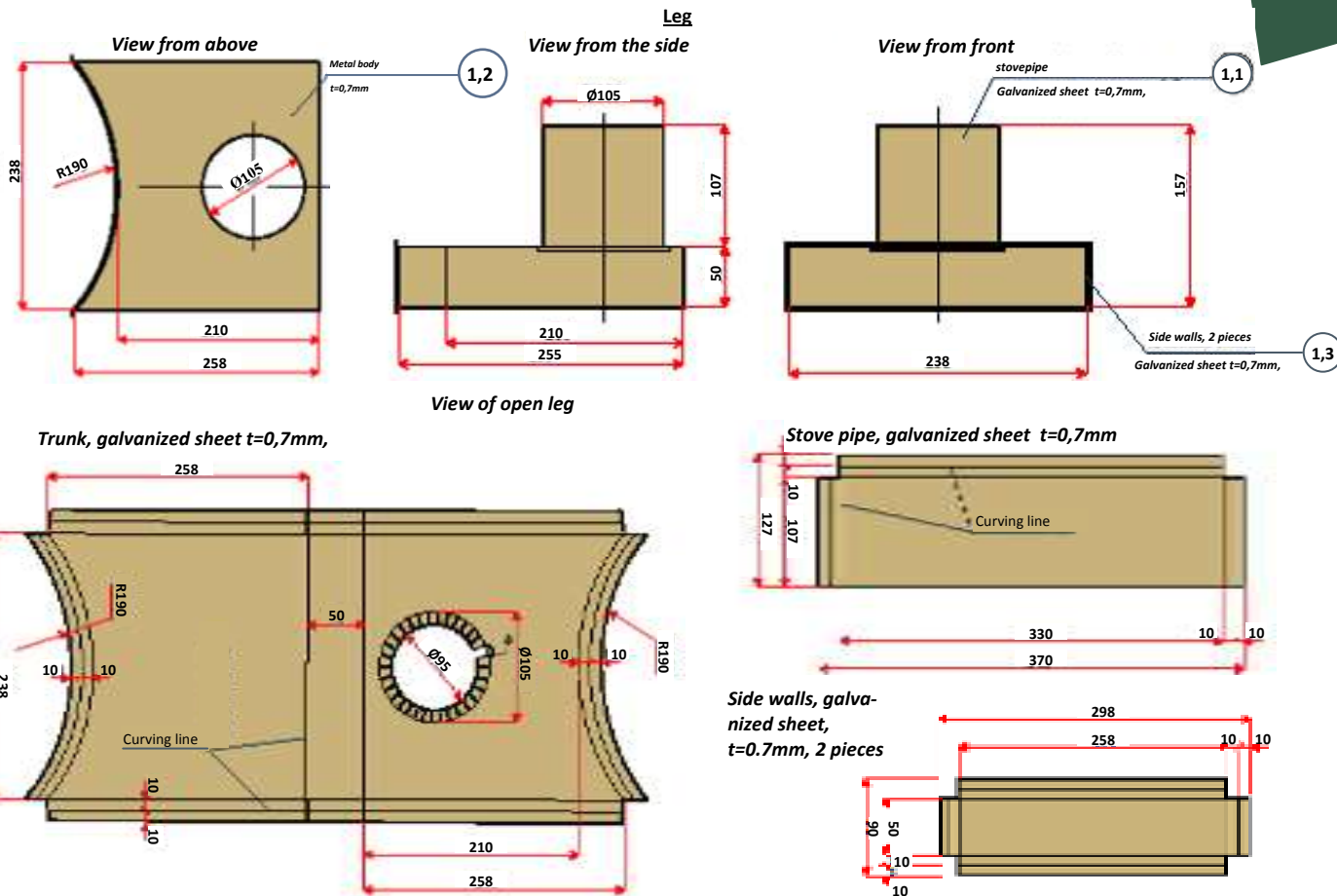


Parts of ash-box grate



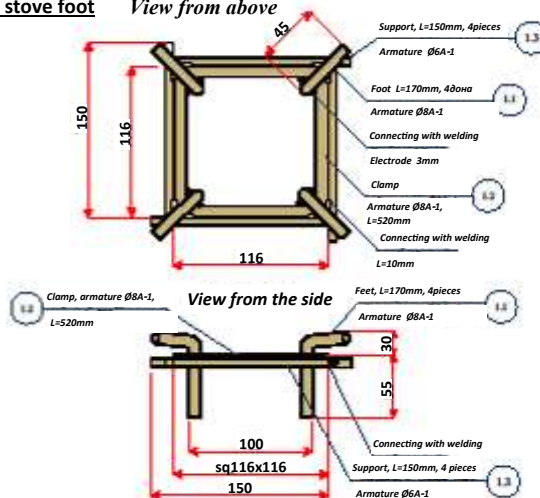
3 D view



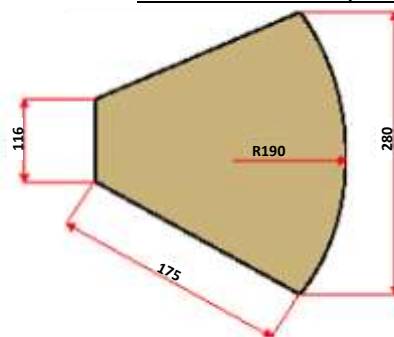


Iron made stove foot

View from above

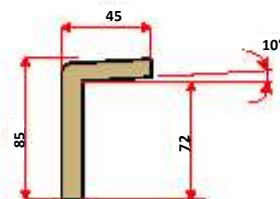


Additional insulation. 4 pieces



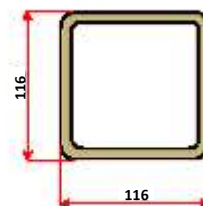
Foot

Armature Ø8A-1, L=130mm



2.2. Clamp

Armature Ø8A-1, L=464

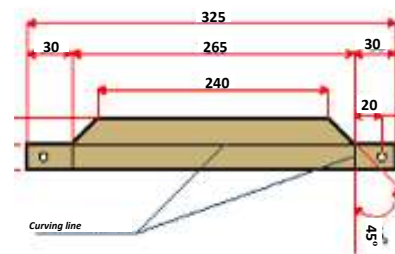


Support

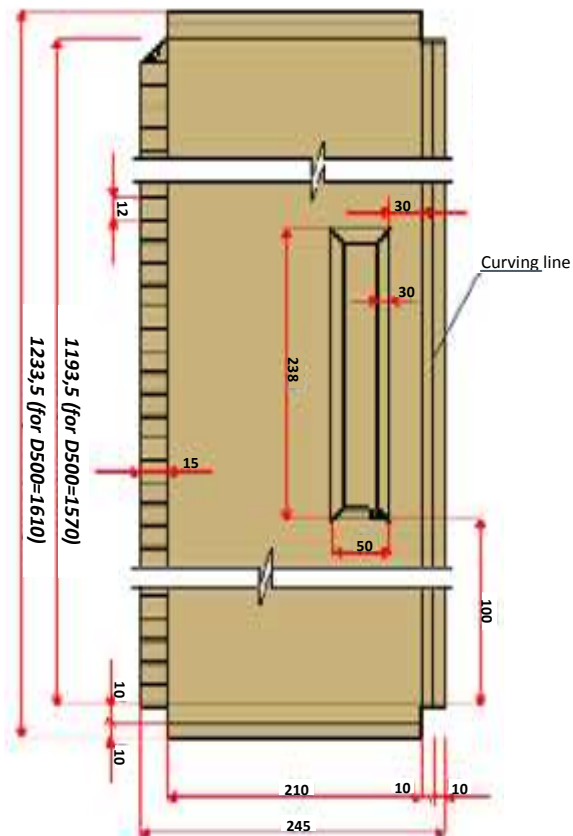
Armature Ø6A-1, L=150mm



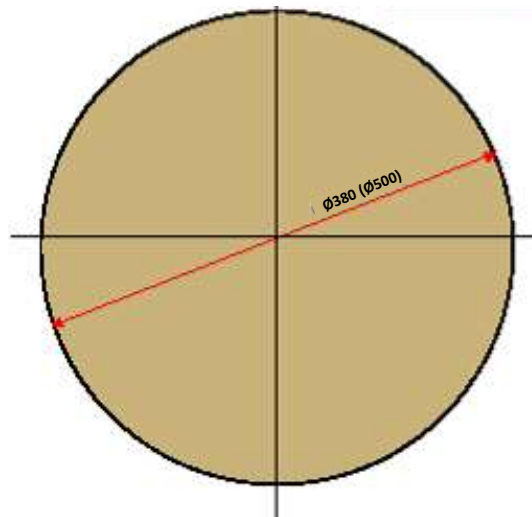
Iron made column



Open view of cylinder shaped burner walls



Bottom of cylinder shaped burner.

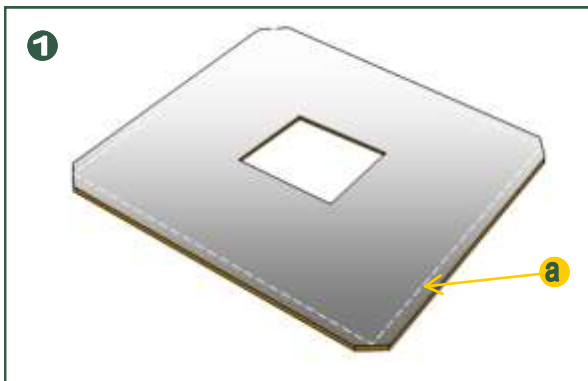


Step 3

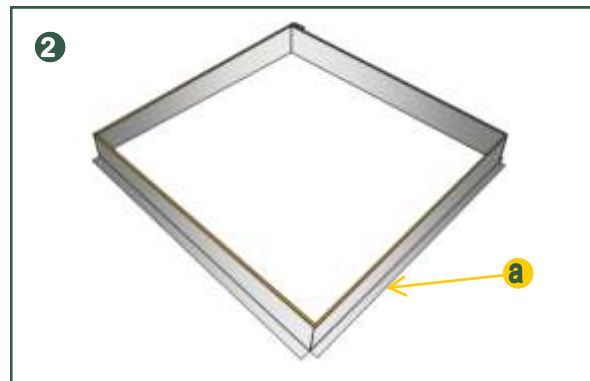
2.3. CONNECTING THE PARTS OF THE STOVE

The first part of "Tezpaz" stove is made in the following order:

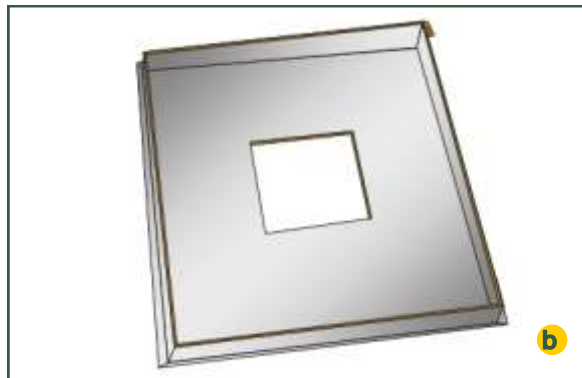
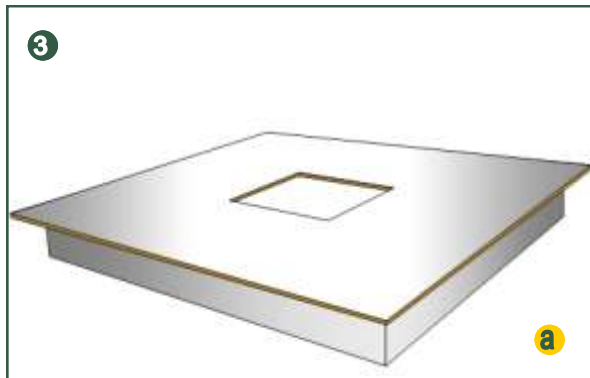
Order of attaching the first part of Tezpaz stove.



First of all, construct the lid of stove from galvanized sheet, (a) bend its sides downward.



Also, built the under lid frame and bend the sides downward (a), so that later to attach it to the lid.

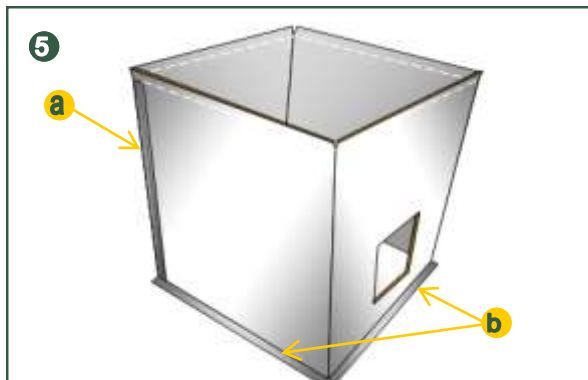


Then, attach the lid to the frame, which was prepared in previous section. This way, the lid of the Tezpaz stove is made.

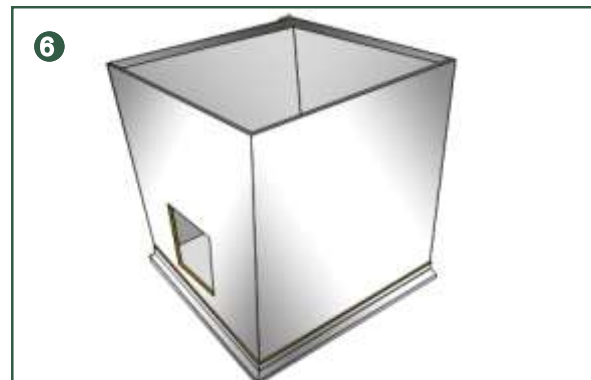
(a) Lid, view from inside; (b) Lid from outside.



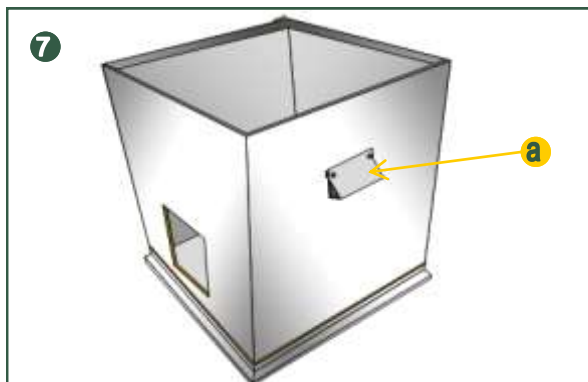
Foundation (bottom) of Tezpaz stove is made form galvanized metallic sheet. For this, cut the galvanized metallic sheet in accordance with the design and bend its all four sides as shown in the picture. (a) Foundation, view from above; (b) Foundation, view from bottom.



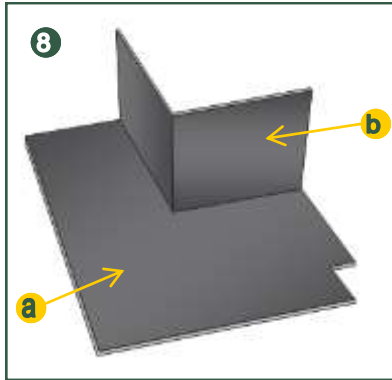
Walls of Tezpaz stove is made from galvanized sheet (a) attach it and (b) bend the lower sides.



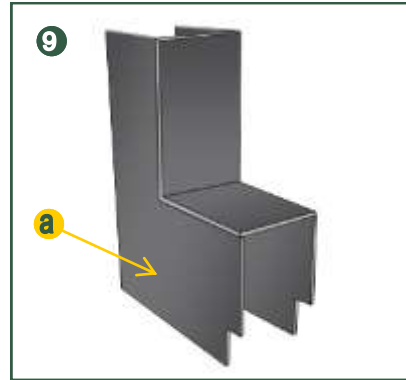
Then attach walls to foundation (picture 4) (picture 5).



After attaching walls to foundation, attach two knobs (handles) (a) of the stove with rivet (a) to the right and left side of the wall.



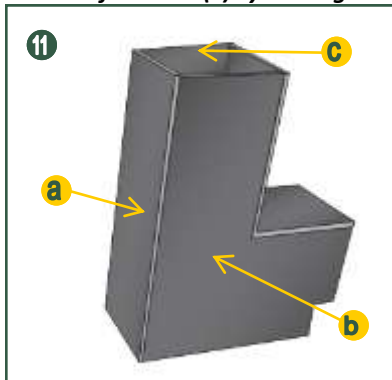
Build the right side walls from galvanized sheet 1.5 mm (a) and attach it to the front wall (b) by welding.



The left side wall (a) is attached the same way as the right side wall.



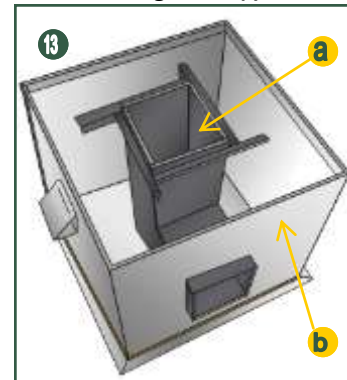
Weld the walls of lower part (a) of L shaped chamber between the left (b) and right walls (c).



Connect the back wall of (a) chamber between the left (b) and right wall (c) through welding.



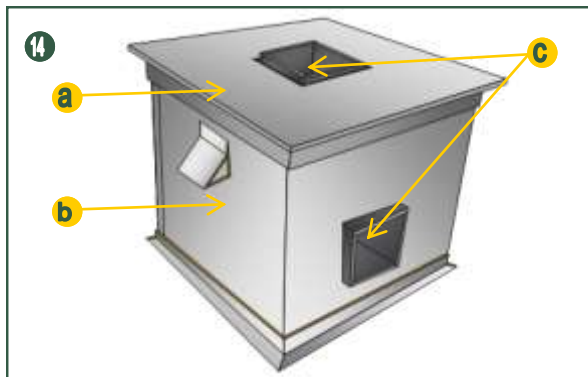
Attach 4 pieces of corner braces to the upper part of chamber wall (a) by welding



Then place the L shaped chamber (a) inside the Tezpaz stove (b).

One of the separate parts of fTezpaz stove is L tube chamber made from galvanized metallic sheet 3-4 mm thickness.

The other separate part of Tezpaz stove is iron grate of ash-box. The iron grate is made from armature and galvanized 3-4 mm thick.

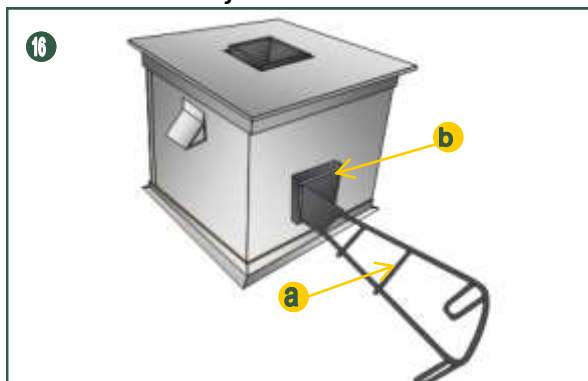


The final step is to cover the top of the stove (a) with the lid. (b) The sides of L shaped chamber (c) must stand out from the holes little bit.



In accordance with the design, build iron grate from armature and iron for placing woods.

This way, the first part of Tezpaz stove is finished.



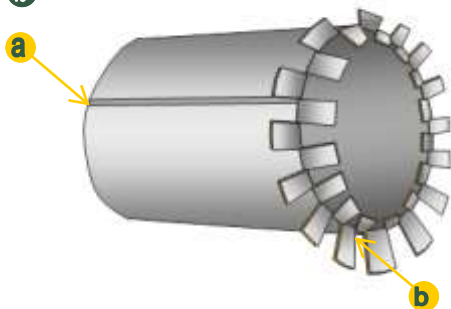
Then, place the iron grate of ash-box (a) inside the L shaped chamber (b).

17



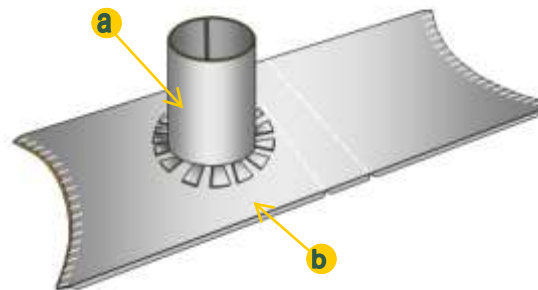
Begin construction of second part of Tezpaz stove from «Leg». It is made from galvanized sheet in accordance with design, (a) bend the edges of two sides in a way so that, next you can attach the side walls (b) the edges of the front side must be cut in a way so that next you can bend it.

18



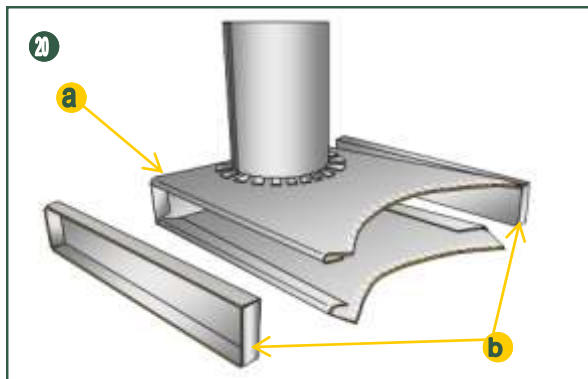
The stove pipe is made from galvanized sheet. (a) it must be attached by welding (b) the lower edges must be bent the following way.

19

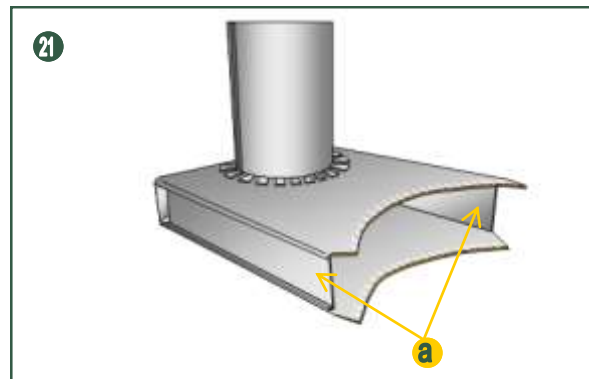


The stovepipe (a) must be attached to the trunk the way is it shown in the picture (b) by welding.

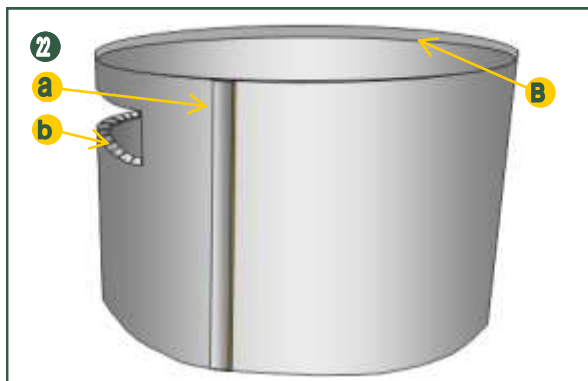
The second part of the stove, called “Cylinder shaped burner” is constructed through the following steps:



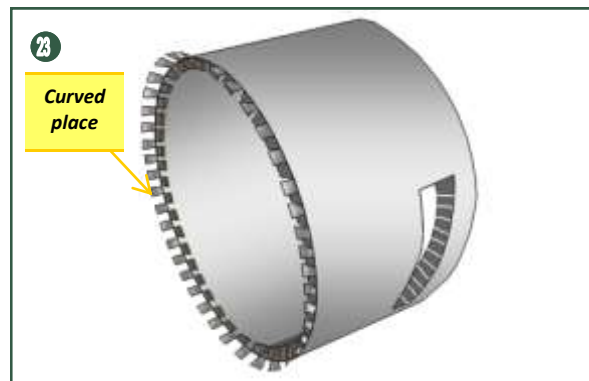
(a) Bend the trunk, to which the stove pipe is attached; (b) Bend the left and right side walls.



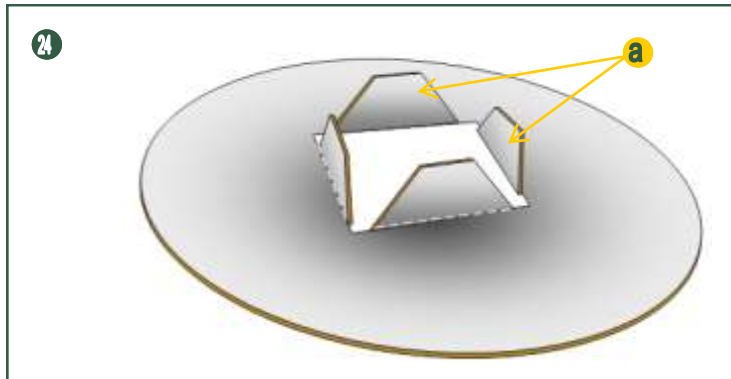
Weld the bent sides of wall (a) to bent side of trunk.



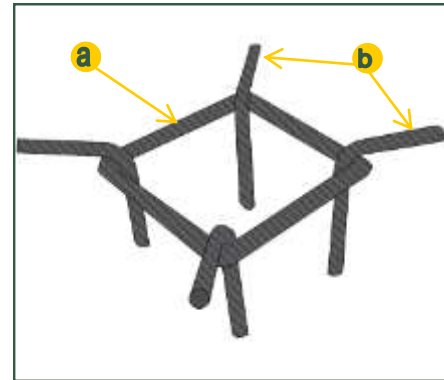
Attach the cylinder shaped zinc coated tin plate by twisting in (a). Bend the attaching part of the leg (b). Bend the upper edges of cylinder downward (c).



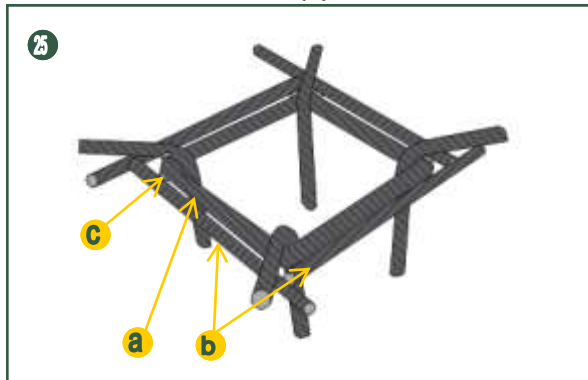
Cut the lower edges of cylinder as shown in the picture, and bend one outward and one inward so that next, you can attach the stove.



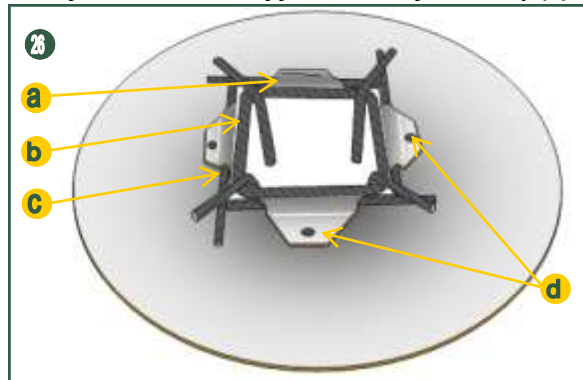
24 Cut the circle shaped bottom of cylinder shaped burner from galvanized sheet. In the center of it, cut the square shaped hole and bend the sides downward (a) so that next to attach the stove foot.



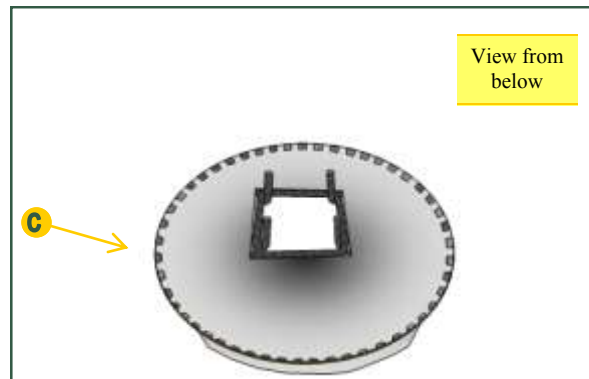
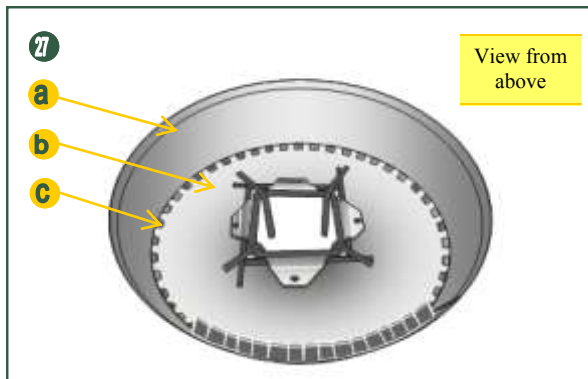
25 Iron made foot: Square shaped clamp (a) is made from armature; Place one foot in in each of four corner of the clamp (b).



26 Then, from the outside of clamp, (a) attach 4 pieces of support (legs) (b) made from armature (c) by welding.

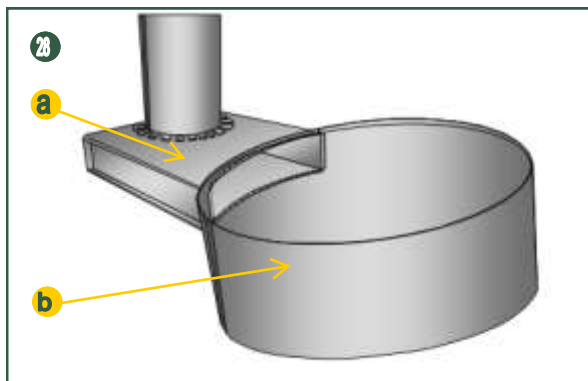


27 The foot is placed under the hole of cylinder. Stretch the bent edges of cylinder bottom (a) through the hole between the clamp (b) and support (c) and attach it with pin (nail) (d).

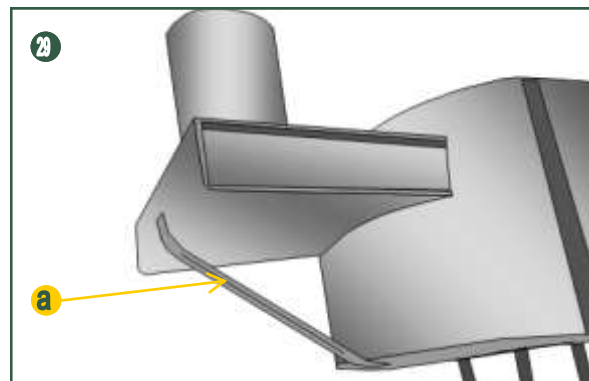


After having finished constructing cylinder walls (a) and the bottom of stove (b) attach them in bent lower edges (c).

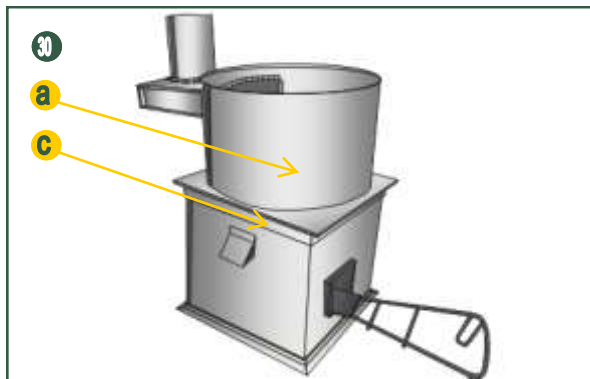
This way, the second part of Tezpaz stove is finished.



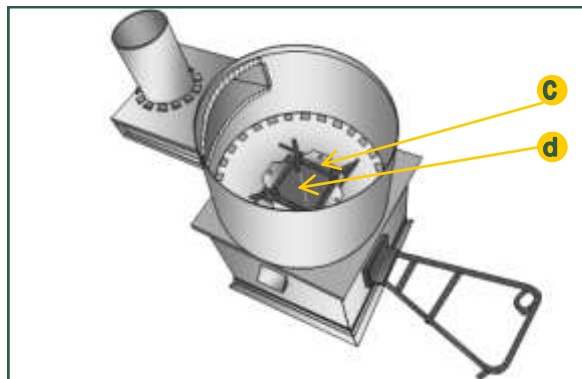
Attach the leg (a), which was made previously to the trunk of cylinder (b) through cut and bent edges.



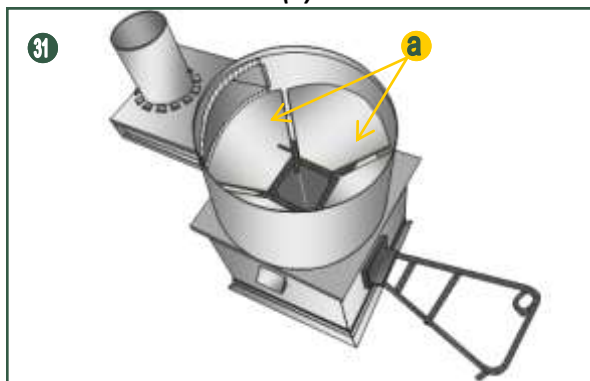
Then, in order to fasten connection, attach the leg to the trunk of cylinder with iron column (a), made from galvanized sheet.



30
After having made the two parts of the stove, place the cylinder shaped burner (a) on top of Tezpaz stove (b).



Cylinder shaped burner must be placed on top of Tezpaz stove in a way so that iron foot (c) must fully fit inside L shaped chamber (d).



31
Add the 4 insulation pieces (a).

Now the Tezpaz stove is fully constructed.

3. OPERATION OF TEZPAZ STOVE

**Rules for
preparing
Tezpaz stove
for operation.**



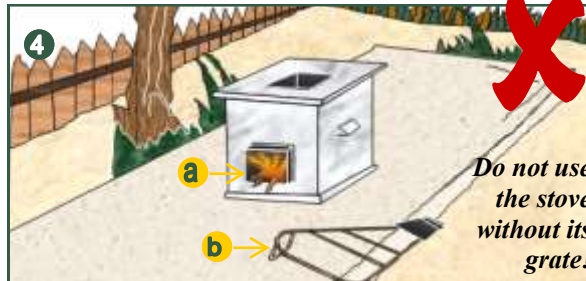
Tezpaz stove is a stove to be used outside in summer. For easy maintenance and keeping Tezpaz stove in good condition, it is recommended to keep it in one place all the time.



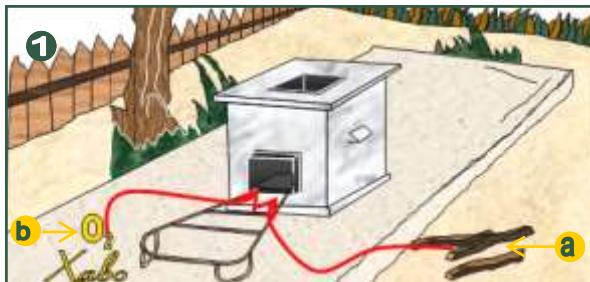
Open the lid (a) clean and fill any part of the combustion chamber (b) with insulation materials such as "Agloportit" or "Keramzit" (c). It will help to keep the heat inside the stove for longer duration. Without these materials, the stove loses it's energy efficiency! Do not replace it with other materials. Now put the lids back on.



3 Place the firebox (a) and the stovepipe (b) over the stove (c). Do not use the stove without its firebox! Pot can be put safely only on firebox. Inside the firebox, it is important to attach a pipe. Through the pipe, the smoke will go upward, and your cooking process will then be smokeless and safe for health.



4 In the front hollow of the stove (a) place the footed grate (b). The grate should fully fit in the stove. Place the woods in the grate. In order to have good fire, make sure to always clean the bottom of the stove from ashes.



1 In order to fire the wood, choose dry woods in small sizes. Place them in square in cell and put bigger woods on top of it (a). Also, good fire needs air (b).



2 Watch the process of burning woods. If the wood inside the stove is burnt completely, push the unburnt part of the wood inward, into the combustion chamber.

Rules for operation of Tezpaz stove



Thanks to insulation materials such as "Agloportit" and "Keramzit", stove can keep the heat 3 hours after turning the stove off. Therefore, after cooking your meal, you can also boil water for tea or other use.



Keep the Tezpaz stove away from rain. It can easily break from excessive moisture.

In Tezpaz stove, use only dry woods! Different type of fuel, may deform the combustion chamber of stove!

**Always place the grates to the end of stove hollow!
Without it, the stove does not work efficiently!**



ATTENTION!

4. CONTACT INFORMATION OF PROMOTERS AND MASTERS

| | Ayni district | Asht district |
|--|--|--|
| To purchase construction materials, please contact: | Khalifaev Sharraf. Address: Pinyon village, jamoat Fondaryo. Phone.: 92 738 76 76 | Ismoilov Orifali. Address: Marhamat village, jamoat Oshoba. Phone: 92 757 03 24 |
| For construction materials, please go to: | Sarvoda Construction Store Address: Sarvoda town (near hospital) | Uppon village market. Address: Upponi Bolo village, jamoat Oshoba |
| For more information and consultation, please contact: | Sirojiddinov Asliddin, Fondaryo jamoat, Ayni district. Phone.: 92-764-20-52. | Abdulloev Faizullo, Jamoat Oshoba, Asht district. Phone: 92-727-06-51. |



European Union



French Development Agency



Women in Europe for a Common Future



German cooperation



Deutsche Gesellschaft fuer Internationale Zusammenarbeit (GIZ) GmbH



UKaid



Abbé Pierre Foundation



Groupe Energies Renouvelables, Environnement et Solidarités



Agency for Support Development Process Nau

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