KITTEC®

User manual

STUDIO-LINE

CLASSIC-LINE

PROFESSIONAL-LINE

Last update: 2025-02

KITTEC®

Table of contents

1 About this manual

With this user manual, we would like to acquaint you with **your KITTEC kiln**. Please read the instructions carefully before initial operation and familiarize yourself with the operation. Above all, please observe **the safety instructions and the safety symbols** to ensure successful work.

The operator is responsible for ensuring that all persons operating the kiln, device or kiln accessories have read the manual.

This product is built according to state-of-the-art technology and to recognized safety rules.

The product may only be operated in perfect working condition. The operating instructions are part of the product and must be observed during the entire operating period and included with every change of location.

The content of this manual is for informational purposes only. It is subject to change without notice and can not to be considered as an obligation of the manufacturer. KITTEC does not accept any responsibility or liability for the accuracy, content, completeness, legality, or reliability of the information contained in this manual.

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2 Safety

2.1 General safety information

The following safety instructions must be strictly observed to avoid any risk or danger while working.

The product is intended solely for the described use. Even though the product is state-of-the-art, hazards can arise if the personnel is not instructed properly, if maintenance and installation are not performed according to the operating instructions or if the product is used for other purposes.

For safety reasons the product is designed only for persons over 14 years without physical limitations.

2.2 Intended use of product

The **kilns of KITTEC STUDIO-LINE, CLASSIC-LINE and PROFESSIONAL-LINE**, described in this manual, are built exclusively for the purpose of firing, thermal treatment and/or melting of ceramics, china, enamel, glaze and/or glass.

The maximum temperature in the firing chamber of each kiln varies according to kiln model and is indicated on the type plate of each kiln.

For electric kilns the type plate is attached to the electric box at the rear of the kiln, for gas kilns the plate is attached at the rear of the kiln body.

The melting temperature of materials and coatings and the vitrification temperature of the clays used will dictate the firing temperature required. In most cases this temperature is lower than the specific maximum temperature (limit temperature) of the kiln model.

Carburizing atmospheres, endogases, exogases, chlorine, fluorine, sulphur, metal oxides and alkaline compounds impair the durability of the insulation, for electric kilns also the durability of the heating coils and reduce the maximum permissible limit temperature.

2.3 Safety labels

The following safety labels attached to the KITTEC products must be observed:

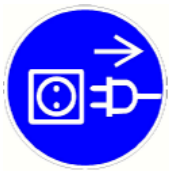
Read this manual carefully before using the kiln!

Never open hot kilns!

Hot surface! Special caution when opening in heated state!

For all electrically operated kilns there are further safety warnings to be observed:

Danger! High voltage!



Pull power plug before opening electric box!

Within this user manual the following sign is used for safety advice:

Safety instructions!

2.4 Safety instructions

The following **safety instructions must be observed** for trouble-free and safe work with the KITTEC kiln. Failure to do so may result in risks.

- For safety reasons and due to generation of harmful gases and vapours the kiln should only be installed in a dry and ventilated room of adequate size.
- According to fire safety regulations the kiln shall not be used in a garage or boiler room.
- It is not permitted to operate the kiln with explosive gases/mixtures!
- **Caution!** In operation the surfaces of the kiln could reach temperatures of more than 75 °C. Do not obstruct heat radiation of the surfaces.
- The kiln may **only be used for the purpose** stated. Other applications, particularly the storage, production, cooking, warming and/or drying of food and/or other misappropriations are not allowed.
- Do not allow unauthorized persons access to the kiln.
- Keep children away from the kiln, possibly lock the room!
- Never put flammable materials into the kiln.
- While operating the kiln, it must be ensured that it is not possible to reach into the hot firing chamber! It is recommended to lock the lid/door.
- Use **only authorized raw materials and glazes** in your kiln. Ask your supplier for information on the correct use of the materials, read the safety data sheets and relevant specialist literature about firing temperatures, maximum temperatures and resulting gases and vapour relating to the materials.
- The top of the kiln or the lid of top-loader kilns must not be used as a storage surface or table, even if the kiln is not in use (the mechanical lid should not be put under any pressure and in use the heat given off could present a hazard, free heat radiation needs to be guaranteed during operation).
- The kiln must **never be opened** during use or until the firing chamber reaches a temperature of less than 70 °C. The escaping hot air is a fire and health hazard. There are exceptions for top-loader kilns that are equipped with a lid prop and for kiln models CBR, CLM and M: these kilns can be opened at high temperatures.
- Keep order in vicinity of the kiln. Disorder increases the risk of accidents.
- Safety devices must **never be put out of operation**.

- Precautions **specifically for electric kilns**:
  - For health reasons: If there are people often or permanently present in the same room when the kiln is in operation, it is recommended to draw off the fumes to open air. Please take note of the advice given for the installation of an exhaust pipe for the kiln (see chapter "connecting the kiln").
  - Never use extension leads to connect your kiln to the power supply!
  - During maintenance disconnect the kiln from the power supply (pull the plug or if applicable turn off the isolator switch).
  - The whole electrical circuit must be checked by a service engineer prior to first use of the kiln, after maintenance and repairs and regularly at least every 4 years. In the case of industrial use, the inspection is due every 2 years.
  - Changes to electrical components may only be carried out by qualified service engineers. Proceed only according to circuit diagram!
- Precautions **specifically for gas kilns**:
  - The kiln operation in roofed rooms is only possible if the exhaust air from the kiln is discharged via a chimney. Please contact your local chimney sweep for this.
  - The burner system must be checked thoroughly by a service engineer prior to first use of the kiln, after maintenance and repairs and regularly at least every 1- 2 years.
  - When the kiln is still cold, please always open the kiln lid or door when igniting the gas burner!

Hint:
Safety devices must never be put out of operation!
If you are not able to properly carry out your work process with our protective devices, please let us know. Together we will surely find an acceptable solution!

3 Transport and installation

3.1 Storage and transport

The kiln should be positioned in a dry room with humidity of less than 70 % to avoid that insulation bricks are absorbing moisture. Protect the kiln against strong temperature fluctuations and aggressive atmospheres.

The kiln should be moved in an upright position with a fork-lift truck or suitable lifting equipment. Lifting equipment must not be fixed onto the body, only onto the frame of the kiln. During transport the kiln itself can overturn or parts may fall. For this reason, it must be ensured that there are no other persons in vicinity of the kiln.

3.2 Installation

The kiln should only be installed and operated in a suitable room. The most important requirements for the room are:

- The size of room must be adequate, dry (relative humidity < 70 %) and ventilated.
- The floor should be of stone, concrete or a material of similar strength and heat resistance.
- The floor should be smooth and even offering secure standing for the kiln. The specified load capacity must not be exceeded.
- Floors of wood, carpet, plastic or other flammable materials which deform or spontaneously combust with temperatures < 75 °C are not acceptable.
- The installation must allow free heat radiation during operation without the risk of ignition of objects, floor, wall or ceiling. The following minimum distance is recommended:
    - from the wall: 0,2 m
    - from the ceiling: 0,5 m
- Ceilings and walls must not be of flammable materials like wood, carpet or other materials which deform with temperatures lower than 250 °C. Otherwise a lateral distance of minimum 1 m must be observed, respectively a fire-proof insulation should be mounted on the ceiling above the kiln, which exceeds the outer dimensions of the kiln 1 m in each direction. In order that the surrounding materials do not ignite, suitable fire-proof materials of low heat conductivity should be used. Calcium Silicate insulation boards (15 mm) are particularly suitable and available from builders & merchants.

3.3 Checking fastening clamps (for specific kiln models only)

When putting the kiln into operation the fastening clamps for top-loader lids as well as for CBN- and CBR-F-doors must be checked for strength and tightened.

The test needs to be performed every 6 months in the first 2 years of operation (or after 30 firings, whatever occurs first) and the clamps need to be tightened if necessary.

After 2 years of operation this check must be carried out in annual intervals.

Clamps on the kiln body should not be tightened, or only tightened minimally, to prevent deformation of the kiln body.

3.4 Connecting the KITTEC kiln

Exhaust duct

The ceramic exhaust pipe on the side of the kiln **must always remain open**. This is essential for all kiln models and ensures that **the gases and vapors produced during firing can escape** from the kiln. This also helps to avoid unnecessary reduction in the service life of the heating coils.

Connecting the exhaust pipe for electric kilns

All electric KITTEC kilns generally are supplied with an exhaust pipe of ∅ 80 mm which should be fixed to the kiln with two threaded screws above the lateral exhaust pipe.

For a discharge to atmosphere a minimum 2 m long (chimney effect) stovepipe (e.g. flexible aluminum pipe ∅ 80 mm available from KITTEC) can be connected to the end of the exhaust pipe (suitable size metal hose clamp) and passed through a heat-resistant fairlead (e.g. stone or concrete) to the other side of the wall or ceiling to open-air in an upward direction.

Precautions should be taken to prevent rainwater entering the exhaust pipe and to prevent the flue being influenced by bad wind conditions.

Notice:
In most cases it is sufficient to ventilate the premises during firing, e.g. through a tilted window. If there are people in the same room for several hours during firing, we recommend discharging the exhaust air to the outside via a pipe. Corresponding legal requirements and regulations must be checked and observed.

Exhaust air ventilation for gas kilns

For gas kilns strict regulations apply regarding the exhaust air discharge. When using a gas operated kiln in roofed rooms the exhaust air from the kiln must be discharged via a chimney.

In addition, when using a gas operated kiln a constant supply of combustion air (fresh air) from outside must be ensured: This can be achieved by external joints of the installation room or via openings directly into open air. It is important to have a sufficiently large opening, of at least 150 cm². To give an example: a 1,5 cm gap underneath a 100 cm wide door ensures a sufficient combustion air supply.

Please check currently applicable regulations and get in contact with your local chimney sweep.

Assembly of collection container (optional)

For some kilns there is a collection container available as an option. If the collection container is not already installed, slide the referring collecting container into the guide rails on the supply air slide under the kiln.

If you need to empty the collection container, simply pull the collecting container back out of the guide rails.

The function of the collecting container is to prevent anything from falling onto the floor or running out of the kiln through the air inlet hole when the supply air slide is open (e.g. glaze running down due to overfiring).

Connecting electrical kilns

The electrical connection of the kiln should be checked by a professional electrician prior to use. An electrician should also check existing electrical installations (like fuse box, supply and sockets) and should check and ensure sufficient size of fuse and thickness according to the details given on the type plate of the kiln.

To ensure a fast and easy disconnection of the kiln from the power supply in case of emergency, the power supply socket or main isolator switch on the electrical supply should be easily accessible within the kiln room. The supply lead must not touch the hot kiln.

Advice when using extension rings:
For kiln models with extension rings please check plug connection between kiln bodies!

Never connect kilns with **230 Volt nominal voltage** to any 230 Volt socket, before an electrician has checked all above-mentioned points.

For **kilns with a nominal voltage of 400 Volt** and a nominal output of more than 10 kW, the various electricity supply companies have different regulations on whether such kilns must be registered or approved. Therefore, please make sure that you or your electrician inform yourself directly at your responsible power supply company about the registration or approval for the operation of such kilns.

Voltage fluctuations are generally possible. In Germany, the nominal voltage of 230/400 Volt can fluctuate by 10%. This leads to a deviation in the nominal power. If the voltage drops to 207 Volts or 360 Volts under load in extreme cases, the kiln output is decreased by almost 20 %.

Caution:
Never use extension leads!

The controller is linked via a plug connection to the kiln.

Mounting the controller for electrical kilns: Mount the controller bracket on the kiln frame (the extension rod for PROFESSIONAL-LINE kilns) or on a near wall, connect the controller plug to the control box and bring down the fixing catch.

When using an extension rod for PROFESSIONAL-LINE kilns: Attach the controller to the TC-fixing plate on the extension rod using the provided screws (loosen cap nut if necessary to detach the rod). Then, reattach the fixing plate to the extension rod. The extension rod can then be screwed in at the top left of the lid-frame for top-loader kilns, or on the side of the body for front-loader kilns.

Advice:
Avoid ever placing the control unit on the kiln although the kiln is not in use. It has often happened that customers out of habit placed the control unit on the kiln after they have started a program. By rising heat, your controller will be destroyed and may even cause fire.
Therefore: **Never place the controller on top of the kiln!**

Connecting gas kilns

For the supply of gas kilns there are two alternatives: a propane burner or a natural gas burner can be used. Optionally there is a curve control for propane gas as well as for natural gas available.

When connecting **a gas kiln install** the burner corresponding the manufacturer instructions. Please take care that the top of the burner is approx. 2 to 5 cm under the burner hole of the kiln. This is necessary to ensure that enough Oxygen can be pulled into the firing chamber. Connect the plug of the thermocouple to the temperature indicator.

When connecting **a raku kiln install** the burner system according to the manufacturer's instructions. Ensure that the burner head in raku kilns is positioned approx. 2 to 5 cm in front of the burner hole to allow sufficient oxygen to be drawn into the firing chamber.

Additionally, for raku kilns it is important to place the supplied cordierite base plate on the three 115 mm high base stones. This is to prevent the burner's flame from directly hitting the ware in the kiln. Arrange the stones on the kiln floor so that the flame can spread evenly beneath the cordierite base plate within the firing chamber.

Advice:
Avoid ever placing the temperature indicator on the kiln although the kiln is not in use. It has often happened that customers out of habit placed the temperature indicator on the kiln after they have started a program. By rising heat, your controller will be destroyed and may even cause fire.
Therefore: **Never place the temperature indicator on top of the kiln!**

The connection to an (existing) gas line must be carried out and approved by a specialist.

For further information there are more manuals available from KITTEC:

- Pot Burner propane
- Raku burner propane
- Natural gas burner
- Firing curve control propane
- Natural gas burner installation with firing curve control

3.5 Initial operation / test firing

Every new kiln must be fired empty prior to regular use. This firing is essential for various reasons. In every kiln the insulating fire bricks may still contain moisture residue, which shall dry during the slow increase in temperature during this first firing.

For **electrical kilns** this empty firing is a critical part of the initial commissioning process, necessary for checking the function of the kiln and control unit. Additionally, the heating elements require a protective oxide layer for longevity, which is formed during the initial firing cycle.

For **gas operated kilns** this firing is essential for checking the function and heating-up of the kiln and burner.

Preparation for test firing

To **open top-loader kilns or CBN model kilns**, release the lock and lift up the lid until it comes to rest. Remove any protective packaging and close the kiln by carefully bringing down the lid again.

For **front-loader kilns**, release the locks and open the door. Remove any protective packaging and close the door carefully again.

The first firing is carried out empty of ware but including kiln furniture!
Hint: For first firing load the kiln furniture supplied with the kiln into the kiln – observe any furniture relevant information.

Starting the test firing <u>for electrical kilns</u>

Insert the electric power plug into a correctly installed and checked socket. Turn on the power switch of the control and close the kiln. Bolt the kiln lid with the hatch fastener or with both safety locks (this is not valid for PROFESSIONAL-LINE X Top-loading kilns with swinging lid system). After that start a firing program (please see controller manual for how to call up a program).

Example first firing program:
60-100 °C/h until 600 °C,
after that skip (fast heating) until 80 °C below T. max.,
60 min. dwell (for T. max. see type plate).

During all programs, the sound of the contactors in the power box is clearly audible. When the kiln is still cold, the humming noise of the heating coils can also be heard. This humming diminishes during the first firing segment and disappears once the heating coils reach a certain temperature.

After completion of the firing test program your KITTEC kiln is ready for use.

Always switch off the controller at the power switch if the kiln is not in use. For a longer period out of use the electric power plug should be disconnected at the main isolator switch.

Starting the test firing for gas operated kilns

Verify the proper connection of the temperature indicator and the burner. Close the kiln carefully and start the burner as described in the referring instructions. Heat up the kiln to 80 °C below T max (T max. see type plate).

After completion of the firing test program your KITTEC kiln is ready for use.

General notes in test firing

When heating the kiln for the first time to temperatures exceeding 200 °C, there may be a noticeable odour due to evaporation. These vapours are not harmful to health. However, it is still advisable to ensure proper ventilation of the room.

Never place the controller (for electrical kilns) or the temperature indicator (for gas operated kilns) on the kiln!

Attention:
NEVER open the hot kiln while the firing chamber temperature is high.
Serious fire and health hazards!

4 The firing process

4.1 General

Open the kiln and distribute the ware evenly in the kiln. Advice for the stacking of ware can be found in the following sections. Try to fill the whole firing chamber to avoid energy wastage.

Attention for all kilns with base heating:
Ensure that there is a minimum distance of 4 cm between the bottom firing plate and the hearth heating. Failure to maintain this distance may result in damaged heating elements and harm to the brick lining.
When loading the kiln be careful to place stilts and cordierite base plates not directly over the grooves of the heating elements, but on the brick-surfaces in between.

Then close the lid (for top-loader) or door (for front-loader) with the lock on the body.

4.2 Starting the firing process

To **initiate the firing process in electrical kilns,** use the controller to select the desired firing program and then start the kiln firing. For detailed instructions, please refer to the user manual for the controller.

The (optional) supply air bottom valve for electrical kilns can be opened in case of:

- dry firing to draw off humidity.
- decor and gold firing, because of solvents.
- desired faster cooling process.

For starting the **firing process for gas operated kilns** start the burner as indicated in the manufacturer user manual for your burner.

4.3 Firing procedures

Bisquit firing

Biscuit firing, also called glow, raw or rough firing is the first firing of ceramic ware, that means the firing of dry and unglazed pieces.

Note:
In a fast-heating gas kiln, biscuit firing is hardly possible, so for biscuit firing please use an electric kiln.

In biscuit firing the arrangement of the ware in the kiln is not crucial. The pieces may touch each other and may be stacked.

If the base plate of the kiln is not providing enough space for all the pieces, it is possible to use props and one or several shelves to have several tiers in the kiln for biscuit firing.

Hint:
When firing large and even plates, use firesand or firing rods as a moving support. This works like a lubricant underneath the pottery ware.

When firing very large pieces, the increase in temperature should be slow, e. g. 50 °C/h. This prevents the risk of possible cracking due to thermal stress.

Pieces which are not completely dry can be prepared for firing with a drying program.

Glaze firing

In glaze firing the even temperature distribution is of vital importance for the future appearance of the ware because glazes are very sensitive to temperature differences.

Therefore, distribute the ware evenly in the kiln. Fire similar pieces on one level. The minimum distance between the pieces should be three to five cm, that is also advised for the distance to the wall.

The base of each piece should not be glazed or should be supported on stilts to protect the surface of the kiln shelf.

Apply a suitable protective batt wash to the kiln shelves to safeguard against accidental glaze runs. For more information on suitable products, consult your kiln retailer.

sample images for loading with props.
Top: top loaders. Bottom: front loader.

Reduction firing

Reduction firing is generally feasible in gas-heated kilns. Control the reduction firing by adjusting the opening in the kiln lid or on the top of the kiln. You can use minimize the size of this opening using a lightweight refractory brick or the manual damper (located laterally at the top of the kiln frame or on the back side for XG front-loading kilns).

Note:
Avoid reduction firing in electrically heated kilns. The process can reduce the protective oxide layer on the heating elements and will lead to shortened lifespan.

Cooling phase (for top-loading kilns)

Our **CLASSIC-LINE und PROFESSIONAL-LINE top-loading kilns** include the **KITTEC lid prop** as a standard feature (for STUDIO-LINE top-loader kilns this is an optional accessory). This lid prop can be used to accelerate the kiln's cooling phase by allowing increased air circulation.

The KITTEC lid prop for top-loading kilns has two settings that allow additional hot air to escape from the top-loading kilns.

Typically, during the cooling phase at higher temperatures, the position with the smaller outlet gap is used first. Later in the process, when lower temperatures have been reached, the setting with the larger air outlet can be used.

For safety reasons, great care must be taken when using the KITTEC lid prop and it must be ensured that the kiln is not opened at temperatures above 150 °C. It is also strongly recommended to wear heat-resistant gloves when opening and closing the lid prop.

We are unable to recommend a temperature at which accelerated cooling is possible for different types of firing ware without risking potential damage. Since materials and glazes react very differently, we recommend, if in doubt, consulting the manufacturers or suppliers of the materials and glazes in use for further advice.

Firing records

To reach reproducible results firing records are an important aid.

At the end of this user manual, you will find a firing record template.

5 Maintenance and care

5.1 Maintenance of electrical kilns

To ensure the safe operation of your KITTEC kiln, the electrical installation must undergo a check by a qualified specialist at least every four years. For kilns used in industrial settings this inspection should occur every two years.

Warning!
For safety reasons, always disconnect the kiln from the power supply before any maintenance work. Either pull out the mains plug or reset any installed main switch. Before starting any maintenance also ensure that the temperature in the kiln's firing chamber does not exceed 70 °C.

Note when using SiC base plates:

SiC base plates may expand over time due to the growth of silicon crystals and can potentially cause damage to your kiln.

Therefore, it is important to regularly check the space between the light-weight refractory brick and the SiC plate in your kiln. This can be done, e.g. by gently lifting the SiC plate. If

you find that the SiC plate is slightly stuck and difficult to remove, it should be replaced with a new one. Your KIITEC dealer will be happy to assist you with this process.

Other maintenance of the kiln is limited to regular cleaning and visual inspection for damage.

Make sure that no foreign substances get onto the heating elements. If, however, impurities are found on the heating elements, remove them immediately, as burnt-in foreign material may damage the heating elements and the bricks.

Sweep the kiln and carefully clean the grooves where the heating elements are situated using a vacuum cleaner.

Over time, the heating elements can get brittle and break easily. Therefore, avoid any contact between the heating elements and the vacuum cleaner suction pipe.

It is advisable to keep a complete set of spare heating elements on hand. In case of an emergency this will help avoid unnecessary delays, allowing you to resume firing as quickly as possible. In the case of substantial damage please contact us or your retailer. **Always consult a qualified electrician for the replacement of the heating elements!**

Heating elements are subject to wear. Their resistance increases with every firing. In the course of time this will lead to delay in the firing cycle due to a drop in output, especially in the upper temperature range. In the case of excessive wear, we recommend to replace all, rather than only individual heating elements, as individually replaced elements might lead to differences in temperature within the kiln.

5.2 Maintenance of gas kilns

To guarantee safe use of your KITTEC kiln the gas valves must be checked every one to two years by a service specialist.

Warning!
Before carrying out any maintenance work the main gas supply must be closed for safety reasons.
It must be ensured that the kilns firing chamber firing chamber does not exceed 70 °C.

Other maintenance of the kiln is limited to regular cleaning and visual inspection for damage. Sweep the kiln and clean it carefully with help of a vacuum cleaner.

5.3 Other general maintenance measures

Checking fastening clamps (only for specific kiln models)

When putting top-loading kilns and kilns of model series CBN in operation the lid clamps on the kiln must be checked for strength and tightened if necessary.

The test needs to be performed during first installation and every 6 months in the first 2 years of operation (or after 30 firings, whatever occurs first).

After 2 years of operation this check must be carried out in annual intervals.

Removal of contaminants

When loading the kiln with ware, take care not to get in contact with the heating coils. They could break when touched. If during loading glaze gets in contact with the heating coils the glaze must be removed before starting the firing, as this may lead to severe damage.

Should glaze get in contact with the insulation bricks, it should be removed with a suitable tool, e.g. a spatula. With further firings the glaze would lead to further damage of the brickwork. After each firing, please check the firing chamber for damage by accidental glaze spillage or runs.

If more than 2 cm of the brick is eroded, the area of brickwork should be repaired as follows:

- First carve out the damaged spot rectangular.
- Tidily shape a new piece insulating brick.
- Clean the damaged area with a vacuum cleaner and
- Put in the replacement piece with high temperature cement.

You may obtain an overview of spare parts and repair materials from your KITTEC dealer.

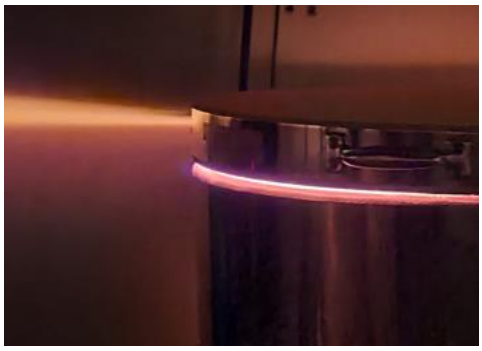
Visible characteristics and changes in brick lining

The presence of air inclusions, commonly referred to as holes or blowholes, in the bricks is a normal occurrence and should not be a cause for concern.

The bricks are natural stones that have been enriched with oxygen, pressed and heat-treated. It is not advisable to fill these inclusions with high-temperature cement.

Hairline cracks in insulating bricks can occur as a result from high temperatures, are quite normal and do not affect the operating efficiency of your KITTEC kiln.

Tightness of kiln doors and lids



During kiln firing, particularly in a dark kiln room, sometimes a shine of light may be noticeable. This phenomenon is caused by the heat expansion of the kiln lining and insulation.

The gap dimensions for doors and lids are optimally set at the factory, readjustments are generally not necessary.

Any incorrect readjustment of the door or lid lock can pose a significant risk of damage to the kiln (see picture).

Therefore, readjustments shall only be undertaken after consulting your local KITTEC dealer or KITTEC.

Warning!
Before attempting any readjustment of kiln door or lid locks, please consult your local dealer or KITTEC for guidance.

Stained sealing cord

It is normal for the sealing cords at the upper end of the top-loader kiln bodies, or at the doors of front-loading kilns to darken or turn brown over time.

However, this color change does not affect the tightness of the kiln. The sealing cords should only be replaced if they begin to dissolve after many years in use.

Polishing of tarnished stainless steel parts

The vapours emitted from inside the kiln may cause stainless steel surfaces to tarnish and lose their shine to some extent. These tarnished areas can typically be polished with ease.

6 Disposal

6.1 Decommission

The decommissioning must be well prepared if the kiln is to be reassembled and installed in another location. Please disconnect the kiln from the power supply and any further connection.

Decommissioning of kilns

For decommissioning of your kiln, it is recommended to disassemble all mounting parts thoroughly, to label and if necessary, to pack them. This helps to ensure that all parts can be reassembled properly.

With each firing process the brickwork and for electric kilns also the heating elements become fragile, so KITTEC denies liability for all kind of transport damage.

6.2 Final disposal

If no take-back or disposal agreement has been made, recycle all disassembled components of the kiln, the device, the equipment, or the kiln accessories.

For more information on appropriate disposal please contact your local Environmental Agency.

7 Troubleshooting

7.1 For electrical kilns, what to do if …

… **the electronic controller displays the incident or error message „E”?**

This indicates that the controller has detected an incident or error in the program sequence. Refer to the controller’s user manual for detailed information on the meaning of the detected issue and the steps for its correction.

… the display remains dark after starting the controller?

This could be due to several reasons:

- The controller may not be properly connected to the kiln. Please check controller’s connection.
- The switch of the controller could be set to OFF. Verify and adjust the switch if necessary.
- The domestic fuse could have failed. Inspect and replace the fuse if needed.
- The microfuse of the controller might be defective. For top-loader kiln, unscrew the black fuse holder on the side of electrical box, or at the bottom of the electrical rail for front-loader kilns, and check the microfuse. If suspecting a defect, please get in contact with an electrician for further troubleshooting.

If you are still unable to locate the error despite these tips, please get in contact with your KITTEC dealer or our service department.

7.2 For gas kilns, what to do if …

… **the firing chamber heats up very slowly or does not heat up at all?**

This could be caused by several reasons:

- The burner may not be properly adjusted, or there could be a problem with the gas connection. Check and adjust the burner and ensure that the gas connection is functioning correctly.
- The distance between the burner top and the burner hole in the kiln might be too large or too small. Adjust the distance to the recommended specification.
- The exhaust air opening in the lid or on the top may be either insufficiently or excessively minimized by the regulating brick. Adjust the position of the regulating brick for optimal air flow.
- The lid of the kiln may not be closed correctly. Ensure that the lid is properly sealed.

If you are still unable to locate the error despite these tips, please get in contact with your KITTEC dealer or our service department.

8 Warranty conditions

We guarantee faultless finish and function of the delivered product or device such as kiln (incl. control unit), machines as well as devices and provide a 3-year warranty from the date of invoice. For industrial use the warranty is reduced to 2 years. We grant a 1-year warranty on spare parts. All parts subject to wear and tear, e.g. heating elements, are generally excluded from warranty and guarantee.

The warranty claim does not cover:

- Damage caused by the customer
- Improper installation
- Damage due to incorrect assembly/disassembly of parts and incorrectly performed maintenance measures
- Repairs by non-expert people
- Damage caused by force majeure or natural disasters
- Damage due to improper transportation
- Kiln heating elements (because these are wearing parts)
- Damages on kilns, caused by firing goods (for example by exceeding the specified maximum temperature)
- Damages on kilns, caused by improper chemical reactions during the firing (for example salt firing)
- Damage caused by gases released during firing (carburizing atmospheres, endogases, exogases, metal oxides, alkali-containing compounds, chlorine, fluorine, sulfur)
- Damages on firing goods
- Damage due to improper handling
- Hairline cracks in insulating bricks

Services under warranty:

In case of damage please inform us or your KITTEC dealer without delay and before any costs are incurred. In the event of a kiln damage complaint, please indicate the type of kiln, the serial number, and the year of manufacture (see type tag). We then decide how to proceed. It is our decision to carry out a repair or to have this carried out by someone else, to make an exchange or to rescind the contract.

In case of justified complaints, the warranty covers the free supply of necessary spare parts, including installation or repair. If a product or spare part is no longer available, KITTEC is entitled to deliver another equivalent or similar product or spare part. Transport or shipment to KITTEC or any other activity may only be made with our prior consent. If we agree to the proposed action KITTEC bears the costs incurred in carrying out the measures. In the event of a complaint, please indicate the invoice number or send us a copy of the invoice. By reporting a claim, you agree to your data being stored for the purpose of claims handling and further processing. Your data will not be passed on to third parties. Details on this can be found in our privacy policy.

Please fill out the warranty card and send it back to enable faster processing in the event of damage. By sending back this form, you agree to your data being stored for the purpose of handling claims and further processing. Your data will not be shared with third parties. You can find further details in our data protection declaration.

(Status 2023, subject to modification)

KITTEC GmbH
Taxisstr. 49
83024 Rosenheim
Germany

For registration fill in and return this form to:
E-Mail: info@kittec.de

Use the online registration on our website:
www.kittec.eu/garantie

Warranty Registration

Congratulations on your new KITTEC kiln!

Register as an owner of a KITTEC kiln. The warranty registration enables quick and uncomplicated processing in case of a defect. By returning the form, you agree to your data being stored for the purpose of handling claims and further processing. Your data will not be shared with third parties. You can find further details in our data protection declaration on our website.

Type: _____ Serial number: _____

Year of manufacture: _____

Company: _____ Area of business: _____

Name: _____

Address: _____

_____

Date of delivery: _____

Local dealer: _____

Further details:
(not necessary for warranty, helps to accelerate the process)

Phone: _____ / _____ (with dialling code)

Fax.: _____ / _____ (with dialling code)

E-Mail: _____ @ _____

9 Firing record template

Time	Temperature	Remarks

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