



With you at every step



Keep up with COVID-19 by taking the right measures for your Heating Equipment



Bringing you knowledgeable insights and information that will keep your Heating Equipment up and running during and post lockdown period. Kindly refer to the Standard Operation Procedures (SOP) for the equipment that is applicable to you.

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| CUSTOMER SERVICE BULLETIN | Ref:TL/HTG/SERV/CSB-2020/003 |
| SCOPE | THERMAX HEATERS AND BOILERS |
| SUBJECT | STANDARD OPERATING PROCEDURE FOR PRESERVATION OF BOILERS & HEATERS |
| DATE OF RELEASE | APRIL 2020 |

Brief Background:

Thermax Limited Heating Division has been into the manufacturing & servicing of boilers & heaters since over 50 years now. In order to support / assist the customers to have a smooth startup post the lock down period. Usually when the boiler / heater is not in use beyond certain period there are certain precautions needed to be taken to preserve the critical components. Heating Services is sharing a standard operating procedure for long & short storage which must be followed in an even of the boilers & heaters are being kept idle for certain period. Thermax recommends this document should be referred in accordance with the operation & maintenance manuals for the respective units.

"Dry" or "Wet" Preservation methods are recommended to take care of the Boiler, whenever it is to be kept for the idle or in shutdown condition. Preservation Methods are suggested based on the duration of the boiler Shutdown.

Section 1 – Wet Preservation

If the boiler is to be kept idle for a short period (up to 30 Days), it should be laid up "Wet" as Follows and Wet Preservation method is suggested:

- ✓ Fill the boiler completely with de-aerated water, up to overflow level.
- ✓ By admixing an alkalizing agent (MAXTREAT 3100/3200), bring the pH value of the boiler water to 9.5 and add a corresponding quantity of oxygen binding agent. Sodium hydroxide or a corresponding phosphate, for instance, can be used as the alkalizing agent
- ✓ Oxygen binding agents are, for instance: hydrazine, sodium sulphite and sodium bisulphate.
- ✓ Depending on the standstill period, the hydrazine content in the boiler water should be for instance:

| Standstill duration | Hydrazine surplus g/m3 N2H4 |
|---------------------|-----------------------------|
| Up to 1 week | 20 to 30 |
| Up to 1 month | 50 to 100 |
| Longer | 100 to 300 |

- ✓ For better mixing, the boiler should be heated briefly after admixing hydrazine, up to about 85°C, to drive out the oxygen in it. Take care that no pressure builds up in the process.
- ✓ Before renewed commissioning of boiler, the boiler water must be drained off until the operational water level has been reached, provided the steam is allowed to contain hydrazine (the steam must not contain hydrazine if it comes into contact, for instance, with foodstuffs, clothing or dressings). Otherwise, the boiler must be drained and refilled. Close all valves. In all cases the exhaust gas flaps or gate valves must be kept closed.
- ✓ Check for any leakage and take samples of water at regular intervals to ensure alkalinity and sulphite are maintained.





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Section 2 - Dry Preservation

Whereas if the boiler is to be kept idle for a very long period (beyond 30 Days), it should be laid up "Dry" as follows and in this scenario, DRY Preservation Method is suggested:

- ✓ Drain the boiler thoroughly, clean it internally and externally both fire and water side and dry it out.
- ✓ Blow air through the tubes to dry out the tube's surfaces.
- ✓ Place trays of unslaked lime inside the boiler shell and both the headers to absorb any moisture. Then close the door, manholes, dampers, etc., properly so that no ingress of moisture or air can take place.
- ✓ This lime silica gel should be replaced whenever it becomes mushy.
- ✓ Water service tank, pumps, and all piping should also be dried out and all openings should be closed properly.

Section 2.1 - Electrical Panel Preservation:

- ✓ Ensure to lock Panel doors properly to avoid any dust ingress/deposition.
- ✓ Ensure to switch off all Control MCB.
- ✓ Ensure to switch off Main MCCB to isolate the power in Panel and put a LOCKOUT TAG.
- ✓ It is also requested to isolate Incoming Main power supply, if Panel is kept idle for longer duration.
- ✓ It is recommended to put silica pouches inside to avoid moisture.

Note: It is essential that the boiler is thoroughly clean while using the wet or dry laying up method. To prevent corrosion on the gas side of the heating surface, it is recommended that all heating surfaces are dusted with hydrated magnesia to neutralize any acid remaining on the boiler heating surfaces.

Thermax Limited Heating Service recommends customer to get in touch with the local service points TCA / Thermax regional office team, details as below:

| Region | First level | Second Level | Third Level |
|---|---|---|---|
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| CUSTOMER RELATIONSHIP CENTER - 1800-209-0115 | | | |

For, THERMAX LIMITED – HEATING SERVICES

