

TECHNICAL BULLETIN

PRODUCT: BIOMASS WOOD PELLET BOILERS

BOIMASS WOOD PELLET STORE SAFETY:

REASON FOR INFORMATION:

Accident prevention, information and occupational health and safety.

AFFECTED PART / APPLIANCE:

All on-site pellet storage facilities; including underground storage and silo tanks.

DESCRIPTION:

Potentially dangerous levels of carbon monoxide can build up in pellet stores where there is poor or no ventilation.

Carbon monoxide can form during incomplete oxidation in the combustion process or from fermentation in an area where oxygen is limited.

Warning: Do not enter pellet storage facilities without first ventilating the store area.

CAUSE:

It is usually assumed that there is no fermentation of wood pellets in a dry storage environment, because the moisture content is less than 10% (according to existing DIN standards)

In underground pellet stores with porous walls in contact externally to the surrounding soil, moisture can be drawn into the store. Buildings with concrete walls can also have high humidity. The high hygroscopic characteristic of wooden pellets can lead to absorption of this moisture.

In conditions of high humidity and warm temperatures, this can lead to fermentation of the pellets. Sometimes fermentation smells can be present which should act as a warning, but remember that **CO is an odourless gas**.

MEASURES:

1. Do not enter pellet storage facilities which are built underground (underground tank or silo)! The entry to these facilities is only allowed by specialist maintenance companies with suitable protection equipment, e.g. breathing apparatus and gas alarms.
2. Sack silo and pellet storage facilities as in cellars which are designed for the storage of pellets and which are at the same height level or higher than the pellet boiler can be entered for service reasons under the following conditions:
 - ▶ The pellet storage facility should be sufficiently ventilated before entering. This can be done by opening the entry door and loading chute. Sufficient ventilation (for combustion and cooling) of the boiler room must be checked.
 - ▶ If service work has to be done inside the pellet storage facility, a second person must supervise the work from a safe location.
 - ▶ This second person must be advised before starting work, not to enter the pellet storage facility under any circumstances to give support or to assist in the service tasks, but to call for help in case of emergency (ambulance / fire brigade / doctor on call).

ATTENTION: RISK TO LIFE!

If, whilst entering the pellet store you feel any of the following symptoms;

- ▶ Sickness
- ▶ Headache
- ▶ Shortness of breath
- ▶ Exhaustion

Stop work immediately, leave the pellet store and consult a doctor as soon as possible.