

Direct Thermal Combustion with Exhaust System

MGP - MAPEKO Green Program



MAPEKO
economical preheating

MAPEKO has developed a Direct Thermal Combustion process to burn hazardous gases emitted during the lining heating process.

With this technology all environmental protection requirements can be complied with and a better working environment can be created.

During heating of pitch or resin bonded bricks, dangerous gases are released from the lining due to the pyrolytic decomposition of organic binders.

The endothermic process involves a thermo-chemical decomposition of organic components, in which breaking the bonds of large molecular chains is enforced.

These gases escape through evaporation holes in the steel shell of the ladle and contaminate the environment. This not only causes a significant health risk, but also causes pollution of the environment. Components of the gases emitted are, amongst others, phenol, benzene or benzo(a)pyrene.

With traditional and conventional ladle heaters these gases are released, unfiltered, via the exhaust gas cowl into the atmosphere.

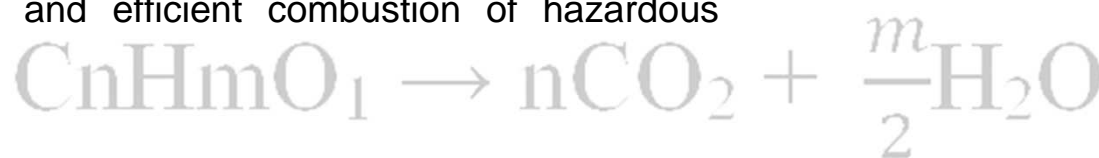
MAPEKO has therefore developed a direct thermal combustion process to burn these hazardous gases emitted during the lining heating/tempering process.

With the assistance of added oxygen, the components of the emitted gases are burnt and combusted in the ladle and not released into the environment.

The ladle is completely enclosed and sealed by means of a dual-purpose-cover. Gases escaping through the evaporation holes are drawn back and injected into the ladle through a special process where combustion of these gases then takes place.

According to official emission measurements, carried out by **DEKRA**, all dangerous components are almost completely burnt. For example, the measured values for Benzo(a)pyrene is below the measuring limit of <0,030mg/h.

This unique thermal direct combustion system guarantees permanent, consistent and efficient combustion of hazardous components.



Advantages:

- Consistently high combustion efficiency of hazardous constituents.
- No additional combustion chamber is necessary. This reduces the fuel consumption significantly.
- Combustion of hazardous constituents creates additional energy which reduces the energy consumption.
- No dispose of toxic waste.

