

Temperature sensors for incineration plants

> DEFINE YOUR SENSORS AND PROTECTIVE SHEATHS CORRECTLY...

The temperature sensors used in domestic or industrial waste incinerators have to withstand particularly severe operating stresses.

- ▶ Mechanical stresses due to dumping of the waste
- ▶ Thermal stresses due to the high temperatures used for pyrolysis
- ▶ Chemical stresses due to aggressive residues such as sulphur, chlorine, etc.

In general, K or S thermocouples are used, depending on the temperatures required. They may be installed vertically or horizontally, according to the type of furnace.

It is crucial to define these temperature sensors for incinerators correctly, particularly in terms of the type of protective sheath, in order to optimize their life span.

> ...TO INCREASE THEIR LIFE SPAN



Incineration plant at Le Mans. Pyro-Contrôle sensor placed next to a peep hole to check the furnace temperature.

Pyro-Contrôle, the expert in temperature sensors, proposes types of protective sheaths which have demonstrated exceptional performance in domestic and industrial waste incineration applications.

Main performance features of these protective sheaths :

- ▶ Life span multiplied by at least 5
- ▶ Withstand oxidization up to temperatures higher than 1,200 °C
- ▶ Withstand thermal shocks
- ▶ Abrasion-resistant
- ▶ Excellent thermal conductivity

TEMPERATURE SENSOR

Protective sheath

In-situ calibration

Energy saving

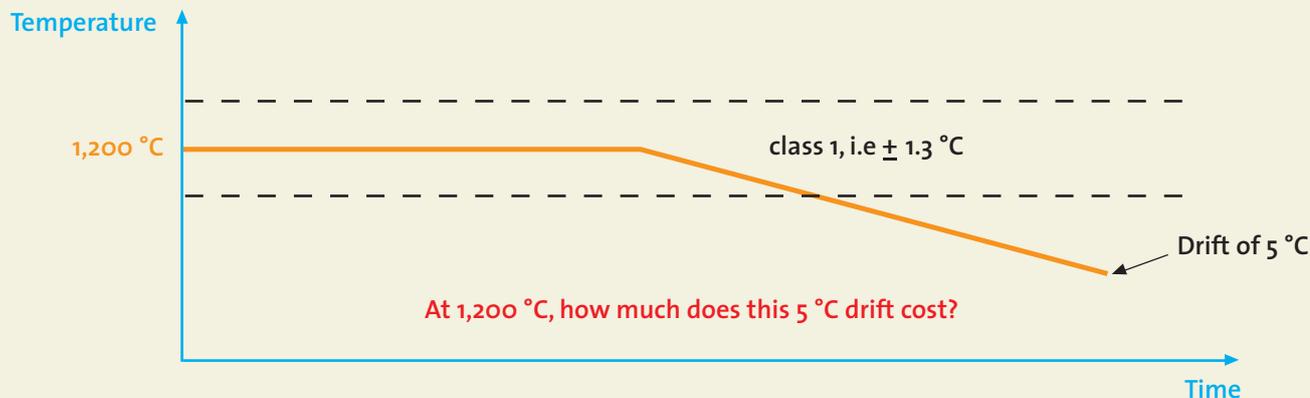


Municipal incineration plant in Lyon

> TO SAVE ENERGY...

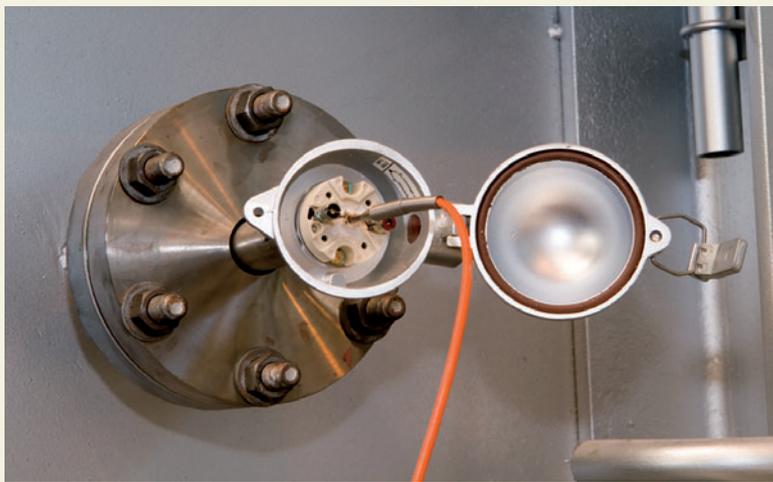
A thermocouple always drifts downwards by several degrees a year. To counteract this phenomenon, industrial companies set their processes to overheat with a sufficient margin to overcome this drift until the next calibration, which is usually done once a year.

In this way, they define a setpoint which is higher than the optimum temperature for the heat treatment required. This overheating leads to excessive energy consumption. At high temperatures, each extra degree Celsius is very expensive!



> ...CHOOSE SENSORS WITH IN-SITU CALIBRATION

Pyro-Contrôle's temperature sensor assemblies with in-situ calibration can be used to monitor your sensors' drift over time. This technology offers a host of advantages in terms of energy saving, productivity, quality and traceability.



* Patent no. 0213616

In-situ calibration method*, without dismantling the sensor: simple and easy to set up.

- ▶ The connection head of the sensor to be checked is opened
- ▶ The standard sensor is inserted into the guide tube
- ▶ The standard sensor is connected to the precision thermometer
- ▶ The temperature is left to stabilize
- ▶ The process sensor is calibrated by comparison with the temperature indicated by the standard sensor

> ASSOCIATED SERVICES

Pyro-Contrôle possesses a temperature metrology calibration laboratory. COFRAC accreditation no. 2-1385 - Calibration by comparison.

- From -20 °C to +450 °C for Pt 100 Ω RTDs
- From -20 °C to +1,550 °C for thermocouples



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