Hukseflux
Thermal Sensors

PLT01
PLATE THERMOMETER

The PLT01 plate thermometer is used in many kinds of "fire testing" for measuring the thermal exposure of objects under test, and for controlling the fire temperature. It complies with the requirements of EN 1363 part 1 "Fire Resistance Testing General Requirements" and is built according to the recommendations of the Swedish National Testing and Research Institute.

In fire resistance tests, the specimens are exposed to a heat flux that is caused both by radiation and convection. The PLT01 has a flat and relatively large exposed area (4), and it is isolated on the back (8). Compared to a normal thermocouple (TC) the plate thermometer's sensitivity to convection and radiation more closely resembles that of a typical specimen in a fire test. In addition a 15 mm diameter area (3) around the centre is specially treated. This is done to achieve a directional (cosine) sensitivity to radiation that is also representative of that of a typical specimen.
Carefully designed, the plate thermometer can act as a direct measurement of the heat load as experienced by a specimen. In a typical fire resistance test several PLT01's are placed alongside the specimen surface.
By using plate thermometers, fire tests in different ovens and at different institutes are harmonised.

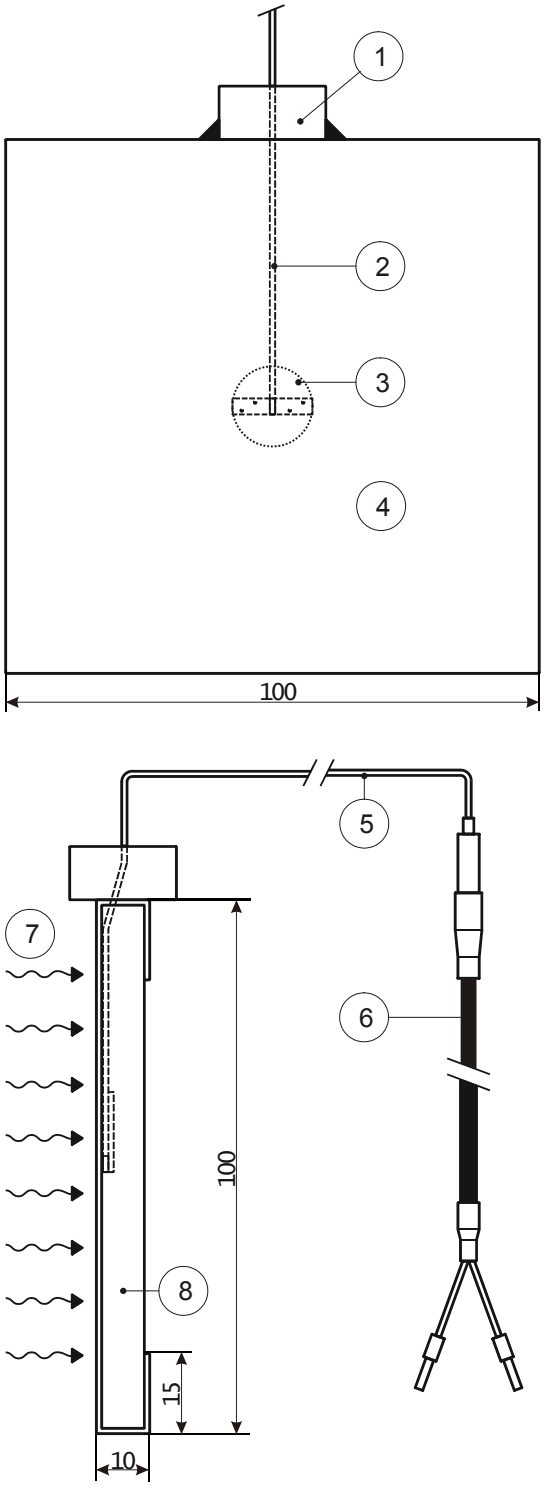

Figure 1 *PLT01: socket for connection (1), thermocouple (2), specially treated area (3), plate (4), thermocouple metal sheethed cable (5), teflon extension cable (6), heat (7), ceramic insulation (8)*

PLT01 SPECIFICATIONS

Thermocouple type:	K
Temperature range:	to +1200 ^{O}C (sensor & sheathed TC wire) to +260 ^{O}C (Teflon wire)
Typical lifetime (prEN 1363-1):	50 testing hours
Surface emissivity:	> 0.75 (aged during production)
Socket for connection:	internal pipe thread R1/4'' BST
Metal sheathed TC wire length:	2000 mm
Teflon TC extension wire length:	1000 mm

OPTIONS

Inconel connection tubes are not part of the normal delivery. These can be ordered on request.

See also GSB series Gardon and Schmidt Boelter Gauges.