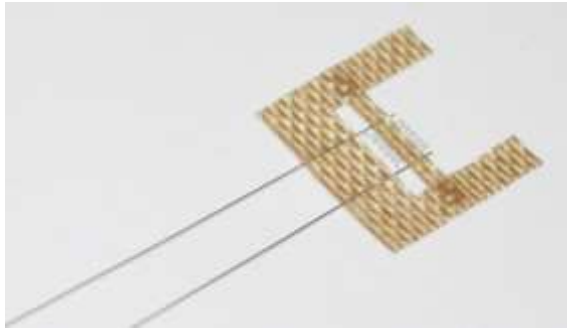


Rev. 1.1
 22-Dec-2022

STP series high temperature strain gages

Product Datasheet

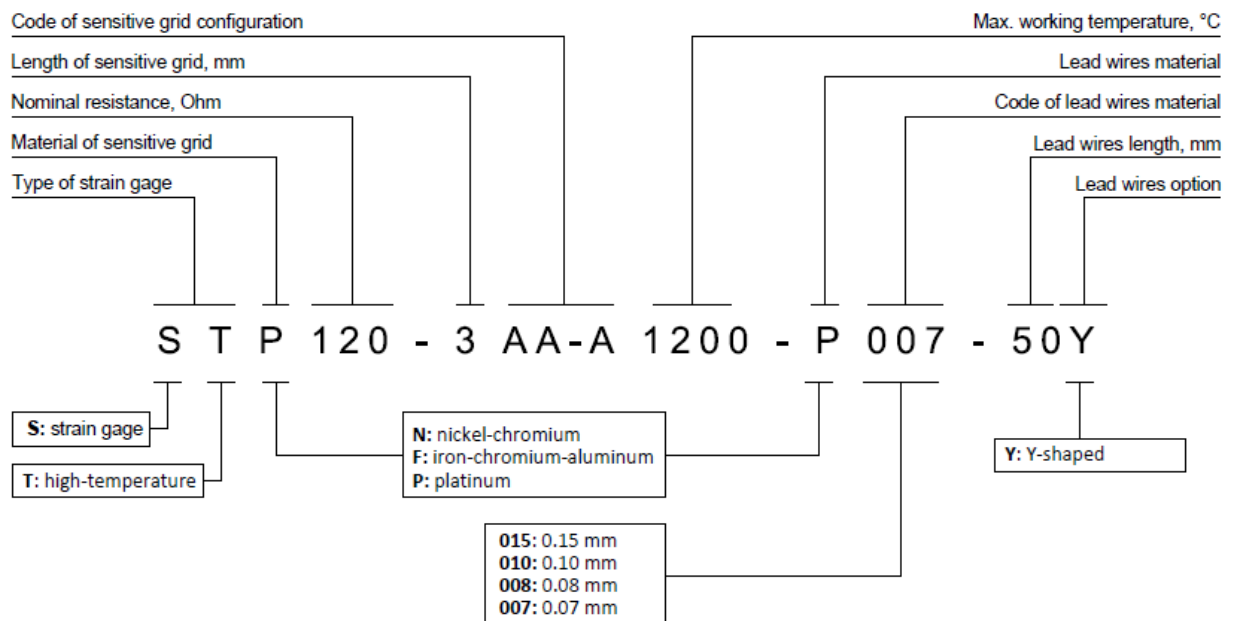
General information:



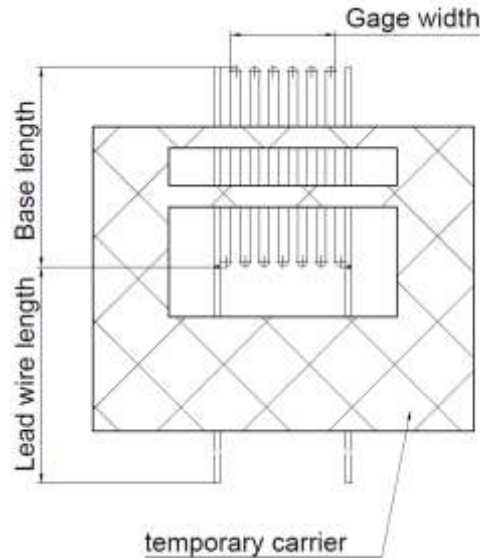
STP series bondable high temperature gages are dedicated for measurements of deformations in the details of machinery and equipment, including jet engines, under dynamic loads in -269...+1200°C temperature range. Sensitive grid of the gage is made of 20...30 um diameter platinum-tungsten wire. Strain gage is fixed with the temporary carrier, possible in two variants: filter paper or fiberglass-reinforced PTFE.

Lead wires are made of 0.07...0.15 mm platinum-based alloy. Lead wire can be made in round or flat ribbon variants. Standard diameter of the lead wires is 0.07 mm and standard length of the lead wires is 50 mm; both parameters can be optionally adjusted on request. Typical resistance of one pair of standard 0.07 mm diameter 50 mm long wires is about 13 Ohm. Nominal resistance of the gage is given excluding resistance of the lead wires (sensitive grid only).

Designation system:



Schematic drawing:



Standard configurations:

Designation	Nominal resistance, Ohm	Nominal base length, mm	Nominal gage width, mm	Lead wires length, mm
STP120-1.6AA-A1200-P007-45	120±3	1.6	3.2	50...300*
STP120-3AA-A1200-P007-45	120±3	2.95	1.6	
STP120-5AA-A1200-P007-45	120±3	5.5	2.0	

*Other lead wire length can be supplied on request

Temporary carrier:

Possible in two variants:

1. Fiberglass-reinforced PTFE backing, as per drawing above. Default option, provides the best protection of the gage during transportation.
2. Single stripe of filter paper, fixed with nitrocellulose glue. Highly convenient for installation on complex curved surfaces, small radiuses, thin pipes, etc.

Packaging:

Individual strain gages are supplied on plastic or glass carriers, covered with protective plastic foil. Each strain gage is labelled with the actual electric resistance values.

Groups of strain gages are packed in plastic boxes in max. amount of 10. Each group packing has a label with the main parameters of the gages, including resistance range of the gages group, gage factor, production date, etc.

Batches of strain gages are packed in plastic containers with or without auxiliary installation tools. Each batch container has a label with all main parameters of the gages, general description, batch number and production date.

Fatigue life:

1·10⁷ at ±1000 microstrain at 300°C.

Diagram 1. Gage factor dependance on the temperature**

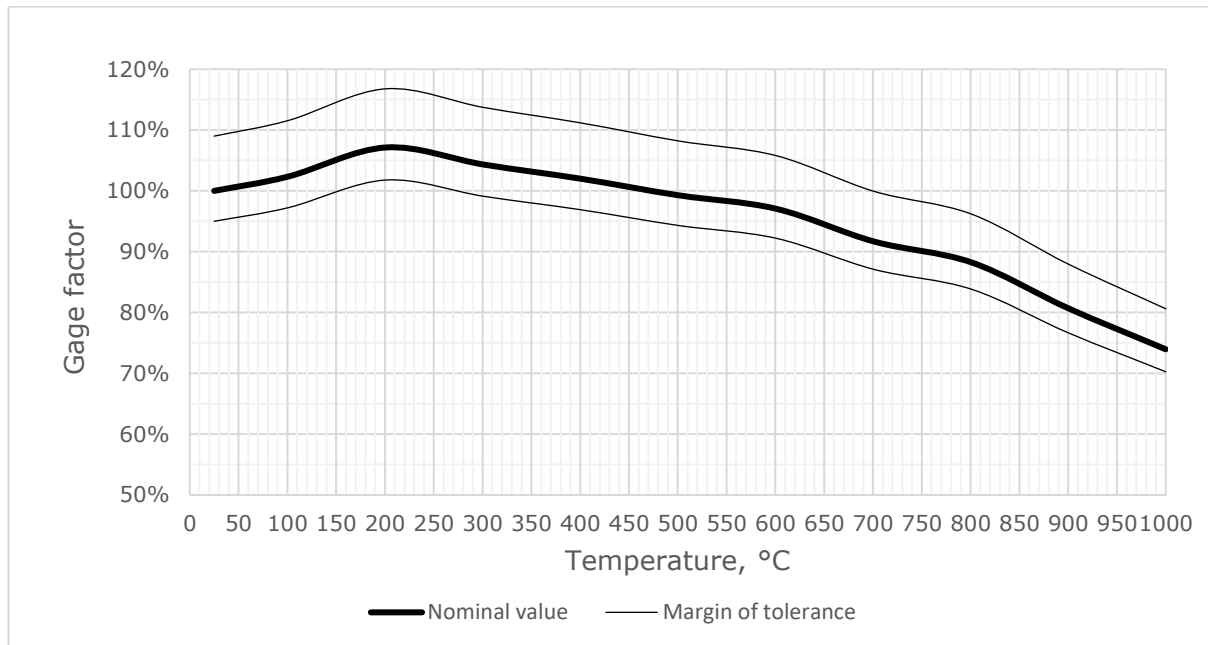
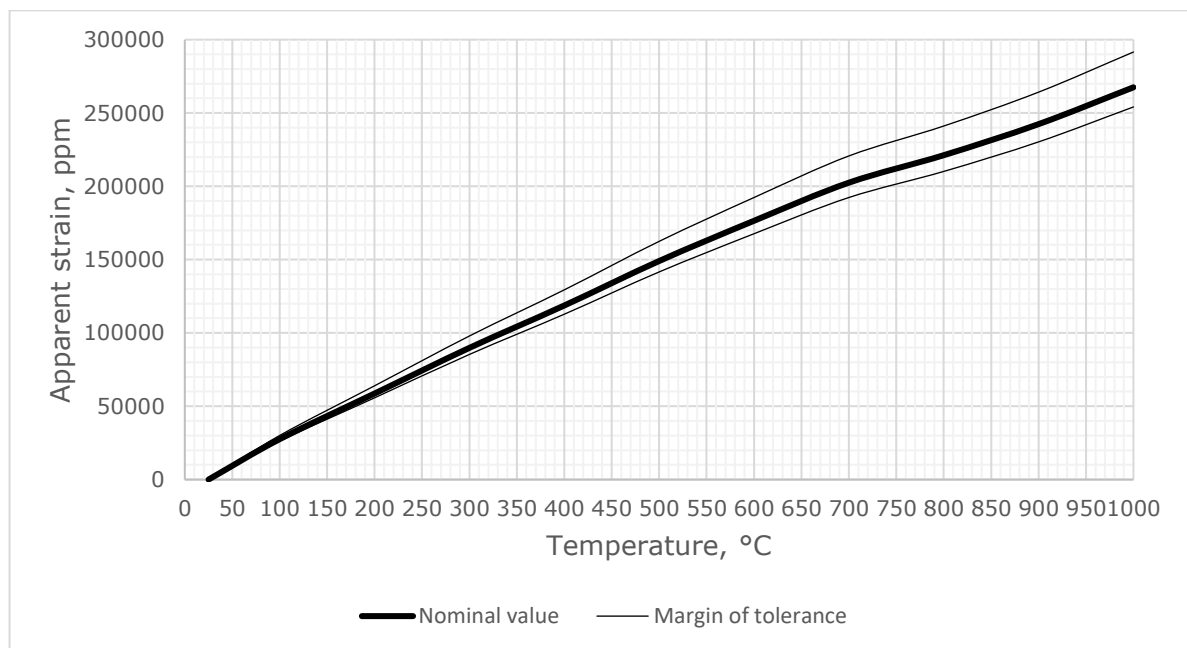


Diagram 2. Apparent strain dependance on the temperature**



** Test is performed using single-component STP120-1.7AA-A1200-P007-50Y gages installed on CrNi62MoWCoAl alloy beam with ZEMIC GT-900-H ceramic cement. Test performed with HTDR-1001 tool. Margin of tolerance represents possible change of parameters after first and following repeated heat treatments of the gages during their operation.