

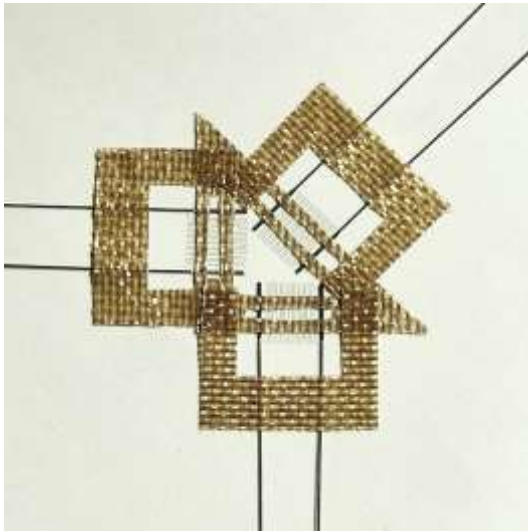
Rev. 1.3 14-Aug-2023	Production date	QC mark
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STN350-3.5CA-A900-N015-50

Wire strain gages

Product Passport

General information:

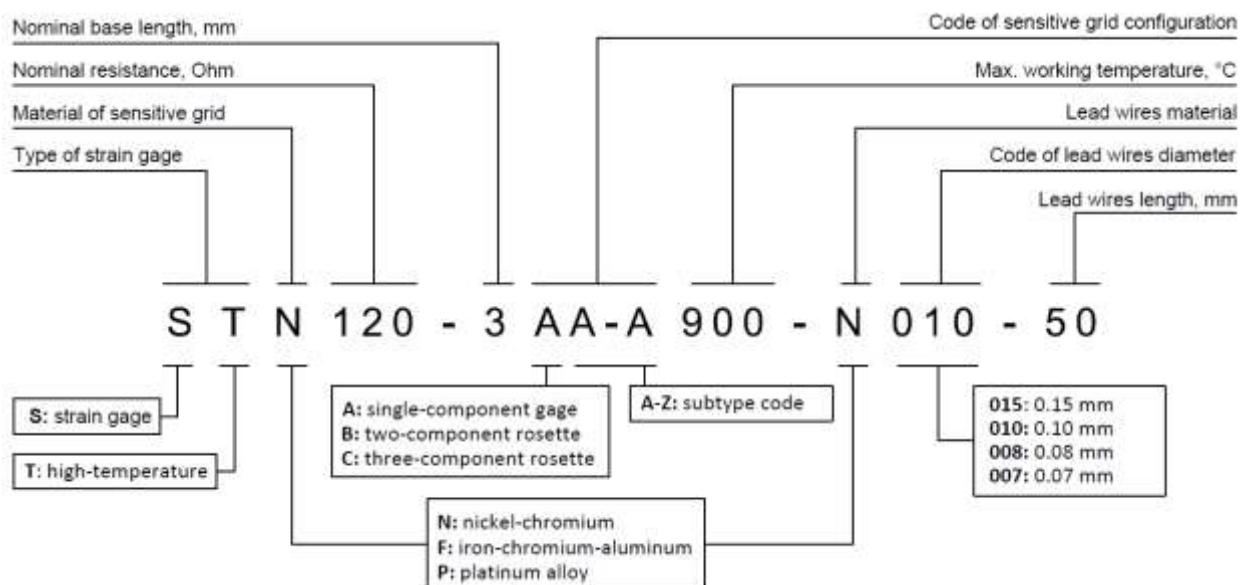


STN series bondable high temperature gages are intended for measurements of deformations in the details of machinery and equipment, including jet engines, under static and dynamic loads in -269...+900°C temperature range. CA-A type rosettes of STN strain gage series consist of three independent sensitive grids, oriented at 0°, 45° and 90°, and are intended for determination of complexly oriented deformations.

Gages are to be installed on the surface of the test object using ceramic cement adhesive or alumina flame spray method.

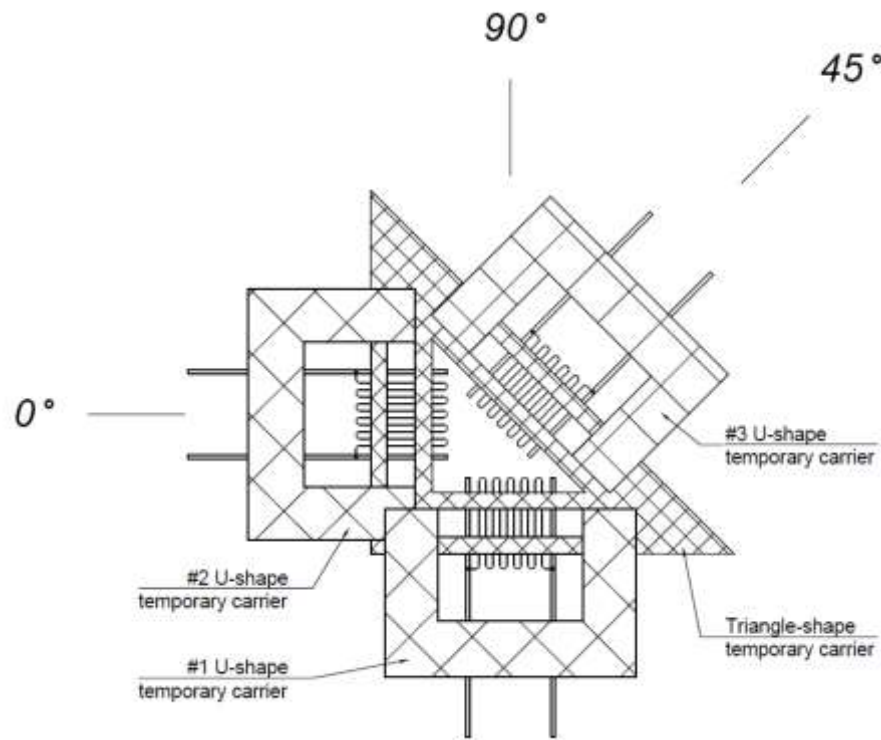
Gages are provided on the temporary fiberglass-reinforced PTFE carrier, which is subject to removal during installation of the strain gage.

Designation system:

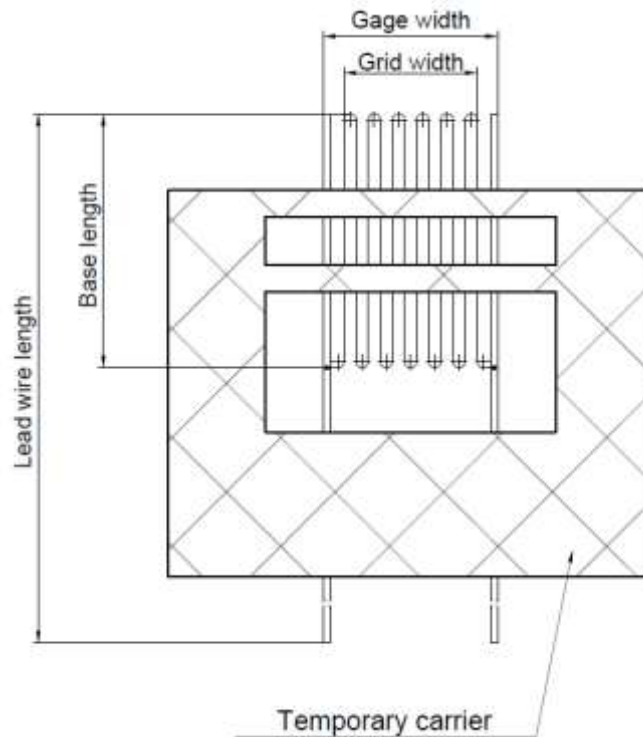


Schematic drawings:

Schematic drawing of CA-A rosette



General schematic drawing of strain gage components



Specifications:

Nominal parameters	Value
Sensitive grid material	Nickel-chromium
Number of sensitive elements	3
Base length, mm	3.5
Gage width, mm	2.3
Resistance, Ohm	350
Resistance deviation in batch, not more than	±5%
Lead wire material	Nickel-chromium
Lead wire diameter, mm	0.15
Lead wire length, mm	50
Resistance of lead wires, Ohm/mm	0.071
Temporary carrier	Fiberglass-reinforced PTFE
Batch-specific parameters	Value
Test protocol #	2333.STN350.06.H/T
Gage resistance range, Ohm	332.5 ~ 367.5
Average gage factor at 20°C	2.05
Gage factor dependance on temperature	Refer to Diagram 1 below
Apparent strain dependance on temperature	Refer to Diagram 2 below
Fatigue life at ±650 ppm at 20°C, cycles*	10 ⁶

* Test is performed using single-component STN350-3.5AA-A900-N015-50 gages installed on DIN 1.6565 steel tuning fork with ZEMIC GT-900-H ceramic cement. Test performed consequently at 330 ppm for 10⁶ cycles, at 500 ppm for 10⁶ cycles, at 650 ppm for 10⁶ cycles. Test performed with TFGD-4001-OM tool.

Packaging:

Individual strain gages are supplied on plastic 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 auxiliary installation tools. Each batch container has a label with all main parameters of the gages, general description, batch number and production date.

Disclaimer:

HPM LLC takes no liability for possible errors and inaccuracies that may occur in this product passport, or any other information disclosed by the employees of HPM LLC regarding the product. Always refer to the product passport provided along with the product before starting using the product. In case of further questions contact the manufacturer or local representative.

Given product passport provides reference information about the product, actual parameters may differ depending on the installation method, application type and operating conditions.

Diagram 1. Gage factor dependance on the temperature**

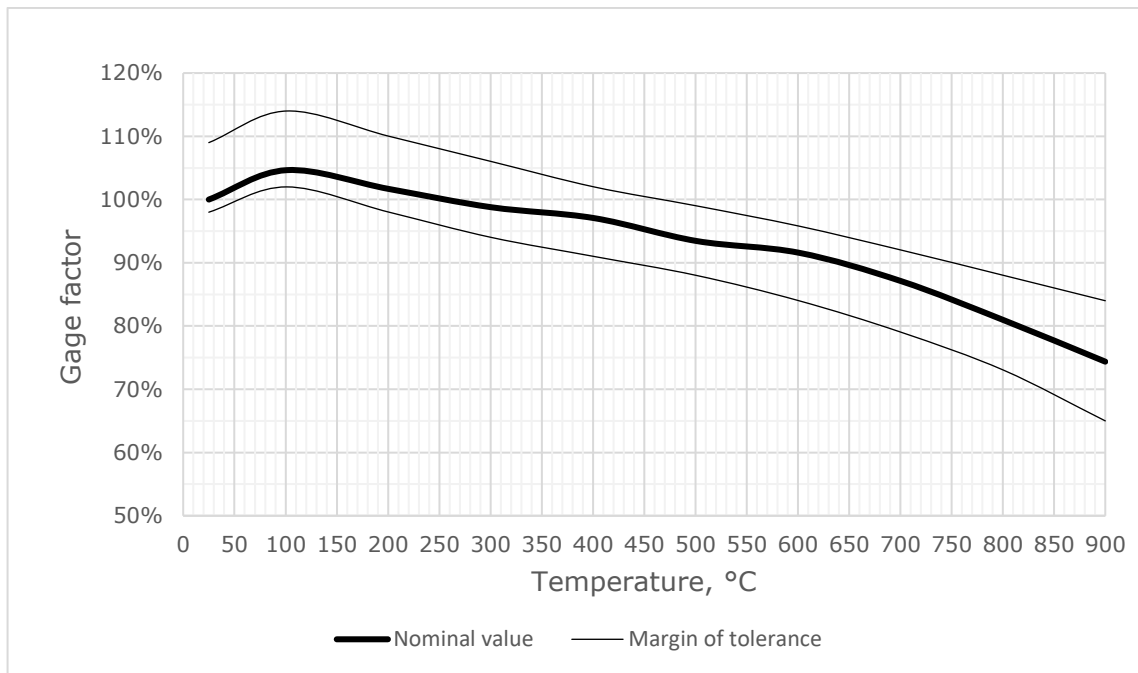
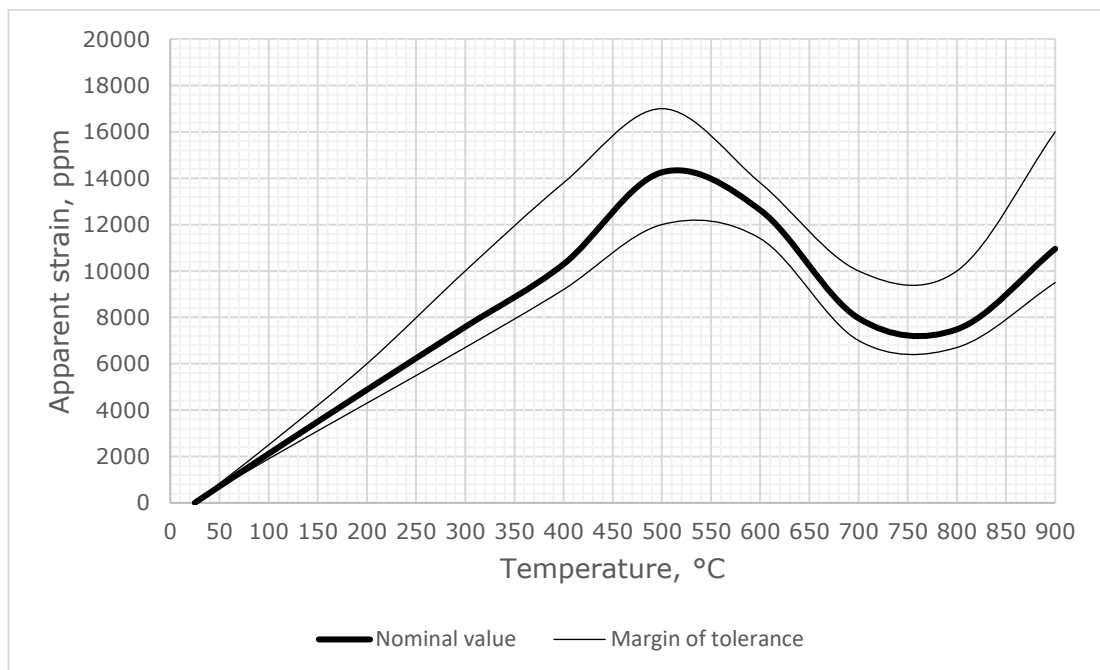


Diagram 2. Apparent strain dependance on the temperature**



** Test is performed using single-component STN350-3.5AA-A900-N015-50 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.