

# CERTIFICATE OF CALIBRATION

ISSUED BY **CCPI EUROPE LABORATORY**

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0600



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Laboratory Technician

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<b>Customer</b>	CCPI Europe Herengracht 503 1017 BV Amsterdam The Netherlands	<b>For</b>	SN Cerap 22 Rue Des Forges 36100 Les Bordes France
<b>Calibration Date</b>	22 <sup>nd</sup> July 2019		
<b>Order ref:</b>	1906255		
<b>Our ref:</b>	183669 (21298)		
<b>Equipment Tested</b>	1 Simplex Type S thermocouple.		
<b>Description</b>	500mm long x 0.5mm dia. wire insulated element construction. Platinum 10%Rhodium (+ve) v. Platinum (-ve) wire. Serial number 183669/1.		
<b>Measurements</b>	The above thermocouple was submitted for an emf temperature calibration at 500 °C, 575 °C, 710 °C, 845 °C, 980 °C, 1115 °C & 1250 °C.		
<b>Procedure</b>	The reference junction temperature was 0 °C. The temperature scale used was I.T.S.90. The test thermocouple was allowed to equilibrate within a controlled stable thermal environment, the temperature of which was measured using traceable reference thermocouples. The following table gives the correction values between IEC 60584-1 2013 figures for Type S thermocouples and the test thermocouple at the test temperature.		
	Uncertainty of measurement =	±1.1 °C at 500 °C to 980 °C	±1.4 °C at 1115 °C to 1250 °C

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor  $k=2$ , providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

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UKAS Accredited Calibration Laboratory No. 0600

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## Results

Test Thermocouple Serial Number	Temperature °C	Thermocouple Temperature °C	Correction for test thermocouple with reference to IEC 60584-1 2013 °C	millivolts	Output millivolts
183669/1	500	499.88	+0.12	+0.001	4.232
	575	574.70	+0.30	+0.003	4.981
	710	709.53	+0.47	+0.005	6.376
	845	844.37	+0.63	+0.007	7.831
	980	979.57	+0.43	+0.005	9.352
	1115	1114.60	+0.40	+0.005	10.930
	1250	1249.65	+0.35	+0.004	12.549

## Standard Equipment:

Traceable thermocouples serial numbers LS278L/LS279L, UKAS certificate by UKAS laboratory number 0600, certificate number 24033/24034, calibration due November 2019/November 2019.

Standard DMM serial number 273568061, UKAS certificate by UKAS laboratory number 0183, certificate number 070664, calibration due April 2020.

## Notes

The ambient temperature was 20 °C ( $\pm 2$  °C), the relative humidity was 47%rh  $\pm 10$ %rh.

The test thermocouple was electrically annealed before calibration.

Immersion depth during calibrations was 550mm

All results are normalised to the test temperature.

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