

Product XC material temperature sensor  
 Serial number 8X0319  
 Date of calibration 22 January 18  
 Customer name Starrag US  
 Customer address 2379 Progress Drive  
 Customer reference Hebron, KY 41048

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# Calibration certificate


Specification Material temperature sensor accuracy  $\pm 0.10^{\circ}\text{C}$

## Measured values and uncertainties of calibration

Time (mins)	Material temperature ( $^{\circ}\text{C}$ )		
	Reference	Measured	Error
0	20.88	20.87	-0.01
10	20.89	20.88	-0.01
20	20.90	20.88	-0.02
30	20.90	20.88	-0.02
40	20.90	20.88	-0.02
50	20.90	20.88	-0.02
60	20.88	20.87	-0.01
Mean error			-0.02
Uncertainty (k=2)			0.07

Reference standards	Ref. no.	Certificate no.	Date
XC material temperature sensor	231X47	231X47-171006-00	06 October 17
Test procedure	PT-50304		01 January 01

**Laser measurement system accuracy:** The accuracy of the material temperature sensor affects the material thermal expansion compensation applied by the software - see the system manual for details.

Authorised signature	Signatory	Position	Date
	Joe Pichon	Service Center Manager	22 January 2018

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Renishaw Inc  
 1001 Wesemann Drive  
 West Dundee  
 IL 60118



Calibration Cert # 2707.01

Certificate number  
 8X0319-180122-00

L-9908-1145-03

CALIBRATED BY: *UMP* Date: 1-22-18