

Method	Temperature range	Temperature resolution	Spatial resolution	Sensor type	Interrogation method
Crystal temperature sensors	up to 1400	+/-10	Low	Surface mounted	Illumination + observation
Templugs	650	15–25	Low (single points)	Embedded in substrate	Analysis of ferromagnetism/hardness/phase
Glass ceramic arrays	1100	Not given	Low	Surface mounted	Observation only
Thermal paints (TIP)	Up to 1500	10–100	Moderate	Surface layer	Observation only
Thermal history sensors	150–1400	+/-5	High	Surface layer or embedded in TBC	Illumination + observation

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Table 1 – Summary of offline temperature monitoring methods

Measurement Hardware

2x Olympus ABWX-2001 Variable angle wedges
2x Olympus A539S-SM 1 MHz transducers
Olympus ultrasonic couplant B
Hewlett Packard/Agilent 33120A Signal generator
Picoscope 3406DMSO USB Oscilloscope
Theradata T-type temperature loggers
VWR Hot plate

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