

TECHNICAL SPECIFICATIONS AND OTHER ALLIED REQUIREMENTS

Sl No.	Description of items	Quantity
PUR/236/SET/MP/E/2020-21		
1	Digital Infrared 2 – colour pyrometer Temperature Measuring Range (Degree Centigrade). Minimum: 1350 or less to Maximum: 3000 or more (Details as per Annexure – I)	1

1. WARRANTY

- 1.1. Comprehensive on-site warranty for a period of one year must be provided to be effective from the date of successful completion of the job and final acceptance of the items / equipment at the user's laboratory / Institute.

2. QUALIFICATION REQUIREMENT

Non-OEM Bidders must furnish the Manufacturer's Authorization Form (MAF) in CSIR prescribed format failing which their offer will be rejected.

Annexure - I

Digital infrared 2- colour pyrometer for laser cladding

Technical Specifications

The two colour pyrometer should be compatible for measuring temperature of molten metal pool during laser cladding. Minimum molten pool size is 0.8 mm diameter.

S.N.	Items	Specifications
1.	Applications	Continuous temperature data acquisition of the molten metal pool of during Laser Cladding.
2.	Device	Model no. and catalogue are to be provided. It should be with optical fiber and a small optics, which is to be mounted on a fixed cladding head for off axis measurement.
3.	Minimum target size (mm)	0.8 diameter
4.	Temperature measuring range (°C)	Minimum: 1350 or less to Maximum: 3000 or more
5.	Spectral range (nm)	More than 1000
6.	Response time (t90) (µs)	<100
7.	Resolution	0.1°C or better
8.	Accuracy	0.5% of the measured value in °C or $\pm 2^\circ\text{C}$ or better
9.	Repeatability	Less than $\pm 0.3\%$ of the reading
10.	Sighting system / aiming	LED or Laser
11.	Data acquiring	Provision for data acquiring in single colour or two colour mode
12.	Analog output	2 configurable analog outputs 0 - 20 mA or 4 - 20 mA or 0-5 V / 0-10 V, load max. 500Ω.
13.	Software	User friendly output to plot temperature vs time from Microsoft Excel or word pad.
14.	Integrated pilot light beam	Manual adjusting of the pyrometer focus to the point of measurement.
15.	Optics	Optics protective window
16.	Fiber optic length	More than 1500 mm
17.	Warranty	The system and accessories should have one-year warranty.
18.	Documents in English both hardcopy and softcopy	<ol style="list-style-type: none"> 1. Operation and maintenance manuals, troubleshooting procedures, calibration methods, wiring and other schematic diagrams, list of components, spares and accessories. 2. Calibration certificates for sensors, instruments, gauges, display units etc. to be provided. 3. Software upgrades pertaining to the supplied Unit should be provided free of cost as and when new versions are released by the OEM till warranty period. 4. Safety and security instruction manual should be provided.
19.	Inspection	<ol style="list-style-type: none"> 1. Inspection will be done at CSIR-CMERI Durgapur by using it for laser material processing thorough entire specified temperature range 2. Demonstration of accuracy and resolution at CSIR-CMERI Durgapur
20.	Supply	Software, cables, connectors, required optics and other drawings etc.