

Technical specifications of FT-IR Spectrometer

I	Bidder Eligibility Condition	Comply /Not Comply	Ref. Page No.
1	The bidder/OEM should have supplied at least 3 similar items to IITs, NITs, IISERs, CSIR Labs or other Govt. organizations and Industry in the last 5 years, PO copies or installation certificates along with contact details of end user need to be submitted as the proof of supply. IIT Madras reserves its right to verify the claims submitted by the bidder and the feedback from the previous customers will be part of technical evaluation.		

II	Feature	Requirement	Comply /Not Comply	Ref. Page No.
1	<p>Spectrometer (Gold coated optics)</p> <p>a. Range</p> <p>b. Beam splitter</p> <p>c. Spectral resolution</p> <p>d. Wave number precision</p> <p>e. Signal to noise ratio</p> <p>f. Aperture</p> <p>g. Interferometer type (Dynamically aligned)</p>	<p>7000 – 350 cm⁻¹ or better</p> <p>Suitable beam splitter (upgradable to automatic beam splitter exchanger), source and detector for Mid IR</p> <p>0.10 cm⁻¹ or better</p> <p>0.01 cm⁻¹ or better</p> <p>54,000:1 or better at 4 cm⁻¹</p> <p>Motorized Continuously variable aperture, for optimal peak shape collection of data</p> <p>Innovative Michelson</p>		
2	<p>Detectors (Software selectable)</p>	DLaTGS or DTGS detector (Mid IR)		

		MCT detector (Mid IR) – with LN ₂ hold time of more than 12 hours Flexible to upgrade InGaAs (Near IR region) Flexible to upgrade PE-DLaTGS (Far IR region)		
3	Gemstone Identification Sample Library	25,000 or more Spectra should be offered		
4	Software for quantitative analysis	Essential software's must be offered (software's dealing with multicomponent analysis, Beer's law and chemometric algorithms)		
5	Accessories: Gem identification	Preferable 4x beam condenser Advanced Diffuse Reflectance Demountable cell with KBr window PTFE spacers for liquids		
6	Desktop PC	Windows based PC with suitable configuration		
7	Installation Reference for the Diamond Sample Analysis. (Demo sample's measurement and evaluation)	At least 3 user list for Diamond applications in India Minimum 5 diamond samples supplied by IITM need to be analysed and report must be submitted along with quotation.		
8	Warranty for the complete system	3 years		

(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number (comply/not comply) for the Above points with document proof as required. Failing which bidders will be technically disqualified)