

X-RAY DIFFRACTOMETER (HT measurement) USER FORM
Sophisticated Analytical Facility, Academic Block-2, Room No:18

USER INFORMATION (External Users only)

Username: _____ User Designation: _____
Contact No: _____ Email ID: _____
Affiliation: _____
Supervisor (for students & research scholars only): _____

SAMPLE INFORMATION

(Put a tick in the appropriate option)

No. of samples:

- Sample Name: 1. _____ 2. _____ 3. _____ 4. _____
- Powder Sample Type: YES / NO (Tick Appropriate)
- Scan Rate: (For normal scan: **Powder:10°/min**, If below normal scan, please provide required justification)
- Range of theta (2θ):
- Melting point & decomposition temperature (approximate value):
- Please specify the compound/elements of composition formula:.....
- Please write the scan temperature range:
- Sample is Toxic/ Hazardous/ Explosive.: YES/NO, if yes nature of toxicity or precaution to be taken should be mentioned below.....
- Sample required to be preserved or not: Yes/ No (If NO mode of disposal):

DECLARATION

- I hereby declare that above information is correct to my knowledge and no further claim shall be made other than the above mentioned.
- **I certify that my samples will not harm the equipment and I have checked the data provided by the XRD equipment manufacturer regarding the samples to be used for HTA analysis in the instrument (please check with the attached table and consult with the scientific officer for any doubt).**
- I certify that my samples do not present any danger to the personnel or equipment, and I have provided the appropriate handling instructions for safety to the operator before analysis.
- I have correctly given information about the nature (inflammable/radioactive/ biologically hazardous) of the sample submitted.
- I agree to acknowledge the facility if the data are used in publications or thesis. I shall also forward the citation details to the In-charge of the facility by email within a month of such publication.
- I am aware that the facility has no liability as to any loss/damage of my samples during storage/transport/imaging at the lab.
- I have read the User Instructions & Sample requirement guidelines.

Date

User

Supervisor

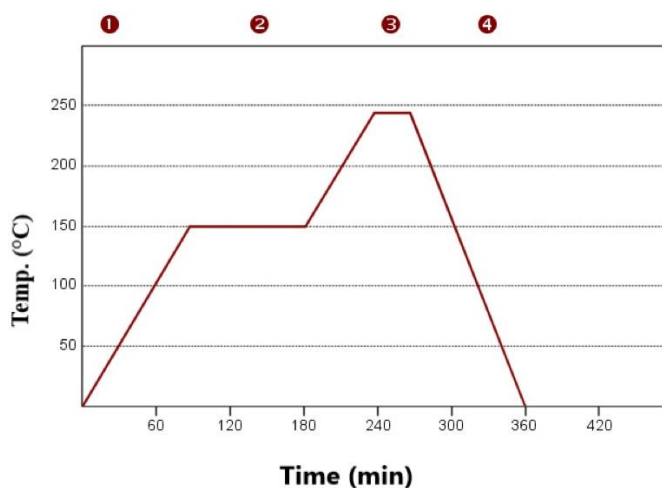
(For students & research scholars only)

User Instructions

1. **Sample Requirement guidelines:** Bring your samples along with this requisition forms in properly sealed cover. Only powder samples should be given for measurement.

The sample should be sent in the form of powder: Amount of the sample ≥ 5 gm

2. **The samples to be characterised should be annealed at 100°C for at least 30 min, in order to remove the chemicals/ organic compounds used during sample preparation.**
3. Please bring moisture sensitive samples in a desiccator.
4. High Temperature measurement can be done for **Powder sample** only.
5. Please submit a schematic plot of the thermal (temp Vs time) profile, which the sample is to be subjected.
6. Please clearly indicate in the temp Vs time plot the ramp time, the soak time, and the points at which XRD data is to be taken in the following way:



7. The HTA measurement is a time taking process and the scan rate will be **10°/min** (normal scan) by default. **Below normal scan, suitable reason is to be provided and extra charges will have to be paid.**
8. Samples are liable to be destroyed /disposed of after measurements and if to be returned, they must be collected in person.
9. User must report at the XRD lab as per the scheduled appointment (date & time). The users shall be allotted the time slots as per the availability.
10. User should be present during the analysis of his samples. If user has any specific instructions regarding the analysis, he/she can discuss with the operator.
11. Data will be supplied in the CD provided by the user. Only new CDs will be accepted for data copying.
12. XRD will be in powder mode by default. On obtaining enough requests, the mode will be changed to high temperature and thin film. The priority will be in the order of high temperature and thin film. Powder and thin film mode will be functional at least once in a month even if there is one sample. The Lab in-charge will decide the mode of the equipment and change over from one mode to another.