GSI FAIR	Technical Guideline	Number	10.7e
B-MT	Cryostat Label Plates	Status	2011-04-04

Contents

1. Scope

1) This document defines the design and the information of label plates to be applied to any cryostat system in applications like
   - magnet cryostats
   - cryogenic supply systems
   - cryogenic transport systems
   - cryogenic current lead boxes
   - auxiliary cryogenic systems

   within FAIR accelerators.
2) This document is NOT related to any other purpose as aforementioned.

2. Definitions

1) A *cryostat* in terms of this guideline is a technical system enclosing another technical system to be operated at temperatures far below room temperature (e.g. 4.5K).
2) *bara is t*he unit for absolute pressure values.

3. Properties of Label Plates

1) A label plate must fulfil the requirements of 97/23/EC [1].
2) The definitions in AD2000 – technical bulletin A401 [2] must be followed.
3) A label plate must be unremovable fixed to the cryostat within a clearly visible position.
4) Writing and symbols must be unremovable. Mechanical, electrical or laser engraving might be applied.
5) The minimum font size must be comparable to 12 pt or more.
6) Information must be machine written in GERMAN AND ENGLISH language

4. Label Plates of Interior

1) In case any interior of a cryostat needs to be labelled, all correlating label plates must be centralised within one close region in a clearly visible position at the outside of the cryostat.

5. Information on a Label Plate

1) A cryostat related label plate must at least show the following information:
   - name and address of manufacturer respectively other information for its identification,
   - if applicable, information on name and address of the manufacturers delegate within the European union,
   - year of manufacturing,
   - device identification number provided by the contracting entity,
   - identification of the device according to its nature such as type, series – and batch number,
   - standard operation pressure,
   - test pressure PT applied (in bara),
   - date of first testing,
   - response pressure of installed safety equipment (in bara),
   - minimum and maximum allowed operation temperature (in °C),
   - empty weight of the cryostat without cold mass (in kg),
   - total weight of the cryostat with cold mass installed (in kg),
   - volume of the cryostat (in L),
   - maximum operation voltage (in V) if applicable,
   - safety notes.
2) The content of any interior related label plate must follow the relevant codes and standards related to the interior.

6. Application

1) Each cryostat must be equipped with at least one label plate for the cryostat it self.
2) Where applicable, appropriate documentation may be used to avoid repetitive marking of individual parts; such as piping like components; of a cryogenic transport system, intended for the same assembly.

7. References

[1] Directive 97/23/EC, European parliament and the council of the European Union, http://eur-lex.europa.eu, 1997

[2] AD2000 – Technical Bulletin A401, Verband der TÜV e. V., Beuth Verlag GmbH, Berlin, Germany, 2009