



## Development of the Package Design TNB170

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From contacts with potential and existing customers it became obvious that there is a need for a "small" package for shipment of irradiated samples (exempt and non fissile by all modes of transport (included air). The older generation of such package designs are out of validity for several reasons. The presented package design (TNB 170) has been developed to be in compliance with the Regulations for the Safe Transport of Radioactive Material (edition 1996-revised) for the type B(U) package (not F). This package will be easy to use and will have some supplementary constraints if presented for shipment by air: activity of content ( $< 3000 A_2$ ) and transport index limited to 3. By preliminary testing of a first design (with asymmetric and non enveloping shock absorber), it was obvious that this design had not enough safety margin in order to convince the competent authority in order to obtain easily certification. Further development, based upon the old design, equipped with symmetrical and enveloping shock absorber that protect the inner container against damage even under accidental conditions, brings us to the actual design.

Description of the package:

- A primary container equipped with a lid. This primary container combines the functions of containment (Stainless Steel inner liner, lid equipped with double O-ring), radiation shielding ( $\sim 14$  cm lead), and thermal protection.
- A shock absorber surrounds this primary container (dimensions: diameter 600 mm and height 921 mm).

The tests (drop test and perhaps heat test) will be executed at the BAM facilities during April. (The test report and conclusions will be part of the paper)