



Package Type

Designed as a B(U) Package to the IAEA SSR-6 2018 Regulations for the Safe Transport of Radioactive Material.

Certification

The packaging has been certified by the US DOE for DOE use.

Description

The SAFESHIELD® 2999A consists of an Outer Casket (Design No 2999) which carries a lead shielded inner Flask (Design No 2993). The 2999A Outer Casket is a double-shell welded cylindrical casket manufactured in low carbon steel with a bolted closure at the base. The space between the shells is filled with phenolic resin foam thermal insulation – Thermally Insulating Shock Absorbing Foam (TISAF). Aluminium honeycomb is used within the Outer Casket to provide impact protection to the inner 2993 Flask.

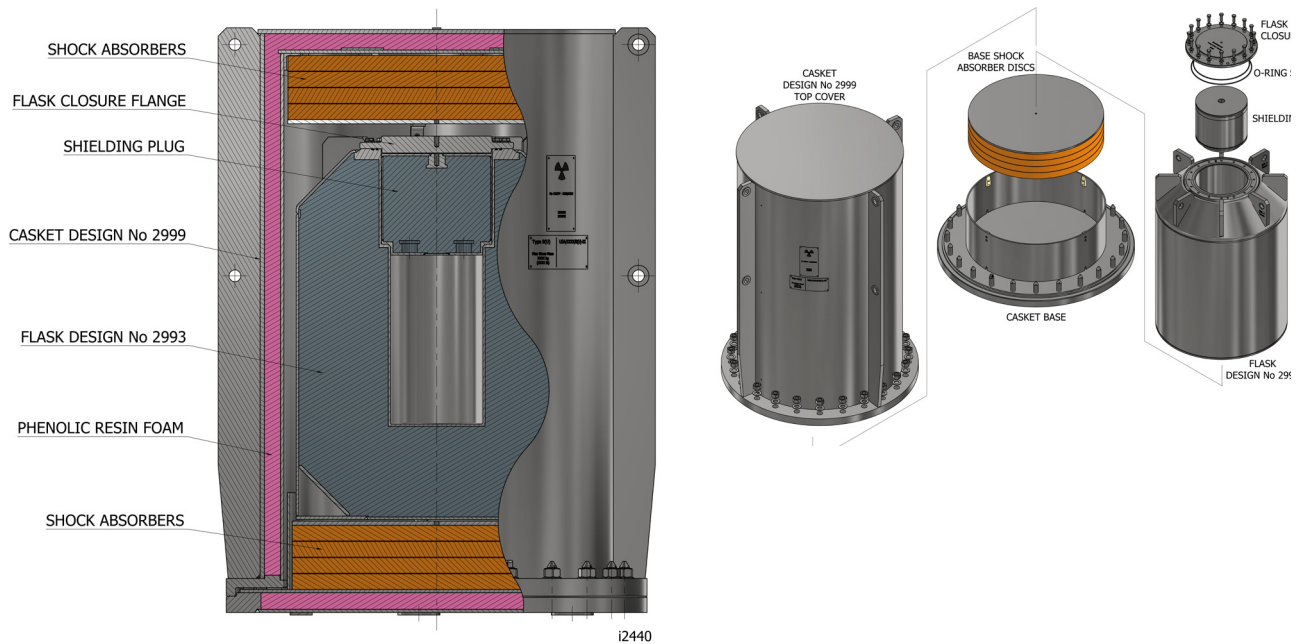
The inner 2993 Flask is a welded stainless steel construction incorporating lead shielding. Access to the inner Flask cavity is gained by removing a bolted closure flange and the lead shielded plug.

Containment / Shielding

Shielding and containment is provided by the inner 2993 Flask. The inner Flask has a lead wall thickness of ~220 mm and a lid with double O-ring seals. The interspace between the O-ring seals facilitates leakage testing to ensure that the seals achieve the prescribed levels of leak tightness. As the lid is separate from the inner Flask shielded plug, the final closure and subsequent leakage testing can be carried out in a low radiation exposure area.



Section through Package Design No 2999A



i2440

Approved Contents

- Primarily approved for the transport of special form and sealed sources of:
 - Cobalt-60 (Co-60); 599 TBq (16.2 kCi)
 - Caesium-137 (Cs-137); 2035 TBq (55.0 kCi)
 - Iridium-192 (Ir-192); 1624 TBq (43.9 kCi)
 - Maximum heat emission of contents not to exceed 250 watts.
- Other materials are approved (such as irradiated accelerator targets and ion exchange resins), additionally subject to safety review by the DOE, approval of alternative contents in solid form is possible and validation of the approval in other countries is possible.

Modes of Transport

By road, rail, sea and air.

Physical Data

Component	Outer Casket Design No 2999	Inner Flask Design No 2993	Shielded Plug
Dimensions			
External Diameter (mm)	1039	669	262
External Height (mm)	1396	918	241
Internal Diameter (mm)	727	220	
Internal Height (mm)	945	400	
Weights			
Tare Weight (kg)	1050	2840 (inc plug)	140
Maximum Permitted Contents Weight (kg)		100	
Maximum Gross Weight of Package (including Contents) (kg)		3990	