




LOW LEVEL WASTE REPOSITORY GUIDANCE NOTE FOR SOFT SIDED PACKAGE COMPATIBILITY CRITERIA

Summary

Subject to the foregoing this Guidance Note should be read in conjunction with the LLW Repository Ltd IP-1 ISO Container Operational Documentation. Notwithstanding any other term of this Guidance Note, this Guidance Note is intended only to support the Container Design Operational Documentation by explaining the basis of the conditional requirements and providing additional information. Nothing in this Guidance Note shall be legally binding upon the Operator of the LLW Repository Ltd and all Terms and Conditions between such Operator and the Customer for the use of the LLW Repository Ltd IP-1 ISO supplied containers. In the event of any conflict between the provisions of the Guidance Note and any LLW Repository Ltd IP-1 ISO Container Design Approval Conditions, the Container Design Approval Conditions shall prevail in all respects.

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Contents

1. Introduction	3
2. Required Specification of a TC11 Compatible SSP	3
2.1 Nominal Dimensions, Ratings and Capacities	3
2.2 Design Features	4
2.3 Test Criteria	4
2.4 Quality Assurance	4
3. Compatibility Assessment Process Technical Details	5
Further Information and Questions	5



1. Introduction

This document provides the guidance of how to demonstrate a Soft Sided Package (SSP) design is compatible with the TC11 Transport Handling Frame (THF).

The TC11 Package (outer), known as the Transport Handling Frame, has been designed to restrain and transport Soft Sided Packages. The TC11 THF is based on a 20' ISO container footprint and has been designed to be transported by road, rail or sea. The SSP forms the containment boundary for the TC11 Package design and the TC11 Package (THF) outer forms the payload restraint system (longitudinally, laterally and vertically) and provides; the package stacking capability and the conveyance restraint capability. The TC11 Package design, using the TC11 Transport Handling Frame and the SSP, satisfy all the requirements for an IP-1 package type, with no modal restrictions.

The TC11 package will primarily be used for (but not restricted to) the transport of VLLW (as LSA-I/SCO-I or as an Excepted Package).

This document should be read in conjunction with:

- TC11 Package Approval Certificate – IP-1/GB/TC11/IP-96 Issue 1
- Operating and Maintenance Specification for Type IP-1 Package Design No TC11 Transport Handling Frame – OM-3409227-MECH-00001-B

2. Required Specification of a TC11 Compatible SSP

The SSP forms the containment boundary for the TC11 Package design, and as such must meet the following specific requirements in order for the TC11 to be operated as an IAEA IP-1 Package design. This section details the basic design requirements for an SSP to be used with the TC11.

2.1 Nominal Dimensions, Ratings and Capacities

The SSP must be rated as follows;

- Nominal capacity of approx. 1m³, or less
- Nominal dimensions of approx. W900mm x L700mm x H1150mm
- Designed and tested to a gross weight of approx. 1000kg

Note: Oversize / Overrated bags may be used, but evidence must be supplied and packing will be restricted and controlled in order to comply with the TC11 THF design parameters.



2.2 Design Features

The SSP design must;

- Be manufactured from material that is UV resistant
- Be able to withstand, without degradation, a dose rate of 2mSv/hr at the surface of the containment system, for a period of up to 12 months
- Be manufactured from material that can be decontaminated using spray and wipes (e.g. Decon 90), or coated in such a way as to make this possible
- Be non-porous, for a minimum of 60 days
- Be able to be operated and transported without restriction between the temperature range of -10°C and +38°C
- Incorporate a sealable liner (typically 80 microns thickness)
- Incorporate an outer layer (typically 160 microns thickness)
- Incorporate a dual lid closure system, one closure being part of the inner liner and one closure being part of the outer layer
- Be able to be lifted by a standard FLT with no special or dedicated lifting frames or attachments (unless otherwise agreed by LLWR)

2.3 Test Criteria

The SSP design must have satisfied either one or both of the following tests:

- A. To be accepted for transport under ADR (for dangerous goods of class 7), the SSP must be tested and approved in accordance with ISO 21898:2005 Packaging – Flexible Intermediate Bulk Containers (FIBC) for Non-Dangerous Goods
- B. To be accepted for transport under ADR (for dangerous goods of class 9), the SSP must be tested and approved in accordance with the FIBC tests of ISO 16495:2013 Packaging – Transport Packaging for Dangerous Goods

Additionally, an FIBC meeting either A or B above shall demonstrate the ability to maintain containment under Routine Conditions of Transport (RCT), as defined in the IAEA Transport Regulations SSR-6.

2.4 Quality Assurance

The SSP must be supplied with:

- Manufacturer ID and individual Serial Number (or traceable batch number) or manufacture date
- Certificate of Conformity (C of C)



3. Compatibility Assessment Process Technical Details

LLWR requires that the customer provides LLWR with technical details of the SSP design that they wish to use accompanied by:

- Test reports / certificates or details as mentioned above
- Operator Instructions
- Quality Assurance evidence as specified in Section 2.4

Note: Technical Evidence shall state / infer that no transient loss of contents occurred during any test conditions.

The compatibility of the SSP design against the TC11 will then be assessed by both LLWR and a relevant receiving facility; the assessment will be recorded using RSF 6.18.02_13 Inner Receptacle Compatibility Assessment. When satisfied that the SSP is compatible with the TC11 THF, LLWR will review the TC11 Operating and Maintenance Instruction and any other SSP documentation to assess whether or not any updates are required. If required, the O&M / related documentation will be updated. Upon successful assessment completion, the SSP design detail will then be added to the approved list on the front page of the TC11 Package Design Approval Certificate.

The compatibility assessment form and all associated documents will then be filed and recorded in the TC11 Licensing Folder as evidence that the TC11 IP-1 design meets the applicable requirements of the IAEA regulations for the safe transport of radioactive material, conclude compatibility assessment.

Note: If you cannot provide the above Technical Evidence documents, LLWR can be contacted to discuss the SSP design under assessment and will support the customer with their submission for assessment.

Further Information and Questions

If you require any further information or have any queries relating to these compatibility criteria, please send an e-mail to transportandlogistics@llwrsite.com.

