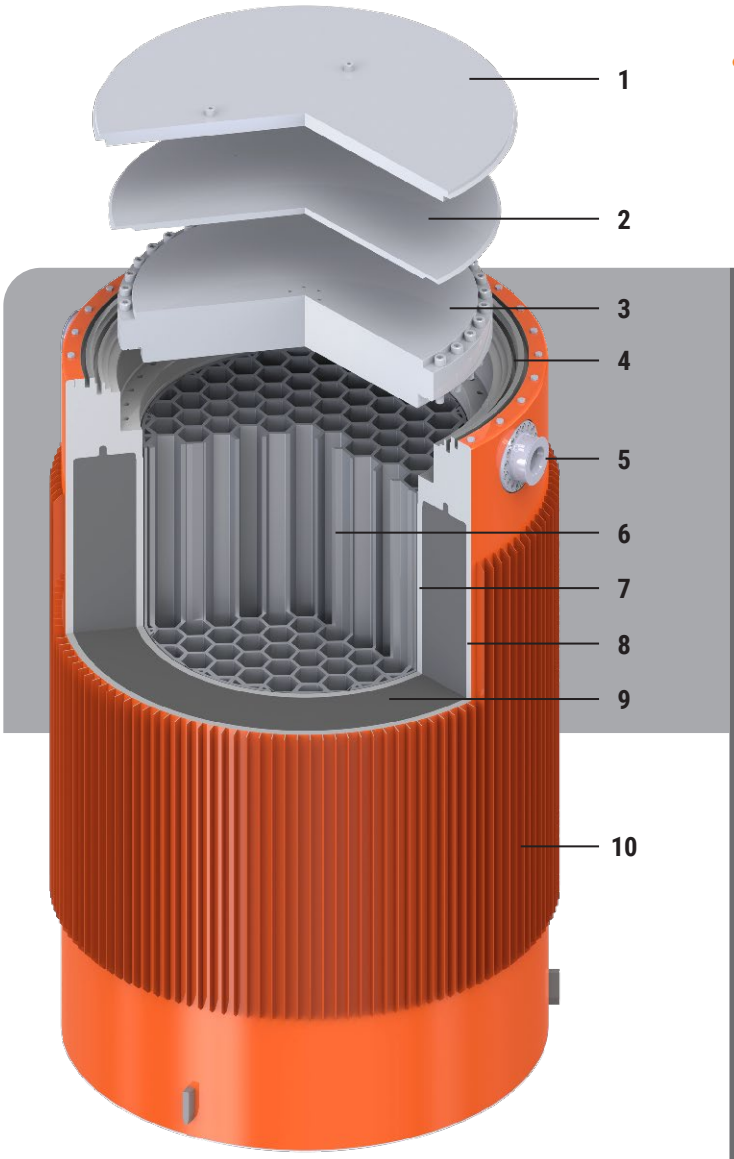
CONSTOR®

Dual Purpose Cask for Transport and Storage of Spent Fuel



- Perfectly suited for local manufacturing in the country of the customer
- Load & Go and Store & Go – No overpack required for transport and storage
- No risk of chloride induced stress corrosion cracking due the material selection and abstinence of stainless steel in the containment in contrast to competing canister based concrete casks.

DESCRIPTION

The CONSTOR® casks are designed for the safe transport and storage of spent fuel assemblies.

The cask consists of a thick-walled cylindrical “sandwich” cask body [10], consisting of an inner [7] and an outer [8] liner fabricated from fine-grained steel. Both liners are welded to the massive fine-grained steel head ring [4] to form a double barrier containment. If needed, cooling fins can be welded to the outer liner.

For additional shielding the space between the liners is filled with CONSTORIT [9], a heavy concrete with special shielding characteristics, developed by GNS.

The multi-lid system for safe containment of the inventory consists of three lids:

- a bolted primary lid [3]
- a welded seal plate [2] and a welded secondary lid [1] for permanent sealing

Due to the welded lid system there is no need for active monitoring during the storage period (passive system).

The basket [6] for accommodation of the spent fuel assemblies serves for criticality safety as well as for heat dissipation.

To the lid end of the cask body, one pair of trunnions [5] is bolted for attachment of handling equipment.

Excellence for **Nuclear.**

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10/2023

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LICENSES

The CONSTOR® casks are designed for the dry interim storage of spent fuel. In combination with shock absorbers and if needed an overpack, the CONSTOR® casks design also complies with the international regulations of the IAEA for type B(U) package designs.

CASK DESIGN

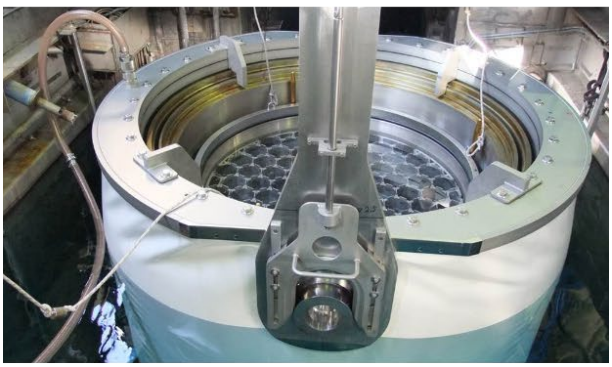
- State-of-the-art methods for design and safety analyses
- Customer specific cask design, outer and inner dimensions customized to spent fuel assemblies and spatial conditions
- Design of handling interfaces adjusted to existing infrastructure
- Multi-lid system can be adjusted to customer's requirements
- Additional cooling fins welded to outer liner if necessary

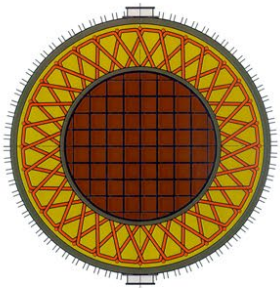
ADVANTAGES

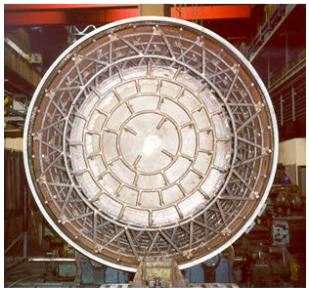
- Maximum safety and long-term reliability due to sandwich design and multi-layer weld
- 100% leak-tight, no leak-tightness monitoring necessary during storage period due to welded lids
- Easy handling and flexibility for transport and storage
- Maintenance-free storage operation
- Minimized radiation exposure to operational staff
- Optimal conditions for interim storage of spent fuel assemblies due to the dry atmosphere inside the cask
- Off-site transport without re-loading
- Easy retrievability of the fuel for final disposal
- Manufacturing possible in any industrially developed country of the world
- Cost advantages through manufacturing and delivery based on actual need for storage

REFERENCES

More than 320 casks were manufactured for Bulgaria (CONSTOR® 440/84) and Lithuania (CONSTOR® RBMK-1500, CONSTOR® RBMK1500/M2). Thereof more than 300 casks have already been loaded.







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