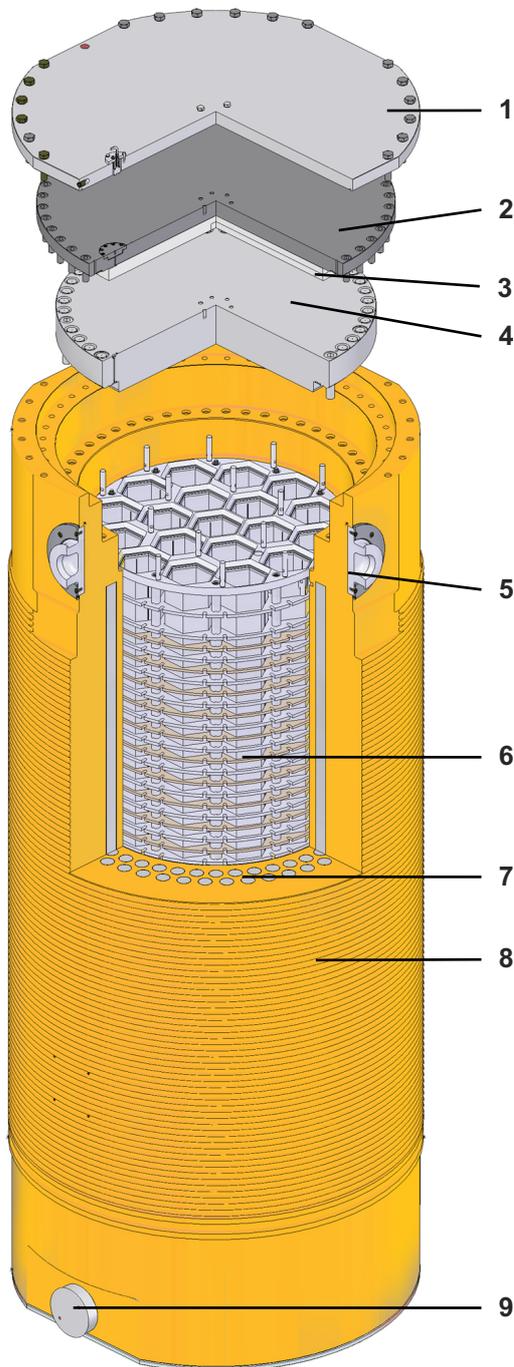


CASTOR® 1000/19

for Spent Fuel from
VVER 1000 Nuclear Power Plants



- Dual purpose cask for transport and storage of spent fuel assemblies of VVER 1000 reactors
- Load & Go and Store & Go – No overpack required for transport and storage
- Based on over 40 years of experience and the proven design principle of the CASTOR® family

DESCRIPTION

The CASTOR® 1000/19 cask is designed for the transport and storage of spent fuel assemblies of VVER 1000 reactors.

The cask consists of a monolithic body [8] made of ductile cast iron, a basket [6] for accommodating the fuel assemblies and a double-lid system (primary and secondary lid arranged one above the other [4, 2]) as well as a protection plate [1].

On the outside wall, radial cooling fins are machined to improve the passive heat dissipation. The double-lid system made of stainless steel is tightly bolted to the cask body guaranteeing a safe long-term containment of the fuel assemblies. During interim storage the lid system consisting of the two barriers is permanently being monitored for leak-tightness. Monitoring is performed by a pressure switch which is integrated in the secondary lid.

For neutron moderation, axial boreholes are drilled into the cask wall and filled with polyethylene moderator rods [7]. In addition, there are plates of polyethylene at the bottom end and on the underside of the secondary lid [3].

At the bottom and lid end of the cask body, two [9] respectively four trunnions [5] are bolted for attachment of handling equipment. For transport on public routes the cask can be equipped with shock absorbers.

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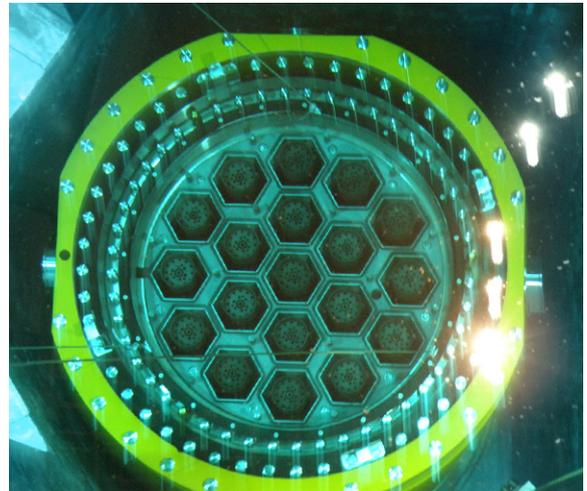
LICENSES

In combination with shock absorbers, the CASTOR® 1000/19 cask design complies with the international regulations of the IAEA for type B(U) package designs.

The cask also fulfills the requirements for long-term interim storage for a minimum of 60 years.

REFERENCES

For the cask type CASTOR® 1000/19, a license as a dual purpose cask for storage and transportation in the Czech Republic (CZ) was issued in June 2010. So far 48 casks have been loaded in Temelin (CZ).



TECHNICAL DATA

Cask Contents

Max. 19 spent fuel assemblies up to 5 wt.-% ²³⁵U initial enrichment and a maximum burn-up of 60 GWd/t_{HM}.

Dimensions and Weight in the Storage Configuration

▪ Overall height:	550 cm
▪ Outer diameter:	229 cm
▪ Cavity height:	463 cm
▪ Cavity diameter:	148 cm
▪ Cask weight empty:	≈ 115 t

