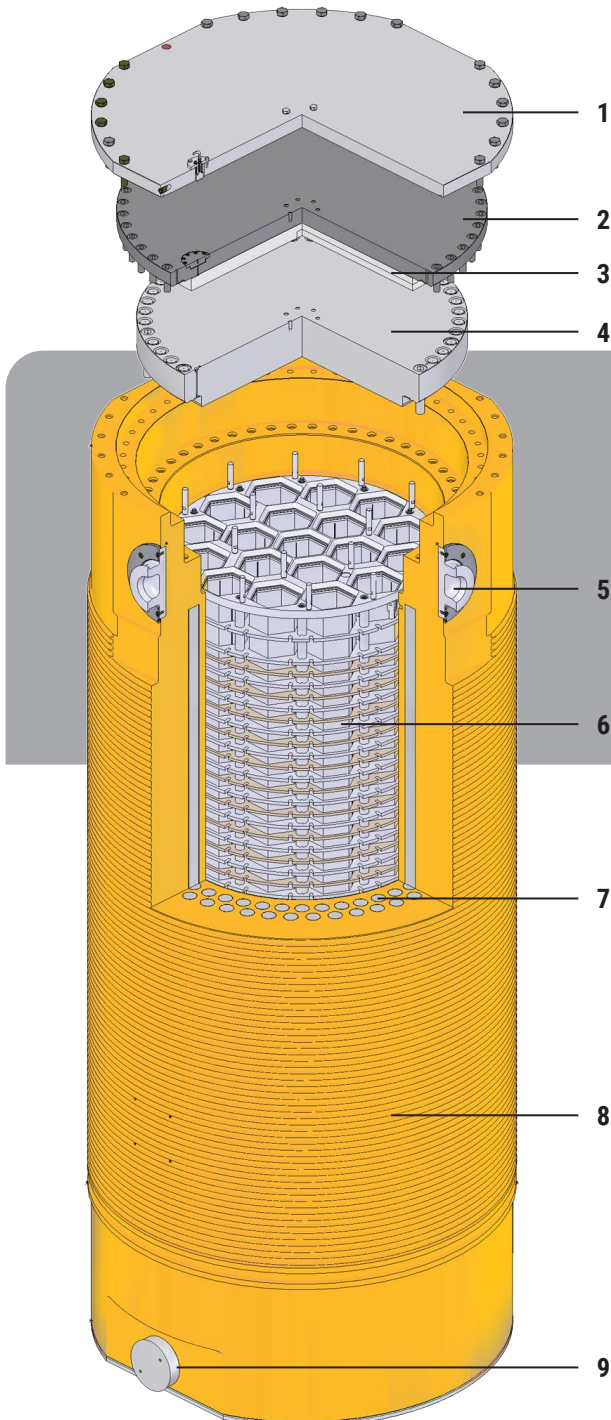


# CASTOR® 1000/19

Transport and Storage Cask 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.

**Excellence** for Nuclear.

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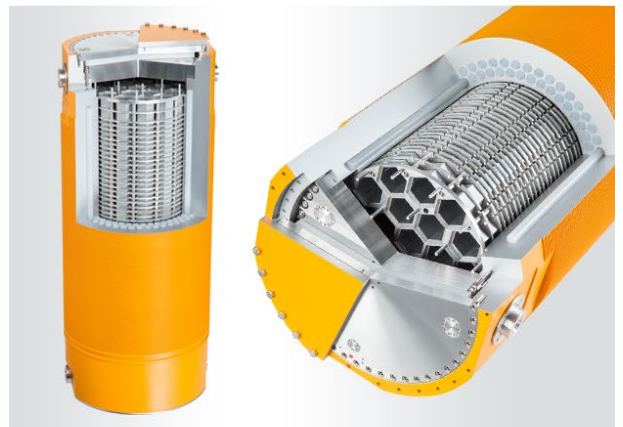
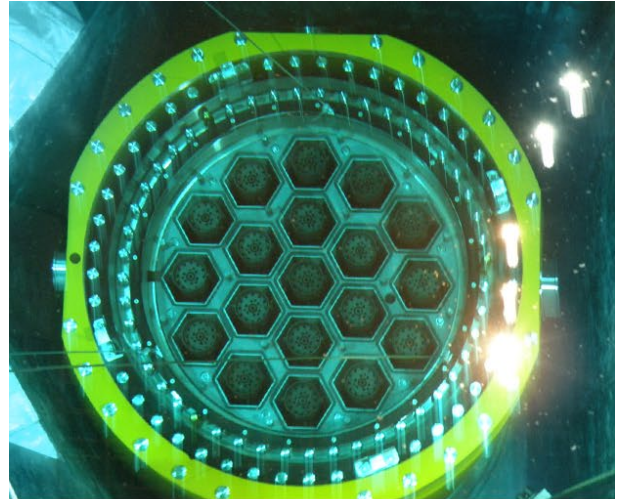
## LICENSES

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 Temelín (CZ).



## TECHNICAL DATA

### Cask Contents

Max. 19 spent fuel assemblies up to 5 wt.-% <sup>235</sup>U initial enrichment and a maximum burn-up of 60 GWd/t<sub>HM</sub>.

### 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



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