



Orano TN

HALEU Packages & Transportation

Orano has developed packages to meet the industry's evolving needs for transporting the new fuels (LEU+ and HALEU).

Our Mission:
ADVISE.
DESIGN.
ANALYZE.
TEST.
MANUFACTURE.
LICENSE.
IMPLEMENT.
LOAD.
TRANSPORT.

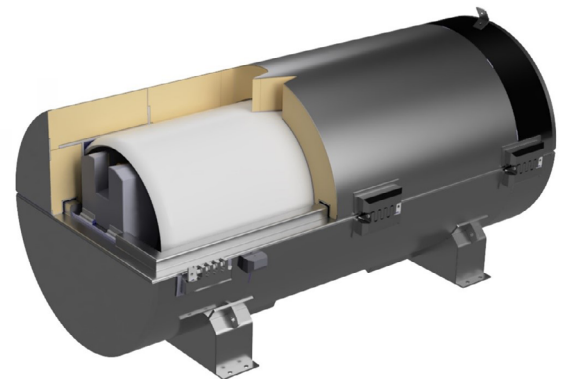
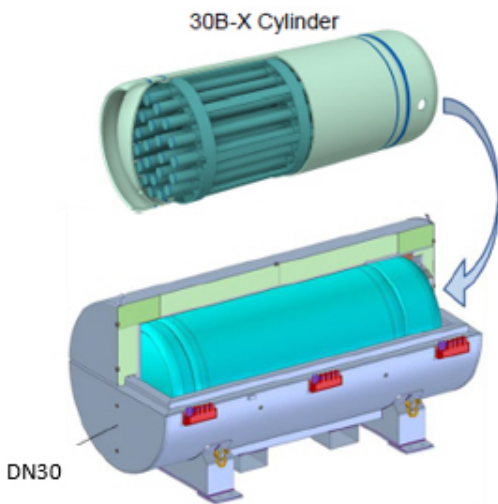
ENRICHED UF₆

DN30-X

Orano developed the DN30-X, a Type A Fissile overpack for the 30B-X cylinder to transport HALEU UF₆ fuel in the United States.

The U.S. NRC licensed the DN30-X in March 2023.

The 30B-X cylinder is based on the NRC-approved 30B cylinder, with an added Criticality Control System (CCS) inserted inside the 30B-X cylinder with control rods filled with poison material. The CCS maintains a CSI = 0 for transport.



DN30-X Capacity

	Capacity	Type
DN30-10	1,460kg UF ₆	LEU+
DN30-20	1,271 kg UF ₆	HALEU

The DN30-X "Type A Fissile" Overpack incorporates enhanced safety features required by regulators worldwide.

URANIUM OXIDES, METALS, AND ALLOYS

VERSA-PAC

The Versa-Pac is a certified (USA, UK) Type A fissile packaging available in two drum sizes: 55 gallons (VP-55) or 110 gallons (VP-110). The Versa-Pac is licensed for the following contents (also licensed for uranium hexafluoride in 1S and 2S cylinders):

- Uranium oxides
- Uranyl nitrate crystals
- Uranyl fluorides and carbonates
- Uranium metal and alloys
- Natural thorium
- TRISO fuel and compact

The contents can be transported using inner containers with a number of configurations:

- Single or dual 5-inch pipe containers
- High-capacity baskets incorporating neutron moderators to accommodate the highest amounts of high enrichment material
- Three stackable 3-gallon containers
- Poly bottles

The maximum allowable quantities depend on the material, the enrichment level, mode of transport, and the presence of hydrogenous material. Inserts and baskets of various sorts can be used to increase the payload capacity.



Up to 48 VP-55s can be loaded into an ISO 20-foot container for a total payload. For example, up to 2,880 kg of UO₂ powder from ²³⁵U enriched at 20%.

The dimensions (Outer / Cavity) of the Versa-Pac models are as follows:

Dimensions of Versa-Pac

	Outer		Cavity	
	Diameter (mm)	Height (mm)	Diameter (mm)	Height (mm)
VP-55	590	882.6	381	655
VP-110	772	1084	533	755

Orano TN has packages for enriched and depleted UO₂ powder, pellets and scraps; fresh BWR, PWR, EPR, and MOX fuel assemblies, and for contaminated fresh fuel assemblies.

Learn more about our transport casks.



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