

# **Verification of Package's Containment System Using Metallic Gasket to Comply with Requirement for Both Transport and Storage**

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Mitsubishi Heavy Industries, Ltd. (MHI) has developed a transportable storage cask design; the "MSF series". The MSF series casks adopt metallic gaskets for both transportation and storage containment devices. In Japan, metallic gaskets are selected for storage cask as containment devices, but have never been used for transportation casks. In order to employ a metallic gasket for transportation, a new design has been adopted and the validity of the design has been confirmed.

## **-- Design of cask**

A metallic gasket is not as flexible as a rubber gasket, and a small displacement of the lid occurs during a drop accident. Therefore, to minimize lid displacement from a drop accident, the following design has been adopted:

- 1) A radial gap between flange and lid is smaller than the displacement required to maintain containment.
- 2) A longitudinal gap between the primary lid and the secondary lid is small. These lids contact each other and are supported by a cover plate shock absorber which is used when a vertical drop occurs.

## **-- Verification of the containment integrity and validity of the cask design**

Using a 1/2 scale model, a drop test has been performed to verify the containment integrity and validity of the cask. It has been confirmed that containment has been maintained and the cask design for maintaining containment has been verified by the drop test.