

Sealing bolt with deep anchorage

Description

The present invention relates to the safety and automatic integrity control of container for nuclear material in dry storage areas. The bolt seal are used to detect and report unauthorized opening of the lid of containers.

In the field of nuclear safeguard, one of the major challenges is to avoid possible opening of the seal without destruction of its integrity. The main innovation of the invention is to propose a special nut & lock-nut device which blocks itself inside the threaded hole where the bolt is screwed, acting as a kind of inner deep anchorage. The mechanical link of the anchorage to the integrity ensures the impossibility to unscrew or pull the bolt without destroying its integrity. Another important feature of the invention is that the main bolt body has the same mechanical characteristics as a standard bolt and can therefore withstand high applied torque. In case of rupture of the integrity, special mechanical devices allow easy unscrewing of the bolt in view of its replacement.



Innovative aspects and main advantages

- Deep anchorage.
- Use in dry or water storage.
- High degree of protection from potential attack on the head of the bolt.
- Same mechanical characteristics as standard bolts used in the field.
- User-friendly system, easiness of use.
- Seal are identified univocally.
- Low production and maintenance costs.
- Control of integrity is quick, easy, automatic and remote.
- Allows long term traceability.

Areas of application

- Nuclear inspections
- Nuclear and atomic agencies
- Nuclear and atomic companies



Stages of development

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Prototype

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Licensing Contact

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