

The world's highest radiation-resistant lubricants supporting decommissioning of the nuclear reactor

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Abstract

Excellent radiation-resistant lubricants are essential for equipment in high-dose areas. The lubricants, "MORESCO-HIRAD"s showed the world's highest radiation resistance, not only against a γ ray but also a neutron-dominated mixed ray.

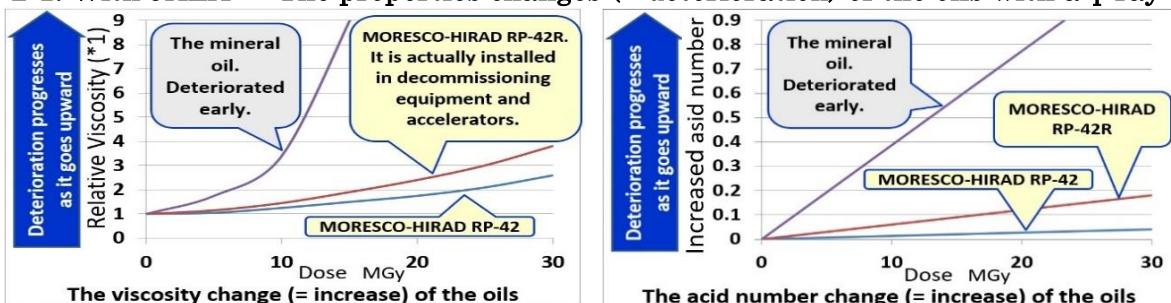
Accordingly, it has been comprehensively installed in the debris retrieval devices.

1. Introduction

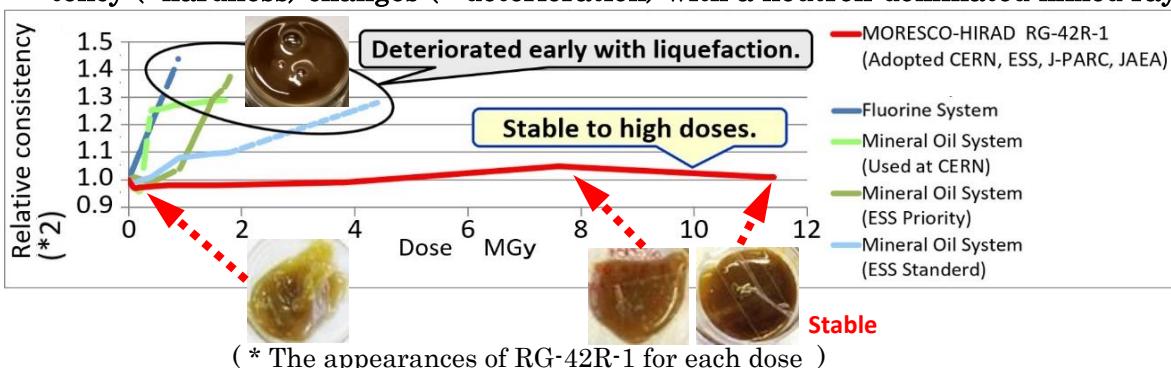
It is shown below as the changes in each lubricant's properties depending on the doses that the obtained data from the concerted studies with JAEA or the European accelerator projects. A lubricant having less change in its properties even at a high dose has an excellent resistance.

2. The irradiation-evaluations and the findings for the lubricants

2-1. With JAEA ~ The properties changes (= deterioration) of the oils with a γ -ray

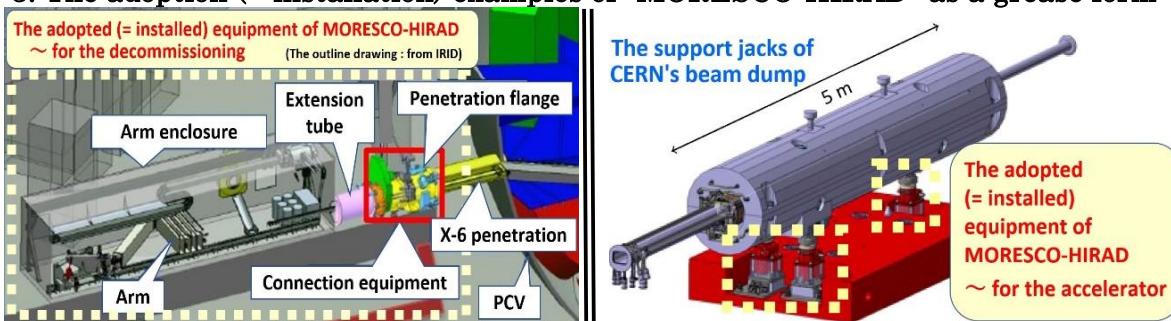


2-2. With the European accelerator projects, CERN & ESS ~ The greases' consistency (=hardness) changes (= deterioration) with a neutron-dominated mixed ray



(*1) and (*2) is calculated with each sample's respectively value at the time of non-irradiation as "1".

3. The adoption (= installation) examples of "MORESCO-HIRAD" as a grease form



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