

Consultation Questionnaire Exemption Request 2015-2

Exemption Request for „Allow the use of lead to a maximum of 4% by weight in High Voltage Cables and Cable Assemblies for a rated voltage higher than 250kV DC and to be used in Electron Microscopy applications“

Abbreviations and Definitions

EEE	Electrical and Electronic Equipment
Pb	Lead
TEM	Transmission Electron Microscope

Background

The Oeko-Institut together with Fraunhofer IZM has been appointed by the European Commission within a framework contract¹ for the evaluation of exemptions to be included in or deleted from Annexes III and IV of the new RoHS Directive 2011/65/EU (RoHS 2). FEI Company has submitted an exemption request with the above mentioned wording.

FEI Company submitted a request for exemption to allow using lead to a maximum of 4% by weight in high voltage cables and cable assemblies for use in transmission electron microscopes (TEM). The application has been subject to a first completeness and plausibility check. The applicant has been requested to answer additional questions and to provide an exemption wording formulation that limits the scope of the exemption to the use of the specified applications in such devices. Answers can be viewed on the request webpage of the stakeholder consultation: (<http://rohs.exemptions.oeko.info/index.php?id=222>).

A TEM transmits a beam of electrons through a specimen and forms an image from the interaction of the electrons transmitted through the specimen, which is focused and magnified by an imaging device. A higher acceleration voltage of the electron beam results in a higher image resolution of the TEM; the highest acceleration voltage is at 300kV. For 300kV TEM, high Voltage cable is needed for the transfer from the generator tank to the gun emitting the electron beam.

According to the applicant, high voltage cables are normally used in power plants and are thus outside the scope of RoHS. FEI Company specified that the lead compound lead tetroxide (Pb₃O₄)² is used to improve the thermal stability of the cable insulation, which improves the lifetime of the cable that has to match the lifetime of the TEM of about 15 years. FEI Company cannot provide any further detailed information on the cable insulation. However, FEI Company indicated that they are already cooperating with the cable supplier to develop a RoHS compliant cable. The applicant requests a minimum duration of seven years as the long-term test on stability and reliability needed are at least five years.

For details, please check the applicant's exemption request at:
<http://rohs.exemptions.oeko.info/index.php?id=222>

¹ Contract is implemented through Framework Contract No. ENV.C.2/FRA/2011/0020 led by Eunomia

² Orange lead (lead tetroxide); EC Number: 215-235-6; CAS Number: 1314-41-6

Questions

1. Do you agree with the proposed exemption wording and its requested duration of 7 years? If not, please provide an alternative wording.
2. Do you share the applicant's arguments, or are you opposed to the requested exemption? Please explain your answer in detail, in particular if you oppose the requested exemption. Please also explain if you have additional arguments to support the request.
3. Do you agree to the applicant's information that there are no suppliers that provide > 250 kV cables that are RoHS compliant?
Please provide information on lead-free thermal stabilizers used in cable insulation that may be suitable as substitutes for application in > 250 kV cables.
4. It is understood that the high voltage cables are specifically needed for the above mentioned application under Sub-Category 9 Industrial. Are you aware of other applications of high voltage cables in other equipment, which is in the scope of the RoHS Directive?
5. There are other manufacturers delivering 300 kV TEM within the EU market, e.g. JEOL and Hitachi.
It is yet to be established if some or all of these other manufacturers support the exemption request. Please provide information as to why these manufacturers do not need the requested exemption, or alternatively, to clarify why granting the requested exemption is justified for the applicants 300 kV TEM, despite their being other such devices on the market that do not need the exemption?
6. Please provide information concerning any other aspects you deem to be of importance for the requested exemption.

In case parts of your contribution are confidential, please clearly mark relevant text excerpts or provide your contribution in two versions (public /confidential).

Finally, please do not forget to provide your contact details (Name, Organisation, e-mail and phone number) so that Oeko-Institut/Fraunhofer IZM can contact you in case there are questions concerning your contribution. Please also note, however, that requested exemptions cannot be granted based on confidential information!