Clarification #1
Depollution monitoring of CRT displays. Yttrium limits.

Background:

Clause 5 of the CRT specific requirements in WEEELABEX Standard on Treatment (Part II) sets a number of requirements regarding the removal of fluorescent coatings in CRT glass. The quality of the removal shall be verified by proving that the depolluted glass fraction does not contain more than a certain amount of Yttrium. The text in the standard does not provide a limit value for Yttrium.

Is there an applicable value for the Yttrium limit?

Answer:

A research conducted within the WEEELABEX TF Measurement pursued the completion of this part of the standard, i.e its aim was to set the limits for the maximal content of fluorescent coatings in CRT glass fractions after depollution.

Almost 300 chemical analyses were performed during the second semester of 2011 and the year 2012. Since the limit shall apply to all usual methods of fluorescent coatings removal, there were considered four depolluting and treatment technologies for the sampling procedure: vacuum, dry and wet cleaning processes and mechanical treatment of whole CRT appliances.

The study revealed that:

1. Yttrium cannot be used as an indicator of fluorescent coating, because it is an element present not only in the fluorescent coatings but also in the panel glass.
2. Further research determined that, unlike Yttrium, Sulphur can be a representative element for fluorescent coatings. It was concluded that 1Kg of uncleaned panel glass contains 100mg of Sulphur.
3. **According to the report, Yttrium should be replaced by Sulphur as tracer of fluorescent coatings. The proposed limit of Sulphur for the cleaned glass fraction in the Standard shall be 5mg/Kg, which represents an efficiency of 95%.**

Sampling and measuring protocols for Sulphur can be found in ‘’A10 WEEELABEX Documentation to measure depollution’’, available at: http://www.weee-forum.org/weeelabex-0 and http://www.weeelabex.org/#!standards/component_41229.

Documents related:

WEELABEX Standard on Treatment

A10 WEEELABEX Documentation to measure depollution