GRAETZ Strahlungsmeßtechnik

GRAETZ News:

Cobalt-60 in Stainless Steel

The Federal German Ministry for Environment (source: press office of the Federal Ministry) informs the public about the detection of radioactively contaminated products made of stainless steel: this information refers to raw products in the shape of round steel and to end products, as e. g. machine parts which are polluted by Co-60.

Contaminated steel products – a consequence of unintentionally melted radioactive sources – are a worldwide problem, which can only be managed by:

- corresponding border controls during importation
- thorough controls of steel scrap before melting
- thorough controls of raw products before processing
- thorough controls of the end products

For this, **high sensitive measuring systems,** e. g. equipped with scintillation detectors, like firmly installed stationary systems or portable measuring instruments with corresponding probes for ionizing radiation, are **absolutely necessary**.

Due to physical reasons **measuring instruments equipped with Geiger-Müller tubes are not suitable for this measuring task.**

Fig. 1: Telescope adapter with NaJ-scintillation probe 2002 for controlling steel scrap with regard to radioactive contamination

For this measuring task GRAETZ recommends a suitable, portable measuring system in a transport case, consisting of:

Fig. 2: Transport case for the above measuring system

- Dose rate meter „X 5 C *plus*“
- NaJ-scintillation probe 2002
- Probe cable „D“, standard length: 1,25 m

Optional accessories:
Telescope adapter, extendable up to 3,7 m, where the NaJ-scintillation probe 2002 can be mounted to.

Please observe the following procedure:
1. determine the ambient background count rate, 2. determine whether the test item shows a higher count rate. For this, approach the probe close to the test item's surface. If the measured count rate exceeds the background count rate by approx. 20%, it is strongly suspicious of being contaminated with Co-60. In Germany, the responsible supervision authorities have to be informed.

Fig. 3: Fixing clip with NaJ-scintillation probe 2002

Fig. 4: Dose rate meter „X 5 C *plus*“ put on the Telescope adapter

Principally, GRAETZ recommends to inform the responsible authorities even when weak contaminations below the official clearance measurement values have been detected. By the way, in Germany such official clearance measurements may only be effected by the responsible authorities.

Comparision measurements effected by an official German authority confirm that the GRAETZ measuring instrument combination X 5 C *plus* / NaJ-scintillation probe 2002 is most suitable for this application.

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