

Thoriated Tungsten Welding Electrodes

Welding processes can give rise to a number of different radiations such as the emission of Ultra-violet light, Infra red radiation and or electromagnetic fields. Although nuclear radiation is not usually a hazard associated with welding, this article is to alert persons involved in TIG welding of a potential hazard.

The hazard arises from the storage and use of thoriated tungsten electrodes. Thorium is incorporated into some tungsten welding rods to improve their working properties. Thorium is used in a wide range of industrial processes. It is a naturally occurring radioactive element emits a type of nuclear radiation known as alpha particles.

The main hazards associated with the storage or use of these thoriated tungsten welding rods are:

- the storage of a large number of rods in any one place; and
- the inhalation of dust particles generated during tip grinding.

Where tungsten electrodes are not necessary for quality of the weld, workshop and welders should use alternative type electrodes.