

“...Protecting people and the environment from the harmful effects of radiation...”

**RWANDA UTILITIES
REGULATORY AUTHORITY
(RURA)**



**APPLICATION OF
IONIZING RADIATION
FOR NON-DESTRUCTIVE
TESTING PROCEDURES**

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1. Industrial Radiography (IR)

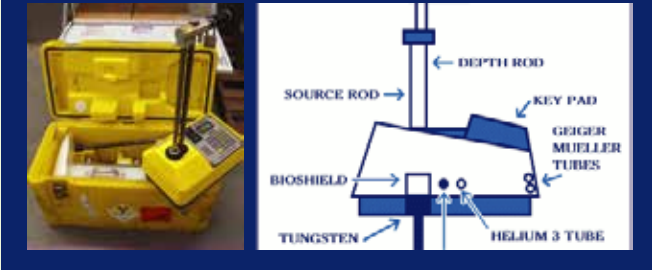
IR is method which uses either x-rays or gamma rays to examine the internal structure of manufactured components identifying any flaws or defects.

Typically used in Non-destructive inspection of :

- Welds
- Joints in pipework & storage tanks
- Castings
- Tyre structure



2. Nuclear Gauges



Nuclear gauges are devices that use radioactive sources to measure parameters such as thickness, density, moisture or filling level of some materials.

Nuclear gauges normally incorporate a nuclear source, a detector and a shutter.

3. X-ray Baggage Scanner

This is a type of inspection whereby baggage/security scanners create the image by mechanically passing the object through a fan-shaped X-ray beam that is directed onto a linear detector array that builds up the image

Uses:

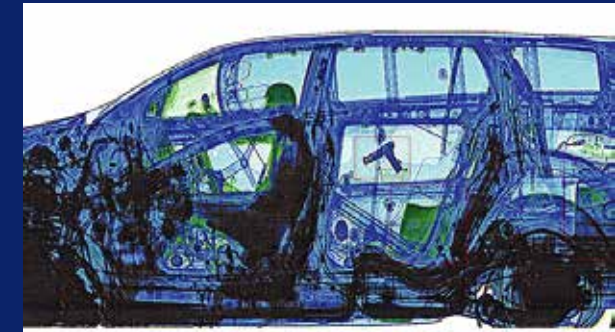
X-ray baggage scanner uses electromagnetic radiation to find smuggling or hidden contraband, on the other hand, explosives, weapons, narcotics or weapons of mass destruction dangerous and illegal items not in the luggage, airport, factory or other controlled places



Baggage inspection scanner

4. X-ray Vehicle Inspection

X-ray vehicle screening system makes it possible to detect different dangerous and contraband items hidden inside loaded trucks and the items and materials inside the containers with liquids.



Vehicle inspection scanner

Radiation Safety Tips:

Apply time, distance, and shielding during non-destructive Testing procedures; Do not put your hand inside the scanner; Equipment operators must ensure that they always wear their personnel monitoring devices during operation.