



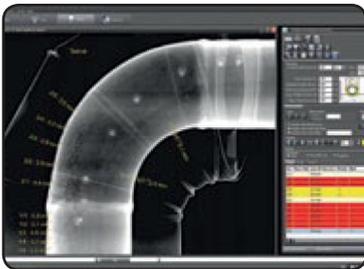
COMPUTERISED RADIOGRAPHY (CR)



Computed Radiography (CR) is the production of a digital image by using a Phosphor Imaging Plate (IIP) in place of a conventional film.

Key advantages of CR include:

- IP's are re-usable
- No dark room or chemicals required
- Exposure and process time reduced
- Easy workflow and image optimisation with D-Tect software
- Simple to share digital information and archive



The CR technology consists of a 3-step process.

- i. The Image (storage) Plate (IP) is exposed with X-ray or Gamma radiation, which causes the IP Phosphor layer in the plate to store the X-ray image. During the reading process of the plate scanner, a focused laser beam triggers the release of the stored image data in the form of visible light.
- ii. The emitted light is detected, captured, and converted into electrical signals which are digitised and finally displayed as a digital image on the PC monitor.
- iii. The internal in-line eraser purges the residual data from the IIP, which is then ready for the next exposure.



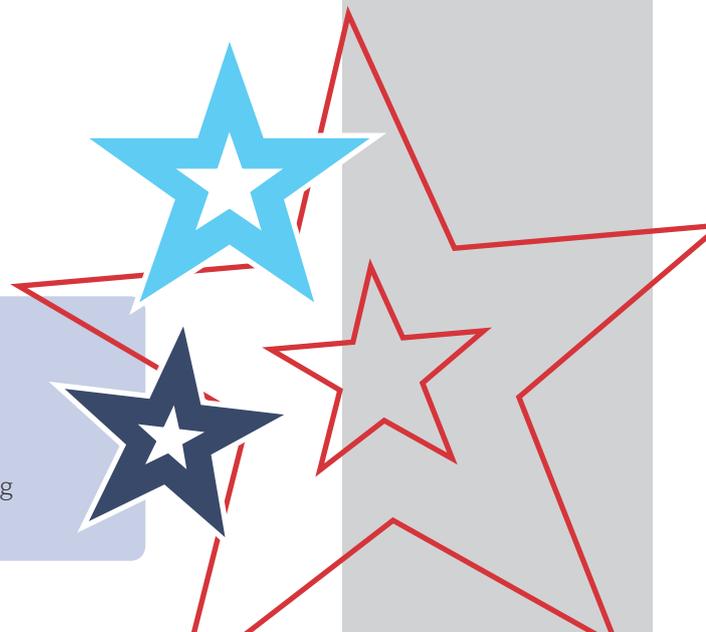
With film radiography the only variable is the film, with CR we have different IP's and the ability to adjust up to 4 parameters within the scanner to optimise the image quality to suit the required inspection task.

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A-STAR TESTING & INSPECTION

SCAR / GAMMASAFE (CLOSE PROXIMITY RADIOGRAPHY)



Designed for unparalleled handiness, the GammaMat SE gamma projector offers unique and unrivalled portability not found in other systems.



This rugged, light-weight and easy-to-use gamma projector uses Selenium-75 (Se-75) as its radiation source. Se-75 provides greatly improved image quality over other isotopes commonly used, a longer half-life and simplified radiation protection due to its lower gamma energy. Compared to projectors that use higher energy gamma sources, the GammaMat SE loaded with a Se-75 radiation source can be safely used in smaller controlled test areas. All of these features result in substantial cost savings to the user.



Higher Image Quality using Selenium-75

Se-75 provides significantly higher image quality than Ir-192 imaging systems. The gamma ray spectrum of Se-75 ranges from 66 keV to 401 keV, with two lines of high intensity at 136 keV and 265 keV dominating this spectrum. These radiation characteristics are between Yb-169 towards the lower energies and Ir-192 towards the higher energies. The wide gamma spectrum of Se-75 makes it an ideal choice for gamma radiography, especially for a steel wall thickness in the range of 5 mm to 30 mm (0.2 in to 1.18 in).

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