Digital radiography (CR = Computed Radiography) and film digitisation (FD = Film Digitisation)

Are materials, equipments and structures in your sector crucially important? Is safety an extremely important consideration for you? Applicable laws and regulations make it mandatory to conduct a number of tests to analyse your material and to detect defects. Digital Radiography is one of the test methods. A related technique is Film Digitisation.

Your tailor-made solution

Digital radiography employs a reusable image plate with a light-sensitive phosphorus coating. Exposure to X-rays or gamma rays produces a latent image on this plate, exactly as happens on a film. When the exposed plate is read with the scanner provided, the latent image is converted into a digital image. This eliminates the need for dark rooms or development products. The digitised images (Lmg files) can be burned onto a CD-ROM. These images can be converted into other file formats (bmp, jpg, etc.) - with very little degradation.) They can therefore be viewed with any commonly available software. A suitable software to view the source files (Lmg) is available. The photosensitive layer of these plates has an extremely wide dynamic spectrum. The result: a high tolerance level in determining the exposure time. This greatly reduces the chances of failed images.
Since the image plates have a very high exposure tolerance, images can be recorded in a single exposure even with extreme variations in material thickness. This is substantially different to the various images that are recorded using different lighting techniques or conventional X-ray films. On an average, the required radiation dose is ten times lower than is the case with a normal X-ray film. The exposure time required is therefore much shorter, and therefore, more images can be recorded. A lighter source of radiation may also be used, thereby greatly reducing the radiation exposure for the operator and for the environment.

Your result

This test is essential for your materials, equipment and structures, and can offer you several advantages:

- Vinçotte International has integrated this system into a mobile unit. That means that we can evaluate images on the spot, for example on construction sites
- less equipment is required.
- Results can also be viewed with other software.
- Less waste (films and development products) in comparison to conventional X-ray imaging
- one exposure with extreme variations in material thickness
- lower radiation dose in comparison to conventional X-ray imaging

Please note

Norms and Standards

In which situation?

Vinçotte would be happy to deploy its specialists in the industrial and construction sectors.
Some applications:

- testing of pipes in service (CUI (Corrosion under insulation), etc.);
- checking that valves etc. are operating properly;
- inspection of concrete structures (reinforcement, cavities, cracks, etc.).