



## **FOUNDINGS OF COMPUTED RADIOGRAPHY (CR) APPLIED IN MECHANICAL INDUSTRY**

**Michal Škeřík**  
ATG s.r.o.

A computed radiography (CR) is new and perspective tiller of classical – film – radiography (RT). Thanks to combination of the proven procedure and profits of digital image processing computed radiography becomes a powerful detection tool. Use of this tool is controlled by European standards (EN 14 784-1 and 2), but also by ASTM standards (E 2007, E 2033, E 2445, E 2446, ...).

On the other hand, there are requirements to the image quality, material imperfection detectability and defect acceptance criteria (done by ASME Code, EN 12 517-1, ...). An application overlap of the CR method in comparison with the RT method is well known. A Question is if CR method offers to user the better (or the same) flaw detection possibilities in the same range of possible RT applications (especially in case of thick wall, steel objects penetration). The testing results frequently depend on a surroundings and practical performance (choice of area for SNR measurement, choice of grey value for the dimension measurement, material thickness measurement and system calibration, placement and positioning of IQI, scatter surrounding of the radiographic bunker, handling with imaging plates (IP), ...). The correct setting of the CR system basic parameters requires knowledge about computed radiography system physical grounding.

**Keywords:** Computed radiography, CR, SNR, grey level, imaging plate, IP