

# Surface Treatment



## DYE PENETRANT INSPECTION

A dye penetrant inspection is a non-destructive inspection method where liquid penetrates in defects (by capillary action) which are accessible on the surface. For years, this has been far and away the most applied method for checking surface defects in metals and non-porous materials using liquid. These penetrative liquids were originally developed for the army and air force. This method is now used in various sectors for detecting surface defects.

Surface Treatment applies this inspection method to aluminium components particularly used in the aircraft building industry. Fluorescent liquids are most often used as they ensure the most sensitive form of surface crack inspection. Surface Treatment has an immersion bath (850 x 350 x 300 mm) and an electrostatic installation for performing the inspection. As a result, both smaller and larger (4,000 x 3,000 x 500 mm) components can be inspected.

### Working methods

- Degreasing and pickling of products
- Applying liquids by means of immersion or electrostatic action, which penetrate any surface cracks by capillary action
- Removing excess penetrative liquids by means of water and/or an emulsifier
- Drying
- Applying developer that absorbs the penetrative liquids from the defects so that they are more easily visible
- Visual inspection, evaluation and reporting
- Cleaning of component

### Applications

Aviation and industrial products

### Certificates / approvals

NADCAP