

# Nadcap Accredited Liquid Penetrant Testing

Liquid penetrant testing (LPT), which is also known as dye-penetrant inspection (DP), liquid penetrant inspection (LPI) or penetrant testing (PT), can be carried out using either visible or fluorescent dye penetrant. At Applus+, Liquid penetration inspection is one of the most common non-destructive testing (NDT) methods deployed because of its simplicity, effectiveness and remarkable sensitivity to locating very fine surface discontinuities or flaws.

LPT involves applying a coloured penetrating liquid to the surface of the material being tested. The liquid penetrant tests draw the dye into defective areas on the material's surface through capillary action and then is revealed in detection using UV lights, or other methods depending upon the type of penetrant and dye colouring.

Fluorescent penetrant is typically more sensitive than the visible dye, and the DP test is ranked into 4 levels of sensitivity. In the field, fluorescent penetrant inspection requires special lighting conditions, containing UV-A lamps, blackout shades and power generators. Fluorescent-dye testing is easily performed under laboratory conditions.



## THE Applus+ SOLUTION

Applus+ provides a full range of liquid-penetrant NDT services. Our Nadcap-accredited NDT services can offer fast project-turnaround times, with a high degree of reliability for high-volume production or for liquid penetrant testing on unique, large and complex objects.

Trained to NAS410/EN4179 written practice, Applus+ has qualified technicians to meet our clients' production requirements, and Applus+ sources liquid penetrant testing materials from leading manufacturers who ensure their products meet code requirements.

## Target customers

Fluorescent dye penetrant is heavily utilised in the aerospace NDT sector and other industries that require a higher level of sensitivity achieved using visible dye. Liquid penetrant testing can be used on a variety of non-porous materials, including forgings, castings, ferrous and non-ferrous metals and DP tests for welding.

Applus+ holds the Nadcap accreditation required to perform liquid penetrant testing on aerospace components.

## Key customer benefits

Partnering with Applus+ helps assure our clients that their processes or products comply with industry regulatory requirements.

Liquid penetrant inspection and testing, when applied effectively, can:

- Increase product reliability
- Improve production processes by identifying problems quickly
- Reduce costs through fewer returned items and less rework
- Improve quality and assurance