



**Dye Penetrant Inspection (DPI) is a widely applied and low cost inspection method. It is used to locate cracks in all non porous materials such as metals and plastics.**

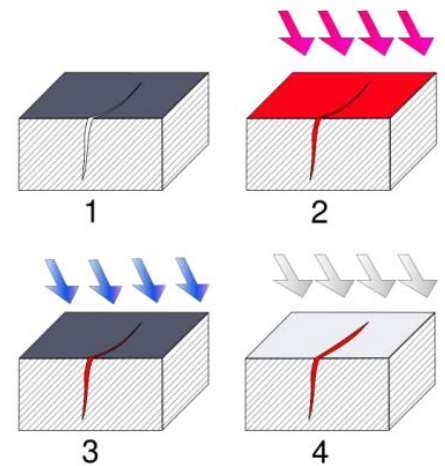
This method of inspection involves applying a visible or fluorescent dye to the surface of the item being tested. This dye could be a solvent or water washable. After the application in the form of immersion or a spray, the dye enters any discontinuities via capillary action. It is known as the dwell time and usually will require a minimum of 20 minutes.

The excess dye is then removed with lint free cloth so there is none visible. At that point the developer is applied and any surface breaking is revealed by a reverse capillary action. The method is shown in the table pictured (right).

This method is very suitable for any non ferrous or non absorbent components. Typical applications to use this method are forged, cast or welded products as they can easily form cracks.

#### Services available from ITCL:

- Fluorescent Liquid Penetrant line for small, medium, and large sized components
- Approved procedures for control checks
- Approved procedures to specific industry standard
- Inspectors fully qualified to PCN, EN 473, SNT-TC 1A
- Written Practise to SNT-TC 1A
- Comprehensive 24hr in house and onsite service



1. Section of material with crack not visible to the naked eye.
2. Dye is applied to the surface.
3. Excess dye is removed.
4. Developer is applied, making the crack visible.



An ITCL technician applying the dye

