MEKRI Yasser. **L3 AS.**

Liquid Penetrant Testing, often called LPT, is a common method in the world of welding and mechanical engineering. It's like a detective tool to find tiny cracks or defects in metal parts.

Preparation: **First, you have to prepare the surface you want to test. This involves cleaning it to get rid of any dirt, grease, or old paint. This step ensures that the liquid penetrant can do its job effectively.**

Application of Penetrant:

Next, a bright-colored liquid is applied to the cleaned surface. This liquid has a special property – it can get into tiny cracks or defects in the material.

Dwell Time: **The liquid needs some time to work its magic. It's left on the surface for a specific period. During this time, the liquid penetrant will flow into any tiny cracks, or imperfections in the material.**

Excess Removal: **After the dwell time is up, any excess penetrant is carefully wiped off the surface. Only the penetrant trapped in cracks stays.**

Developer Application:

Now comes the interesting part. A white powdery developer is applied to the surface. This powder sticks to the remaining penetrant that's trapped in the cracks.

Revelation:

If there are any hidden defects in the material, they become visible. They show up as colorful lines on the white surface, making them easy to spot. It's a bit like invisible ink becoming visible under the right light.

This testing method helps ensure that welds and mechanical parts are safe and reliable. It's an essential tool in the world of welding and mechanical engineering, helping us maintain high-quality standards and prevent unexpected issues in our creations.