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LPT Test- Liquid Penetrant Testing

What is liquid penetrant testing (LPT)?

Liquid Penetrant Testing (LPT Test) is one of the most widely used non-destructive testing (NDT) methods. It is based on capillarity, where a liquid flows into narrow spaces without the need for external force, even against gravity. The processes and materials involved are designed to make this capillary action visible and interpretable. LPT is highly effective for detecting surface discontinuities, including those not visible to the naked eye.

THE Applus+ SOLUTION

Applus+ LPT inspection capabilities

Applus+ uses only top-quality products from leading suppliers such as Sherwin and Magnaflux. We also have laboratories available for testing parts shipped to our facilities. Our procedures are fully compliant with ASNT and ASTM standards. We have Level III certified technicians who provide technical support, guidance, and develop new procedures as needed.

Target customers

Industries and use cases

LPT is used to detect and evaluate defects throughout an asset's lifecycle, including surface-breaking manufacturing flaws such as **cracks, lack of fusion, porosity, inclusions, hot tears, and gas holes**. It also detects in-service discontinuities like **fatigue cracks, HIC, SOHIC, and SCC**. Early detection enables better outage planning and avoids emergency interventions. This method is used across industries including **aerospace, food processing, power generation, oil/mining production and refining, maritime, and more**.

Key customer benefits

Benefits of liquid penetrant testing

LPT services are cost-effective and highly reliable for detecting surface-level discontinuities. It enhances product integrity, enables early detection of flaws, and helps reduce operational downtime. By ensuring compliance with quality standards, **Applus+ supports clients in minimizing risk and improving overall efficiency**.