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SF1 Stacking/Lamination Factor Tester

ASTM A719 Lamination Factor Tester

Our Lamination Factor/Stacking Factor Measurement Machine is designed to provide precise and accurate measurements of the lamination factor (also known as stacking or space factor) of magnetic materials. This advanced machine adheres strictly to the ASTM A719/A719M-14 standard, ensuring reliable and consistent results. It is an essential tool for evaluating the effective steel volume in magnetic materials, helping to identify deficiencies caused by oxides, roughness, insulating coatings, and other surface conditions. This machine is vital for maintaining the quality and efficiency of magnetic materials used in a variety of applications.

Overview

Our Lamination Factor Measurement Machine is an essential tool for assessing the effective steel volume in magnetic materials. It helps identify the deficiency caused by oxides, roughness, insulating coatings, and other surface conditions affecting the steel. This machine is crucial for ensuring the quality and efficiency of magnetic materials used in various applications.

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Features and Specifications

1. Testing Machine:

- Equipped with a high-precision compression testing device.
- Utilizes a digital pressure regulator to exert specific pressures or a range of pressures. Users can select pressure ranges based on ASTM and IEC specifications for their specific needs.
- Ensures uniform distribution of pressure across the test specimen\

2. Metal Plates:

- Two flat, smooth, rigid metal plates with square edges.
- Dimensions: 8.46 inches (215 mm) in length and a minimum width of 1.97 inches (50 mm).
- Designed to distribute pressure uniformly over the specimen surface.

3. Length-Measuring Tools:

- High-accuracy precision contact displacement sensors for precise measurement of plate separation.

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Testing Methodology

1. Sampling:

- Test strips are selected to represent the surface condition of the material.
- Core loss test specimens (Epstein test specimens) are typically used.

2. Test Specimen Preparation:

- Strips must meet the minimum number requirements as per Table 1 of the ASTM A719/A719M-14 standard.
- Each strip should be at least 9.84 inches (250 mm) long and 1.18 inches (30 mm) wide.

3. Measurement Process:

- Determine the mass of the test specimen by weighing it accurately.
- Stack the strips evenly and place them symmetrically between the two flat plates in the compression testing machine.
- Apply pressure uniformly across the test specimen, typically starting at a standard minimum of 50 psi (345 kPa).
- Measure the average separation of the backing plates (stack height) using high-accuracy precision contact displacement sensors.

4. Calculation:

- Calculate the lamination factor using the formula:
  - Customary Units: $S=[m/(2.54 \cdot w \cdot l \cdot \delta \cdot h')] \times 100$

Where:

- S = lamination factor (%)
- m = mass of test specimen (g)
- w = width of test specimen (cm)
- l = length of test specimen (cm)
- δ = density of specimen material (g/cm^3)
- h' = measured stack height (in)

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PC Connectivity

Our Lamination Factor Measurement Machine is equipped with advanced PC connectivity features, allowing seamless data management and integration into your workflow:

1. Local and Network Data Storage:

Save measurement results directly to a connected PC for easy access and further analysis.

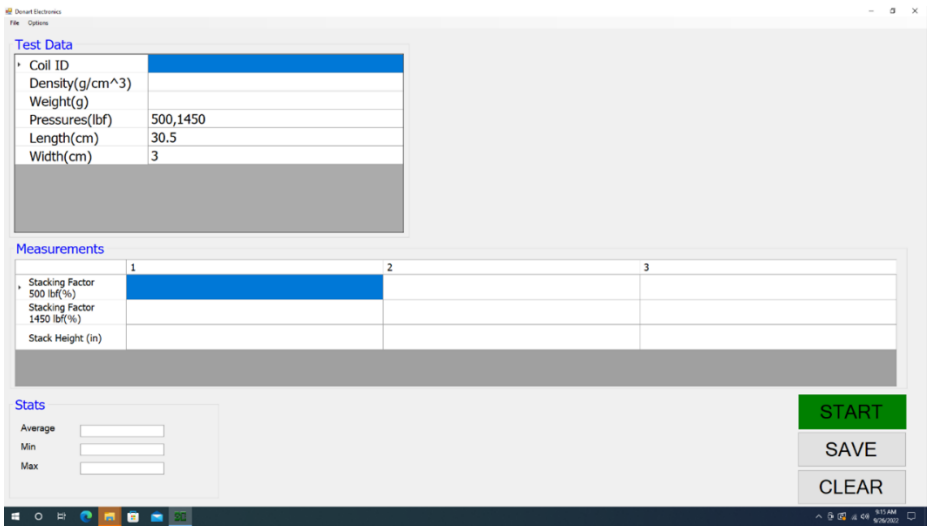
Option to store data locally on the machine or network, ensuring flexibility in data management.

2. Network Connectivity:

Easily connect to your local network to share and transfer measurement results across your organization.

3. Data Export and Reporting:

Export results in multiple formats (CSV, PDF) for comprehensive reporting and documentation.



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Applications

Our Lamination Factor Measurement Machine is ideal for industries involved in the manufacturing and testing of magnetic materials, ensuring high quality and reliability in applications such as:

- Electric motors
- Transformers
- Generators
- Magnetic cores

Compliance

Our machine fully complies with the ASTM A719/A719M-14 standard, ensuring the highest level of accuracy and reliability in lamination factor measurements.

Contact Us

For more information or to place an order, please contact our sales team:

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Ensure the quality and efficiency of your magnetic materials with our state-of-the-art Lamination Factor Measurement Machine.