

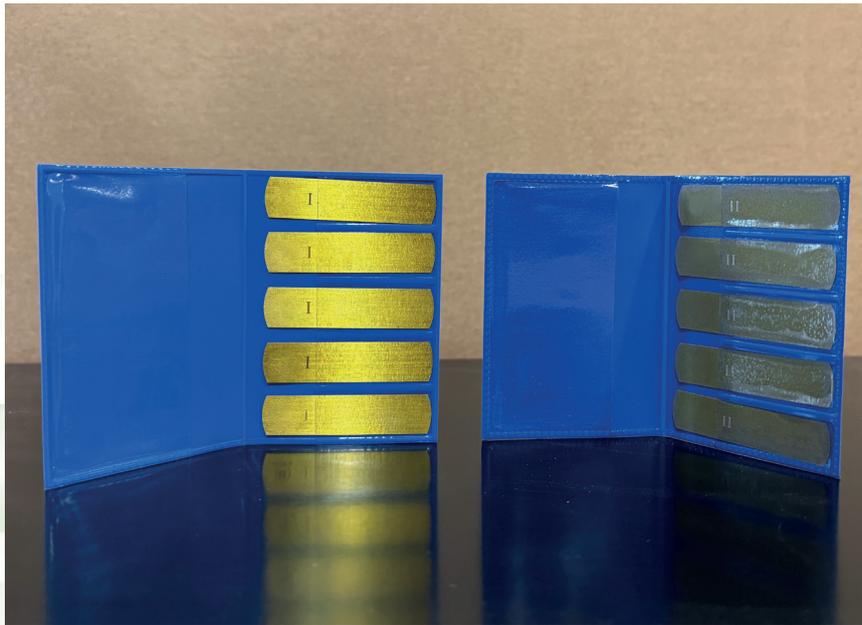


CGM CIGIEMME S.p.A.



Controlli Non Distruttivi - Non Destructive Testing

FLEXIBLE LAMINATED STRIPS



DESCRIPTION

Flexible laminated strips are used to detect the presence and intensity of magnetic fields during magnetic particle inspection. They must be placed on the surface under inspection. The markings on the strips give the inspector a general idea of the intensity of the magnetic field in that particular area. Sold in packs of five strips each.

In compliance with: ASTM E1444.

USER INSTRUCTIONS

STEP-BY-STEP DESCRIPTION

1. Preparation of the component to be inspected

- Clean the surface of the component to be inspected.

2. Positioning

- Place the flexible laminated strip in close contact with the surface of the part to be inspected in the area to be tested. It can be secured manually or with thin adhesive



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tape, but do not cover the central area of the strip with tape, as this will prevent the formation of clear indications.

- Place the strip with its long side perpendicular to the intended direction of magnetic flux.
- If a weld joint is being tested and a defect is expected, place the strip perpendicular to the weld joint.
- To perform a complete examination, apply at least two strips to the surface: one with its long axis aligned with the expected direction of the defects (perpendicular to the desired direction of the magnetic field) and a second one perpendicular to the first. The most obvious indications appear when the long side of the strip is perpendicular to the magnetic field.

3. Magnetization and particles application

- Apply the magnetic field using standard magnetic particle inspection equipment (e.g., a current generator or yoke) and simultaneously apply the magnetic particles (wet or dry).
- Keep the magnetization for at least 3 seconds (especially when using the continuous wet method) to allow the magnetic particles to migrate and form indications of internal "defects" in the strip.

4. Results' interpretation

- Field direction: the indications (magnetic particle lines) will be formed perpendicular to the direction of the magnetic flux lines.
- Field presence/general intensity: visible indications confirm the presence of a magnetic field. If one strip shows indications and the perpendicular strip does not, the field is in the direction parallel to the one without indications.
- Field adequacy: flexible laminated strips are generally used to indicate field direction, but not adequate field strength according to many standards (such as ASTM E1444 and ASME V). For quantitative verification of field strength, standards often require a calibrated gaussmeter or Quantitative Quality Indicator (QQI).

5. Removal and reusability

- The strips are not permanently attached and can be cleaned and reused multiple times.



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GENERAL CONSIDERATIONS

- **Do not confuse strips with QQIs:** although similar, strips are different from AS 5371 QQIs. Flexible laminated strips mainly indicate the field direction, while QQIs, when used correctly, can help verify the intensity and direction of the field.
- **Standards:** always refer to reference standards and specifications (e.g. ASTM E709, E1444) for the specific requirements of the application.
- **Current type:** the strips can be used with AC, FWDC and HWDC magnetization methods.
- **Limitations:** strips do not adapt to curved surfaces as easily as QQIs.

AVAILABLE MODELS

PART NUMBER	DESCRIPTION	REF.
04089694	Set of 5 Strips Type I Brass – General Use	96.12
04089696	Set of 5 Strips Type II Silver – Aerospace Use	96.13



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