



CGM CIGIEMME S.p.A.



Controlli Non Distruttivi - Non Destructive Testing

Product Code
04099930

Ref. no.
102.16

**Product Data
Sheet**

ROTVEL AVIO STICK

PRODUCT DESCRIPTION

Rotvel Avio Stick is a color contrast penetrant for high temperature inspections with excellent resolution in detecting surface discontinuity indications. It generates an excellent red color contrast with good penetration characteristics. The penetrant is in the solid state; once in contact with the hot surface, it liquefies and penetrates into the possible discontinuities. For removal it is suggested to use a cloth soaked in Velemulsior H₂O. Due to the remarkable penetrant fluidity, the formation of the indications is practically instantaneous after the application of the developer.

COMPOSITION

Mixture of organic dyes and paraffins.

N.B.: As with all CGM materials, Rotvel Avio Stick is tightly controlled to ensure batch uniformity, optimal process verification and control reliability.

SPECIFICATIONS

- Good penetration characteristics.
- Intense, contrasting colour.
- Excellent resolution of discontinuities.

PACKAGING TYPE

Cylindrical sticks individually packed in plastic bags.

APPLICABILITY

Ideal for controlling

- Melting.
- Forging.
- Welding.
- Parts in manufacturing environments.

Ideal for the detection of:

- Cracks.

INSTRUCTIONS FOR USE

- Ensure that the surface under inspection is clean.
- Apply the penetrant by swiping the stick onto the surface under inspection until the area is completely covered.
- Wait for a penetration time between:
 - 2 and 3 min. for surfaces with temperatures between 50 and 80°C.
 - 1 and 2 min. for surfaces with temperatures between 80 and 100°C.
 - 30 sec. and 1 min. for surfaces with temperatures between 100 and 150°C.
- Remove all excess penetrant dry using a clean cloth or paper towel.
- Using a clean cloth or paper towel moistened with Velemulsior H₂O, wipe off any remaining penetrant excess.
- Apply a thin layer of Rotrivel H₂O Developer Paste.
- Due to the remarkable fluidity of the high-tem-



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perature penetrant, the formation of the indication is practically instantaneous after the application of the developer.

- The inspection must be carried out one minute after application of the developer and no

later than 15 min. for temperatures up to approx. 100°C and 10 min. for temperatures up to 150°C. For higher temperature values follow the indication to avoid decay due to high temperature.

TECHNICAL DATA

| | |
|---------------------------------------|------------------------------|
| Appearance | Solid – matt red |
| Odour | Characteristic |
| Density at 20°C | 0.92 g/cm ³ |
| Flash point | > 180°C (bulk product) |
| Type and sensitivity EN ISO 3452-2 | Type II – Method D – Level 2 |

Typical values.

TIME, TEMPERATURE OF USE AND USER RECOMMENDATIONS

| NDT method | High Temperature Dye Liquid Penetrant Inspection |
|-------------------------------|--|
| Usage temperature | From 50°C to 150°C |
| Recommended penetration time* | 30 sec. to 3 min. |
| Development time | 2 to 10 min. |
| Shelf life | 3 years at a temperature between 5°C and 45°C, in a dry place out of direct sunlight |

* For temperatures between 50°C and 80°C, the application time will be approximately 2-3 min. For temperatures between 80°C and 100°C, the application time will be approx. 1-2 min. For temperatures between 100°C and 150°C, the application time will be approx. 30 sec.-1 min.

BENEFITS

- Reliable and easy to use.
- Easy to transport and use in the field, it allows for uniform coverage of the area under inspection.
- No need for shading or UV lights.
- It is easy and quick to spread over the entire surface under inspection.

- It generates bright red indications of strong intensity, especially when used with Rotrivel H₂O paste developer.

HEALTH AND SAFETY

Read all health and safety information before using this product. This information can be found in the Safety Data Sheet, available on request.

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