

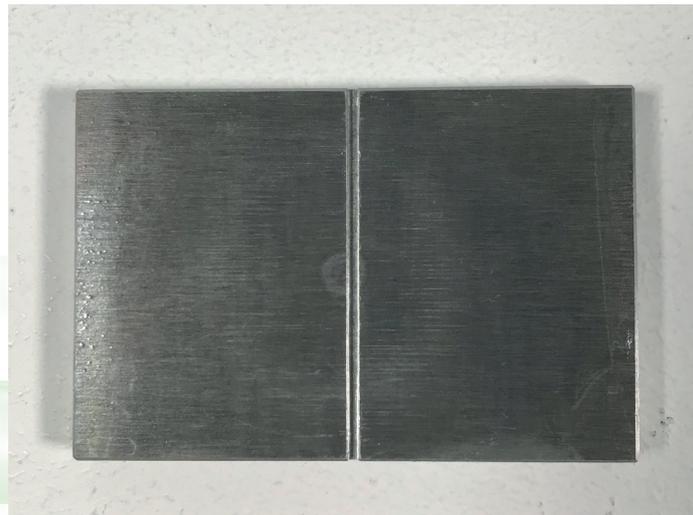


# CGM CIGIEMME S.p.A.



Controlli Non Distruttivi - Non Destructive Testing

## ALUMINIUM TEST BLOCK



### DESCRIPTION

The aluminium test block is used to verify the penetrant performance beyond the expected temperature range of use. The test block is made of 2024 aluminium and measures 3" x 2" x 3/8". A 1/8" wide groove separates the halves on two sides to facilitate comparison.

In compliance with: ASTM E 165; ASME Sez.V; MIL-I-25135

### USER INSTRUCTIONS

#### STEP-BY-STEP DESCRIPTION

##### 1. Test block preparation

- **Cleaning and drying:** thoroughly clean the entire test block to remove all traces of previous penetrants and developers. It is recommended using Velnet/Solnet solvent with a clean cloth.
- **Verify background indications:** after cleaning and drying, inspect the block under adequate lighting conditions (e.g., black light for fluorescent penetrants) to ensure that no traces of old indications remain. Note that it is difficult to completely clean aluminium blocks for reuse, particularly if dye penetrants have been used.



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## 2. Penetrant application

- **Apply the penetrant in use:** apply a sample of the penetrant currently in use in the system to one half of the test block.
- **Apply new penetrant:** apply an equivalent sample of new, unused penetrant to the other half of the test block.

## 3. Penetration time

- **Dwell time:** allow the two penetrants to act on the test block for the same period of time as specified in the inspection procedure.

## 4. Removal of penetrant excess

- **Cleaning:** remove penetrant excess from both sides of the block, according to the standard procedure for the type of penetrant used (e.g., water-washable, post-emulsifiable, etc.). The aim is to remove the penetrant from all the surface, leaving it only in the cracks.

## 5. Developer application

- **Apply an even layer:** it is essential to apply the developer evenly and thinly over the entire surface of the test block; an excessive amount of developer can obscure the indications.

## 6. Inspection and comparison

- **Observe the development:** allow the developer to act, bringing the penetrant to the surface from the cracks. Large indications may appear immediately, while smaller ones may take a few minutes.
- **Compare the results:** carefully compare the indications on both sides of the test block. The brightness and number of indications should appear similar for both the penetrant in use and the new one.

## 7. Penetrant evaluation

- **Determining acceptability:** if the indications of the penetrant in use are significantly less bright or fewer than those of the new penetrant, the used penetrant is no longer effective and the test is to be considered unsuccessful.

## IMPORTANT INFORMATION

- **Comply with standards:** the use of aluminium test blocks is often described in reference standards, such as ASTM E165 and ASME Section V. Ensure to comply with the specific industry standard.
- **Perform tests on a regular basis:** periodic controls with the test block ensure the penetrant reliability and the quality of PT inspections.



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- **Handle with care:** handle the block with particular care, as its thermal cracks are very delicate. Since it is rather difficult to remove residues from previous tests, especially when used with dye penetrants, extensive reuse is not recommended.

## AVAILABLE MODELS

PART NUMBER	DESCRIPTION	REF.
04099804	Aluminium test block	97.1M



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