

Ni-Cr Test Panel



The Ni-Cr Test Panels consist of brass plated with nickel-chrome alloy, deliberately stressed to produce linear cracks in the plating. These cracked test pieces are then divided into two identical panels, allowing for a comparison between materials in use and new, unused materials with identical flaws.

Also called as Type 1 reference blocks play a crucial role in establishing the sensitivity levels of both fluorescent and color contrast penetrant products. These blocks are crafted by slicing a single block perpendicular to the direction of the artificial defects.

Salient Features:

- Two panels, each measuring 3.875 x 1.875 inches (100 x 35mm), are sheared from the same stock, featuring matching crack patterns. This allows for practical simultaneous comparison of two batches of penetrant.

Technical Specifications:

These are panels made according to JIS Z2343, which is a Japanese Standard. A set of 4 pairs of different panels of above dimensions having cracks of various depth. The panels are imported from the reputed company. The manufacturer's certificate and the photograph of typical crack indications are also supplied along with the panel.

Depth of Crack	Width of Crack
10 micron	1 micron
20 micron	2 micron
30 micron	3 micron
50 micron	5 micron

Crack Depth	Level of Sensitivity
10 micron	1 micron
20 micron	2 micron
30 micron	3 micron
50 micron	5 micron

Specification Compliance:

- JIS Z 2343-3:2017
- ISO 3452-3:2013 standards.

Method of Use:

- Apply the Penetrant on the panels. Follow the procedure of crack detection with dye Penetrant testing method
- If one panel shows clear indications of cracks than other, the former Penetrant can be considered as more sensitive than the latter one.
- Comparison can be done with the pattern of crack indications and photographs provided. In many cases only one panel is used for testing the sensitivity of the Penetrant and other is kept as reference for comparing the crack pattern as a part of periodic inspection.

Maintenance:

Precautions during handling the Panels

- The plated surface should be protected to avoid damage. Strong impact or bending can cause damage to the surface. Rapid heating or cooling too can damage the plating.
- Do not use any chemical that may spoil the plating.
- To avoid clogging of cracks with unwanted material, clean the panel surface after every use.
- Ensure that panels are cleaned while storing.

Post-Cleaning of Panels

For longer life and for better reliability of performance post-cleaning of panels is very important. Cleaning of the panels involves removing residual Penetrant and Developer from its surface. This can be done by in the one of the following ways.

- Developer is used for "post cleaning". Developer is applied again and again on the panel for removing the residual Penetrant from the cracks. It is better to wash off the Developer in the end with water spray. If possible, apply an emulsifier and then spray water.
- Ultrasonic cleaning is the most cost-effective method of cleaning.
- Cleaning is accomplished by dipping the panels in a solvent and allowing them to remain in the solvent for at least one hour.
- After cleaning of the panels, dry the surface thoroughly and keep the panels back in the box provided at the time of sale.

Periodical Review of Panels:

For reliability of results a periodic inspection of panels for performance should be carried out either in-house or from a third party. The user should decide the periodicity of the inspection.

For inspection the following method is recommended.

- Penetrant, Developer & Cleaner of one and the same family should be used for checking crack detection on both "A" & "B" panels. The results on the panels are compared and it is expected that both the panels show similar crack pattern.
- If a difference is found, sufficient cleaning of panels should be done as mentioned above. The results are compared once again. If the difference persists, it is necessary to renew the panel.
- It is necessary to renew the specimen, even if no difference is found in the indications, but there is a difference in the crack pattern. The crack pattern on the panels should be compared with the photographs provided along with the panels at the time of purchase.