

NICKEL CHROME-PLATED TEST PANELS



506252

GENERAL DESCRIPTION

Magnaflux® Nickel Chrome-Plated Test Pieces are ideal penetrant sensitivity comparators and come in four types: flaw depths of 50 μ , 30 μ , 20 μ and 10 μ . These panels allow “in use” penetrants to be compared against fresh “unused” penetrant to determine if the product is performing properly. For visible (Type II) penetrant, panels with 30 μ and 50 μ depths are typically used. Fluorescent (Type I) penetrant can be used with any flaw depth.

The panels are made by plating a brass plate with nickel to a desired thickness (10 μ , 20 μ , 30 μ , 50 μ). Tension is then applied to the panels to create linear, fine cracks. A crack created over the plate layer stops at the boundary surface with the brass plate, thus the crack depth becomes equal to the thickness of the plated layer. The plates are then divided in half with a very thin layer of chrome as a protection film. The flaw pattern on the two pieces is highly symmetrical. This feature makes it possible to make side by side comparisons.

DIMENSIONS

Length 100mm \pm 2mm

Width 35mm \pm 2mm

Thickness 2mm \pm 0.2mm

INSTRUCTIONS

Prior to use, each panel should be cleaned to ensure that no penetrant residue is left on the panel. The first time the panels are used, it might be necessary to clean the panels with a chromic acid cleaning solution to remove the buffing material that is used in polishing the panels. After the panels are clean and dry, they can be processed in accordance with standard processing materials and parameters to simulate production conditions. Process one panel with retained, unused materials, and the other with working or in use materials. Then compare the panels to assess the performance of unused materials vs. in use materials, noting any degradation between panels that is observed.

CARE AND CLEANING

After use, the panels should be washed with water to remove applied developer and organic solvent. An ultrasonic cleaner with an organic solvent is one of the best methods of removing penetrant residue. Never expose the test panels to temperatures over 100°C for an extended period of time.

Do not apply mechanical shock to the plated surface. Avoid any attempt to bend or straighten the test panels.

SPECIFICATIONS COMPLIANCE

ASTM E1417/E1417M-13 (Sections 7.8.3 & 7.8.3.1)

AMS 2647D (Section 4.2)