

KLEEN-CHEK™¹ CLEANING SYSTEM MONITOR



Purpose: With the advent of alkali-based, pre-cleaning systems in fluorescent penetrant inspection there has arisen a need to insure that parts are properly cleaned prior to penetrant application. This need is acute when the cleaning operation is separate from the penetrant operation.

PRODUCT INFORMATION

The Kleen-Chek System helps assure that parts are thoroughly cleaned and ready to receive penetrant.

The Kleen-Chek System Described: The Kleen-Chek System consists of nickel-plated coupons (KC-Qpon) with induced cracks to which is applied a soil having a fluorescent tracer, e.g., Kleen-Chek Soil #1.

A Kleen-Chek coupon (KC-Qpon), contaminated with fluorescent soil, is placed in a basket of hardware, or attached to an individual part, as it goes through the penetrant pre-cleaning cycle. Then, when the cycle is finished, the KC-Qpon is checked under a UV-A (Black) Light. If the coupon's crack fluoresces, it is not clean, and, most likely, neither are all the cracks in the hardware being inspected. The cleaning system should be adjusted, and that particular batch of parts should be cleaned again.

Measuring 3"x1"x1/16", the stainless steel KC-Qpon has a brittle coated area having a sunburst crack. The crack's size is approximately 1/4" in diameter, and about 0.003" deep. Crack size may vary slightly from coupon to coupon.

Kleen-Chek Fluorescent Soil (KC Soil) comes in 4-oz bottles, equipped with daubers.

KC Soil #1 — (general use) soil, typical of that encountered on most production lines.

Other soils, which are more difficult to remove, can be formulated upon request.²

Usage Procedures: Apply soil to the area on a clean, dry KC-Qpon where the crack is located.

After applying the soil, place the KC-Qpon in the container with the other parts to be cleaned, and process them in the regular way. After the rinse cycle, but before the drying cycle³, examine the KC-Qpon under a UV light to see if it fluoresces.

If the crack fluoresces, cleaning probably is inadequate, and the parts should be reprocessed, after applying "fresh soil" to the coupon.

A KC-Qpon crack that does not fluoresce raises confidence that surface discontinuities in the parts are probably free of contamination.

How Clean Is Clean? The standard for acceptable cleaning must be determined by the user. For example, a user may determine that, for the work at hand, a slight amount of residual fluorescence on a KC-Qpon indicates an acceptable level of cleaning. Another circumstance, however, may tolerate no residual fluorescence, even after inspection with a non-aqueous developer.

Cleaning and Reusing KC-Qpons: Prior to reuse, KC-Qpons should be clean. To assure that they are clean, they may be soaked in solvent or cleaned ultrasonically. They should also be dry before fluorescent soil is applied.

With proper handling and cleaning, KC-Qpons should last through many uses. However, since there is no allowance for recalibrating the coupons, it seems wise to replace them from time to time. Handling and cleaning procedures are expected to prove important in determining how long a particular KC-Qpon will be serviceable.

revised August 2004

(Footnotes)

¹ Trademark application pending.

² Custom soils can be formulated to match those commonly encountered by a particular user.

³ Heat degrades fluorescent indications: inspect the KC-Qpon before heat-assisted drying.

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