Step-by-step guide for SEEF Cr(VI) Swab Test for Insulation and (Turbine) Engines – ST01

Please read this manual carefully before performing the test. It contains detailed information to properly perform this test.

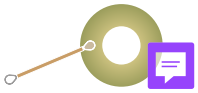
Step 1 Preparing the Swab

Apply enough reaction solution to the cotton tip of the test swab to ensure it is thoroughly wet.

The swab should be sufficiently moistened with liquid to both solidify Cr(VI) and dissolve it for detection.

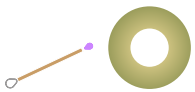
Step 2 Testing the surface

Within 1 minute of moistening the swab, rub it over the target surface (e.g., insulation or surface) in a consistent and firm motion.



Rubbing should take approximately 20 seconds.

Observe the swab for any color change during or immediately after the rubbing process.



Step 3 Interpreting the results

Positive result: If the swab turns pink to deep purple during or after rubbing the surface for approximately 20 seconds, Cr(VI) is present. The intensity of the color correlates with the concentration of Cr(VI).

No color change or doubtful result: If no color change occurs, this does not guarantee the absence of Cr(VI). For inconclusive cases, further testing is recommended.

Use the SEEF Cr(VI) test kit (TK01), which incorporates our patented technology to eliminate false-negative results.

Collect a wipe sample and send it to SEEF for advanced laboratory analysis.

Cross-reactions with other Substances

Certain substances, such as molybdenum-6 (Mo(VI)), may cause cross-reactions with the test. Mo(VI) can initially produce a dark purple coloration similar to that caused by Cr(VI). Over time, however, the color may transition to a stable dark blue, which is characteristic of molybdenum and does not occur with Cr(VI).

To differentiate between Cr(VI) and Mo(VI):

- Observe whether the purple color transitions to blue over an extended period (e.g., several hours). If a persistent dark blue coloration develops, it is likely due to Mo(VI) rather than Cr(VI).

- For accurate confirmation, use the SEEF Cr(VI) test kit (TK01) or submit the sample to SEEF for laboratory analysis. The interference with Mo(VI) is excluded from this method.

If there is any doubt about the result, advanced testing is recommended to confirm the findings and eliminate false positives.

Step 4 Positive control test

To validate the test, use the provided positive control (zinc chromate-coated steel ring). Moisten a swab thoroughly, rub it on the ring for approximately 20 seconds, and confirm that the swab turns purple.

SEEF

Contents

30 Test Swabs

10ml Reaction Solution

Positive Control Ring

Instructions for Use

Needed supplies

Chemical-resistant Gloves

Safety Goggles

FFP3 respirator