

HY-RiSE® Colour Hygiene Test Strip

An analyser-free rapid test for qualitative testing of cleanliness of surfaces

What is the purpose of test?

HY-RiSE® indicates surface cleanliness by measuring product residues, e.g. from food and beverages, left after inadequate cleaning.

Typical applications are assessments of food and hand contact surfaces, e.g. worktops, slicers, cutting boards, fridge handles, microwaves, ovens, etc.

Measurements made with HY-RiSE® can provide early warning of possible contamination on specific surface areas allowing immediate corrective action, e.g. removing food soils.

What does the test measure?

- Nicotinamide Adenine Dinucleotides (NAD, NADH)
- Nicotinamide Adenine Dinucleotide phosphates (NADP, NADPH)

These are a group of compounds found in all living cells like animal and vegetable matter, including food and food debris, in addition to bacteria, fungi and other microorganisms.

How does the test work?



If NAD(P) and/or NAD(P)H is present in the sample, Gluc-DH® converts β -D-Glucose into D-Gluconolactone, then Diaphorase converts a Tetrazolium Salt into a coloured Formazan Salt.

Any colour development on the test strip within minutes indicates a positive result: surface not clean.

Who can use the kit?

- small to medium size food and beverage producers
- cleaning companies, contract cleaners
- caterers, restaurants, canteens, hotels
- super markets, retailers, butchers, bakehouses
- hygiene inspectors, HACCP trainers

What is the test good for?

- Monitoring of surface cleanliness of
 - food and beverage production and storage areas as well as transport equipments
 - cooking areas, food and beverage preparation and storage areas, especially after deep cleaning
 - toilets, bath rooms, rest rooms
- Supervising and training/instructing of food and beverage producers resp.

Which are the benefits?

- Analyser-free hygiene test:
 - no investment cost
 - portable in your pocket
 - applicable at any time and place
 - offers low-end alternative to Merck HY-LiTE®
- Test takes 3 drops of reagents on strip:
 - easy to perform
 - easy to dispose
- Clear test result available within 5 min:
 - dirty surfaces can be re-cleaned immediately
 - simple Yes/No answer
- Test is much more sensitive than visual inspection of cleanliness:
 - can be included into HACCP procedures
 - provides confidence that HACCP regulations are met
 - improves level of hygiene risk management
 - can be used as a tool to identify risk areas for microbiological testing
- Test is more sensitive than protein test
- Test is an essential part of the service package of contract cleaners:
 - enhances cleaning service package
 - assures validated cleaning of HCPs

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Kit components

Package for 50 tests consists of

- 50 foil wrapped test strips
- bottle A with wetting solution
- bottle B with substrate solution
- bottle C with enzyme solution
- colour chart and insert sheets

Preparation and storage

Test strips and solutions are ready-for-use.

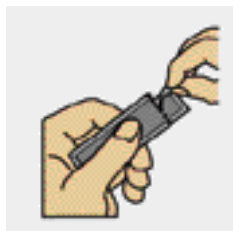
Strips and solutions stable up to the expiry date stated on the package when stored at +2 to +8 °C. Protect from light.

After first opening of each bottle and while in use, stable for 12 weeks when stored at +20 to +25 °C, if immediately re-sealed with the same screw cap after each use.

Alternative: After first opening of each bottle and while in use, stable for 6 months when stored at +2 to +8 °C, if immediately re-sealed with the same screw cap and refrigerated after each use.

Procedure

1. Tear open the foil package at the coloured line, remove the test strip from the foil.



2. Add one drop of Reagent A to the pad on the strip.



Note: If the test surface is wet, do not use Reagent A.

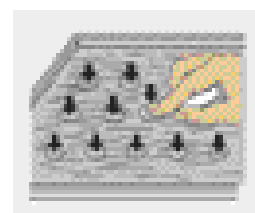
3. **Sampling for testing surfaces:**

In case of smooth surfaces, place the entire test strip pad onto the test surface and draw back approximately 30 cm in sample area.

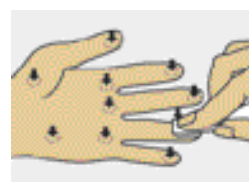
On rough surfaces, collect sample by pressing the test strip pad onto a minimum of ten different spots on the surface. For hand testing, sample each fingertip and five spots on the palm of the hand.



Smooth surface



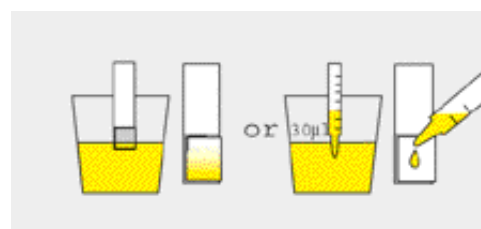
Rough surfaces



Hands

Sampling for testing Clean in Place (C.I.P) rinse waters:

Do not use Reagent A. Dip the test strip pad into the rinse water so that half of the pad is wet. Alternatively, use a pipette and transfer 30 µl sample onto the pad.



Note: After sampling, the test strips can be left for up to 2 hours at room temperature (up to 25 °C) before further processing, if they are returned to the packaging.

4. Add one drop of **Reagent B** (substrate solution, yellow cap) to the test strip pad.

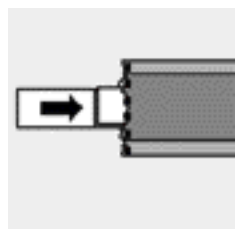


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5. Add one drop of **Reagent C** (enzyme solution, blue cap) to the test strip pad.



6. Return test strip to foil packaging so that the pad is covered. Leave for **4-5 minutes in the dark at +15 to +30 °C** after addition of Reagent C.

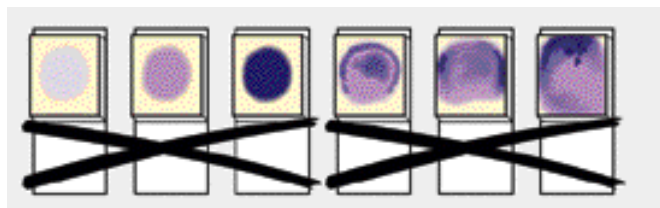


7. **Yellow** colour of the pad indicates a Clean/PASS condition. There are no or undetectable levels of residue on the surface.
Pink/purple to bluish violet colouring of the pad indicates a Dirty/FAIL condition. There are detectable levels of residue on the surface. The surface should be re-cleaned. PASS/FAIL conditions are marked clean ✓ and dirty XX.



clean/pass dirty/fail, re-cleaning is recommended

8. Document test results on the table to be found in the test kit.



Literature

Schalch B, Trautsch M, Watkins I, Kau P, Stolle A, 2003: Einsatz eines Schnelltests zur Untersuchung der Oberflächenreinheit (use of a new rapid test for checking surface cleanliness - Archiv für Lebensmittelhygiene **54**, 58-59.

Goll M, Kratzheller B, Bülte M, 2003: Kontrolle von Rückständen auf Oberflächen. Evaluierung des HY-RiSE® Colour Hygiene Test Strips zur Überprüfung der Sauberkeit (Evaluation of HY-RiSE® Colour Hygiene Test Strip for checking the cleanliness of surfaces) - Fleischwirtschaft **9**, 152 - 154.

Gierse S, Babel W: Zum Einsatz von Hy-RiSE® im Rahmen der betriebseigenen Kontrolle nach §§3 und 4 LMHV - Bb Bundesverband der beamteten Tierärzte, Kongress am 22./23. April 2002, Bad Staffelstein.

Ordering Information

Product	Merck Cat. No.	Description
HY-RiSE®	1.31200.0001	Colour Hygiene Test Strip for assessing the general cleanliness of surfaces. Kit for 50 tests.