Corrosion of metals and alloys — Removal of corrosion products from corrosion test specimens ISO/FDIS 8407

Scope

- This International standard specifies procedures for the removal of corrosion products formed on metal and alloy corrosion test specimens during their exposure in corrosive environments.
- The specified procedures are designed to remove all corrosion products without significant removal of base metal. This allows an accurate determination of the mass loss of the metal, which occurred during exposure to the corrosive environment.

Procedures - Removal of corrosion products

- Chemical;
- Electrolytic;
- More vigorous mechanical treatments
- Removal confirmed by visual examination. Low power microscope (i.e. ×7 to ×30) particularly helpful with a pitted surface since corrosion products may accumulate in pits.

Chemical cleaning (pickling)

- Uncorroded control specimens (blanks) should be cleaned by the same procedure as used for the test specimen. The mass loss of the control specimen will reflect the mass loss of test specimens resulting from the cleaning procedure. Can be used as a correction if only one pickling period is used.
- Repetitive cleaning – preferable. Cleaning should be repeated several times after that the removal of the corrosion products is completed. Mass plotted as a function of the number of equal cleaning cycles.
- The preferred cleaning method will be that which:
  - provides efficient removal of corrosion products;
  - provides low or zero mass loss when applied to new uncorroded specimens
  - provides a curve of mass as a function of the number of cleaning cycles or time of pickling, which is close to horizontal when the latter is plotted as the abscissa

Repetitive cleaning

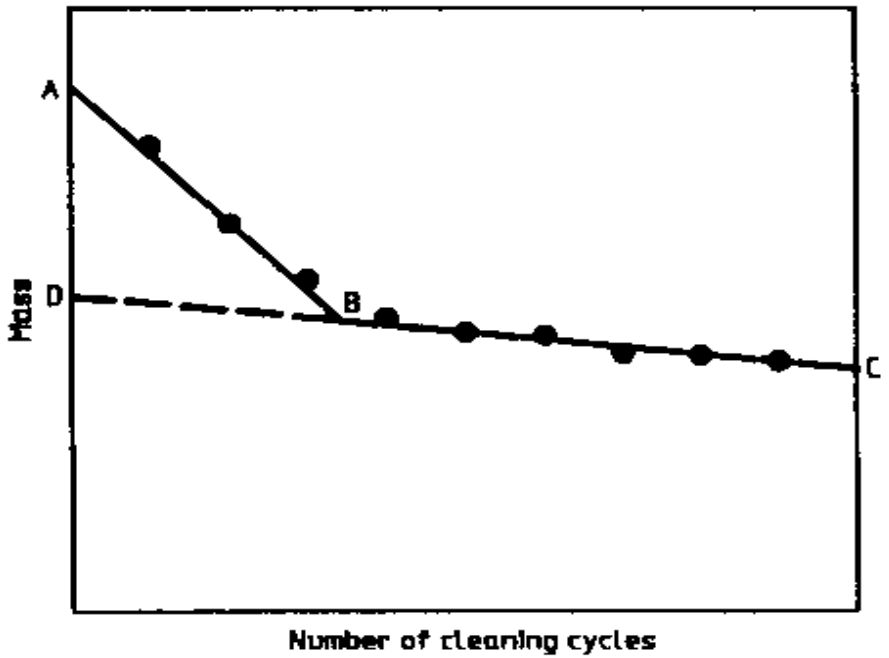

Figure 1 — Mass of corroded specimens after repetitive cleaning cycles

Pickling solutions

- For each material, several solutions are available
- We have selected one solution per material

Now the demonstration…