



TEST KIT FERROXYL

Whether or not to pickle: the TEST KIT FERROXYL reveals embedded iron particles on stainless steel.

TESTING PROCEDURE

- Place 5 measuring scoops Ferroxyll Reagent I in the dropping bottle. Augment this with 25 ml Ferroxyll Reagent II to the scale mark. Close the bottle and agitate until all Ferroxyll Reagent I is dissolved.
- Moisten a filter paper with this solution (ca. 5 drops) and place this filter paper on the surface to be tested.
- Wait approx. 1 minute.
- When a blue colouration appears the surface tested has been insufficiently pickled and iron is still present.
- When no colouration appears the surface has been satisfactorily pickled.
- Finally, after removing the filter paper, rinse the surface tested with demineralized water.

Remark: The ferroxyll solution described above cannot be preserved for more than a few hours! This means that fresh solution must be prepared for every test.

INTRODUCTION

The ferroxyll test is designed to determine whether austenitic stainless steel needs to be pickled or whether it has been pickled satisfactorily. When structure on the surface of austenitic stainless steel has not been evenly restored, an excess of metallic iron will be present (so-called embedded iron) which will adversely affect the properties of the stainless steel.

The presence of embedded iron in the stainless steel surface disturbs the chromium oxide film reducing the corrosion resistance locally. When embedded iron is not removed serious (pit) corrosion may set in.

PRINCIPLE OF THE MEASUREMENT

The test is based on a reaction of potassium ferricyanide with iron in a strongly acid medium. The excess iron dissolves in this strongly acid medium as ferrous ion to form a blue complex, known as Prussian Blue.



Example of pit corrosion caused by the presence of embedded iron

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When during this test this blue colouration manifests itself it means that the surface of the stainless steel does not yet have the correct structure and has been insufficiently pickled.
When the blue colouration does not appear this means that the structure has been restored and indicates that the surface has been satisfactorily pickled.

CONTENTS OF THE KIT

Equipment:

- 1 transparent dropping bottle 25 ml
- 1 brass measuring scoop
- 1 pack filter paper O / 11 (cm)
- 1 demineralizer bottle

Reagents:

- Ferroxy Reagent I
- Ferroxy Reagent II

Safety recommendation:

Ferroxy Reagent II contains strong acid. Avoid contact with skin and eyes.



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