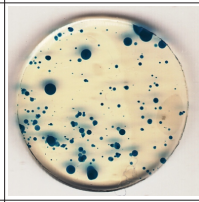
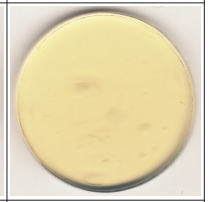
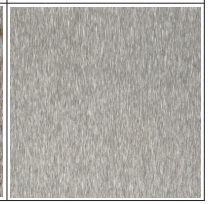
ADVANTAGES

1. Simple application and evaluation
2. Short test duration (15 minutes)
3. Localization of passive layer defects
4. Inhouse process optimization
5. No handling of chemicals
6. Non - destructive test
7. Simple documentation

Comparison of KorroPad test results with test results of salt spray test, Alloy 304

AISI 304 **EN 1.4301**	**Ground P240** **Corundum**	**Ground P240** **SiC**
KorroPad test Results after 15 minutes		
Salt spray test Results after 96 hours		

PURCHASE ORDER

KorroPad test kits in different configurations and kit-sizes are available for purchase under:

www.webshop.bam.de

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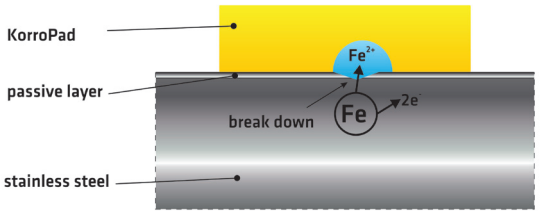
Sicherheit in Technik und Chemie

FUNCTIONALITY

The improved corrosion behavior of stainless steel is based on the formation of a stable, only few atom-layers thin chromium oxide film, called passive layer. Local corrosion can occur on surface sites, where this passive layer is disturbed or insufficiently formed. Iron ions will dissolve into the ambient electrolyte during these corrosion reactions. The KorroPad enables electrochemical detection and indication of dissolved iron ions. The KorroPad simulates a thin moisture film at the surface of the test object and sets a defined corrosion system. The transfer of dissolving iron ions through a disturbed passive layer into the thin moisture film will be indicated by a localized color change reaction of the indicator complex to “Prussian Blue”. Also contaminations of tramp iron on the tested metal surface can be detected by the KorroPad as long as tramp iron is not already oxidized



Schematic diagram of KorroPad; Indication at disturbed passive layer

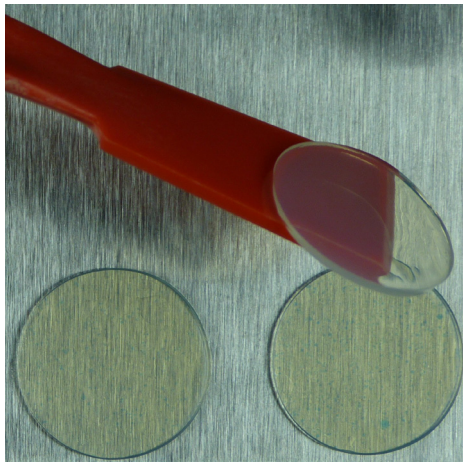
APPLICATION

The KorroPad test method enables a comparative analysis for the evaluation of the corrosion resistance of stainless steel surfaces. It primarily works surface specific and is suitable for conventional stainless steels. For low-alloyed stainless steels (1.4003 e.g.) an adjustment of the chemical composition of the KorroPad is required.

The KorroPad test is applicable in a temperature range from +5 to +50°C. The best results are archieved at temperatures of +20 ±5 °C.

The testing time is only 15 minutes.

The KorroPad test method can be used for the optimization of surface finishing processes as well as for quality checks of incoming and outgoing goods.



Application of KorroPads

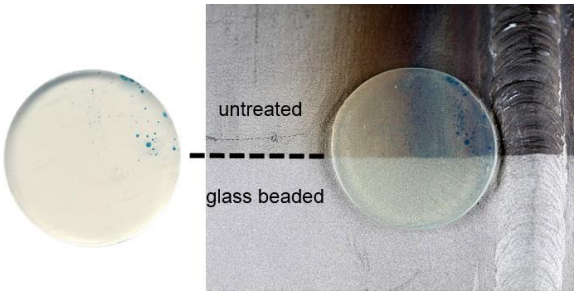
EVALUATION

The KorroPad is a comparative test method. The evaluation criteria for the differentiation between a good or bad state of the surface are linked to the specific test objective.

The KorroPad is configured in this way, that on stainless steel surface, which are exhibiting an ideal formed passive layer, no color indications will occur. Consequently, stainless steel surface on which KorroPad test shows no indications can be assumed to be in an optimal passive state.

Single, especially small indications does not necessarily mean a generally increased corrosion sensibility of a stainless steel surface. Instead they can randomly occur on technical surfaces.

On the contrary, numerous and especially large color indications signal locally breakdowns and disturbances of the passive layer. In this case targeted measures for the optimization and suitable passivation of the surface should be made.



Example of use: Inspection of post-welding surface treatment, Alloy 316 Ti