
**Preparation of steel substrates before
application of paints and related
products — Analytical colorimetry
method to support visual assessment
of surface preparation grades**

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Foreword

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Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The performance of protective coatings of paint and related products applied to steel is significantly affected by the state of the steel surface immediately prior to painting. The principal factors that are known to influence this performance are

- a) the presence of rust and mill scale,
- b) the presence of surface contaminants, including salts, dust, oils and greases, and
- c) the surface profile.

The ISO 8501 series, the ISO 8502 series and the ISO 8503 series provide methods for assessing these factors, while the ISO 8504 series provides guidance on the preparation methods that are available for cleaning steel substrates, indicating the capabilities of each in attaining specified levels of cleanliness.

These International Standards do not contain provisions on the protective coating systems applied to the steel surface. They do not contain provisions related to the surface quality requirements for specific situations even though surface quality can have a direct influence on the choice of protective coating applied and on its performance. Such provisions are given in other documents such as national standards and codes of practice. It would be useful for users of these International Standards to ensure that the qualities specified are

- compatible and appropriate both for the environmental conditions to which the steel will be exposed and for the protective coating system used, and
- within the capability of the cleaning procedure specified.

While these four series of International Standards deal with specific aspects of the preparation of steel substrates, the ISO 8501 series covers the visual assessment of surface cleanliness.

ISO 8501-1 is intended to be a tool for visual assessment of rust grades and of preparation grades. It identifies four levels (designated as “rust grades”) of mill scale and rust that are commonly found on surfaces of uncoated erected steel and steel held in stock. It also identifies certain degrees of visual cleanliness (designated as “preparation grades”) after surface preparation of uncoated steel surfaces and of steel surfaces after overall removal of any previous coating. These levels of visual cleanliness are related to the common methods of surface cleaning that are used prior to painting.

