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Corrosion of metals and alloys — Corrosion fatigue testing —

Part 2:
Crack propagation testing using precracked specimens

Corrosion des métaux et alliages — Essais de fatigue-corrosion —

Partie 2: Essais d'amorce de rupture sur des éprouvettes préfissurées

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 11782-2 was prepared by Technical Committee ISO/TC 158, *Corrosion of metals and alloys*.

ISO 11782 consists of the following parts, under the general title *Corrosion of metals and alloys — Corrosion fatigue testing*:

— *Part 1: Cycles to failure testing*

— *Part 2: Crack-propagation testing using precracked specimens*

Annex A of this part of ISO 11782 is for information only.

Introduction

Crack propagation testing employs precracked specimens to provide information on the threshold conditions and on rates of corrosion fatigue crack growth. These data can be used in the design and evaluation of engineering structures where corrosion fatigue crack growth can dominate component life.

Because of the need to maintain elastically constrained conditions at the crack tip, the precracked specimens used for crack propagation tests are not suitable for the evaluation of thin products such as sheet or wire and are generally used for thicker products including plate, bar and forgings. They can also be used for parts joined by welding.

The results of corrosion fatigue testing are suitable for direct application only when the service conditions exactly parallel the test conditions especially with regard to material, environmental and stressing considerations.