

ISO 7539-9:2021 (E)

Corrosion of metals and alloys — Stress corrosion testing — Part 9: Preparation and use of pre-cracked specimens for tests under rising load or rising displacement

Contents

| | |
|---------|---|
| | Foreword |
| 1 | Scope |
| 2 | Normative references |
| 3 | Terms and definitions |
| 4 | Principle |
| 5 | Specimens |
| 5.1 | General |
| 5.2 | Specimen design |
| 5.3 | Stress intensity factor considerations |
| 5.4 | Specimen preparation |
| 5.5 | Specimen identification |
| 6 | Initiation and propagation of fatigue cracks |
| 7 | Procedure |
| 7.1 | General |
| 7.2 | Environmental considerations |
| 7.3 | Environmental chamber |
| 7.4 | Environmental control and monitoring |
| 7.5 | Selection of initial K value prior to dynamic loading |
| 7.6 | Determination of KISCC |
| 7.6.1 | General |
| 7.6.2 | Determination schedule |
| 7.6.3 | Validation of test results |
| 7.7 | Determination of crack velocity |
| 8 | Test report |
| Annex A | (informative) Determination of a suitable displacement rate for determining KISCC from constant displacement rate tests |
| A.1 | General |
| A.2 | Procedure |
| Annex B | (informative) Determination of crack growth velocity |
| Annex C | (informative) Information on indirect methods for measuring crack length (see also ISO 21153) |
| C.1 | Electrical resistance measurement methods |
| C.1.1 | Direct current (DC) potential drop method |
| C.1.2 | AC potential drop methods |
| C.2 | Compliance methods |