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Metallic materials — Unified method of test for the determination of quasistatic fracture toughness

*Matériaux métalliques — Méthode unifiée d'essai pour la
détermination de la ténacité quasi statique*



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Foreword

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This document was prepared by Technical Committee ISO/TC 164, *Mechanical testing of metals*, Subcommittee SC 4, *Fatigue, fracture and toughness testing*.

This third edition cancels and replaces the second edition (ISO 12135:2016), which has been technically revised.

The main changes compared to the previous edition are as follows:

- formulae to calculate CTOD have been replaced with those based on rigid rotation assumption throughout; replacing the previous *R*-curve formulae based on CTOD from *J*. CTOD formulae for SENBs are now those based on recent research to include the material yield to tensile strength ratio in the CTOD formulae;
- the determination of *J* directly from displacement defined in terms of CMOD has been included, in addition to the methods based on load line displacement;
- where fatigue precrack straightness requirements cannot be met due to internal residual stresses, the application of modification techniques, originally developed for weld specimens, is now permitted;
- the rotation correction factor for compact specimens has been revised with a new formula;
- editorial changes have been made to improve consistency of terms and definitions used throughout the document.

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.