International Standard

ISO 8203-4

First edition
2025-09

Fibre-reinforced plastic composites — Non-destructive testing —

Part 4: Laser shearography

Composites plastiques renforcés de fibres — Contrôle non destructif —

Partie 4: Shearographie laser

Reference number
ISO 8203-4:2025(en)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 13, *Composites and reinforcement fibres*.

A list of all parts in the ISO 8203 series can be found on the ISO website.

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.

Introduction

Laser shearography can be used to detect and measure a wide range of manufacturing and in-service defects in fibre-reinforced plastic (FRP) materials. The technique has the advantages of being fast, non-contact and suitable for inspecting large areas, with portable, real-time, and in-situ measurement capabilities. Laser shearography enables detection of imperfections/discontinuities which are detrimental to the performance or ultimate strength of the material. This document specifies the principal method for laser shearography non-destructive testing (NDT) of FRP composites via monitoring of out-of-plane surface displacement gradients, using coaxial illumination and observation perpendicular to the part surface. Defect detection relies on local influences on the global surface deformation from sub-surface anomalies under the selected loading regime.