



BSI Standards Publication

Plastics — Joining of thermoplastic moulded components — Specification for quality levels for imperfections

National foreword

This British Standard is the UK implementation of ISO 5623:2022. It supersedes BS 89250:2019, which is withdrawn.

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A list of organizations represented on this committee can be obtained on request to its committee manager.

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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.

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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*.

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

This document is intended to be used as a reference in the drafting of application specifications. It contains a simplified selection of thermal joining process imperfections in thermoplastics based on the designations given in EN 14728.

The purpose of this document is to define dimensions of typical imperfections which might be expected in normal fabrication. It may be used within a quality system for the production of joints. It provides three sets of dimensional values from which a selection can be made for a particular application. The quality level necessary in each case is intended to be defined by the application specification or the responsible designer, in conjunction with the manufacturer, user and/or other parties concerned.

The quality levels are expected to be prescribed before the start of production, preferably at the enquiry or order stage. They provide basic reference data and are not specifically related to any particular application. They refer to types of joint in fabrication and not to the complete product or component itself. It is possible, therefore, for different quality levels to be applied to individual joints in the same product or component.

It is normally expected that, for a particular joint, the dimensional limits for imperfections can all be covered by specifying one quality level. In some cases, it may be necessary to specify different quality levels for different imperfections in the same joint.

The choice of quality level for any application is expected to take account of design considerations, subsequent processing, mode of stressing (e.g. static, dynamic), service conditions (e.g. temperature, environment) and consequences of failure. Economic factors are also important and include not only the cost of joining process but also of inspection and testing.

Imperfections are quoted in terms of their actual dimensions, and their detection and evaluation may require the use of one or more methods of destructive and/or non-destructive testing. The detection and sizing of imperfections are dependent on the inspection methods and the extent of testing specified.

This document is directly applicable to visual testing of thermal joints and does not include details of recommended methods of detection or sizing by non-destructive means. These limits are not necessarily applicable to non-destructive testing methods and might need to be supplemented by requirements for inspection, examination and testing.

The values given for imperfections are for thermal joints produced using normal joining process practice.

