

BS 4311-2:2009



BSI Standards Publication

# Gauge blocks manufactured to imperial specification – Part 2: Accessories

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### Summary of pages

This document comprises a front cover, an inside front cover, pages i to ii, pages 1 to 12, an inside back cover and a back cover.

## Foreword

### Publishing information

This part of BS 4311-2 is published by BSI and came into effect on 30 June 2009. It was prepared by Technical Committee TDW/4, *Technical product realization*. A list of organizations represented on this committee can be obtained on request to its secretary.

### Supersession

BS 4311-2:2009 supersedes BS 4311-2:1994, which was withdrawn with the publication of BS 4311-1:2007+C1:2009.

### Relationship with other documents

BS 4311-2:2009 is associated with BS EN ISO 3650:1999, which specifies the most important design and metrological characteristics of gauge blocks with a rectangular cross-section and a nominal length  $l_n$  ranging from 0,5 mm to 1 000 mm. BS 4311-2:2009 is also associated with BS 4311-1:2007+C1:2009, which addresses the requirements for the ongoing support for gauge blocks manufactured to the imperial system.

### Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

*Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.*

A comma, rather than a full point, has been used as the decimal indicator throughout this British Standard in order to align it with the Geometrical Product Specifications referenced in Clause 2. Care should be taken when using this publication in conjunction with other British Standards.

### Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with a British Standard cannot confer immunity from legal obligations.**

## 0 Introduction

The use of gauge blocks for measuring and for calibrating measuring instruments can be extended by accessories of the types specified in this standard. For instance pairs of Type A and Type B jaws are specified which, when combined with gauge blocks, form an external or an internal calliper.

Other accessories specified in this standard are a robust base that can be used to convert a stack of wrung gauge blocks into a height gauge; and a centre point and an edged tool for scribing arcs of precise radius. The various items are provided with wringing surfaces suitable for wringing to gauge blocks, and holders are available for supporting the wrung gauge block stacks when in use.

The accuracy of measurements obtained when using the accessories is influenced by the manner of their use, e.g. reduction of flexure in calliper jaws, better flatness of the datum surface on which the base is located, and avoidance of local wear, particularly on the scribing tool and the Type A jaws, are all ways of improving the accuracy which can be achieved.

## 1 Scope

This British Standard specifies requirements for accessories intended for use with metric and inch gauge blocks conforming to BS EN ISO 3650 and BS 4311-1:2007+C1:2009, and includes two types of measuring jaw (Type A and Type B), scriber points and centre points, bases and holders. Requirements for general dimensions and the form, material, surface finish and accuracy of various features are specified.

Examples of typical assemblies of accessories are shown in Figure 1 and notes on their use are given in Annex A.

Annex B gives details of other items which may be used with gauge blocks and accessories.

*NOTE* Type B jaws, scriber points, centre points and holders specified for metric gauge blocks are fully compatible with gauge blocks in inch units.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 4311-1:2007+C1:2009, *Gauge blocks manufactured to imperial specification – Part 1: Specification and validation*

BS EN ISO 3650, *Geometrical product specifications (GPS) – Length standards – Gauge blocks*

BS EN ISO 6507-1, *Metallic materials – Vickers hardness test – Part 1: Test method*

### 3 Terms and definitions

For the purposes of this part of BS 4311, the terms and definitions given in BS EN ISO 3650 and BS 4311-1 apply.

Figure 1 Examples of assemblies of gauge block accessories

