

Specification for

Hardmetal dies and associated hardmetal tools —

**Part 2: As-sintered pellets and finished
dies for drawing round wire**

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The organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

British Non-ferrous Metals Federations — High Conductivity Copper Group	Institute of Iron and Steel Wire Manufacturers
British Hard Metal Association	Individual experts
British Independent Steel Producers' Association	

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Foreword

First published as BS 3821:1964 this Part of this British Standard has been revised to include dimensions of as-sintered pellets, and other Parts added to extend the range of the standard.

Prepared under the authority of the Mechanical Engineering Industry Standards Committee, full cognizance has been taken of ISO Recommendation R 524 “*Hard metal wire drawing dies. Interchangeability dimensions of pellets and cases*”. Account has also been taken of ISO work which relates to dimensions of as-sintered pellets and note taken of ISO/R 1684 “*Wire, bar and tube drawing dies — Designation — Marking — Dimension*”, which is an extension of ISO/R 524.

The manufacture of hardmetal wire drawing dies involves highly specialized techniques and development. For this reason, every care has been taken to establish a British Standard containing requirements calculated to ensure the first rate quality and performance of the finished dies, which will not impede the research and development of new techniques in a healthy and progressive industry.

The standard does not lay down the requirements for hardmetal grades. This information is applicable to all types of hardmetal dies and associated hardmetal tools, and therefore a separate standard, BS 4276 “*Hard metal for wire, bar and tube drawing dies*”, has been published relating exclusively to grading and quality of hardmetal for dies, including wire drawing dies.

Part 1 of this British Standard specifies designation and marking of as-sintered pellets and finished dies, and Part 3 of the standard specifies as-sintered pellets and finished dies for drawing round bar.

The standard has been produced with the fullest co-operation of die users and manufacturers, and the manufacturers of wire drawing machinery.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 General

1.1 Scope

This Part of this British Standard specifies the dimensions of as-sintered pellets and finished hardmetal dies and certain quality aspects of finished dies for drawing ferrous and non-ferrous round wire. The dies are intended to produce wire up to 12 mm diameter from steel and 13 mm diameter from non-ferrous material.

NOTE The titles of the British Standards referred to in this standard are listed on the inside back cover.

1.2 Definitions

For the purposes of this British Standard, the following definitions apply:

1.2.1

hardmetal

sintered material characterized by high strength and wear resistance, with hard substances, e.g. carbides of refractory metal, as the main component and with a metallic binder phase

1.2.2

pellet

that component of a wire drawing die which is made from hardmetal. Prior to finishing it is usually termed the “as-sintered pellet” or “rough pellet”

1.2.3

case

that component of a wire drawing die into which the pellet is positively fixed

1.2.4

bore

the bore of the pellet including the entry, drawing, bearing and exit portions

1.2.5

finished die

the assembly of the case and the pellet after all operations have been completed

1.2.6

nominal size

the nominal size of the die; equal to the nominal size of the wire which it will produce

1.2.7

measured size

the actual measured value of the bearing diameter

1.2.8

designating size

the size of the die expressed as pellet diameter (d_2) $\times$ case diameter (d_3) (see Table 5)

1.3 Symbols

For the purposes of this British Standard the symbols shown in Figure 1 and Figure 2 relate to the dimensions of as-sintered pellets and finished dies, respectively, for drawing round wire.