

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 1684

WIRE, BAR AND TUBE DRAWING DIES
DESIGNATION — MARKING — DIMENSIONS

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 1684, *Wire, bar and tube drawing dies – Designation – Marking – Dimensions*, was drawn up by Technical Committee ISO/TC 29, *Small tools*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question led to the adoption of Draft ISO Recommendation No. 1684 which was circulated to all the ISO Member Bodies for enquiry in October 1968. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Israel	Sweden
Czechoslovakia	Italy	Thailand
France	Japan	Turkey
Germany	Netherlands	U.A.R.
Greece	Poland	United Kingdom
Hungary	Portugal	U.S.S.R.
India	South Africa, Rep. of	Yugoslavia
Ireland	Spain	

The following Member Bodies opposed the approval of the Draft :

Austria
Belgium
Switzerland
U.S.A.

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

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WIRE, BAR AND TUBE DRAWING DIES
DESIGNATION — MARKING — DIMENSIONS

INTRODUCTION

This ISO Recommendation supplements and extends the field of application of ISO Recommendation R 524, *Hard metal wire drawing dies — Interchangeability dimensions of pellets and cases*.

1. SCOPE

This ISO Recommendation relates to wire, bar and tube drawing dies, and gives the main dimensions for a certain number of tool types, together with indications concerning the codified designation of dies and their marking. Details not indicated are left to the discretion of the manufacturers or should be specified in national standards.

This ISO Recommendation may be supplemented later on by the standardization of several special profiles.

This ISO Recommendation includes an Appendix Y comparing bearing and bore dimensions for various types of drawing dies, and an Appendix Z giving a terminology in several languages for characteristic elements of pellets and cases.

2. DESIGNATION

A short designation of an ISO tool is provided in the following order :

2.1 Reference letters of application :

Wire drawing dies for steel	A
Wire drawing dies for non-ferrous metal	B
Bar drawing dies for steel	C
Bar drawing dies for non-ferrous metal	D
Tube drawing dies for steel	E
Tube drawing dies for non-ferrous metal	F
Shaped drawing dies for steel of square and flat section	L
Shaped drawing dies for non-ferrous metal of square and flat section	N
Hexagon bar drawing dies for steel	R
Hexagon bar drawing dies for non-ferrous metal	S

2.2 Reference letters for the shape of the case :

Cylindrical shape	Z
Conical shape	K

2.3 Diameter of pellet d_2 in mm

2.4 Diameter of case d_3 in mm

2.5 Dimensions of bearing or bore

A to F : Diameters of bearing	d_1 in mm
L and N : Boring section	$a \times b$ in mm
R and S : Hexagon size	a in mm

NOTE. — For countries using the inch system of measurement, the converted inch dimensions of clauses 2.3 to 2.5 can be substituted for the metric dimensions in the designation.

2.6 Drawing angle⁽¹⁾ (in degrees) or radius⁽²⁾ (in mm) 2α

2.7 Mark ISO

Examples of codified designations :

AZ 14/28/3.5/16⁽¹⁾ ISO
DK 25/75/9/99/R⁽²⁾ ISO
NZ 45/100/15 $\times$ 15/20 ISO

⁽¹⁾ Where the bore profile is not specified, the user must supply details of the material to be drawn (for example : mild steel up to 0.4 % carbon; copper; aluminium alloys, etc.) together with the method of drawing (for example : dry or wet drawing; push-pointing; floating or fixed mandrels, etc.).

⁽²⁾ To replace the conical surface of the top angle 2α by a toric surface, angle 2α in the designation should be replaced by the symbol "99" accompanied by the radius value, in millimetres, of the generator circle of the toric surface.