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## **Black leads for wood-cased pencils — Classification and diameters**

*Mines graphite pour crayons à papier — Classification et diamètres*

Reference number  
ISO 9180: 1988 (E)

## 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 9180 was prepared by Technical Committee ISO/TC 10, *Technical drawings*.

# Black leads for wood-cased pencils — Classification and diameters

## 1 Scope

This International Standard specifies a classification and diameters for black leads used for wood-cased pencils.

## 2 Definitions

For the purposes of this International Standard, the following definitions apply.

**2.1 black lead:** Solid writing material which consists of carbon (e.g. graphite) and a binding agent. The lead generates black lines which are erasable.

**2.2 hardness degree:** Classification indicating increasing hardness from 6B to 9H and increasing line density from 9H to 6B.

NOTE — A scientific definition of hardness degree is not yet available.

**2.3 wood-cased pencil:** Hand-held drawing tool which has the lead permanently secured in a wood case and which is capable of withstanding the force involved in drawing.

## 3 Classification

Leads shall be classified according to their hardness degree into the following 17 types:

9H, 8H, 7H, 6H, 5H, 4H, 3H, 2H, H, F, HB, B, 2B, 3B, 4B, 5B and 6B

## 4 Diameters

Lead diameters shall be as specified in table 1.

Table 1 — Diameters

Hardness degree (see 2.2)	Diameter mm
9H, 8H, 7H, 6H, 5H, 4H, 3H, 2H, H	> 1,8
F, HB, B, 2B, 3B, 4B, 5B, 6B	> 2