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**Threading tools—Vocabulary
Part 2 : Thread cutting dies**

ICS 01.040.25; 25.100.50

Reference number : JIS B 0176-2 : 2002 (E)

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal of establishing a Japanese Industrial Standard from The Japan Small Cutting Tool's Association (JSCTA)/the Japanese Standards Association (JSA), with a draft of Industrial Standard based on the provision of Article 12 Clause 1 of the Industrial Standardization Law. By this establishment, **JIS B 0176 : 1996** has been withdrawn and replaced with **JIS B 0176 : 2002** Parts 1 to 4.

This part of **JIS B 0176** has been prepared based on **ISO 5968 : 1981** *Circular screwing dies—Terminology* to conform to the International Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

JIS B 0176 consists of the following four parts with the general title *Threading tools—Vocabulary*.

Part 1 : Taps

Part 2 : Thread cutting dies

Part 3 : Chaser

Part 4 : Thread rolling dies

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Threading tools—Vocabulary

Part 2 : Thread cutting dies

Introduction This part of **JIS B 0176** has been prepared based on **ISO 5968** *Circular screwing dies—Terminology* published in 1981, with some modifications in the editing points and/or technical contents.

The portions with sidelines or underlined with dots are the matters modifying the International Standard.

1 Scope This part of **JIS B 0176** specifies terms and definitions related to thread cutting dies⁽¹⁾ to be used mainly for metal workings in general.

Note ⁽¹⁾ Tools of internal thread type used for cutting external threads, having flutes to clear out cutting chips.

Remarks : The International Standard corresponding to this Standard is as follows:

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21**.

ISO 5968 : 1981 *Circular screwing dies—Terminology* (MOD)

2 Classification The terms shall be classified as given in the following:

a) **Types of thread cutting dies**

- 1) Classification according to cutting part materials and surface treatments
- 2) Classification according to structure
- 3) Classification according to functions or uses
 - 3.1) Classification according to manufacturing methods
 - 3.2) Classification according to uses
 - 3.3) Classification according to types of screw threads
 - 3.4) Classification according to flutes

b) **Elements of thread cutting dies**

c) **Angles of thread cutting dies**

d) **Accuracy of thread cutting dies**

e) **Damages on cutting parts of thread cutting dies**

f) **Thread cutting dies in general**

3 Classification of thread cutting dies The names expressing the types of thread cutting dies shall be read combining the terms corresponding to the order of type number **2 a) 1)** to **2 a) 3) 3.4)**. However, the manufacturing methods shall be omitted, and the classification according to the type of screw thread shall follow the classification of cutting part material and surface treatment. In addition, the type of screw thread may be changed to the designation of screw threads (see Table 1).

Table 1 Examples of classification of thread cutting dies

Classification	Cutting part material and surface treatment	Type of screw threads	Structure	Use	Feature of flute
Adjustable thread cutting round dies with adjusting screw for metric coarse threads	(Alloy tool steel)	For metric coarse screw threads	(Solid)	Adjustable with adjusting screw	(Straight flute)
Solid spiral flute thread cutting round dies for high speed nitride tool steel metric fine threads	High speed (tool) steel nitride	For metric fine screw threads	(Solid)	Solid	Spiral flute
Tipped solid thread cutting round dies for cemented carbide unified coarse threads	Cemented carbide (alloy)	For unified coarse screw threads	Tipped tool	Solid	(Straight flute)
1/2-20 UNF sectional dies	(Alloy tool steel)	1/2-20 UNF	(Solid)	Sectional	(Straight flute)

Remarks : Those in parentheses may be omitted.

4 Terms and definitions The terms and the definitions of thread cutting dies shall be in accordance with the following:

Further, term number or index number of the corresponding International Standard is shown in the parentheses in the definition column, and quantitative symbols, units and English equivalents are shown for information only.

Remarks 1 Those in parentheses in the term column may be omitted.

2 The terms given in bold types in the definitions are those specified in this part of **JIS B 0176**.

3 The figures shown are only examples, and are not specify any shape nor dimensions.

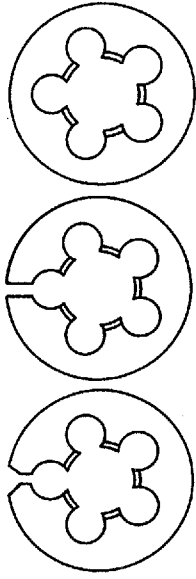
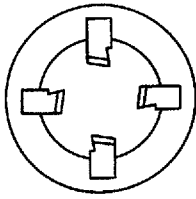
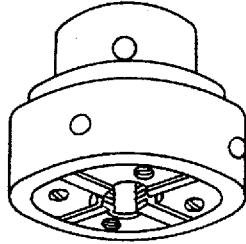
Further, the numerals in the parentheses in the figure show term number in this part of **JIS B 0176**.

a) Types of thread cutting dies

1) Classification according to cutting part materials and surface treatments

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1101	合金工具鋼(ねじ切り) ダイス	GÔKIN KÔGUKÔ (NEZIKIRI) DAISU	The die using alloy tool steel for the material of cutting part .	alloy tool steel (thread cutting) die
1102	高速度(工具)鋼(ねじ切り) ダイス	KÔSOKUDO (KÔGU)-KÔ (NEZIKIRI) DAISU	The die using the high speed tool steel for the material of cutting part .	high speed (tool) steel (thread cutting) die
1103	超硬(合金)(ねじ切り) ダイス	TYÔKÔ (GÔKIN) (NEZIKIRI) DAISU	The die using the cemented carbide alloy (sintered body of tungsten carbide as the main body) for the material of cutting part .	cemented carbide (thread cutting) die, carbide (thread cutting) die
1104	窒化处理(ねじ切り)ダイス	TIKKASYORI (NEZIKIRI) DAISU	The die using the tool material processed with nitriding treatment on the surface of the material of cutting part .	nitrided (thread cutting) die
1105	酸化処理(ねじ切り)ダイス	SANKASYORI (NEZIKIRI) DAISU	The die using the tool material processed with oxidation treatment on the surface of the material of cutting part .	oxidized (thread cutting) die
1106	窒化酸化处理(ねじ切り)ダイス	TIKKA SANKASYORI (NEZIKIRI) DAISU	The die using the tool material processed with nitriding and oxidation treatments on the surface of the material of cutting part .	nitrided and oxidized (thread cutting) die

2) Classification according to structure

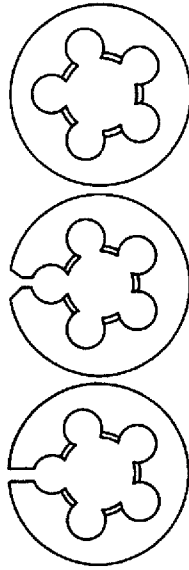
No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1201	(ねじ切り)むくダイス	(NEZIKIRI) MUKU DAISU	The die of which thread part and the body are made of the same material and are integrated. 	—
1202	(ねじ切り)付刃ダイス	(NEZIKIRI) TUKEHA DAISU	The die of which cutting part has been welded or brazed to the body . 	sectional type (thread cutting) die
1203	(ねじ切り)挿刃ダイス	(NEZIKIRI) UEBA DAISU	The die of which the chaser has been attached to the body mechanically. 	inserted chaser (thread cutting) die

3) Classification according to functions or uses

3.1) Classification according to manufacturing methods

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1301	研削(社上切) (ねじ切 り)ダイス	KENSAKU (SIAGE) (NEZIKIRI) DAISU	The die of which thread part has been grind-finished.	ground (thread) (thread cutting) die
1302	切削(社上切) (ねじ切 り)ダイス	SESSAKU (SIAGE) (NEZIKIRI) DAISU	The die of which thread part has been cut-finished.	cut (thread) (thread cutting) die

3.2) Classification according to uses

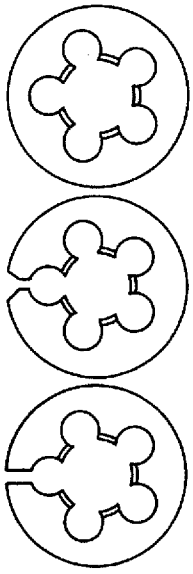
No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1311	(ねじ切り)丸ダイス	(NEZIKIRI) MARU DAISU	The die having circular profile. Remarks : There are those capable of dimensional adjustment and those that are not. 	circular screwing die

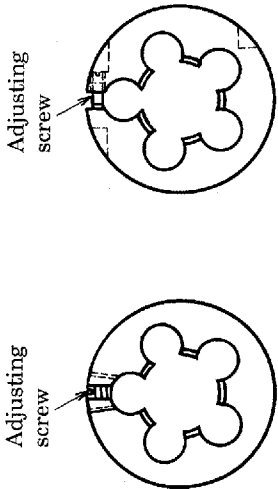
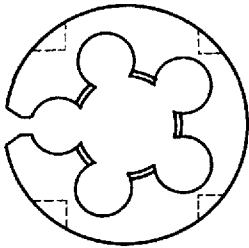
3) Classification according to functions or uses

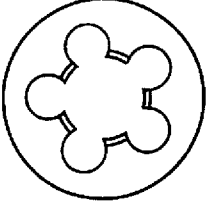
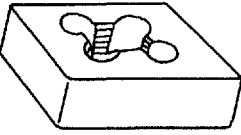
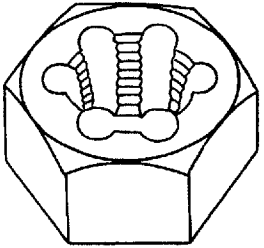
3.1) Classification according to manufacturing methods

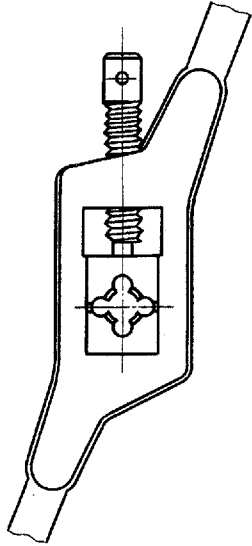
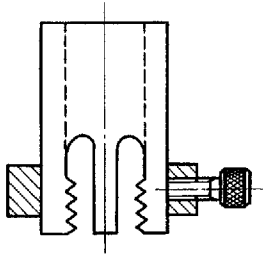
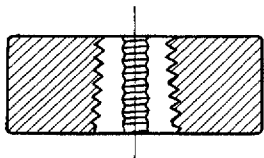
No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1301	研削(仕上げ)(ねじ切 り)ダイス	KENSAKU (SIAGE) (NEZIKIRI) DAISU	The die of which thread part has been grind-finished.	ground (thread) (thread cutting) die
1302	切削(仕上げ)(ねじ切 り)ダイス	SESSAKU (SIAGE) (NEZIKIRI) DAISU	The die of which thread part has been cut-finished.	cut (thread) (thread cutting) die

3.2) Classification according to uses

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1311	(ねじ切り)丸ダイス	(NEZIKIRI) MARU DAISU	The die having circular profile. Remarks : There are those capable of dimensional adjustment and those that are not. 	circular screwing die

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1312	調整ねじ付きアジャスタブル(ねじ切り)丸ダイス	TYÔSEI NEZI-TUKI AZYASUTABURU (NEZIKIRI) MARU DAISU	The circular screwing die capable of dimensional adjustment with the adjusting screw. Remarks : There are two systems to adjust the die. One is by screwing in the tangential direction and the other is by screwing in the radial direction. (No. 3, No. 4) 	adjustable (thread cutting) round die with adjusting screw, adjustable circular (screwing) die with adjusting screw
1313	調整ねじなしアジャスタブル(ねじ切り)丸ダイス	TYÔSEI NEZI-NASI AZYASUTABURU (NEZIKIRI) MARU DAISU	The circular screwing die capable of dimensional adjustment by the screw or wedge being attached to the holder, having no adjusting screw on the body of the die. (No. 2) 	adjustable circular (screwing) die without adjusting screw

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1314	ソリッド(ねじ切り)丸 ダイス	SORIDDO (NEZIKIRI) MARU DAISU	The circular screwing die not capable of dimensional adjustment, having no slot . (No. 1) 	solid (thread cutting) round die, solid circular (screwing) die
1315	(ねじ切り)角ダイス	(NEZIKIRI) KAKU DAISU	The die square in profile and not capable of dimensional adjustment. 	(thread cutting) square dienut
1316	(ねじ切り)六角ダイス	(NEZIKIRI) ROKKAKU DAISU	The die hexagonal in profile and not capable of dimensional adjustment. 	(thread cutting) hexagon dienut

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1317	(ねじ切り)割りこま イス	(NEZIKIRI) WARI- KOMA DAISU	The die of 2 parts for carrying out dimensional adjustment. 	sectional (thread cutting) die
1318	(ねじ切り)ばねダイス	(NEZIKIRI) BANE DAISU	The die of cylindrical shape capable of dimensional adjustment. 	(thread cutting) flexible die, (thread cutting) spring die
1319	テーパ(ねじ切り)ダイ ス	TÊPA (NEZIKIRI) DAISU	The die used for thread cutting of taper threads. 	(thread cutting) taper thread die

3.3) Classification according to types of screw thread

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1321	メートル並目ねじ用(ねじ切り)ダイス	MÊTORU NAMIME NEZI-YÔ (NEZIKIRI) DAISU	The die used for thread cutting of metric coarse screw threads (see JIS B 0205-1 , JIS B 0205-4 and JIS B 4451).	(thread cutting) dies for metric coarse thread
1322	メートル細目ねじ用(ねじ切り)ダイス	MÊTORU HOSOME NEZI-YÔ (NEZIKIRI) DAISU	The die used for thread cutting of metric fine screw threads (see JIS B 0205-1 , JIS B 0205-4 and JIS B 4451).	(thread cutting) dies for metric fine thread
1323	ユニファイ並目ねじ用(ねじ切り)ダイス	YUNIFAI NAMIME NEZI-YÔ (NEZIKIRI) DAISU	The die used for the thread cutting of the unified coarse screw threads (see JIS B 0206 and JIS B 4451).	(thread cutting) dies for unified coarse thread
1324	ユニファイ細目ねじ用(ねじ切り)ダイス	YUNIFAI HOSOME NEZI-YÔ (NEZIKIRI) DAISU	The die used for the thread cutting of the unified fine screw threads (JIS B 0208 and JIS B 4451).	(thread cutting) dies for unified fine thread
1325	管用平行ねじ用(ねじ切り)ダイス	KUDA-YÔ HEIKÔ NEZI-YÔ (NEZIKIRI) DAISU	The die used for the thread cutting of the parallel pipe threads (see JIS B 0202 and JIS B 4455).	(thread cutting) dies for parallel pipe thread
1326	管用テーパねじ用(ねじ切り)ダイス	KUDA-YÔ TÊPA NEZI-YÔ (NEZIKIRI) DAISU	The die used for the thread cutting of the taper pipe threads (JIS B 0203 and JIS B 4456).	(thread cutting) dies for taper pipe thread
1327	ミニチュアねじ用(ねじ切り)ダイス	MINITYUA NEZI-YÔ (NEZIKIRI) DAISU	The die used for the thread cutting of the miniature screw threads (see JIS B 0201).	(thread cutting) dies for miniature screw thread
1328	メートル台形ねじ用(ねじ切り)ダイス	MÊTORU DAIKEI NEZI-YÔ (NEZIKIRI) DAISU	The die used for the thread cutting of the metric trapezoidal threads (see JIS B 0216).	(thread cutting) dies for metric trapezoidal thread
1329	自転車ねじ用(ねじ切り)ダイス	ZITENSYANEZI-YÔ (NEZIKIRI) DAISU	The die used for the thread cutting of cycle threads (see JIS B 0225).	(thread cutting) dies for cycle thread