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Threading tools—Vocabulary
Part 4 : Thread rolling dies

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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 By this establishment, **JIS B 0176 : 1996** has been withdrawn and replaced with **JIS B 0176 : 2002** Parts 1 to 4.

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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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Contents

	Page
1 Scope	1
2 Classification	1
3 Classification of thread rolling dies	1
4 Terms and definitions	2
Alphabetical index	35

Threading tools—Vocabulary

Part 4 : Thread rolling dies

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

Note (1) The tool for form rolling of the external thread by rotary or reciprocating motion.

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

a) Types of thread rolling dies

- 1) Classification according to thread 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 shapes
 - 3.3) Classification according to uses
 - 3.4) Classification according to types of screw threads

b) Elements of thread rolling dies

c) Angles of thread rolling dies

d) Accuracy of thread rolling dies

e) Damage on thread parts of thread rolling dies

f) Thread rolling dies in general

3 Classification of thread rolling dies The names expressing the types of the thread rolling dies shall be read combining the terms corresponding to the order of type number. 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 rolling dies

Classification	Threaded part material and surface treatment	Type of screw threads	Structure	Use	Shape
Thread rolling round dies for metric coarse threads	(Alloy tool steel)	For metric coarse threads	(Solid)	(With lead)	Round
Thread rolling flat dies with recess for high speed nitride tool steel metric fine threads	High speed (tool) steel nitride treatment	For metric fine threads	(Solid)	With recess	Flat
Crumpling and cutting thread rolling flat dies for cemented carbide unified coarse threads	Cemented carbide (alloy)	For unified coarse threads	(Solid)	Crumpling and cutting	Flat
Planetary thread rolling segment dies for high speed steel metric coarse threads	High speed (tool) steel	For metric coarse threads	(Solid)	Planetary	Segment

Remarks : Those in parentheses may be omitted.

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

Further, 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 to specify any shape nor dimensions.

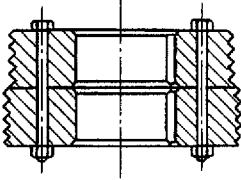
Further, the numerals in parentheses in the figures indicate the term number given in this part of **JIS B 0176**.

a) Types of thread rolling 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(ねじ転造) ダイス	GÓKIN KÓGUKÓ (NEZI TENZÓ) DAISU	The dies using alloy tool steel for the material of the thread parts .	alloy tool steel (thread rolling) dies
1102	高速度(工具)鋼(ねじ転造) ダイス	KÔSOKUDO (KÔGU) KÔ (NEZI TENZÓ) DAISU	The dies using high speed tool steel for the material of the thread parts .	high speed (tool) steel (thread rolling) dies
1103	超硬(合金)(ねじ転造) ダイス	TYÔKÔ (GÓKIN) (NEZI TENZÓ) DAISU	The dies using cemented carbide alloy (sintered material of tungsten carbide as main body) for the material of the thread parts .	cemented carbide (thread rolling) dies, carbide (thread rolling) dies
1104	コーティング(ねじ転造) ダイス	KÔTINGU (NEZI TENZÓ) DAISU	The dies using tool material being adhered chemically or physically in single layer or multi-layer on the surface of the material of the thread parts , such as the titanium nitride (titan-nitride), titanium carbide (titan-carbide) or the like. Remarks : There are high speed steel titan-nitride coating dies, ultra hard titan-carbide coating dies and the like.	coated (thread rolling) dies
1105	窒化処理(ねじ転造)ダイス	TIKKA SYORI (NEZI TENZÓ) DAISU	The dies using tool material with nitriding treatment on the surface for the material of the thread parts .	nitrided (thread rolling) dies
1106	酸化処理(ねじ転造)ダイス	SANKA SYORI (NEZI TENZÓ) DAISU	The dies using tool material with oxidizing treatment on the surface for the material of the thread parts .	oxidized (thread rolling) dies
1107	窒化酸化处理(ねじ転造)ダイス	TIKKA SANKA SYORI (NEZI TENZÓ) DAISU	The dies using tool material with nitriding and oxidizing treatments on the surface for the material of the thread parts .	nitrided and oxidized (thread rolling) dies

2) Classification according to structure

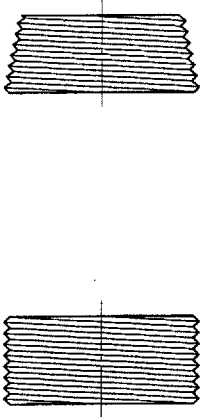
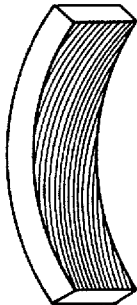
No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1201	(ねじ転造)むくダイス	(NEZI TENZÔ) MUKU DAISU	The dies of which the whole body is constituted of the same material, and have all parts integrated into a solid body.	(thread rolling) solid dies
1202	(ねじ転造)組立ダイス	(NEZI TENZÔ) KUMITATE DAISU	That which has been made by assembling parts to one die. 	(thread rolling) assembly dies, (thread rolling) built-up dies

3) Classification according to functions or uses

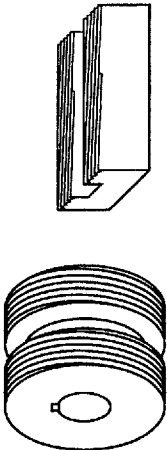
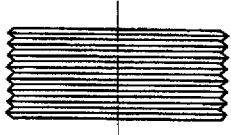
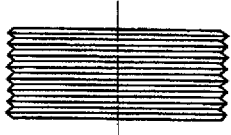
3.1) Classification according to manufacturing methods

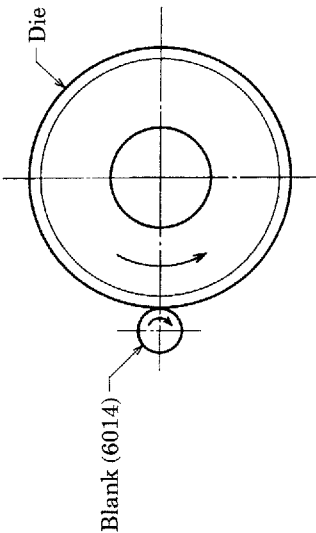
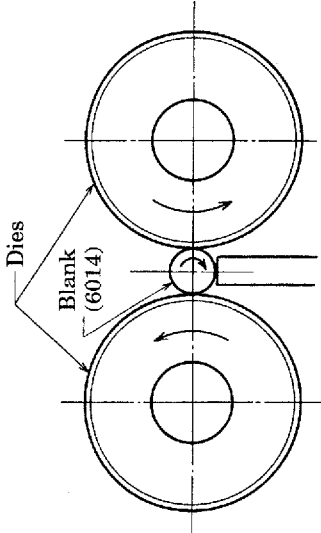
No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1301	研削(仕上げ)(ねじ転造)ダイス	KENSAKU (SIAGE) (NEZI TENZÔ) DAISU	The dies of which the thread parts have been finished by grinding.	ground (thread) (thread rolling) dies
1302	切削(仕上げ)(ねじ転造)ダイス	SESSAKU (SIAGE) (NEZI TENZÔ) DAISU	The dies of which the thread parts have been finished with cutting.	cut (thread) (thread rolling) dies
1303	転造(仕上げ)(ねじ転造)ダイス	TENZÔ (SIAGE) (NEZI TENZÔ) DAISU	The dies of which the thread parts have been finished with thread rolling.	rolled (thread) (thread rolling) dies

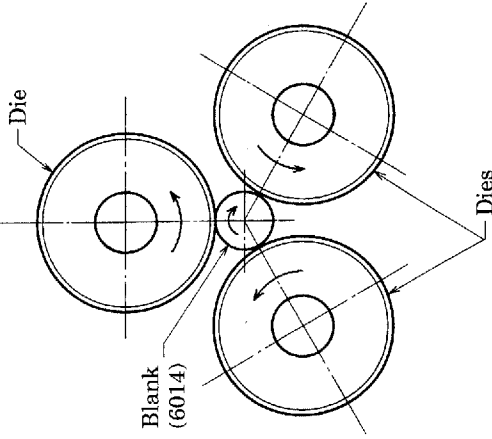
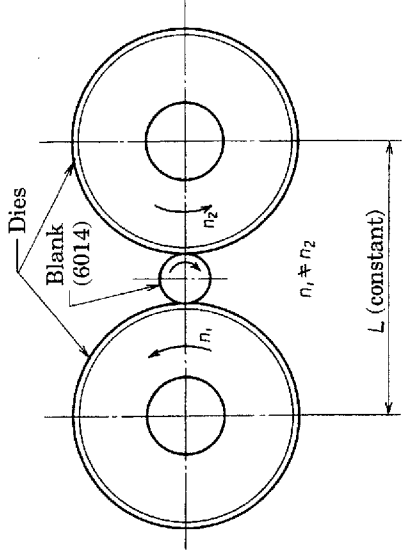
3.2) Classification according to shapes

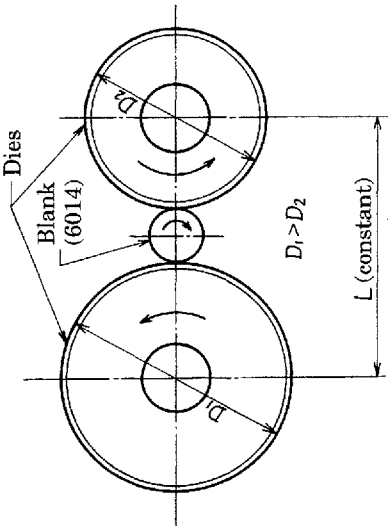
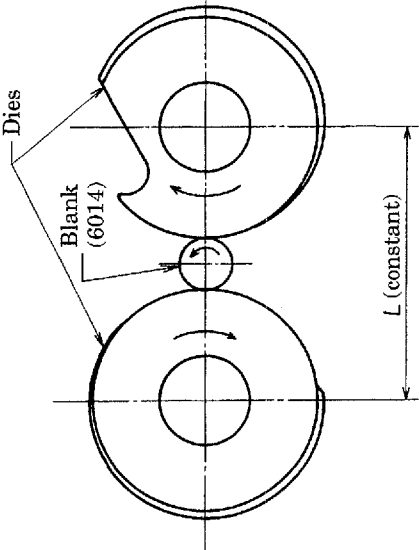
No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1311	(ねじ転造)丸ダイス	(NEZI TENZÔ) MARU DAISU	The dies having a thread model on the outer periphery of a cylindrical or conical shape. 	(thread rolling) cylindrical dies
1312	(ねじ転造)平ダイス	(NEZI TENZÔ) HIRA DAISU	The dies having a thread model on the single face or both faces of a flat plate. 	(thread rolling) flat dies
1313	(ねじ転造)セグメントダイス	(NEZI TENZÔ) SEGUMENTO DAISU	The dies having a thread model on the inner face of a circular arc shape. 	(thread rolling) segment dies

3.3) Classification according to uses

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1321	テーパ(ねじ転造)ダイ ス	TEPA (NÉZI TENZÔ) DAISU	The dies of which tapered threads are formed by rolling (see the right figure of No. 1311).	(thread rolling) taper dies
1322	逃がし付き(ねじ転造) ダイス	NIGASI-TUKI (NEZI TENZÔ) DAISU	The dies of which some of the thread part has been removed according to the shapes of thread components to be formed by rolling. 	—
1323	もみ切り(ねじ転造)ダ イス	MOMIKIRI (NEZI TENZÔ) DAISU	The dies of which tip ends are throttled as a wooden screw or tapping screw, and have been attached with edges for cutting.	—
1324	リード付き(ねじ転造) 丸ダイス	RÎDO-TUKI (NEZI TENZÔ) MARU DAISU	The cylindrical dies attached with the lead to the threads (see the left figure of No. 1311). 	(thread rolling) cylindrical helical dies
1325	リードなし(ねじ転造) 丸ダイス	RÎDO NASI (NEZI TENZÔ) MARU DAISU	The cylindrical dies without a lead on the threads. 	(thread rolling) cylindrical annular dies

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1326	単軸用(ねじ転造)丸ダイス	TANZIKU-YÔ (NEZI TENZÔ) MARU DAISU	Those for thread rolling by one cylindrical die. 	—
1327	二軸用(ねじ転造)丸ダイス	NIZIKU-YÔ (NEZI TENZÔ) MARU DAISU	Those for thread rolling by two cylindrical dies. 	—

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1328	三軸用(ねじ転造)丸ダイス	SANZIKU-YÔ (NEZI TENZÔ) MARU DAISU	Those for thread rolling by three cylindrical dies. 	
1329	差速式転造盤用(ねじ転造)丸ダイス	SASOKUSIKI TENZÔBAN-YÔ (NEZI TENZÔ) MARU DAISU	The cylindrical dies used for the differential thread rolling machine. 	cylindrical dies for differential thread rolling machine

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1330	異径(ねじ転造)丸ダイ ス	IKEI (NEZI TENZÔ) MARU DAISU	A set of cylindrical dies different in diameter. Remarks : That used for the same purpose without using the differential thread rolling machine. 	—
1331	欠円(ねじ転造)丸ダイ ス	KETUEN (NEZI TENZÔ) MARU DAISU	The cylindrical dies being attached with a recess on some of the thread part. 	—

No.	Term (Japanese character)	Reading	Definition	English equivalent (informative)
1332	通し用(ねじ転造)丸ダイス	TÔSI-YÔ (NEZI TENZÔ) MARU DAISU	The cylindrical dies used for through feed rolling .	through feed rolling cylindrical dies
1333	移動(ねじ転造)平ダイス	IDÔ (NEZI TENZÔ) HIRA DAISU	The flat dies attached to the moving side of the thread rolling machine .  	moving flat dies (for thread rolling)
1334	固定(ねじ転造)平ダイス	KOTEI (NEZI TENZÔ) HIRA DAISU	The flat dies attached to the fixing side of the thread rolling machine .  	stationary flat dies (for thread rolling)
1335	片面(ねじ転造)平ダイス	KATAMEN (NEZI TENZÔ) HIRA DAISU	The flat dies of which thread parts exist only on a single face.	thread rolling flat dies
1336	両面(ねじ転造)平ダイス	RYÔMEN (NEZI TENZÔ) HIRA DAISU	The flat dies of which the thread parts exist on both faces.	thread rolling duplex flat dies