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Artificial knees

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law:

Date of Establishment: 1985-07-01

Date of Revision: 1997-07-20

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In the event of any doubts arising as to the contents,
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Artificial knees

1 Scope This Japanese Industrial Standard specifies the artificial knees for adults except for the hybrid controlled knees (hereafter referred to as “knees”).

Remarks 1 The normative references of this Standard are shown below.

JIS B 0205 *Metric coarse screw threads*

JIS B 0207 *Metric fine screw threads*

JIS T 0101 : 1997 *Glossary of terms used in prosthetics and orthotics*

JIS T 0111-1 : 1997 *Prosthetics—Structural testing of lower-limb prostheses*
—Part 1 : Test configurations

JIS T 0111-2 : 1997 *Prosthetics—Structural testing of lower-limb prostheses*
—Part 2 : Test samples

JIS T 0111-3 : 1997 *Prosthetics—Structural testing of lower-limb prostheses*
—Part 3 : Principal structural tests

JIS T 0111-4 : 1997 *Prosthetics—Structural testing of lower-limb prostheses*
—Part 4 : Loading parameters of principal structural tests

JIS T 0111-5 : 1997 *Prosthetics—Structural testing of lower-limb prostheses*
—Part 5 : Supplementary structural tests

JIS T 0111-6 : 1997 *Prosthetics—Structural testing of lower-limb prostheses*
—Part 6 : Loading parameters of supplementary structural tests

JIS T 0111-7 : 1997 *Prosthetics—Structural testing of lower-limb prostheses*
—Part 7 : Test submission document

JIS T 0111-8 : 1997 *Prosthetics—Structural testing of lower-limb prostheses*
—Part 8 : Test report

JIS Z 2101 *Methods of test for woods*

2 The units and numerical values given in { } in this Standard are based on the traditional unit system and are appended for informative reference.

2 Definition of terms The definition of main terms used in this Standard is based on JIS T 0101 and the following.

- (1) **knee with a lock** Knee with a knee locking-device such as anterior-stopped fixed knee, horizontal pulling fixed knee, chocked fixed knee.

- (2) **compressive rigidity** The rigidity of materials against the compressive force.
- (3) **compressive rigidity ratio** Value that compressive rigidity after completion of test is divided by the compressive rigidity immediately after commencement of test.
- (4) **torsional rigidity** The rigidity of materials against the torsional force.
- (5) **torsional rigidity ratio** Value that torsional rigidity after completion of test is divided by the torsional rigidity immediately after commencement of test.
- (6) **knee axis torque—angle Lissajous area** Rotational energy loss around the knee axis. Knee axis torque is specified in the annex.
- (7) **knee axis torque—angle Lissajous area ratio** Value that the areas of knee axis torque and angle Lissajous figure after completion of test is divided by the area of Lissajous figure immediately after commencement of test.

3 Types and symbols Types and symbols of artificial knees shall be as shown in table 1 by structures and functions.

Table 1 Types and symbols

Function		Symbol		
		Endoskeletal structure	Wooden shell structure	Metal plate processing shell structure
No limitation for swing phase and stance phase	No constant friction adjustment	0M	0W	0P
Swing phase control	Adjustable constant friction	1M	1W	1P
	Adjustable variable friction	2M	2W	2P
	Adjustable variable resistance (Gait rate response type)	3M	3W	3P
Swing phase and stance phase control	Adjustable constant friction	4M	4W	4P
	Adjustable variable friction	5M	5W	5P
	Adjustable variable resistance (Gait rate response type)	6M	6W	6P

Remarks : The letter “L” shall be affixed to the symbol for knees with a lock
Example : 2ML

4 Performance

4.1 Static strength Serious abnormalities such as damage and malfunction shall not be found when the knee is subject to the test prescribed in JIS T 0111-1 through JIS T 0111-8.

4.2 Durability

4.2.1 Durability of stance phase The knee shall fulfill the following requirements when the test prescribed in JIS T 0111-1 through JIS T 0111-8 is completed.

- (1) Abnormalities such as damage and malfunction shall not be caused.