AS 4470—1997
ISO 1805:1973

Australian Standard®

Fishing line—Determination of breaking load

This Australian Standard was prepared by Committee CS/89, Testing of Fishing Line. It was approved on behalf of the Council of Standards Australia on 28 February 1997 and published on 5 May 1997.

The following interests are represented on Committee CS/89:

Australian Chamber of Commerce and Industry

Australian National Sportfishing Association

Game Fish Association of Australia

N.S.W. Division Australian National Sportfishing Association

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PREFACE

This Standard was prepared by the Standards Australia Committee CS/89 on Testing of Fishing Line. The Standard is based on and has been reproduced from, ISO 1805, *Fishing nets—Determination of breaking load and knot breaking load of netting yarns.*

Although the title of ISO 1805 has been amended to suit the intended use of the Standard for testing of fishing line, the scope and content are the same as ISO 1805. For fishing line testing, the clauses and method referring to 'yarn breaking load' rather than 'knot breaking load' should be followed. The term 'netting yarns' should be read as fishing line yarn or fishing line under these circumstances. Testing of fishing net can still be performed according to this Standard.

The Standard was written to provide a common ground for testing of competition fishing line by Australian Fishing Associations. The associations had all been using their own test methods and there was no means for comparison of breaking strength between competitions. In the process of considering this Standard, an attempt was made to align it with the method used by the International Game Fish Association (IGFA) which was based on US Government Specification CCC-T-191, Method 4102. The differences between the current methods used by the fishing associations and the method of the IGFA were too numerous to attempt an alignment. For example, the conditioning temperature, the time of pre-conditioning and the conversion of units from non-metric units introduced inconsistencies, so ISO 1805 was decided upon as a more suitable Standard.

The objective of this Standard is to provide testing bodies, fishing associations and competition fishermen with a uniform method of determining the breaking strength of fishing line, in order to enable the comparison of breaking strength results.

The term 'normative' has been used in this Standard to define the application of the appendix to which it applies. A normative appendix is an integral part of a Standard.

Appendix ZZ lists the Australian variations to ISO 1805. In the text of this Standard, marginal bars are added to the text wherever the requirements of the Standard have been varied to meet Australian requirements, and these variations are detailed in Appendix ZZ.

As this Standard is reproduced from an international Standard, the following applies:

(a) Its number appears on the cover and title page while the International Standard number appears only on the cover.

(b) In the source text, 'this International Standard' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by equivalent Australian Standards, as follows:

Reference to International Standard		*Australian Standard*	
ISO/IEC		AS	
139	Textiles—Standard atmospheres for conditioning and testing	2001	Methods of test for textiles
		2001.1	Part 1: Conditioning procedures
858	Fishing nets—Designation of netting yarns in the Tex system		

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NOTES

Fishing line—Determination of breaking load

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method of testing the breaking load and knot breaking load of netting yarns for fishing nets.

Tests may be carried out in both the dry and wet states but tests in the wet state on the knotted yarn are considered to be particularly appropriate in indicating the behaviour of the yarn in use.

2 REFERENCES

ISO 139, *Textiles — Standard atmospheres for conditioning and testing.*

ISO 858, *Fishing nets — Designation of netting yarns in the Tex system.*[1)]

3 DEFINITIONS[2)]

3.1 breaking load: The breaking load, equal to the maximum load observed during a breaking test.

Distinction is made between

— the dry yarn breaking load;

— the wet yarn breaking load;

— the dry knot breaking load;

— the wet knot breaking load.

3.2 load at rupture: The final load at the moment that the specimen or the first component of the specimen breaks at, or after, attainment of the breaking load. The load at rupture is usually, but not always, identical with the breaking load.

3.3 tenacity: The breakingload per unit resultant linear density of the unstrained specimen in the conditioned state.

3.4 breaking length: The calculated length of a specimen whose conditioned weight exercises a force equal to its breaking load. It is expressed in kilometres and, when calculated in kgf units, is numerically equal to the tenacity calculated in gf units. When the calculations employ decanewtons and centinewtons respectively, the values obtained for both parameters, although equivalent, will be approximately 2 % lower, so that the value for breaking length will be slightly less than the traditional theoretical value.

3.5 time-to-break: The time, in seconds, taken to reach the breaking load, measured from the moment of application of the load.

4 PRINCIPLE

A length of yarn is extended in the dry or wet state until it reaches the load at rupture. The test is performed using a suitable apparatus that records or indicates the applied load.

5 APPARATUS

5.1 Tensile testing machine. Any of the following types may be used:

a) constant rate of elongation machine;

b) constant rate of load machine;

c) constant rate of traverse machine.

Preference should be given to a constant rate of elongation machine.

5.1.1 All tensile testing machines shall include a pair of suitable devices to hold the specimen, a means of loading or elongating the specimen at suitable rates, and a load-indicating mechanism which will indicate or continuously record the load applied to the specimen.

For determining the breaking load of netting yarns without knots, the specimens shall be mounted in special holding devices, for example of the types shown in Figure 1, to avoid slipping of the specimens or breaking due to damage caused by the holding devices.

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1) At present at the stage of draft. (Revision of ISO/R 858.)

2) Symbolic abbreviations of the parameters defined have been omitted pending discussion of the general subject by Technical Committee ISO/TC 38.