भारतीय मानक
Indian Standard

IS 7595 (Part 4) : 2024

ऑटर बोर्ड — सामान्य अपेक्षाएँ

भाग 4 अनुप्रयोग मानक

(पहला पुनरीक्षण)

Otter Boards — General Requirements

Part 4 Application Standard

(First Revision)

ICS 47.040; 65.150

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September 2024 **Price Group 5**

Inland Harbour Crafts and Fishing Vessels Sectional Committee, TED 18

FOREWORD

This Indian Standard (Part 4) (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Inland Harbour Crafts and Fishing Vessels Sectional Committee had been approved by the Transport Engineering Division Council.

This standard was first published in 1986. This revision is undertaken to update the standard and to incorporate latest technological advancement/development that has taken place in various fields. The salient features of this revision are:

a) The standard has been drafted as per latest drafting guidelines;
b) Reference to Indian Standard has been updated; and
c) Material grades referred in standard have been updated.

Otter board is the most important functional device of an otter trawl net. The boards are used in pairs and are attached to the trawl net in such a way as to remain obliquely to the direction of motion so that the water pressure against the board, forces them to shear outwards, thus spreading the mouth of the net horizontally.

The size and weight of the otter board should be in accordance with the size and power of the vessel as well as the type and size of the trawl gear used.

Otter boards of different shapes, namely, flat rectangular, rectangular horizontally curved, rectangular vertically curved, L-shaped, oval and V-form, are in use. But flat rectangular boards are the most common due to their case of construction.

This standard has been issued in several parts. Other parts in this series are:

Part 1 Flat rectangular otter boards
Part 2 Rectangular horizontally curved otter boards
Part 3 Oval otter boards
Part 5 V-type otter boards
Part 6 Guidelines for selection

The composition of the Committee responsible for formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*).’ The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

OTTER BOARDS — GENERAL REQUIREMENTS

PART 4 APPLICATION STANDARD

(First Revision)

1 SCOPE

This standard (Part 4) specifies typical features and main characteristics of various types of otter boards.

2 REFERENCES

This standard contains no cross referenced Indian Standard.

3 MAIN CHARACTERISTICS

The main characteristics such as angle of attack, hydrodynamic characteristics, fishing stability, etc of various types of otter boards are given in Table 1.

Table 1 Summary of Main Characteristics of Otter Boards

(*Clause* 3)

Sl No.	Otter Board Type	Common Angle of Attack	Corresponding Hydrodynamic Characteristics				Fishing Suitability			Construction Considerations			Experience Record
			Co-efficient of		Lift/Drag Ratio	Overall Efficiency	Manoeurability	On the Sea Bed*	In Mid Water	Extent of Special Skill & Tools Needed	Costs		
			Sheer C_L	Drag C_D	C_L/C_D						Purchase	Maintenance	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
i)	Conventional rectangular flat	40°	0.82	0.72	1.14	Average to poor	Good	A, B good C poor	Poor	Average	Average	Average	Well proven; extensively used for demersal flshing
ii)	Rectangular flat, wide keeled	40°	0.82	0.72	1.14	Average to poor	Good	A good B poor C unsuitable	Poor	Less than average	Low	Low	Well proven; extensively used for small vessels and
iii)	Rectangular cambered	35°	1.26	0.81	1.55	Good	Average (difficult to right if fallen over)	A, B good C poor	Poor	Above average (bending facilities needed)	High	Average	Very limited commercial use to date
iv)	Oval, flat slotted	35°	0.86	0.63	1.36	Average	Average to good	A, B, C good	Poor to average	Above average	High	Average	Well proven; widely used particularly by large trawlers
v)	Oval cambered slotted (Polyvalent)	35°	0.93	0.74	1.25	Average to good	Average to good	A, B, C good	Poor to average	Above average (bending facilities needed)	High	Average	Recent development; use increasing
vi)	Rectangular Vee type	40°	0.80	0.65	1.23	Average to good	Good	A, B, C good	Poor	Average	Average	Low	Well proven; extensively used for mid water trawling by trawlers of all sizes
vii)	Rectangular flat special design (diverting depressor)	40°	0.82	0.72	1.14	Average to good	Very good	A, B good C unsuitable	Average	High	Very high	Low	Recent development; limited commercial use so far

Table 1 (*Concluded*)

Sl No.	Otter Board Type	Common Angle of Attack	Corresponding Hydrodynamic Characteristics				Fishing Suitability			Construction Considerations			Experience Record
			Co-efficient of		Lift/Drag Ratio	Overall Efficiency	Manoeurability	On the Sea Bed*	In Mid Water	Extent of Special Skill & Tools Needed	Costs		
											Purchase	Maintenance	
			Sheer C_L	Drag C_D	C_L/C_D								
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
viii)	Rectangular cambered, high aspect ratio for mid water trawling (suberkrub type)	14°	1.52	0.25	6.08	Very good	Mid water good (risk to fall flat)	A, B good C unsuitable	Very good	Above average (bending facilities needed)	Average to high	Low	Extensive use, but limited so far to Japanese
ix)	Rectangular cambered, high aspect ratio for bottom trawling (Japanese type)	25°	1.30	0.50	2.60	Very good	Average (risk to fall flat)	A, B good C unsuitable	Good	Above average (bending facilities needed)	Average to high	Average	Extensive use, but imited so far to Japanese trawlers

*For quality of sea bed
A = good ground, even, absence of boulders etc.
B = medium ground, stones, no sudden major depth changes.
C = Bad ground, large boulders, uneven, sudden and major depth variations.

ANNEX A

(*Foreword*)

COMMITTEE COMPOSITION

Inland Harbour Craft and Fishing Vessels Sectional Committee, TED 18

Organization	*Representative(s)*
Indian Register of Shipping, Mumbai	SHRI H. V. RAMESH **(*Chairperson*)**
American Bureau of Shipping, Mumbai	SHRI A. N. DAS SHRI ARNAB GHASH (*Alternate*)
Ashok Leyland Ltd, Mumbai	SHRI C. G. BELSARE SHRI SUMIT VYAS (*Alternate*)
Central Institute of Fisheries Nautical and Engineering Training, Kochi	SHRI SUNIL B. RANGARI
Chowgule and Co Pvt Ltd, Loutolim	SHRI P. CHAKRABARTY SHRI KHRISLER MASCARENHAS (*Alternate*)
Cochin University of Science and Technology, Department of Ship Technology, Kochi	DR K. SIVAPRASAD SHRI ANISHKUMAR M. N. (*Alternate*)
Cyriac Elias Voluntary Association (CEVA), Kochi	FR VARGHESE KOKKADAN DR ANTONY GREGORY (*Alternate*)
Delhi Earth Station Space Applications Centre, Department of Space, New Delhi	MS SHAHANA K.
Directorate General of Quality Assurance, New Delhi	SHRI MONINDER PAL SINGH SHRI S. M. BHOSALE (*Alternate*)
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Directorate of Naval Design, Naval Headquarters, New Delhi	SHRI K. S. N. KUMAR
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Fishery Survey of India, Mumbai	SHRI SHAILENDRA KUMAR JAISWAL
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Inland Waterways Authority of Indian, Noida	SHRI S. V. K. REDDY
Institute of Marine Engineers India, Mumbai	SHRI SIVARAM NARAYANA SWAMI SHRI ANAND MOHAN MANI (*Alternate*)
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Kolkata Port Trust, Kolkata	CAPT A. K. BAGCHI
Lloyd's Register Asia, Mumbai	SHRI C. R. DASH SHRI SRIKANTH SARIPAKA (*Alternate*)
Mazagon Dock Ltd, Mumbai	SHRI BIJU GEORGE SHRI MANOJ R. PAI (*Alternate*)
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Vedam Design and Technical Consultancy Pvt Ltd, Mumbai	SHRI PARITOSH BARUI

Organization	*Representative(s)*
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BIS Directorate General	SHRI P. V. SRIKANTH, SCIENTIST 'D'/JOINT DIRECTOR AND HEAD (TRANSPORT ENGINEERING) [REPRESENTING DIRECTOR GENERAL (*Ex-officio*)]

Member Secretary
SHRI SHARAD KUMAR
SCIENTIST D/JOINT DIRECTOR
(TRANSPORT ENGINEERING), BIS

Bureau of Indian Standards

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This Indian Standard has been developed from Doc No.: TED 18 (19638).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Published by BIS, New Delhi