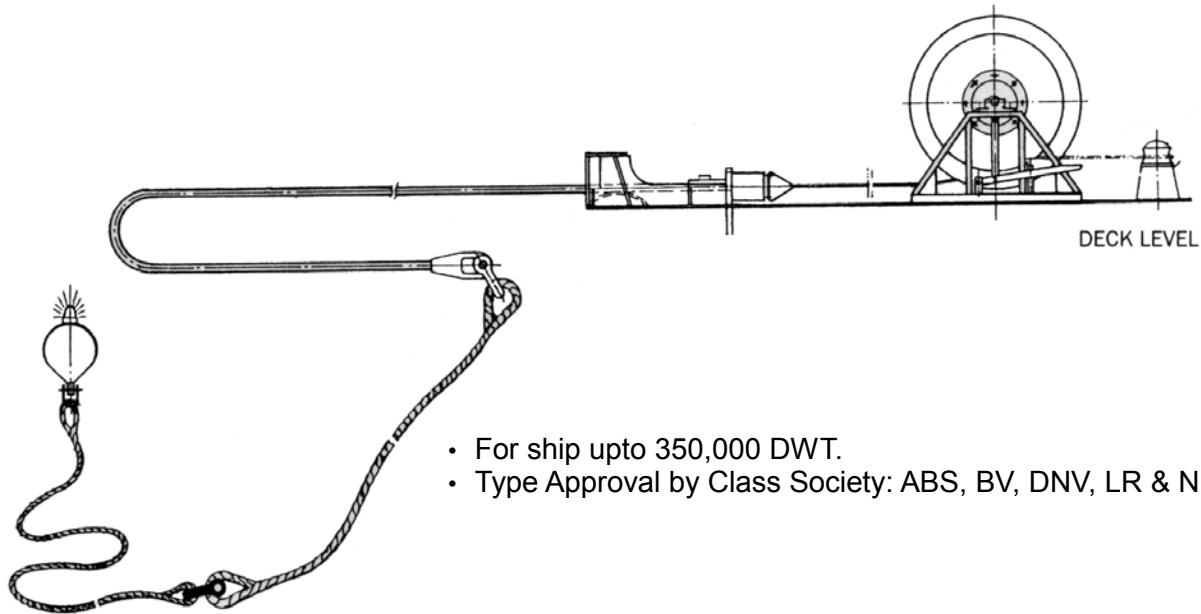


EMERGENCY TOWING SYSTEM

GENERAL ARRANGEMENT FOR AFTER SHIP (TW-102 & TW-202)

The designed is accordance with IMO Resolution MSC 35 (63), MAY 1994 adapted into SOLAS.



- For ship upto 350,000 DWT.
- Type Approval by Class Society: ABS, BV, DNV, LR & NKK.

Attachment A To Certificate No. 75-419123-A

Page 1 of 1

Company Name: Billboard Engineering Co., Ltd.

Address: Unit A, 10/F, D.J. Building, 173 Fan Liu Road, Kowloon, Hong Kong SAR, P.R.C.

Telephone: 852-2797-9972
Fax: 852-2704-7911

Equipment: Emergency Towing System

Intended Service: Emergency Towing System on Tankers

Description: Model: TW202 Usage: All of ship above 100000DWT Compressed Strong point Fairlead Towing point Pick-up gear storage Storage drum Container

Rating: Model: TW202 Working Strength: 2000KN Test Load: 6000KN

Standards: 1) Chapter V of 1994 Amendments to SOLAS 1974
2) IMO's Draft Resolution MSC 76(61)

Comments: The review of the installation plan and hull structure reinforcements in way of the equipment will be required for individual ships.

Service Restriction: None

BILLBOARD

CERTIFICATE OF TYPE APPROVAL

EMERGENCY TOWING ARRANGEMENTS (ETA)

AFT EMERGENCY TOWING SYSTEM TW 102-AS SWL - 1000KN FOR TANKERS BELOW 30,000 DWT.

MANUFACTURED BY: **BILLBOARD ENGINEERING CO., LTD**
Foshan, Guangdong - CHINA

RECORDED REGULATIONS & STANDARDS:
Section 24-04 of EU Rules & Regulations for Classification of ships and Regulation 17.1, Chapter V of the SOLAS Convention as amended by 1994's Resolution MSC 35(63) and related "Guidelines for Emergency Towing Arrangements on Tankers"

The Approval is valid until: 15/12/2002

BUREAU VERITAS HONG KONG A Paris la Defense, on: 23/12/98

J.BENOIT
For the Secretary

NIPPON KAIJI KYOKAI

Certified OF APPROVAL

Type: TW-202

Product description: Emergency towing arrangement fitted on All of tankers of 30,000 DWT and above

Major components: Fairlead & Strongpoint: see drawing No. AE-6310-000. Towing point: see drawing No. AE-6310-000. Pick-up gear: see drawing No. AE-6301-001. Storage drum: see drawing No. AE-6301-001. General arrangement: see drawing No. AE-6300-000. Manufacturer: Billboard Engineering Co., Ltd. Hong Kong. Manufacturers of components: see Appendix. Approval conditions: see Appendix.

THIS IS TO CERTIFY that the above mentioned Emergency Towing Arrangement has been approved by Nippon Kaiji Kyokai with approval No.58172027A in compliance with Regulation II-1/3.4 of the 1974 SOLAS and associated Guidelines for Emergency Towing Arrangement on Tankers entered to IMO Resolution MSC.35(63), and also the Society's relevant regulations of the Rules for the Survey and Construction of Steel Ships.

This certificate will remain in force until 9th December 2002. Issued at Tokyo on 19th December 1998.

NIPPON KAIJI KYOKAI

General Manager
Material & Equipment Department

DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. S-2227
This Certificate consists of 5 pages

This is to certify that the **EMERGENCY TOWING ARRANGEMENT** with type designation **TW-102 and TW-202** Manufactured by **BILLBOARD ENGINEERING CO. LTD, KWUN TUNG, HONG KONG** is in accordance with IMO Resolution MSC 35 (63) of 20 May 1994. DET NORSKE VERITAS RULES FOR CLASSIFICATION OF MARINE OFFSHORE UNITS.

Application: Emergency Towing Arrangements for Tankers
Type: Aft Emergency Towing Arrangement TW-102, for tankers between 20-50,000 dwt
All Emergency Towing Arrangement TW-202, for tankers above 50,000 dwt

Place and date: Hong Kong, 29 July 1997
For Det Norske Veritas AS: **T. Tolstevik**, Head of Section
Local Office: **QIAN YU**, Surveyor

This Certificate is valid until 10 June 2003.

DNV NORSE VERITAS AS
Form No. 2030 1998 0001 00

LR Type Approval Certificate

This is to certify that the aforementioned product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the LR Type Approval system.
This certificate is issued as:

PRODUCER: Billboard Engineering Co. Ltd
Unit E, 12/F, Block 3
Campanian Road, Kowloon, Hong Kong

PLACE OF PRODUCTION: Foshan, Guangdong, People's Republic of China

DESCRIPTION: Aft Emergency Towing Arrangement for Tankers

TYPE: Model TW-202; Working Strength 2000 KN

APPLICATION: Emergency towing arrangement for gas, chemical and petrochemical tankers greater than or equal to 50,000 tons dwt.

Certificate No. 97/00087
Issue Date: 23 June 1997
Expiry Date: 22 June 2002

Sheet 1 of 2
Lloyd's Register of Shipping
71 South Colonnade, London EC1A 3BB

Signatures: **R.E. Rayner**, General Manager

DNV NORSE VERITAS AS
Form No. 2030 1998 0001 00

EMERGENCY TOWING SYSTEM

EQUIPMENT LIST FOR AFTER SHIP (TW-102 & TW-202)

Equipment	Model : TW – 102	Model : TW – 202
STORAGE DRUM 	<u>Drum Capacity:</u> • For Towing Pennant – Dia.62mm, with a groove for the Anchor Socket.	<u>Drum Capacity:</u> • For Towing Pennant – Dia.82mm, with a groove for the Anchor Socket.
RETRIEVAL WIRE	• Wire Rope Dia.12mm x 7M, 6 x 37 Galvanized.	• Wire Rope Dia.16mm x 9.5M, 6 x 37 Galvanized
TOWING PENNANT 	• Wire Rope Dia.62mm x 80M, 6 x 37 IWRC. • with Closed Speltered Sockets and Anchor Socket. • Working Load : 1000 KN. • Min. Breaking Load : 2000 KN.	• Wire Rope Dia. 82mm x 100M, 6 x 47 IWRC. • With Closed Speltered Sockets and Anchor Socket. • Working Load : 2000 KN. • Min. Breaking Load : 4000 KN.
STRONGPOINT FAIRLEAD 	<u>Towing Bracket:</u> • Steel Plate, Weld Construction, Integrated with the Fairlead. • Working Load : 1000 KN. • Min. Breaking Load : 2000 KN.	<u>Towing Bracket:</u> • Steel Plate, Weld Construction, Integrated with the Fairlead. • Working Load : 2000 KN. • Min. Breaking Load : 4000 KN.
MESSENGER LINE	• Nylon Rope Dia. 40mm x 100M. • Min. Breaking Load : 30 Tons.	• Nylon Rope Dia. 44mm x 100M. • Min. Breaking Load : 36 Tons.
WITHDRAWAL LINE	• Wire Rope Dia. 12mm x 90M, 6 x 37 Galvanized.	• Wire Rope Dia. 16mm x110M, 6 x 37 Galvanized.
PICK-UP LINE	• P.P. Rope Dia. 20mm x 30M.	• P.P. Rope DIA. 20mm x 30M.
BUOY 	• Dia. 485mm x 765mm with one Self-Igniting Light.	• Dia. 485mm x 765mm with one Self-Igniting Light.
CONTAINER 	<u>For Pick-up Gear</u> • Contains the Pick-up Gear. • Dimension: 1M x 0.7M x 1M.	<u>For Pick-up Gear</u> • Contains the Pick-up Gear. • Dimension: 1M x 0.75M x 1M.
** PEDESTAL ROLLER 	• Dia. 300mm, with Conical Base.	• Dia. 350mm, with Conical Base.
<u>Remark:</u> 1) with Class Approval and Certificate. 2) The Pick Up Gear and Buoys have to be manually deployed from one of the crew member.		

** Optional.