NIPPON KAIJI KYOKAI

TYPE APPROVAL CERTIFICATE

Certificate No. TA19087M

This is to certify that the undernoted products have been approved in accordance with the requirements 12.3.4, Chapt.12, Part D of "Rules for the Survey and Construction of Steel Ships" and Chapt.2, Part 6 "Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use".

This certificate is issued to

Manufacturer :	**TOFLE CO., INC., JAPAN**
Product description :	**FLEXIBLE TUBE**
Type designation(s) :	**TF-10000**
Approval No. :	**14FV206B**
Valid until :	**12 February 2024**

This certificate is subject to the conditions specified in the attached sheet(s).

Issued at Tokyo on 25 September 2019.

T. Shimada
General Manager
Machinery Department

· Particulars and conditions :

Nominal diameter (A) :   65A, 80A, 100A, 125A, 150A

Design pressure (MPa) :   65A:1.57MPa, 80A:1.13MPa, 100A:1.34MPa,

125A:1.38MPa, 150A:1.05MPa

Kind of fluid :   Fuel oil, Lubricating oil, Hydraulic oil, Thermal oil,

Steam, Fresh water, Sea water, Compressed air, Exhaust gas

· Material :

Tube :   SUS 304, SUS316L

Braid :   SUS304

Ring :   SUS304

· Type approval tests carried out :

Pressure test, Burst test, Fatigue test, Bend test, Leakage test

· Documents :

Drawing No. : MWH805727-B, MWH807614-A, MWH807615-A

· Installation requirements :

Installation of flexible hose assemblies are to comply with requirements 12.3.4, Chap.12, Part D of the Rules.

· Production test :

The hoses used for piping belonging to Group I & II defined by the requirements12.1.3, Chap.12, Part D of the Rules are to be subjected to hydraulic test in the presence of the Society's surveyor in accordance with the requirements 12.6.1, Chapt.12, Part D of the Rules.

· Approved manufacturers and address :

TOFLE OMEGA FLEX CO., INC.

886-1, Aza-Shiragami, Kawakami, Hagi-city, Yamaguchi-pref., JAPAN

MITSUWA · WELDTECH CO., INC.

1-17-3, Yokoe, Ibaraki-city, Osaka-pref., JAPAN

· Notice

Any significant changes in design or construction of the above items may render this certificate invalid.

- The End -