

Test Certificate

Certificate No.: 16-000903
Page 1 of 2

General Data Shandong Nanhai Airbag Engineering Co., Ltd.
Manufacturer

Qingdao and Zhangqiu
Place of test

2015-09-23
Date of test

Item and Test This test certificate was issued according to ISO 17357-1:2014 "Ships and Marine Technology – Floating Pneumatic Rubber Fenders – Part 1"

Fender Size: 300 mm Dia. * 500 mm Length ~
4500 mm Dia. * 12000 mm Length

Fender Types: Type I —Net-type

Type I Single—Net-type and one end with no flange
opening and no metal parts

Type II —Sling-type

The following test items were performed using Prototype fender.

- 1) Performance test of parallel compression
- 2) Angular compression test
- 3) Durability test
- 4) Compression-recovery test
- 5) Puncture-resistance test

The following test items were performed using Commercial fender.

- 1) Material test of rubber
- 2) Dimensional inspection
- 3) Air-leakage test
- 4) Hydrostatic-pressure test
- 5) Confirmation of synthetic-type-cord

Remarks The size of test samples for prototype fender: 1000 mm Dia.* 1500 mm Length,
300 mm Dia * 500 mm Length.
The size of test samples for commercial fender: 1000 mm Dia * 1500 mm Length, 3300
mm Dia.* 6500 mm Length.

In view of the satisfactory test results, the fenders have been found to comply with the technical requirement of the ISO 17357-1:2014 " Ships and marine technology – Floating pneumatic rubber fenders - Part 1: High Pressure"

Additional Statements

Approval Basis:
Test Reprot No. NHQN2016020101-F issued by Shandong Nanhai Airgag Engineered Co., Ltd and test witness by DNVGL.
Parallel/Angular Compression test reports issued by TQDC and test witness by DNVGL.
Ozone Aging and Compression Set Test Reprot No. TJIN1512014399PS issued by SGS.
Puncture Resistance Test Report No. TJIN1510011315PS-01 issued by SGS.

Intended for

NA
Continue intended for
NA
Customer order no.
NA
Continue customer order no.
NA
Manufacturer / Supplier order no.

Empty rectangular box for stamping.

Stamping

We hereby certify that the item(s) described above was (were) tested in accordance with the mentioned test procedure(s) by our Surveyor / DNV GL Representative.

Shanghai/2016-02-01
Place / Date



Mr. Wenming Zhu
Name and Signature of DNV GL Representative

Handwritten signature of Mr. Wenming Zhu in blue ink.