

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Water ration**

with type designation(s)
DY-100

Issued to

Shanghai Dongyuan Fresh Water Co., Ltd.
Shanghai, China

is found to comply with

SOLAS Ch. III, Regulation 4 and 34, IMO Res. MSC.48(66), Life-saving appliances Code, Chapter IV, paragraph 4.1.5.1.19 and 4.4.8.9

Application :**Water ration**

This Certificate is valid until **2020-11-02**.

Issued at **Høvik** on **2015-11-03**

DNV GL local station: **Shanghai CMC**

for **DNV GL**

Approval Engineer: **Tessa Biever**

Petter Langnes
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

The water ration named Dong Yuan (DY)-100 emergency drinking water is the standard emergency water ration for use in lifeboats and liferafts. Each sealed watertight metallic flexible packing contains 10 sachets of 50 ml. The sachets are made of 15 micron biaxial oriented polyamide-6 film, two components adhesive and 75 micron low density polyethylene.

The packing material of the outer sachet consists of 15 micron polyester, 7 micron Al-foil, 15 micron biaxial oriented polyamide and 7.3 micron polyethylene.

The sachets are easy to open, also with immersion suit gloved hands.

The lifetime for the water is 5 years. The water ration shall be replaced not later than five years from the date of production or according to local regulations.

Type Examination documentation

Certification in accordance with Standard for Certification No. 1.2, Type Approval, January 2013.

Basis for examination:

- Test report no. BZHNJQ9Z06415720a (11 pages), prototype testing in accordance with ISO 18813:2006 §4.31.2, PONY Testing International Group dated 2015-06-09/15
- Test report no. BZHU2D6Z10003720a (6 pages), prototype testing in accordance with ISO 18813:2006 §4.31.2, PONY Testing International Group dated 2015-08-14/16
- Test report no. 111102049705D-1b (5 pages), chemical analysis of water quality, PONY Testing International Group dated 2015-05-19
- Pictures – package opening by immersion suit gloved hands (ref. LSA Code 4.1.5.1.19)
- Asbestos free test report no. NLSH1311041478601 dated 2013-11-12.

Tests carried out

Tests have been carried out according to ISO 18813:2006 §4.31.2.

Marking of product

The product is to be indelibly marked with the name of the manufacturer, type designation, production lot number, the quantity of water in the container, date of manufacture and expiry date and instructions for consumption. Markings shall comply with the LSA Code (Res. MSC 48(66)) item 1.2.2.9, LSA Code 4.1.5.1.19 and ISO 18813:2006 § 4.46.4.

Periodical assessment

DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Standard for certification No. 1.2 Type Approval Item 4.