
MARINE DIVISION
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Certificate N°:
14050/A0 BV
The attached Schedule forms part of the certificate
File Number : ACM 135/2631/01
Product Code : 2090I



CERTIFICATE OF TYPE APPROVAL

This is to certify that the product identified below was found to be in compliance with the relevant hereunder stated Regulations & standards

THERMOSETTING MATERIAL PIPES AND FITTINGS

Green Thread 175, 175C
Green Thread 250, 250C, 250F

MANUFACTURED BY:

Harbin Star Fiberglass Systems
Harbin - CHINA

SPECIFIED REGULATIONS & STANDARDS :

- BUREAU VERITAS Rules for the Classification of Steel Ships and Offshore Units
- IMO Resolution A.753(18)

The Approval is valid until : 16/11/2009

BUREAU VERITAS SHANGHAI

At Paris la Défense, on : 16/11/2004

J.BENOIT
For the Secretary

This Certificate remains valid until the date stated on, hereunder, unless cancelled or revoked, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory into service.
This Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested.
This Certificate is not valid without the stamp of the above mentioned by BUREAU VERITAS Inspection Center.
The manufacturer should notify BUREAU VERITAS of any modification or changes to the equipment in order to obtain a valid Certificate.
The latest published Regulations or Standards referred to, above, and the Marine Division General Conditions are applicable.



THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Green Thread® 175, 175C and Green Thread® 250, 250C, 250F

1.1 Design

Pipes and fittings are manufactured as either non-conductive (175, 250, 250F) or electrically conductive (175C, 250C) versions.

1.2 Rating

Model	Nominal pipe size	Maxi. working pressure	Maxi. working temperature
Green Thread 175, 175C	2" - 24"	175 psig (12 bar)	+ 100°C
Green Thread 250, 250C	2" - 24"	250 psig (18 bar)	+ 100°C
Green Thread 250F	1" - 12"	250 psig (18 bar)	+ 100°C

Pipe wall electrical resistance <math> < 10^6 </math> ohm @ 1500 volt

1.3 Joints

Model	Nominal pipe size	Type	Fittings
Green Thread 175, 175C	2" - 24"	Socket	Elbow, tee, reducing tee, concentric reducer, eccentric reducer, flange, saddle, coupling ¹
	14" - 24"	Taper	
Green Thread 250, 250C	2" - 6"	Socket	
	8" - 24"	Taper	
Green Thread 250F	1" - 6"	Socket	
	8" - 12"	Taper	

Note 1 - The coupling is to be type approved

6. APPLICATION / LIMITATION OF USE

6.1 Green Thread pipes and fittings are approved for use in locations and applications requiring level L3 or lower in accordance with IMO resolution A.753(18) and defined by its appendix 4. These intended applications may be:

- Cargo (flammable cargoes f.p. <math> < 60^{\circ}\text{C}</math>), inert gas, flammable liquids f.p. >math> > 60^{\circ}\text{C}</math>, sea water, fresh water, sanitary/drains/scuppers, sounding/air, miscellaneous

6.2 The products (conductive) can be installed in areas that need conductive application (cargo tanks) and in fire areas (i.e. pump rooms).

8. ON BOARD INSTALLATION & MAINTENANCE REQUIREMENTS

8.1 Detailed drawings of each system are to be submitted for review of compliance with the Bureau Veritas Rules and the applicable regulations.

8.2 The pipes and fittings assembly is to be carried out in accordance with the manufacturer's instructions and the person performing these tasks is to be qualified to the satisfaction of the Society Surveyor.

8.3 After completion of the installation a test of conductivity is to be carried out. Earthing wires should be accessible for inspection.

9. MARKING FOR IDENTIFICATION

Pipes and fittings shall be marked with at least:

- Manufacturer's name or trade name
- Type and size of the product
- Design standard
- Production date

The permanent label for pipe product shall remain legible under normal handling and installation practices.

10. OTHERS

This approval is given with the understanding that the manufacturer will accept full responsibility for informing shipbuilders or their sub-contractors of the proper method of fitting and general maintenance of the products and of the conditions of this approval.