International Convention on the Control of Harmful Anti-Fouling Systems for Ships

(AFS Convention, 2001)

AFS Convention, 2001: Objective

- To ban marine paints applied on ships’ hull containing compounds which are harmful to marine environment.
  - Harmful compounds are subjected to control measures in Annex 1.
  - They are known as “controlled” compounds.
  - Today, the only compound is the organotin compounds acting as active biocides in anti-fouling systems (TBT, organotin tributyltin).

AFS Convention, 2001: Summary

- Adopted at the AFS Conference held from 1st to 5th October 2001.
  - AFS/CONF/26
- Enter into force 12 months after ratification by at least 25 States representing 25% of world fleet gross tonnage.
- Finally entered into force on 17 September 2008.
- Application: to all ships.
- Annex 1: Controls on Anti-Fouling Systems
  - AFS containing organotin compounds shall not be applied or re-applied after 1st January 2003.
  - AFS containing organotin compounds to be removed from ships’ hull or application of sealer coat, not later than 1st January 2008.
- Annex 4: Surveys and Certification Requirements
References:

► Article 10 of the Convention
  
  Text: A Party shall ensure that ships entitled to fly its flag or operating under its authority are surveyed and certified in accordance with the regulations in Annex 4.

► Annex 4 to the Convention
  
  Title: Surveys and Certification Requirements for Anti-Fouling Systems

► Resolution MEPC.102(48) of 11 October 2002
  
  Title: Guidelines for Survey and Certification of Anti-Fouling Systems on Ships
  
  Replaced by Resolution MEPC.195(61) of 1 October 2010

► Regulation 1 of Annex 4:
  
  What: Ships ≥ 400 GRT
  
  When:
  - New building
  - Existing ships – First AFS Certificate
  - Change or replacement of anti-fouling systems

  Who:
  - Authorised officers of the Administration
  - Surveyors nominated by the Administration
  - Recognised Organisation (RO)
  - Authorised officers of another Party

► Regulation 2 of Annex 4:
  
  Issuance/Endorsement of an International AFS Certificate

► Regulation 3 of Annex 4:
  
  Issuance/Endorsement of an International AFS Certificate by another Party

► Regulation 4 of Annex 4: Validity of the Certificate
  
  Up to replacement of AFS
  
  Up to change of flag

► Regulation 5 of Annex 5: Declaration by Owner
  
  For ships < 400 GRT and ≥ 24 m
AFS Convention, 2001: Certificates

Regulation (EC) No 782/2003

of 14 April 2003
don the Prohibition of Organotin Compounds on Ships

Regulation (EC) No 782/2003: Objective

► To implement the provisions of the AFS Convention before its worldwide application
Regulation (EC) No 782/2003 : Summary

➤ Entry into force : 1 July 2003.
➤ Application :
   - Ships flying the flag of a Member State
   - Ships operating under the authority of a Member State (i.e. ships owned by a Company based in a Member State)
   - Ships, whatever are their flags, sailing to or from ports of the Member States.
➤ Annex 1 : Survey and certification requirements.
➤ Annex 2 : Forms of the certificate and record for anti-fouling systems
➤ Annex 3 : Declaration on AFS for ships < 400 GRT and ≥ 24 m.

Regulation (EC) No 782/2003 : Surveys and Certification

References :
➤ Article 6 of the Regulation
➤ Annex 1 of the Regulation
➤ Resolution MEPC.102(48) of 11 October 2002

Process
➤ Same as the AFS Convention.

AFS Surveys and Certification

Practice
AFS Surveys and Certification: Survey Types

- Initial surveys
  - New buildings
  - Existing ships for the first issuance of AFS Certificate

- Other surveys
  - When change or replacement of AFS
  - When repairs affecting 25% or more of the AFS

AFS Surveys and Certification: New buildings

3 steps:
1. Request for survey (RFS)
2. Survey / Verification
   - Production identification on AFS recipient vs AFS as per RFS.
   - Sampling of the AFS.
   - Testing of the AFS.
   - Other checks on site.
3. Certification
   - International AFS Certificate to ships whose flag is a party of the AFS Convention.
   - State of Compliance to ships whose flag is not a party of the AFS Convention.

New buildings: Request for Survey
AFS Initial Survey: Existing Ships

3 steps:
1. Request for survey (RFS)
2. Survey / Verification
3. Certification

2 cases
1. The existing AFS is compliant.
2. The existing AFS is not compliant.

AFS Initial Survey: Existing Ships

Existing AFS

Y Compliance ?

N

Verification of new AFS

Reliable Doc
Sampling
Test

IAFS Cert / SoC

Verification of new AFS

Sampling
Reliable Doc
Test

IAFS Cert / SoC

IAFS Survey: Replacement of AFS

Ship holds an IAFS Cert ?

Y

N

Existing AFS compliant

Verification of new AFS

Reliable Doc
Sampling
Test

IAFS Cert / SoC

Endorsement of Records

Initial survey of Existing ship
AFS Survey: Replacement of AFS

AFS Surveys and Certification: Particular Cases

Change of Flag
- Issuance of new AFS Certificate / SoC

Change of RO

AFS Surveys and Certification

<table>
<thead>
<tr>
<th>Countries having ratified the AFS Convention</th>
<th>Countries which have not ratified the AFS Convention</th>
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<tbody>
<tr>
<td>European member States</td>
<td>IAFS Certificate unless otherwise specified by the Flag</td>
</tr>
<tr>
<td>Other States</td>
<td>IAFS Certificate</td>
</tr>
</tbody>
</table>
Applicable regulation:

- IMO MEPC.102(48) Guidelines for Survey and Certification of Anti-fouling Systems on Ships
- Appendix – Guidance for compliant anti-fouling systems

Text: For the purpose of compliance with Annex I of the Convention, small quantities of organotin compounds acting as a chemical catalyst (such as mono- and di-substituted organotin compounds) are allowed, provided that they are present at a level which does not provide a biocidal effect to the coating. On a practical level, when used as catalyst, an organotin compound should not be present above 2500 mg total tin per kg of dry paint.

Documentation to be submitted by the manufacturer:

- Product Technical Data Sheets (TDS) including trade name and identification number of the AFS.
- Material Safety Data Sheets (MSDS) including the list of active ingredients and their Chemical Abstract Service register number (CAS number).
- The list of manufacturer’s names and address of manufacturing sites.
- Type test report consisting in total tin or organotin content analysis of the anti-fouling paint system.
AFS Surveys and Certification: Approval of AFS

1. Test report example
   - Dried paint analyzed for total tin content
   - Using Inductively Coupled Plasma (ICP)

AFS Surveys and Certification: Approval of AFS

- Coating manufacturer Documentation compiled
- Approval request
- BVN Local office Review of documentation
- MEPC.102(48)

AFS Surveys and Certification: Approval of AFS