Guideline No.L-07 (201610)

L-07 Pyrotechnic Signal

Issued date: October 28, 2016

Foreword

This Guideline is a part of CCS Rules, which contains technical requirements, inspection and testing criteria related to classification and statutory survey of marine products.

This Guideline is published and updated by CCS and can be found through http://www.ccs.org.cn. Comments or suggestions can be sent by email to ps@ccs.org.cn.

Historical versions and release date: L-07(201510)　October 20, 2015

Main changes and effective date:

1.Add MSC.323（89）Amendments to MCS.81(70) Revised Recommendation on Testing of Life-saving Appliances to the Basis for approval and inspection.

2.Add MSC.323（89）11 to the Regulations 6 in the table 6.2 about Floating smoke signal.

Contents

Pyrotechnic Signal

1 Application

1.1 The Guideline applies to the following types of pyrotechnic signals: Rocket parachute flare signal, handheld flare signal, and floating smoke signal.

1.2 It can be used as reference for other pyrotechnic signals.

2 Basis for approval and inspection

The approval and inspection bases adopted by the Guideline are as follows:

(1) The International Convention for the Safety of Life at sea 1974 ,as amended.

(2) Chapters I, II, and III of MSC.48（66）International Life-saving Appliance Code.

(3) MSC.81(70) Revised Recommendation on Testing of Life-saving Appliances

(4) MSC.218（82）Amendment to the International Life-saving Appliance Code

(5) MSC.226（82）Amendments to MCS.81(70) Revised Recommendation on Testing of Life-saving Appliances

(6) MSC.323（89）Amendments to MCS.81(70) Revised Recommendation on Testing of Life-saving Appliances

3 Terms and definitions

3.1 Pyrotechnic signal: The joint name of the chemical and physical phenomenon (such as the sound, flame or smoke) generated after the chemical compounds (for example, the gunpowder) have been ignited that act as the communication signal for recognition.

4 Plans and documents

4.1 The applicant should submit the following plans and documents to CCS for approval when applying for CCS type approval:

(1) List of main performances and specifications (including models and specifications);

(2) General assembly plan and main component diagram;

(3) Product type test program;

(4) Technical conditions for inspection and delivery.

4.2 The applicant should submit the following plans and documents to CCS for information when

applying for CCS type approval:

(1) Particulars of manufacturer: Manufacturer history and present status, relevant product manufacturing history and operation status, name, usage, specification and capacity of main production and inspection equipment, technical and inspection personnel, and product brand (in Both Chinese and English);

(2) Details of products applied for approval: Including the product name, specification and model;

(3) Main raw material description: Including the name, model/specification, acceptance method and source;

(4) Main production process: The production process flow chart indicating the inspection/test control point;

(5) Quality management document.

5 Technical requirement

The product should meet relevant requirements of Article 2 of the Guideline.

6 Type test

6.1 Selection of typical sample

At least 3 samples of each type of the pyrotechnic signal applied by the applicant for approval should be used for type test specified in Table 6.2.1. All such 3 samples must pass each individual test.

6.2 Type approval test item and requirement

See Table 6.2 for the items and requirements of the pyrotechnic signal type approval test:

List of pyrotechnic signal type test items **Table 6.2**

No.	Test items	Test method and requirement
1	Safety inspection	MCS.81 (70)4.5; MSC.218 (82) 2
2	Temperature test	Rocket parachute flare signal and handheld flare signal: MCS.81 (70)4.2; MSC.226 (82) 10

Table 6.2 (continued)

No.	Test items	Test method and requirement
2	Temperature test	Floating smoke signal: MCS.81 (70)1.9.2 MCS.81 (70)4.8.1
3	Waterproofing test	MCS.81 (70)4.3;
4	Anti-corrosion test	MCS.81 (70)4.3;
5	Operation safety test	MCS.81 (70)4.4
6	Signal release test	Rocket parachute flare signal: LSA 3.1;MCS.81 (70) 4.6; MSC.226 (82) 11 Handheld flare signal: LSA 3.2;MCS.81 (70) 4.7; MSC.226 (82) 12 Floating smoke signal: LSA 3.3;MCS.81 (70) 4.8; MSC.226 (82) 13；MSC.323 (89) 11

7 Unit/batch inspection

7.1 After type test approval, the unit/batch inspection on the pyrotechnic signal product should be carried out as per the requirements of Table 7.1.

7.2 After the unit/batch inspection, CCS product certificate or equivalent document can be issued for the qualified product.

List of pyrotechnic signal factory test items **Table 7.1**

No.	Test items	Test method and requirement
1	Safety inspection	MCS.81 (70)4.5; MSC.218 (82) 2
2	Waterproofing test	MCS.81 (70)4.3;
3	Operation safety test	MCS.81 (70)4.4
4	Signal release test	Rocket parachute flare signal: LSA 3.1; MCS.81 (70) 4.6;

Table 7.1(continued)

No.	Test items	Test method and requirement
4	Signal release test	Handheld flare signal: LSA 3.2; MCS.81 (70) 4.7; Floating smoke signal: LSA 3.3; MCS.81 (70) 4.8;