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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 24951-2010

Ships and marine technology -- Marine radar reflectors

船舶和海上技术 船用雷达反射器

(English Translation)

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Foreword

This standard is identical with ISO 8729:1997 "Ships and marine technology - Marine radar reflectors" (in English).

This standard is equivalent translation ISO 8729:1997.

The ISO 8729 standard with respect to editorial changes made the following.

- Preface and introduction are not included;
- "This International Standard" is, to "present standard" in this standard;
- Reference standard in accordance with national standards for the corresponding adjustment;
- Identification decimal "and" to ".";
- Of expression in accordance with the provisions of GB/T 1.1-2000 made editorial changes.

Appendix A of this standard is a normative appendix.

The standard proposed by China State Shipbuilding Corporation.

This standard by the National Standardization Technical Committee boat ocean nautical instruments Technical Committee (SAC/TC12/SC5) centralized.

This standard was drafted. Technical and Economic Research Institute of China Shipbuilding Industry.

1 Scope

This standard specifies the accord IMO A.384 (X) requires resolutions intended to enhance the radar reflector small ship radar echo lowest Claim.

This standard applies to the technical requirements of the radar reflector structure, performance, installation, testing and inspection.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent all amendments (not including errata content) or revisions do not apply to this standard, however, encourage an agreement in accordance with this standard Whether the parties can study the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 15868-1995 Global Maritime Distress and Safety System (GMDSS) offshore marine radio equipment and navigational equipment - General Required test results, test methods and requirements (idt IEC 60945:1994) IMO A.384 (X) resolution radar reflector performance standards

3 Definitions

The following terms and definitions apply to this standard.

Radar reflector to enhance passive means of radar echoes small targets designed.

Echo area σ the size is in a predetermined direction per unit solid angle of the scattered power to the incident from a predetermined direction to the scattering body per unit area 4π times the ratio of the power plane wave.

Note: The echo area depending on the operating frequency of the radar reflector and a three-dimensional orientation. The transmitter and the echo of the effective influence of the reflected polarization echo area.

In the case of free-space propagation, echo area σ (m^2) can be calculated by the following formula.

$\sigma =$

$(4\pi) \frac{S}{P} \times R^4$

$P \times G^2 \times \lambda^2$

Where.

S --- reception power value in watts (W);

R --- numerical distance between the radar and the target in meters (m);

P --- emission values of peak power in watts (W);

--- The G values of the antenna gain;

Numerical λ --- wavelength in meters (m).

Horizontal polar directivity pattern azimuthal polar diagram Reflector echo area and around

its vertical axis azimuth relationship between polar plots.