

MARINE COATINGS

Compliance with the
International Marine Regulations



Under IMO, ABS, Solas, Marpol,
MarED, ISO, PSPC, Navsea and
IACS Regulations

International Marine Regulators

The Organizations below are responsible for the management and control of the international marine regulations for the Marine coatings industry.



International maritime organization (IMO): Specialize agency of the United nations Responsible for measures to improve the safety and security of international shipping and to prevent maritime pollution from ships. Group of 167 countries that sign treaties regarding building, operation and maintenance of sea-going vessels.



America bureau of shipping (ABS): member of the international association of classification societies (IACS). It's the third largest classification society in the world based on gross tonnage, ABS currently leads the market on new building orders. Its classed fleet comprises more than 11,000 vessels of various types, aggregating in excess of 175m gross tons.



International Organization for Standardization (ISO): responsible for the ISO 9000, ISO 14000, ISO 27000, ISO 22000 and other international management standards. There is a great deal of similarity between the SSPC, BS(British Standard) and ISO cleaning standards. ISO 9501-1-1998: St, Sa, F1. and marine standards: Sa3, Sa2 ½, Sa2, St3, St2.



International Convention for the Safety of Life at Sea (SOLAS): The main objective is to specify minimum standards for the construction, equipment and operation of ships, compatible with their safety. Flag States are responsible for ensuring that ships under their flag comply with its requirements.



International association of classification societies (IACS): Dedicated to safe ships and clean seas, IACS makes a unique contribution to maritime safety and regulation through technical support, compliance verification and research and development. IACS consists of 13 member societies.



The Society for Protective Coatings (SSPC): The Society for Protective Coatings was founded in 1950 as the Steel Structures Painting Council, a non-profit professional society concerned with the use of coatings to protect industrial steel structures. In 1997, the name of the association was changed to The Society for Protective Coatings



Naval Sea system Command (NAVSEA): is comprised of command staff, headquarters directorates, affiliated Program Executive Offices (PEOs) and numerous field activities. Together, we engineer, build, buy and maintain ships, submarines and combat systems that meet the Fleet's current and future operational requirements.



The **Lloyd's Register Group** is a maritime classification society and independent risk management organization providing risk assessment and mitigation services and management systems certification..



Swedish Standards Institute (SIS): is a member-based, non-profit association specialized in national and international standards. The market leader in standards in Sweden, SIS is recognized for its professionalism, expertise and openness in relation to customers, employees, suppliers and partners



NACE International (NACE): is involved in every industry and area of corrosion prevention and control, from chemical processing and water systems, to transportation and infrastructure protection. NACE's main focus of activities includes cathodic protection, coatings for industry and material selection for specific chemical resistance.

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**With a passion for performance,
compliance of the Regulations and a well
trained technical support staff, we deliver
advanced marine coatings technologies
that keep the global shipping fleet
protected for a lifetime at sea**

GSPC heavy Industrial & Marine Coatings

GSPC Heavy Industrial & Marine Coatings



Advanced Technology

GSPC is the advanced technology, part of Anticorrosivos y Acabados AYA - Pinturas AYA, one of the leading Industrial & Marine Coatings Companies, and one of the Region largest Performance Coatings Manufacturer. Our Marine Coatings products lines are engineered to deliver proven performance in service whilst representing value for money. Environmental responsibility is a major feature of our Marine Coatings offer; particularly in terms of new product introductions and ongoing global research programmers. We are one of the technology leaders in IMO compliance Antifouling, Abrasion resistant coatings, IMO compliance Ballast tank coatings and advanced technology of foul release coatings for ships being built, repaired or maintained, following the ABS guide for the class notation in Coatings performance standards (CPS). With several manufacturing plants, sales operations in 10 countries and over 500 pick up points, we are one of the most reliable Marine Coatings supplier in the Region.

Leagues ahead on compliance

We have established a dedicated team of IMO PSPC Experts to guide the customers through the IMO PSPC regulations. As a Marine Coatings Manufacturer, we have compliance to the Lloyds Register IMO PSPC Type Approval Certification ('TAC') for water ballast tanks, proven to remain in "good" condition for 15 years, we are well placed to guide you through IMO PSPC for crude oil tanks.

We continue to work hard with independent test houses to make sure our coating systems receive 'Type Approval Certification' - helping you to comply. Not only are we working for complete IMO compliance internally, but we continue to work with industry bodies (such as class societies, paint associations, ship owner associations and shipyard associations) in a number of external fora to offer advice and comment for the good of the industry.



Approved product development and manufacturing facilities

All our manufacturing sites, have compliance to class societies (who are members of the International Association of Classification Societies which is a prerequisite of IACS before they can issue a TAC. We don't stop there – We have manufacturing facilities ISO 9001 accredited, covering product development as well as manufacturing quality.

International Marine Regulations and Regulators



ISO Standards

- There is a great deal of similarity between the SSPC, BS (British Standard), and ISO cleaning Standards.
- Specifiers should be aware of the exact meaning of the standards use due to slight differences in working.

ISO 9501-1-1988 is derived from Swedish SIS 0559900. It is broken down into three grades:

- St**: Scraping and wire-brushing by mechanical and manual methods
- Sa**: Blast cleaning
- F1**: Flame cleaning (Not used in marine)

Typical ISO standard used in the Marine Industry

- **Sa3**: Blast Cleaning to pure metal
- **Sa2 ½** : Blast cleaning with at least 95% of the surface free of any residues
- Sa2**: Blast cleaning with at least 2/3 of the surface free of any residue
- **St3**: Very thorough scraping and wire brushing , machine brushing, grinding
- **St2**: Thorough scraping and wire brushing, grinding, etc.



International maritime Organization (IMO)

Specialized agency of the United nations Responsible for stipulating measurements to improve the safety and security of international shipping and to prevent maritime pollution from ships. A Group of 167 countries that sign treaties regarding building, operation and maintenance of sea-going vessels.

Safety of the Life at Sea (SOLAS)

The international Convention for the Safety of Life at Sea. A part of IMO, directly involved with marine coatings as part of their mission to specify minimum standards for safety.

SOLAS Coating Rules

Prevention of corrosion in structural members and tanks to reduce ship failure and avoid loss of life and spillage of cargo.

Fire and smoke rating for interior coatings in living spaces.

Other IMO Coatings-Related conventions

Not use of Ban of tributyl Tin (TBT) effective in 2008 on AFS (Anti Fouling System)

Performance Standards for Dedicated Seawater Ballast Tanks in all types of Bulk Carriers as adopted in December 2006



Non slip Deck Coatings on a cruise ship improve the safety on board. Always remember to use IMO compliance coatings



International Marine Regulations and Regulators



Performance Standards for Protective Coatings (PSPC)

Dedicated seawater ballast tanks in all types of ships (500 gt+) and double sided skin spaces of Bulk Carriers (150 m+)

New Building and maintenance coatings projects.

PSPC Coatings Technical File

Specification of the coatings system applied to the dedicated seawater ballast tanks and double sided skin spaces.

Record of the shipyard's and ship owner's coatings work.

Detailed criteria for coatings selection, job specification, inspection, maintenance and repair.

PSPC Basic coatings System Requirements

Table 1 of the Basic coatings system requirements for cargo oil tanks of crude oil tankers and void spaces in bulk carriers and oil tankers .

This is a complete coatings specification



PSPC Coatings System Approval

Two tests are required:

- 1.- Simulated ballast tank conditions (time frame 180 days)
- 2.- Condensation chamber (on and after 180 days)

Results are documented and a statement of compliance or type approval certificate is issued if found satisfactory.

IMO PSPC Coatings Inspection Requirement

Inspection points and log book requirements (Annex 1 in section 6.2 inspection items)

Quality coatings inspectors Compliance to NACE coatings inspector level 2, FROSIO inspector level III, or equivalent as verified by the IMO Administration.

Port State Control

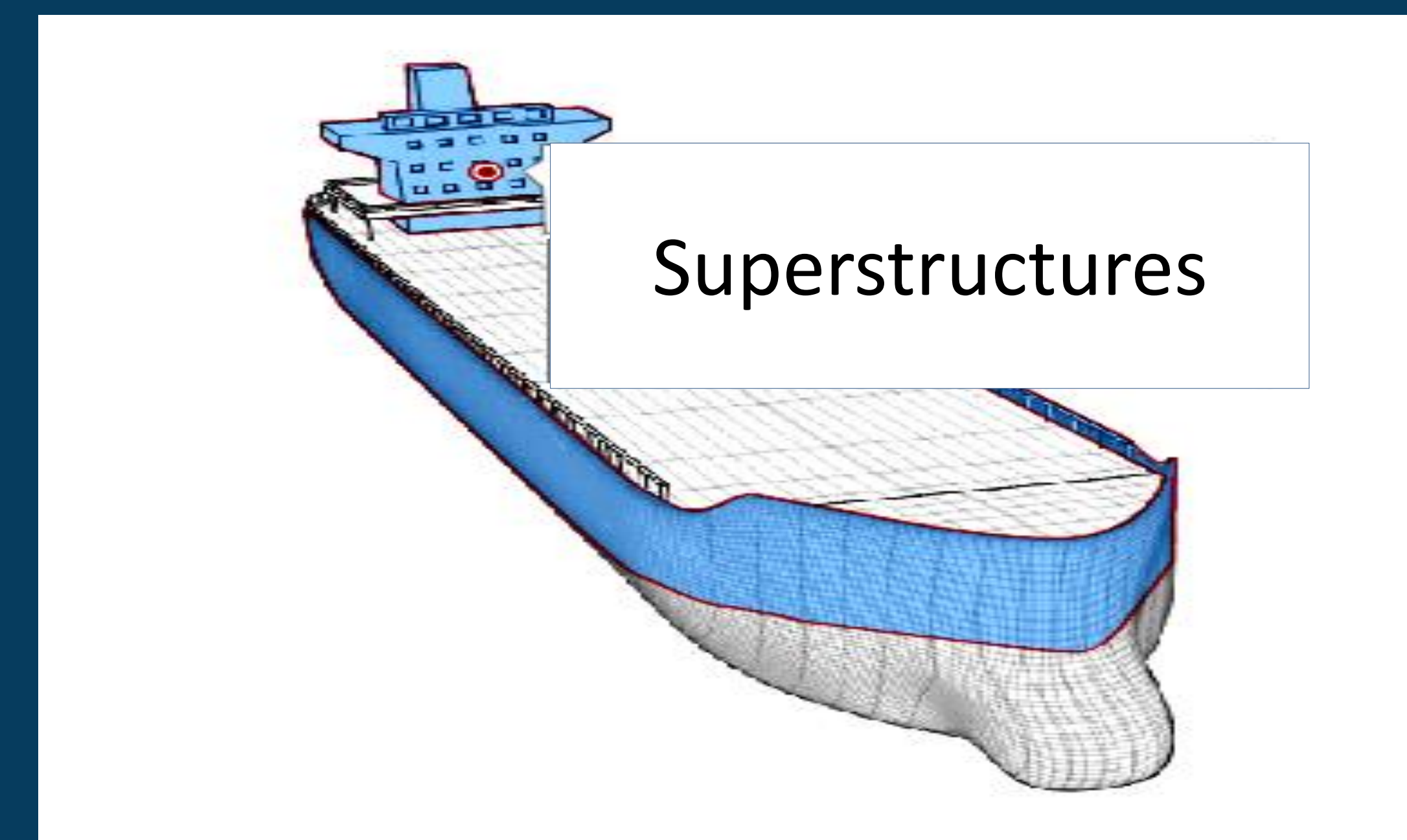
Allows any member country to board and inspect any vessel entering that country

Vessel not in compliance with IMO regulations can be held up in the port state until brought into compliance.



Freeboard and External Superstructures

Superstructures from Boot top to rail, bulwarks, Houses, equipment and appurtenances, etc



System Reference	Area	Coatings System	Surface Preparation	Specify Dry Film Thickness	
SS-1	Freeboard and external Superstructures (Boot top to rail, bulwarks, Houses, equipment and appurtenances, etc.	Ayapoxi 83 TL – Surface Tolerant Epoxy	SSPC-SP10 Sa 2 ½	100 – 150 mic	4 – 6 mils
		Ayapoxi 83 TL – Surface Tolerant Epoxy and either:		100 – 150 mic	4 – 6 mils
		Ayapoxi 45 EA – Acrylic Epoxy Coating or:		50 – 75 mic	2– 3 mils
		Ayakron 66 HS – Aliphatic Polyurethane or:		50 – 75 mic	2– 3 mils
SS-2		Ayasilox 55 PX – Acrylic Polisiloxane	SSPC-SP10 Sa 2 ½	50 – 75 mic	2– 3 mils
		Ayapoxi 70 – High Performance Epoxy		250 – 375 mic	10 - 15 mils
		Ayapoxi 70 – High Performance Epoxy and either:		125 – 150 mic	5 – 6 mils
		Ayapoxi 45 EA – Acrylic Epoxy Coating or:		125 – 150 mic	5 – 6 mils
SS-3		Ayakron 66 HS – Aliphatic Polyurethane	SSPC-SP10 Sa 2 ½	50 – 75 mic	2– 3 mils
		Ayapoxi 68 – High Technology Epoxy		50 – 75 mic	2– 3 mils
	Ayapoxi 68 – High Technology Epoxy and either:	250 – 325 mic		10 - 13 mils	
	Ayapoxi 45 EA – Acrylic Epoxy Coating or:	125 – 150 mic		5 – 6 mils	
SS-4	Ayakron 66 HS – Aliphatic Polyurethane	SSPC-SP10 Sa 2 ½	125 – 150 mic	5 – 6 mils	
	Ayazinc 70 Z– Zinc Rich Epoxy Primer		50 – 75 mic	2– 3 mils	
	Ayapoxi 83 TL – Surface Tolerant Epoxy		75 – 100 mic	3 –4 mils	
	Ayasilox 90 PX – Epoxy Polisiloxane		Stripe	Stripe	
SS-5			SSPC-SP10 Sa 2 ½	125 - 150 mic	5 – 6 mils
				200 – 250 mic	8 - 10 mils
				100 – 150 mic	4 – 6 mils
				225 – 300 mic	9 - 12 mils

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THIS DOCUMENT TO BE RETAINED FOR LEGAL PURPOSES

ENVIRONMENTAL COMPLIANCE DECLARATION OF CONFORMITY

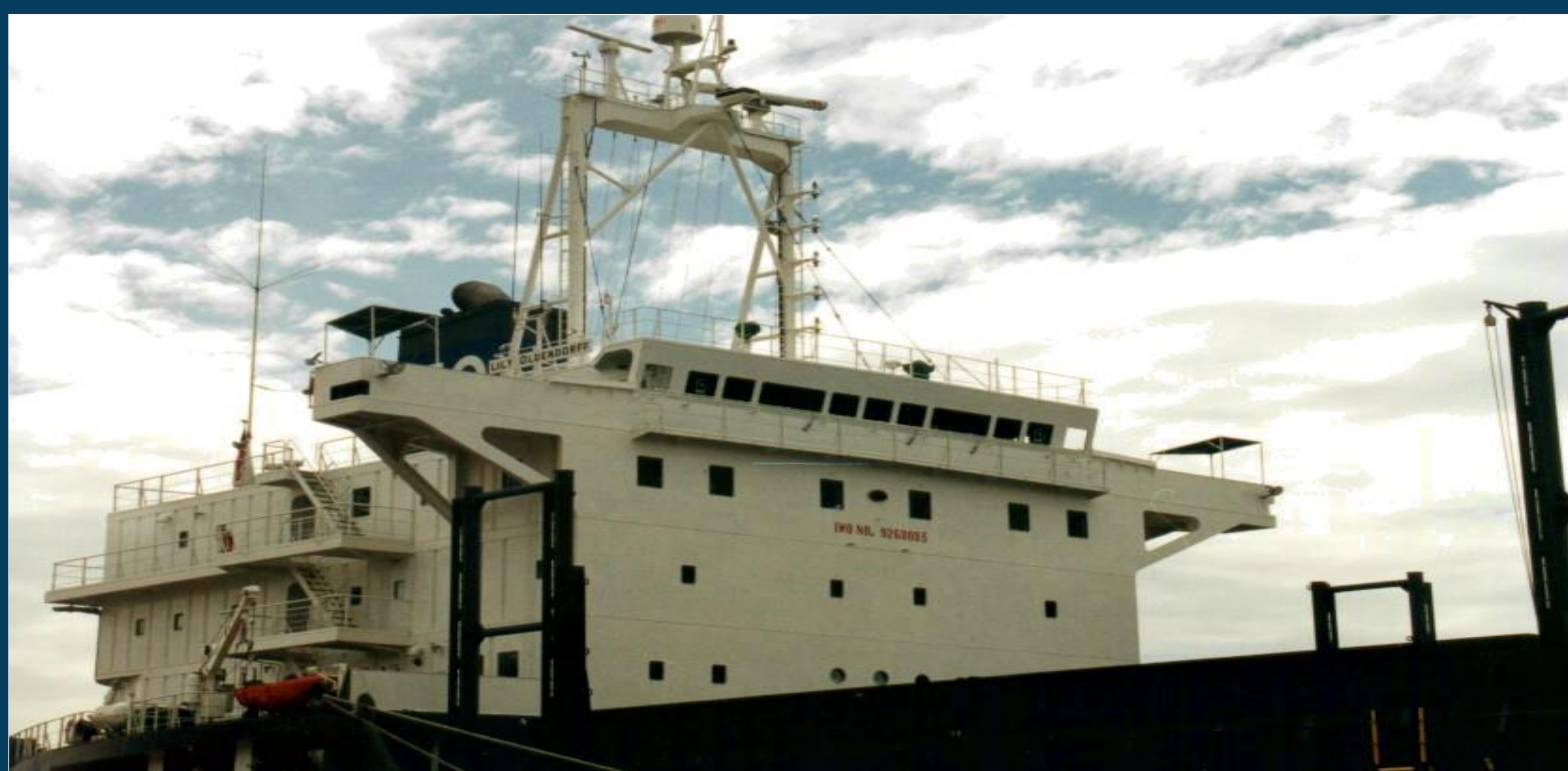
**Special Use Declaration for the
 MARINE EQUIPMENT EXEMPTION (MEE)**

This is to certify that in compliance with the General Exemption NUMBER 01 of 28 December 1999 on marine equipment, as amended by subsequent Exemptions NUMBER 02, NUMBER 03, NUMBER 04, NUMBER 05, NUMBER 06, NUMBER 07 and NUMBER 08 of the Brazilian Petroleum and Oil Control, and the 1992 Montreal Convention Agreement 30/4/2000:

Exemption that the product(s) described below is/are (to be) as required by the above Exemptions as evidenced by the Conformity Notice below:

EC Type-Approval (Indicate EC Certificate No.)		MEE NUMBER	Expiry	1999/2000	Indicate the EC type-approval number (if applicable)
MEE No.		NUMBER	Expiry	2001/2001	Indicate the EC type-approval number (if applicable)
MEE (Indicate EC Certificate of Conformity No.)		A. 100-00			
MEE (Indicate EC Certificate of Conformity No.)		Item Description	GLASS REINFORCED AND/OR COMBIBOND WITH COUPLING CONNECTOR SYSTEMS		
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MarED Declaration of conformity available upon request





Follow the appropriate surface preparation method according ISO, SSPC or NACE to reach the longest term durability for your coatings system



Offices & Facilities

North & Central América

Sales Office

ANTICORROSIVOS Y ACABADOS AYA S.A.

Oficinas : Zona Procesadora para la Exportación de Albrook, Edificio 8 A, Corregimiento de Ancón, Ciudad de Panamá, República de Panamá Teléfonos: (507) 232 6691- (507) 2326692 Fax: (507) 2326690 Email: pinturasaya@gmail.com [http: // www.pinturasaya.es.tl](http://www.pinturasaya.es.tl) Apartado Postal 0819-05572 Panamá, República de Panamá RUC: 1059896-1-549487 DV 48

Manufacturing Facility

ANTICORROSIVOS Y ACABADOS AYA S.A.

Planta : Zona Procesadora para la Exportación de Albrook, Edificio 8 A, Corregimiento de Ancón, Ciudad de Panamá, República de Panamá Teléfonos: (507) 232 6691- (507) 2326692 Fax: (507) 2326690 Email: pinturasaya@gmail.com [http: // www.pinturasaya.es.tl](http://www.pinturasaya.es.tl) Apartado Postal 0819-05572 Panamá, República de Panamá RUC: 1059896-1-549487 DV 48

South America & Caribbean

Sales Office

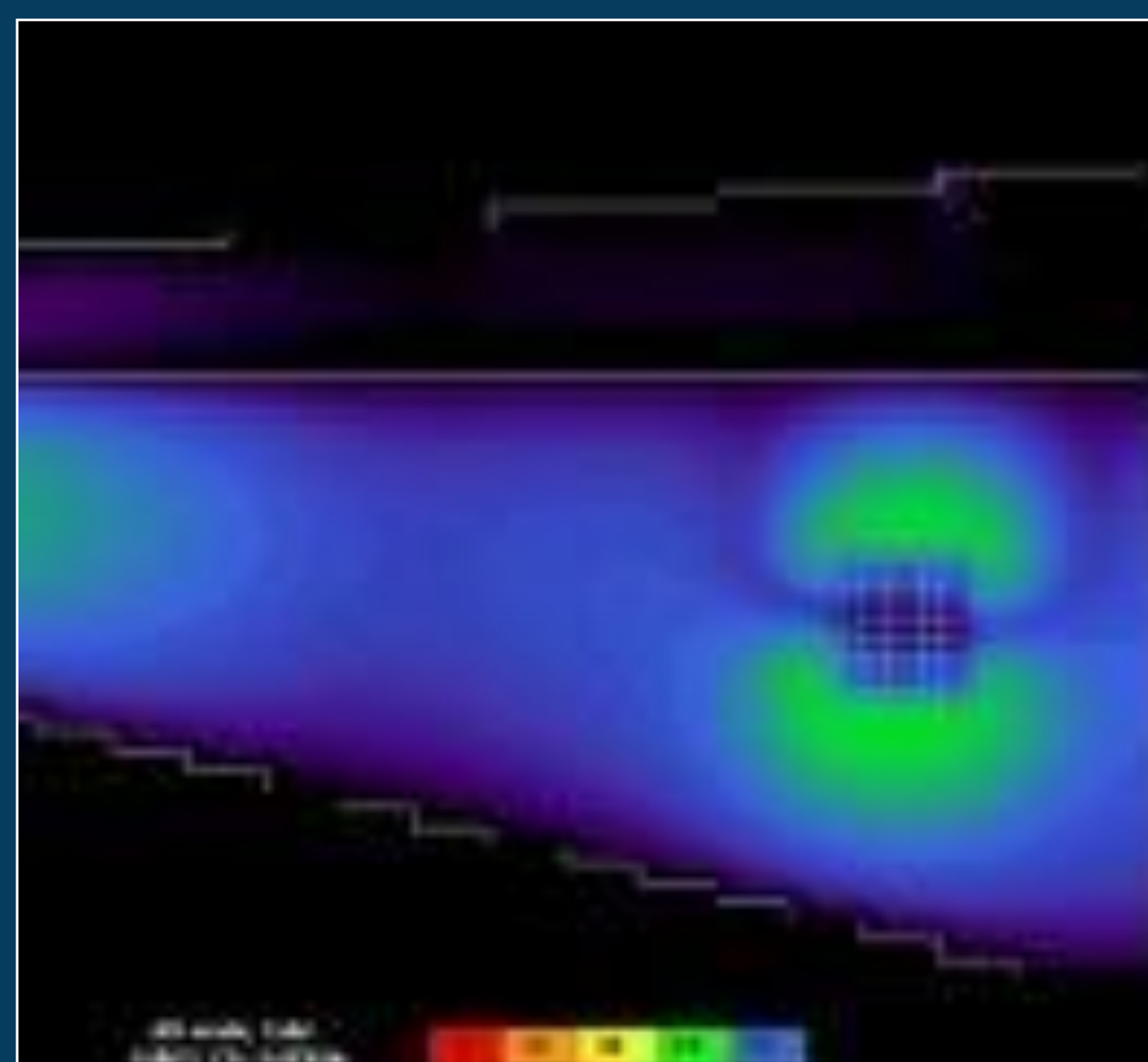
ANTICORROSIVOS Y ACABADOS AYA C.A.

Oficinas: Ave. Libertador, Centro Comercial Ave. Libertador, Piso 3, Oficina 3-6 La Florida – Distrito capital - Caracas Teléfonos: (58)(212) 7624626 – 7624987 Fax: (58)(212) 7625003 Email: pinturasaya@cantv.net [http: // www.pinturasayaca.es.tl](http://www.pinturasayaca.es.tl) Caracas – República Bolivariana de Venezuela RIF: J000739633

Manufacturing Facility

ANTICORROSIVOS Y ACABADOS AYA C.A.

Planta: Calle 3 con Carrera 6, Parcelas 23, 24 y 25 Zona Industrial Condibar 2 , Barquisimeto, Edo Lara. Teléfonos: (58)(251) 2692526 – 2691252 Fax: (58)(251) 2692929 Email: pinturasaya@cantv.net [http: // www.pinturasaya.com](http://www.pinturasaya.com) Barquisimeto - República Bolivariana de Venezuela RIF: J000739633



GSPC Heavy Industrial & Marine Coatings