



South African Maritime Safety Authority

Ref: SM6/5/2/1

Date: 5 December 2013

Marine Notice 39 of 2013

Small Vessel Construction – Identification of ISO/SANS Design Standards which may be used to achieve compliance with the Merchant Shipping (National Small Vessel Safety) Regulations, 2007 (as amended).

TO ALL PRINCIPAL OFFICERS, SURVEY STAFF, AUTHORISED AGENTS, SAFETY OFFICERS, BOAT BUILDERS, BOAT DEALERS, BOAT OWNERS AND OTHER INTERESTED AND AFFECTED PARTIES

Summary

The following marine notice provides guidance for complying with construction, stability, watertight integrity, and machinery requirements of the Merchant Shipping (National Small Vessel Safety) Regulations, 2007 by relating regulations and SAMSA policy to SANS/ISO design standards which may be referenced for the building of small vessels .

1. INTRODUCTION

The following marine notice provides guidance for complying with the construction, stability, watertight integrity and machinery requirements of the Merchant Shipping (National Small Vessel Safety) Regulations, 2007 from a technical perspective.

The marine notice identifies statutory requirements (Regulations and Marine Notices) applicable to small vessel construction, stability, watertight integrity and machinery and relates them to SANS/ISO design standards which interested parties may reference when building a small vessel for operation in South Africa or for possible export to other countries.

2. REGULATIONS AND MARINE NOTICES

The statutory requirements for small vessel construction are contained in the Merchant Shipping (National Small Vessel Safety) Regulations, 2007 (NSVR). SAMSA policy/interpretation of the regulations are published in Marine Notices which are also required to be complied with.

Small vessels which are built for operation in South Africa are required to comply with applicable provisions of the NSVR and supporting Marine Notices.

It should be noted however that regulations and marine notices are prescriptive in nature and do not specify how a vessel, fitting or item of equipment should be designed to achieve compliance.

3. DESIGN STANDARDS

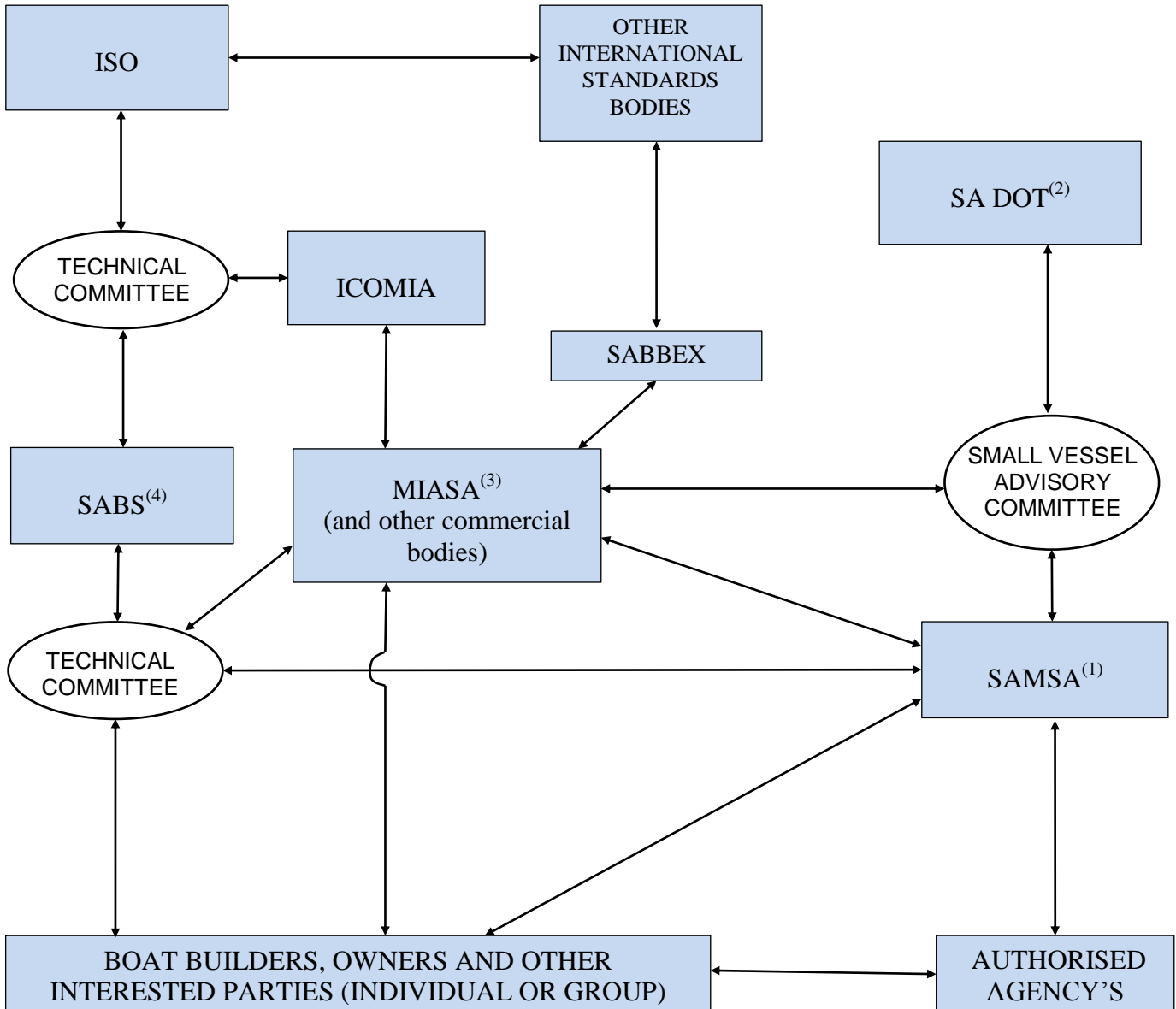
Technical design requirements are best dealt with by standards. A large number of design standards exist world-wide which interested parties may refer to. SAMSA policy is to accept any design standard provided that it can be shown that the standard used results in compliance with the NSVR.

The South African Bureau of Standards (SABS), who are affiliated to the International Standards Organisation (ISO), do however generate national small craft standards (SANS) stemming primarily from the ISO technical committee for small craft (TC188). SAMSA has incorporated some of the SANS standards into the NSVR, however, the majority of the standards are not compulsory for achieving compliance with the NSVR but remain a useful (“best practice”) reference for small vessel builders and surveyors on industry norms.

4. MAINTENANCE OF MARITIME TECHNICAL STANDARDS

Generation, promulgation and revision of maritime legislation in South Africa is the responsibility of the Department of Transport and SAMSA. The maritime legislative framework overlaps with industrial standards as well as standards of international organisations (particularly in cases where maritime products are exported).

The role players in the South African small vessel industry can be represented as follows:



Notes

- (1) Communications with SAMSA may result in:
 - a. Generation or amendment of policy which will be promulgated by Marine Notice.
 - b. Development of regulation or amendment of regulation proposals to the Small Vessel Advisory Committee
- (2) Communications with the DOT will be through formal attendance to technical committee meetings and may result in:
 - a. Generation or amendment of regulation which will be published for comment and come into force by gazetted regulation.
- (3) The primary role of the Marine Industry Association South Africa (MIASA) is to promote the pleasure craft industry at a national (DOT, SAMSA, SABS, Boat Builders and other interested parties) and international level through their international umbrella body (ICOMIA). Boat builders are encouraged to develop positive relationships with MIASA towards achieving industry growth.
- (4) SABS is a P-member of ISO and facilitates the generation of international and national standards within a technical committee framework.

5. TECHNICAL STANDARDS MATRIX

In order to assist boat builders and other interested parties, a summary table of the NSVR regulations relating to the construction of small vessels is included as Appendix A. The table lists the different regulations related to small vessel construction and links applicable policy and ISO/SANS design standards to the regulation.

The design standards link to statutory legislation is provided for the assistance and guidance of boat builders and interested parties. The following must be noted:

- a. The standards listed are provided as “best practice” guidance to industry.
- b. Interested parties may make use of alternative standards to achieve compliance with the compulsory regulations and policy.
- c. Where any contradiction exists between the provisions of regulations and policy and the listed design standards, the provisions of the compulsory regulations and policy shall apply.
- d. SAMSA shall not be obligated to provide interpretations or opinions of any nature on the listed non-compulsory standards.
- e. SAMSA is not a distributor of the design standards which need to be purchased from the standards bodies. Interested parties may obtain copies of standards from:
 - i. South African National Standards Body (SABS).
 - ii. Web-based organisations
- f. Copies of the Merchant Shipping (National Small Vessel Safety) Regulations, 2007 and Marine Notices may be downloaded from SAMSA’s web site (www.samsa.org.za).

6. NSVR CATEGORY VERSUS SANS/ISO DESIGN CATEGORY

Where SANS/ISO standards are used, it is normally necessary to identify the design category in which the boat will fall. The NSVR vessel categories are not the same as the SANS/ISO standards and the below table should be used to equate the two categories.

NSVR Category	Description	SANS Category	Description
A	Vessels operating any distance from shore	A	Boat designed for extended voyages where conditions experienced may exceed wind force 8 (Beaufort scale) and significant wave heights of 4m and above, but excluding abnormal conditions (eg. Hurricane)
B	Vessels operating less than 40 nautical miles from shore	B	Boat designed for offshore voyages where conditions up to and including wind force 8 (Beaufort scale) and significant wave heights up to and including 4m may be experienced
C	Vessels operating less than 15 nautical miles from shore	C	Boat designed for voyages in coastal waters, large bays, estuaries, lakes and rivers where conditions up to and including wind force 6 (Beaufort scale) and significant wave heights up to and including 2m may be experienced
D	Vessels operating less than 5 nautical miles from shore		
E	Vessels operating not more than 1 nautical miles from shore and 15 miles from an approved launch site		
R	Vessels operating solely on sheltered waters	D	Boat designed for voyages in sheltered waters, small bays, estuaries, lakes, rivers and canals where conditions up to and including wind force 4 (Beaufort scale) and significant wave heights up to and including 0.5m may be experienced

7. CONCLUSION

This marine notice is published to provide guidance on application of the Merchant Shipping (National Small Vessel Safety) Regulations, 2007, which are aimed at preventing the loss of life of persons boating (navigating) on South African waters, and may be reviewed from time to time.

5 December 2013

SM6/5/2/1

Issued by and obtainable from:
The South African Maritime Safety Authority
146 Lunnon Road
Hillcrest, Pretoria

PO Box 13186
Hatfield 0028

Tel: +27 12 307 3006

Fax: +27 12 307 3086

E-mail: marinenotices@samsa.org.za

Web Site : www.samsa.org.za

APPENDIX A

MERCHANT SHIPPING (NATIONAL SMALL VESSEL SAFETY) REGULATIONS, 2007

MATRIX OF COMPULSORY VESSEL REGULATIONS AND POLICY LINKED

TO ISO/SANS (NON COMPULSORY) DESIGN STANDARDS

NSVR REGULATION NUMBER	REGULATION TEXT OR DESCRIPTION	MARINE NOTICES AND STANDARDS	GUIDANCE STANDARDS
		COMPULSORY	NON COMPULSORY
Reg 6(1)(a)	Every vessel must be constructed of suitable materials of good quality with due regard to sound design practice and methods of construction.	<p>MN 13 of 2011 – Interpretation of the regulations pertaining to, and internal policy on, small vessel surveys, certification and numbering, and skipper qualification and certification, in terms of the Merchant Shipping (National Small Vessel Safety) Regulations, 2007 (NSVR).</p> <p>MN 8 of 2009 – Alterations made to existing ships.</p> <p>MN 21 of 2001 – Wooden vessels sheathed in glass fibre.</p>	<p>SANS 568 (ISO 10240) - Small craft – Owner’s manual SANS 8666 (ISO 8666) - Small craft – Principal data SANS 557 (ISO 10087) - Small craft – Hull identification – Coding system</p> <p><u>SANS 12215 (ISO 12215) – Small craft – Hull construction and scantlings</u> Part 1 - Materials: Thermosetting resins, glass fibre reinforcement, reference laminate Part 2 - Materials: Core materials for sandwich construction, embedded materials. Part 3 - Materials: Steel, aluminium alloys, wood, other materials. Part 4 - Workshop and Manufacturing Part 5 - Design pressures for monohulls, design stresses, scantlings determination. Part 6 - Structural arrangements and details Part 7 - Scantling determination for multihulls. Part 8 - Rudders Part 9 - Sailing craft appendages</p> <p><u>SANS 553 (ISO 6185) – Inflatable boats</u> Part 1 - Boats with a maximum motor power rating of 4.5 kW. Part 2 - Boats with a maximum motor power rating of 4.5 kW to 15 kW inclusive. Part 3 - Boats with a maximum motor power rating of 15 kW and greater.</p> <p><u>ISO 6185 – Inflatable boats</u> Part 4 - Boats with a hull length of between 8 m and 24 m with a motor power rating of 15 kW and greater</p> <p>SANS 13590 (ISO 13590) – Personal watercraft - Construction and system installation requirements.</p> <p>ARP 4558 – Small craft – Rigging screws for stainless steel wire rope – Principal dimensions for forks, connection pins and eye-holes.</p>
Reg 6(1)(a)	Under normal operating conditions the design must provide sufficient reserve of stability so that the vessel cannot capsize easily when carrying a load.	<p>MN 26 of 2011 – Pontoon Boats (excluding passenger vessels) – Minimum requirements for stability, watertight integrity and survivability (in terms of the NSVR)</p> <p>MN 26 of 2008 – Stability of < 25GT fishing vessels fitted with blast freezers on deck.</p> <p>MN 6 of 2011 – Policy regarding the approval and custody of stability information and related matters.</p>	<p><u>SANS 12217 (ISO 12217) – Stability and buoyancy assessment and categorisation</u> Part 1 - Non-sailing boats of 6m length of hull and over Part 2 - Sailing boats of 6m length of hull and over Part 3 - Boats less than 6m length of hull</p>

NSVR REGULATION NUMBER	REGULATION TEXT OR DESCRIPTION	MARINE NOTICES AND STANDARDS	GUIDANCE STANDARDS
		COMPULSORY	NON COMPULSORY
Reg 6(1)(b)	On decked vessels no point of possible ingress of water, except scuppers, may be less than 200 millimetres above the surface of the water, measured when the vessel is afloat in an undamaged condition in calm water.	MN 26 of 2011 – Pontoon Boats (excluding passenger vessels) – Minimum requirements for stability, watertight integrity and survivability (in terms of the NSVR)	
Reg 6 Annex 1(1)	Built-in buoyancy	MN 8 of 2012 – Built-in Buoyancy and alternative standards for survivability of small vessels – Minimum requirements for compliance with the NSVR. MN 26 of 2011 – Pontoon Boats (excluding passenger vessels) – Minimum requirements for stability, watertight integrity and survivability (in terms of the NSVR)	<u>SANS 12217 (ISO 12217) – Stability and buoyancy assessment and categorisation</u> Part 1 - Non-sailing boats of 6m length of hull and over Part 2 - Sailing boats of 6m length of hull and over Part 3 - Boats less than 6m length of hull
Reg 6 Annex 1(2)	Hatches and Hatch Coamings		SANS 12216 (ISO 12216) - Small craft - Windows, portlights, hatches, deadlights and doors - Strength and watertightness requirements
Reg 6 Annex 1(3)	Guard Rails, etc.		SANS 15085 (ISO 15085) – Small craft Man-overboard prevention and recovery. SANS 12401 – Small craft – Deck safety harness and safety line for use on recreational craft – Safety requirements and test methods.
Reg 6 Annex 1(4)	Towing Arrangements		SANS 15084 (ISO 15084) – Anchoring, mooring and towing – strong points
Reg 6 Annex 1(5)	Underwater Hull Fittings		SANS 9093-1 (ISO 9093-1) - Small craft – Seacocks and through-hull fittings – Part 1 : Metallic SANS 9093-2 (ISO 9093-2) - Small craft – Seacocks and through-hull fittings – Part 2 : Non-metallic

NSVR REGULATION NUMBER	REGULATION TEXT OR DESCRIPTION	MARINE NOTICES AND STANDARDS	GUIDANCE STANDARDS
			COMPULSORY
6 Annex 1(6)	Ventilators		SANS 9097 (ISO 9097) – Small craft - Electric Fans SANS 11105 (ISO 11105) – Small craft – Ventilation of petrol engine and/or petrol tank compartments
Reg 6 Annex 1(7)	Engine Power		SANS 8665 (ISO 8665) – Small Craft – Marine propulsion engines and systems – Power measurements and declarations. SANS 13342 – Small craft – Static thrust measurement for outboard motors. SANS 16147 (ISO 16147) - Small Craft – Inboard diesel engines – Engine mounted fuel and electrical components SANS 11547 (ISO 11547) – Small craft - Start-in-gear protection SANS 11592 (ISO 11592) -Small craft less than 8m overall length – Determination of maximum propulsion power rating. SANS 7840 (ISO 7840) – Small Craft - Fire resistant fuel hoses SANS 8469 (ISO 8469) – Small Craft - Non-fire resistant fuel hoses
Reg 6 Annex 1(7)(4)	Inboard Petrol Engines		SANS 15584 (ISO 15584) – Small craft – Inboard petrol engines – Engine-mounted fuel and electrical components SANS 13592 – Small craft – backfire flame control for petrol engines.
Reg 6 Annex 1(7)(4)(g)	Remote controlled fire extinguishing system		SANS 9094-1 (ISO 9094-1) – Small Craft – Fire Protection – Part 1: Craft with a hull length of up to and including 15m SANS 9094-2 (ISO 9094-2) – Small Craft – Fire Protection – Part 2: Craft with a hull length of over 15m.
Reg 6 Annex 1(8)	Fuel Tanks	MN 11 of 2007 – Construction requirements for small vessels related to batteries, fuel and source of ignition: Exemption for personal water craft (Jet ski – PWC) SANS 560 (ISO 10088) - Small craft – Permanently installed fuel systems and fixed fuel tanks. <u>Note</u> – Only compulsory for passenger vessels. Reg 6, Annex 1(16)(1)(b).	SANS 13591 – Small craft – Portable fuel systems for outboard motors. SANS 560 (ISO 10088) - Small craft – Permanently installed fuel systems and fixed fuel tanks. ISO 21487 – Small Craft – Permanently installed petrol and diesel fuel tanks.

NSVR REGULATION NUMBER	REGULATION TEXT OR DESCRIPTION	MARINE NOTICES AND STANDARDS	GUIDANCE STANDARDS
		COMPULSORY	NON COMPULSORY
Reg 6 Annex 1(9)	Electrical Installations	MN 11 of 2007 – Construction requirements for small vessels related to batteries, fuel and source of ignition: Exemption for personal water craft (Jet ski – PWC)	SANS 561 (ISO 10133) - Small craft – Electrical systems – Extra-low voltage d.c. installations SANS 563 – Small Craft – Electrical devices – Lighting-protection systems. SANS 13297 (ISO 13297) – Small craft – Electrical systems – alternating current installations SANS 8846 (ISO 8846) – Electrical devices – Protection against ignition of surrounding flammable gases EN 60092-507 – Electrical installations in ships – Part 507 – Pleasure craft
Reg 6 Annex 1(10)	Emergency Steering Arrangements	MN 5 of 1998 – Hydraulic steering gear failure – Small craft.	SANS 10592 (ISO 10592) – Small craft – Hydraulic steering systems SANS 13929 (ISO 13929) – Steering gear – Geared link systems SANS 8847 (ISO 28847) – Steering gear – Wire rope and pulley systems SANS 8848 (ISO 28848) – Small craft - Remote steering systems SANS 9775 (ISO 29775) – Small craft - Remote steering systems for single outboard engines of 15 kW to 40 kW power. SANS 15652 – Small craft – Remote steering systems for inboard mini jet boats.
Reg 6 Annex 1(11)	Bilge Pumping Arrangements		SANS 15083 – Small craft – Bilge-pumping systems SANS 11812 (ISO 11812) – Small craft – Watertight cockpits and quick-draining cockpits SANS 8849 (ISO 28849) – Small craft - Electrically operated bilge-pumps
Reg 6 Annex 1(12)	Visibility at Steering Position	MN 14 of 2013 – Small Vessel Construction – Wheelhouse Windows SANS 12216 (ISO 12216) – Small craft – Windows, portlights, hatches, deadlights and doors – strength and watertightness requirements. <u>Note</u> - Only compulsory for windows at the steering position)	SANS 11591 (ISO 11591) – Small craft – engine driven – Field of vision from helm position SANS 12216 (ISO 12216) – Small craft – Windows, portlights, hatches, deadlights and doors – strength and watertightness requirements.
Reg 6 Annex 1(13)	Maintenance of Propulsion and Steering Machinery		SANS 568 (ISO 10240) - Small craft – Owners manual SANS 4566 – Small craft with inboard engine – Propeller shaft ends and bosses with 1:10 taper SANS 8845 – Small craft with inboard engine – Propeller shaft ends and bosses with 1:16 taper

NSVR REGULATION NUMBER	REGULATION TEXT OR DESCRIPTION	MARINE NOTICES AND STANDARDS		GUIDANCE STANDARDS	
		COMPULSORY		NON COMPULSORY	
6 Annex 1(14)	Crew Accommodation in Commercial Vessels			SANS 8099 (ISO 8099) – Small Craft - Toilet waste retention systems SANS 14895 (ISO 14895) – Liquid-fuelled galley systems	
Reg 6 Annex 1(15)	Gas Appliances			SANS 566 (ISO 10239) Small Craft - Liquid Petroleum Gas (LPG) Systems	
Reg 11(2)	Number of Persons			SANS 14946 (ISO 14946) – Small craft – Maximum load capacity	
Reg 8(1)(e)	Navigation Lights and Shapes (1)The skipper must at all times ensure that the vessel is operated iaw – (a) The collision regulations as defined in the Act.	MN 1 of 1995 – Vessels of less than 12m in length: Use of non-approved navigation lights.		ISO 16180:2013 – Installation, placement and visibility.	