



Bundesrepublik Deutschland  
BG Verkehr - Dienststelle Schiffssicherheit



## Flag State Information

### FI S/002/IS/2020/Rev. 00

Supersedes FI 02/2017/Rev. 01

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This document is published by the Ship Safety Division of BG Verkehr as part of the German Flag State Administration. The content is intended to provide a uniform interpretation of international and national regulations for sea-going vessels under German flag. Furthermore, additional relevant information on selected topics will be published. The Flag State Information is a document that adapts to practical experience and is therefore continuously developed. The development of new as well as the revision of already existing Flag State Information is done according to the urgency resulting from the daily handling of the corresponding regulations and topics. The period of validity results from the publication.

In any case of doubt, the German version of this FI prevails.

**Unless otherwise specified below, the definitions of the FI S/-000/2020 in the version valid at the time of completion this FI are applicable.**

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<b>Types of ships:</b>	<b>Passenger Vessel / Fishing Vessel / Cargo Vessel</b>		
<b>Section:</b>	<b>Shipbuilding</b>		
<b>Topic category:</b>	<b>Intact Stability</b>		
<b>Topic:</b>	<b>Gradient of GZ-Curve of Multi-Hull Vessels which are not High Speed Craft</b>		
<b>Interpreted rule:</b>	<b>IS Code, Pt. A, paragraph 2.2</b>		
<b>References:</b>	<b>MSC.267(85) MSC.36(63) MSC.97(73)</b>		
<b>Date:</b>	<b>19.10.2020</b>	<b>Application from:</b>	<b>19.10.2020</b>

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### Introduction

The 2008 IS Code (MSC.267 (85)) prescribes minimum requirements for the righting lever curve of intact stability. These requirements are limited to single-hull craft, pontoons and mobile drilling offshore units. Concerning multi-hulls, there are no intact stability regulations given. Reference is made only to the 1994 HSC Code (MSC.36 (63)) or the 2000 HSC Code (MSC.97 (73)), respectively, in relation to high-speed craft.

## **Original text of regulation**

### **2.2 Criteria regarding righting lever curve properties**

- 2.2.1 *The area under the righting lever curve (GZ curve) shall not be less than 0.055 metre-radians up to  $\varphi = 30^\circ$  angle of heel and not less than 0.09 metre-radians up to  $\varphi = 40^\circ$  or the angle of down-flooding  $\varphi_f$  if this angle is less than  $40^\circ$ . Additionally, the area under the righting lever curve (GZ curve) between the angles of heel of  $30^\circ$  and  $40^\circ$  or between  $30^\circ$  and  $\varphi_f$ , if this angle is less than  $40^\circ$ , shall not be less than 0.03 metre-radians.*
- 2.2.2 *The righting lever GZ shall be at least 0.2 m at an angle of heel equal to or greater than  $30^\circ$ .*
- 2.2.3 *The maximum righting lever shall occur at an angle of heel not less than  $25^\circ$ . If this is not practicable, alternative criteria, based on an equivalent level of safety, may be applied subject to the approval of the Administration.*
- 2.2.4 *The initial metacentric height  $GM_0$  shall not be less than 0.15 m.*

## **Interpretation**

Due to the specific hydrostatic properties of multi-hulls, the 2000 HSC Code includes its own intact stability requirements for these types of ships, which describe the course of the righting lever curve (GZ-curve) (2000 HSC Code, Chapter 2.3 in conjunction with Annex 7). Since the intact stability characteristics for multi-hulls, that are no hydrofoil craft, are largely independent of their speed of travel, the Ship Safety Division also accepts these criteria for ships that are no high-speed craft.

## **Additional Information**

The need to comply with the relevant damage stability criteria (e.g. SOLAS, Directive 2009/45/EC, as amended) remains unaffected.

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