

(Draft)

# Amendments of the Rules

## for the Towing Survey of Barges and Tugboats

(Internal opinion inquiry)



May 2021

Hull Rule Development Team

## **- Main Amendments -**




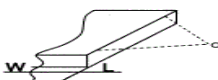




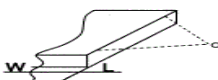














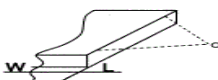






**(1) Effective date : 1 July 2022 (Contracts for construction are signed on or after 1 July 2022)**

● Request from the internal customers

- Consistent with F2 of Table 32 of the Enforcement Regulations of the Ship Safety Act

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Present	Amendment	Note																								
<h1>CH 3 TOWING ARRANGEMENTS</h1>	<h1>CH 3 TOWING ARRANGEMENTS</h1>																									
<h2>103. Total resistance of towed ships</h2>	<h2>103. Total resistance of towed ships</h2>																									
<p>1. Total resistance of towed ships is to be in accordance with followings and the values may be the requirements for determining the bollard pull of the tugboats.</p>	<p>1. Total resistance of towed ships is to be in accordance with followings and the values may be the requirements for determining the bollard pull of the tugboats.</p>	<p>– At the request of Naveal Vessel Survey Team(21.5.24.)</p>																								
<p><u>&lt;omitted&gt;</u></p>	<p><u>&lt;same as the current Rules&gt;</u></p>																									
<p><math>R_w</math> : wave making resistance as obtained from the following formula</p>	<p><math>R_w</math> : wave making resistance as obtained from the following formula</p>	<p>: Consistent with F2 of Table 32 of the Enforcement Regulations of the Ship Safety Act</p>																								
$R_w = 0.014CF_2A_2V^2 \quad (\text{ton})$	$R_w = 0.014CF_2A_2V^2 \quad (\text{ton})$																									
<p>where,</p>	<p>where,</p>																									
<p><math>C</math> : resistance coefficient of rough sea condition, 1.2</p>	<p><math>C</math> : resistance coefficient of rough sea condition, 1.2</p>																									
<p><math>A_2</math> : hull cross sectional area below the waterline (m<sup>2</sup>)</p>	<p><math>A_2</math> : hull cross sectional area below the waterline (m<sup>2</sup>)</p>																									
<p><math>V</math> : towing velocity (knots)</p>	<p><math>V</math> : towing velocity (knots)</p>																									
<p><math>F_2</math> : bow shape coefficient as obtained from the following table</p>	<p><math>F_2</math> : bow shape coefficient as obtained from the following table</p>																									
<table><tr><th>Bow shape</th><th><math>F_2</math></th></tr><tr><td></td><td><u>0.2/0.4</u></td></tr><tr><td></td><td><u>0.3/0.5</u></td></tr><tr><td></td><td><u>0.4/0.6</u></td></tr><tr><td></td><td><u>0.3/0.5</u></td></tr><tr><td></td><td><u>0.8/1.0</u></td></tr></table>	Bow shape	$F_2$		<u>0.2/0.4</u>		<u>0.3/0.5</u>		<u>0.4/0.6</u>		<u>0.3/0.5</u>		<u>0.8/1.0</u>	<table><tr><th>Bow shape</th><th><math>F_2</math> <u>(2022)</u></th></tr><tr><td></td><td><u>0.2/0.4</u></td></tr><tr><td></td><td><u>0.3/0.5</u></td></tr><tr><td></td><td><u>0.4/0.6</u></td></tr><tr><td></td><td><u>0.3/0.5</u></td></tr><tr><td></td><td><u>0.8/1.0</u></td></tr></table>	Bow shape	$F_2$ <u>(2022)</u>		<u>0.2/0.4</u>		<u>0.3/0.5</u>		<u>0.4/0.6</u>		<u>0.3/0.5</u>		<u>0.8/1.0</u>	
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