

		Journal of the Japan Society of <b>Naval Architects and Ocean Engineers</b>			
		The Japan Society of Naval Architects and Ocean Engineers			
<a href="#">Available Volumes</a>   <a href="#">Japanese</a>				>> <a href="#">Publisher Site</a>	
Author:	<input type="text"/>	<a href="#">ADVANCED</a>	Volume	Page	
Keyword:	<input type="text"/>	<input type="button" value="Search"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Go"/>



[TOP](#) > [Available Volumes](#) > [Table of Contents](#) > Abstract

ONLINE ISSN : 1881-1760

PRINT ISSN : 1880-3717

**Journal of the Japan Society of Naval Architects and Ocean Engineers**

Vol. 3 (2006) pp.253-259

[\[PDF \(957K\)\]](#) [\[References\]](#)

## General Buckling Strength of Ring-Stiffened Cylindrical Shells under External Pressure and Effective Breadth of Ring-Stiffeners

[Takao Yoshikawa](#) and [Kenshi Yoshimura](#)

(Received February 2, 2006)

**Summary:** Recently, we usually use the numerical method to calculate the buckling strength of plate and shell structure. But at early design stage, we even now use the theoretical or some simplified formula to check the buckling strength. For most of typical plate and shell structures, the precise formulas of buckling strength have been developed. For the general buckling strength of ring-stiffened cylindrical shell under external pressure, the several formulas have been proposed, but the accuracy of those are hardly adequate. In those formulas, the effective breadth of ring-stiffeners is introduced, but the exact value has not been presented. In this paper, the calculation procedure of effective breadth is developed based on mechanical consideration of pre-buckling deformation, and the modified simplified formula of general buckling strength of ring-stiffened cylindrical shells under external pressure is also proposed. The accuracy of proposed formula is confirmed by comparison with numerical results.

[\[PDF \(957K\)\]](#) [\[References\]](#)

Download Meta of Article [\[Help\]](#)

[RIS](#)

[BibTeX](#)

To cite this article:

Takao Yoshikawa and Kenshi Yoshimura: General Buckling Strength of Ring-Stiffened Cylindrical Shells under External Pressure and Effective Breadth of Ring-Stiffeners, Journal of the Japan Society of Naval Architects and Ocean Engineers, (2006), Vol. 3, pp.253-259.



---

[Japan Science and Technology Information Aggregator, Electronic](#)

