Application of Ch.6 Sec. 2 , [4.1.1] for steel coil loads

In according to the current text of Ch. 6, Sec.2 [4.1.1], pressure, in kN/m^2, acting on the ordinary stiffener is considered.

It is obviously that the loads due to steel coil is also acting on the ordinary stiffener.

Therefore, the requirement of Ch.6 Sec.2, [4.1.1] is applicable in case of steel coil loading.

In this case, the load due to steel coil specified in Ch.6 Sec 2 [2.2.3] should be considered, instead of the pressure.

In addition, as the load due to steel coil is the concentrated load, "s" and "l" in the formula of Ch 6 Sec 2, [4.1.1] should not use.

For your reference, the following formula should be used in case of steel coil loading.

When steel coils are loaded, the net section area at the web stiffener mid-height is to be not less than the value obtained, in cm^2, from the following formula:

$A = 0.1 k_1 F_{coil}$

where:

F_{coil} : Steel coil load, in kN, acting on the elementary panel in which the ordinary stiffener is attached, to be taken as:

$$F_{coil} = \frac{[g \cos(C_{ZP}\phi)\cos(C_{ZR}\theta) + a_Z]F}{1000} \quad \text{for double bottom structures}$$

$$F_{coil} = \frac{a_{hopper}F'}{1000} \quad \text{for bilge hopper structures}$$

C_{ZP}, C_{ZR} : Load combination factors defined in Ch.4 Sec.4 2.2

ϕ : Single pitch amplitude, in deg, defined in Ch.4 Sec.2 2.2

θ : Single roll amplitude, in deg, defined in Ch.4 Sec.2 2.1

a_Z : Acceleration, in m/s^2, in vertical direction defined in Ch.4 Sec.2 3.2

a_{hopper} : Acceleration, in m/s^2, defined in Ch.6 Sec.1 2.7

F : Force due to steel coil, in kg, defined in Ch.6 Sec.1 2.7

F' : Force due to steel coil, in kg, defined in Ch.6 Sec.1 2.7

The above formulae have been included in RCN 1 adopted by the Council in January 2009.

We will propose the RCP in order to clarify the application.