KC#1078

CSR-BC required the distance between opening edge and slot 'a>=φ'.

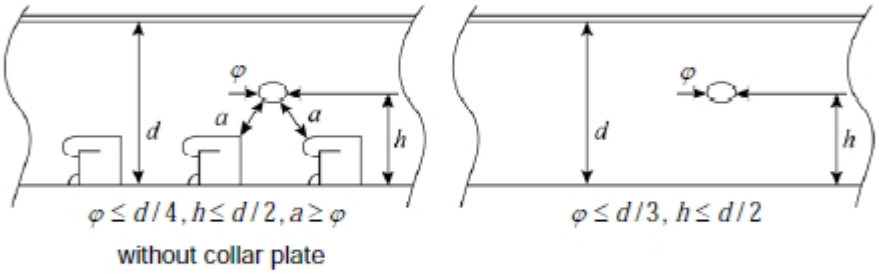


Figure 15: Location and dimensions of lightening holes

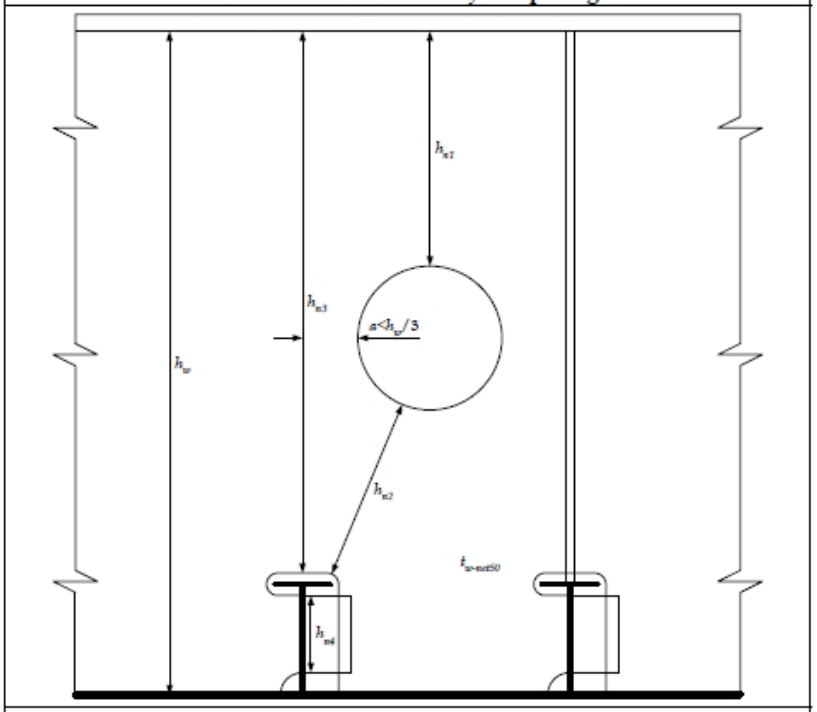
Where lightening holes are cut in the brackets, the distance from the circumference of the hole to the free flange of brackets is not to be less than the diameter of the lightening hole.

While there is no such requirement for tanker.

$t_{w\text{-}grs}$	gross web thickness, in mm
t_{corr}	corrosion addition, as given in *Section 6/3.2*, in mm
φ_w	angle between the web and attached plating, see *Figure 4.2.14*, in degrees. φ_w is to be taken as 90 degrees if the angle is greater than or equal to 75 degrees

(RCN 2, effective from 1 July 2008)

Figure 4.2.16
Effective Shear Area in way of Openings

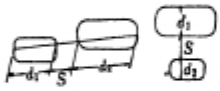
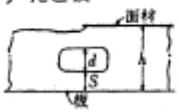
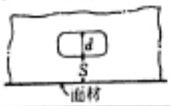
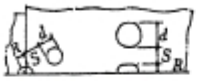
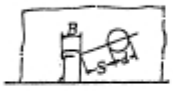


Note
The figure shows effective web height for a single skin primary support member. The effective web height of a double skin primary support member follows the same principles.

2.5.1.3 Where an opening is located at a distance less than $h_w/3$ from the cross-section considered, h_n is to be taken as the smaller of the net height and the net distance through the opening. See *Figure 4.2.16*.

The minimum distance below is obtained from a Japanese publication named '造船設計便覽' by 関西造船協會.

表14（1） 孔と孔，又は孔と部材の線との最小距離（S）

	S	
	A区域	B区域
（1）孔と孔 	$\frac{d_1+d_2}{2}$	d_1+d_2
（2）孔と板 	*1 $\frac{d}{2}$	*1 d
（3）孔と面材 	d	$2d$
（4）孔とスカラップ，セレーション 	$\frac{d+R}{2}$	$d+R$
（5）孔と切欠き 	$\frac{d+B}{2}$	$d+B$
（6）切欠きと切欠き	*2 $S_1 \geq 2B$ $S_2 \geq 2d$ かつ $S_3 \geq 2B$	—

注）

1. 一般に，孔のまわりに同厚の二重張り又は平鋼を設けるときは，二重張り板又は平鋼の幅の ½ だけ S を減じてもよい．ただし，標準の ½ より小さくしてはいけない．

2.

*1 板の反対側に，ウエブと同一面内に部材があるときは，適当に斟酌してよい．

その部材のセレーションと同等の深さの孔については，S に制限はない．

*2，カラープレートを設ける場合

$S_3 \geq B$　$S_4 \geq 2B$　$S_5 \geq B$

表14（2） 特殊な孔の補強例

（1）孔の長さが孔の深さの2倍以内で孔の深さが許容深さを超える場合

（2）孔の深さが許容範囲内にあっても長さが深さの2倍を超える場合は，開孔上下部の局部曲げに対して補強を行う．

（3）孔の深さも長さも許容範囲を超える場合は，開孔上下部の局部曲げに対する補強，孔のために失われた断面積に対する補強及び開孔前後縁に対する補強を行う．

I wonder would you like to limit the distance between opening edge and slot for CSR tankers?