

## Flooding requirements of CSR Bulker

### Q1 Ch 1 Sec 3 [2.2.2]

According to this functional requirement, we assume that flooding scenario should be taken care of for all ships. It is unclear how this is taken care of for BC-C vessels and for small ships with length below 150 m. It should be explained and included in the rules or if applicable, the functional requirement should be modified for sake of clarity. Meantime, please confirm if our understanding of the current CSR is correct as summarized in the table below. In the following questions we also highlight our concerns.

<Summary of flooding requirements (strength requirements are highlighted)>

Item	Rule ref.	BC-A and BC-B	BC-C	L < 150 m	Remark
Design still water bending moments and shear forces	Ch 4 Sec 3 [2.4]	X	X	X	
Design wave bending moments and shear forces	Ch 4 Sec 3 [3.1.2] and [3.2.2]	X	X	X	
Longitudinal strength (yielding)	Ch 5 Sec 1 [2.1.3], [2.2.3], [4.2.2], [4.3.1] and [5.3]	X	--	--	
Longitudinal strength (buckling)	Ch 6 Sec 3 [1.1.2]	--	--	--	Axial buckling check according to URS17?
Hull girder ultimate strength	Ch 5 Sec 2	X	X	--	Apply to BC-C?
Design load for corrugations of transverse watertight bulkheads	Ch 4 Sec 6 [3.3]	X	X	X	
Strength of corrugations of transverse watertight bulkheads	Ch 6 Sec 1 [3.2.3] and Sec 2 [3.2.6]	X	X	X	Above URS18
Shear buckling strength of corrugations of transverse watertight bulkheads	Ch 6 Sec 3 [6]	X	--	--	As per URS18
Flooding scenario for double bottom	Ch 4 Sec 6 [3.4]	X	X	X	
Design load and strength of double bottom	Ch 6 Sec 4 [3]	X	--	--	As per URS20
Design load for boundaries of dry compartments	Ch 4 Sec 6 [3.2.1]	X	X	X	The az for intact?
Strength of local plates and stiffeners on the boundaries of dry compartments	Ch 6 Sec 1 [3.2.2] and Ch 6 Sec 2 [3.2.5]	X	X	X	The sig-x not defined for longitudinal members? Apply same $M_{SW,F}$ for flooding of a dry hold and duct keel? Is $M_{WH,F}$ considered? How about combination factors/
Design load and strength of primary supporting members on the boundaries of dry compartments	?	?	?	?	Example: Fore end bulkhead of foremost hold or aft end bulkhead of aftermost hold.

Note: "X" : applicable, "--" : not applicable, "?" : unclear.