ATECO
DOME-ROOF-SEAL

Sketch	Ratio Description	Formula Description	Minumum Ratio
	Buoyancy to Weight Ratio H.4.2.1.1	$1. Ratio = \dfrac{\text{Liquid Lifting Force}}{\text{Floating Roof Weight}}$	Min: 2.00 (Times) For 100% Buoyancy Ratio
	Buoyancy to Weight Ratio with (Friction Forces Of Tank Shell) (FFTS) H.4.2.1.2	$2. Ratio = \dfrac{\text{Liquid Lifting Force}}{\text{Floating Roof Weight+ FFTS}}$	Min: 2.00 (Times) For 100% Buoyancy Ratio
	Buoyancy to Weight Ratio with (2 pontoons brocked) + FFTS H.4.2.1.3	$3. Ratio = \dfrac{\text{Liquid Lifting Force} - 2 \text{ Pontoon Lifting Force}(*)}{\text{Floating Roof Weight} + \text{FFTS}}$ (*) : Largest Pontoons	Min: 2.00 (Times) For 100% Buoyancy Ratio
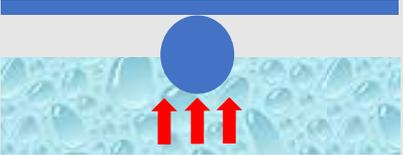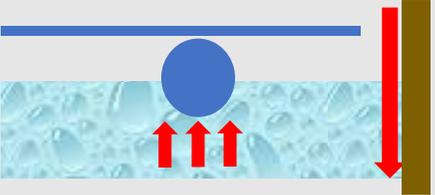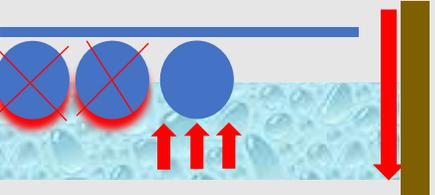
Reference Standard : API 650 APP. H

H.4.2.1 Buoyancy Requirements

H.4.2.1.1 All internal floating roof design calculations shall be based on the lower of the product specific gravity or 0.7 (to allow for operation in a range of hydrocarbon service), regardless of any higher specific gravity that might be specified by the Purchaser.

H.4.2.1.2 All internal floating roofs shall include buoyancy required to support at least twice its dead weight (including the weight of the flotation compartments, seal and all other floating roof and attached components), plus additional buoyancy to offset the calculated friction exerted by peripheral and penetration seals during filling.

H.4.2.1.3 All internal floating roofs with multiple flotation compartments shall be capable of floating without additional damage after any two compartments are punctured and flooded. Designs which employ an open center deck in contact with the liquid (types H.2.2b, c, and g) shall be capable of floating without additional damage after any two compartments and the center deck are punctured and flooded. With agreement by the Purchaser, any floating roof 6 m (20 ft) in diameter or less with multiple flotation compartments may be designed to be capable of floating without additional damage after any one compartment is punctured and flooded.