

Bund Capacity Calculations							Section 4, CIRIA C736
Volume of inventory							Comments, sources of information
	1	2	3	4	5	6	Total
	Largest Tank					Smallest Tank	
Above Ground							
Tank rated capacity / fill level (m) (h)	8	8	8	8	10		
Tank brimful / level (m) (H= h+1)	8	8	8	8	10		based on tank dimensions provided by client
Tank diameter (m) (d)	28	28	28	28	8		brimful and rated capacity, see CIRIA C736 page 43
brimful capacity (cu.m)	4,923.52	4,923.52	4,923.52	4,923.52	502.40	0.00	20,196.48
Tank Area	615.75	615.75	615.75	615.75	50.27	0.00	2,513.27
25% brimful capacity (cu.m)							5,049.12
110% brimful capacity largest tank (cu.m)							5,415.87
Total Tank Area							2,513.27
rated capacity (cu.m)	4,923.52	4,923.52	4,923.52	4,923.52	502.40	0.00	
total rated capacity (cu.m)							20,196.48
25% rated capacity (cu.m)							5,049.12
110% rated capacity largest tank (cu.m)							5,415.87
Storage Capacity For Calculation							5,415.87
							Used in calc
Rainfall							
24h duration (mm)	27.85						
24h duration (m)	0.028						based on data page 45 CIRIA 736. Must be refined by system designer
8d duration (mm)	59.06						
8d duration (m)	0.059						
10d duration (mm)	66.650						Site specific, check with MH
10d duration (m)	0.067						
annual rainfall (mm)							Site specific, check with MH
annual rainfall (m)							
length of bund (m)	100.00						
width of bund (m)	69.60						
or equivalent area	6,960.00						Need to check jetting and stand-off distances between tanks and
height of bund (m)	1.50						1.5m is maximum desirable height to be able to see into bund etc. Page 85 CIRIA C736
freeboard (m)	0.25						250mm freeboard for secondary containment in the absence of detailed analysis. Page 85 CIRIA C736
capacity of bund (cu.m)	8,700.00						with no deduction for tank base volume
base volume of remaining diameter tanks (cu.m)		769.30	769.30	769.30	62.80	0.00	assume 2 largest diameter tanks are intact and hence taking up the most volume at the base of the bund
Volume of Depressed Basin							0.00
available bund capacity	6,329.30						
volume rainfall arising over 24h (cu.m)	194.88						
volume rainfall arising over 8d (cu.m)	410.64						these volumes will need refining as set out on page 44 C736
volume rainfall arising over 10d (cu.m)	466.32						Volume of rainfall captured in 24h + 8d
volume rainfall arising over one year (cu.m)	0.00						
conservative assessment, remaining capacity (cu.m)	307.91						largest tank fails, has rained for 24h before and for 8d afterwards. No firewater.
Firewater							
foam allowance (m)	0.00						100mm freeboard for firefighting foam. Page 85 CIRIA C736
foam volume (cu.m)	0.00						
Firewater estimate (cu.m)	0.00						not included in assessment
Residual Bund Volume	5,723.78						
conservative assessment, remaining capacity (cu.m)	307.91						largest tank fails, has rained for 24h before and for 8d afterwards.

All Area Ex Tanks (m²)=
Wall Heights (m)=

4,447
1.5

Area for hatch comparison (Total containment volume inside wall minus all tank areas)