

**Table 9.11.B.: Design Criteria for Foam Water Sprinkler/Deluge/Spray Systems For Indoor Storage of Water Miscible Liquids with more than 50% concentration and Immiscible Liquids in Metal Container**

Storage Type	Storage Height m	Ceiling Height m	Foam Water Sprinkler System Design Criteria				Pump Capacity	
			Ceiling			In-rack Layout		
			Sprinkler	Design Density gpm	Design Area m <sup>2</sup>		Without Hydrant gpm	With Hydrant gpm
NON-RELIEVING TYPE CONTAINER OF SIZE ≤ 5 GAL. STORING CLASS IB / IC/II/IIIA								
Rack	7.6	9.1	K ≥8.0/QR/HT	12.2	186	L-3	1250	1500
Palletized	3.4	9.1	K ≥11.2/QR/HT	16.3	278	-	1500	1500
RELIEVING TYPE CONTAINER OF SIZE ≤ 5 GAL. STORING CLASS IB / IC/II/IIIA								
Rack	7.6	9.1	K ≥8.0/QR/HT	12.2	186	L-4	1250	1500
NON-RELIEVING TYPE CONTAINER OF SIZE >5 & ≤60 GAL. STORING CLASS IB / IC/II/IIIA								
Rack	7.6	9.1	K ≥8.0/SR/HT	12.2	278	L-3	1500	2000
Palletized	1.9	9.1	K ≥8.0/SR/HT	12.2	278	-	1250	1500
RELIEVING TYPE CONTAINER OF SIZE >5 & ≤60 GAL. STORING CLASS IB / IC/II/IIIA								
Rack	7.6	9.1	K ≥8.0/SR/HT	12.2	278	L-4	1500	2000
Palletized	1.9	9.1	K ≥8.0/SR/HT	12.2	278	-	1250	1500
Palletized	4.1	10	K ≥11.2/SR/HT	24.2	278	-	2000	2500
RELIEVING & NON-RELIEVING TYPE CONTAINER OF SIZE ≤60 GAL. STORING CLASS IIIB								
Rack	12.2	15.2	K ≥8.0/SR/HT	12.2	186	L-4	1250	1500
RELIVING TYPE PORTABLE TANK & IBC								
Rack	7.6	9.1	K ≥8.0/SR/HT	12.2	278	L-4	1500	2000
Pelletized	2 High	9.1	K ≥8.0/SR/HT	12.2	278	-	1250 G	1500
Note:								
i. The in-rack sprinkler design shall be based on the 8 most remote sprinklers for one level of in-rack sprinklers or 6 most remote sprinklers for top 2 levels if two levels of in-rack sprinklers or 6 most remote sprinklers for top 3 levels if three or more level of in-rack sprinklers.								
ii. The demand per in-rack sprinkler shall be 30 gpm.								
iii. The in-rack sprinkler shall be K 5.6 quick response (QR) ordinary temperature type.								
iv. For in-rack sprinkler layout and schemes refer to <b>Table 9.7.KK.</b>								