

**Table 9.7: Automatic Sprinkler System Requirements**

ITEMS	REQUIREMENTS
<b>55. DESIGN CRITERIA FOR INDOOR STORAGE OF FLAMMABLE AND COMBUSTIBLE LIQUIDS IN METAL CONTAINERS</b>	<p>i. Water miscible flammable and combustible liquids with a concentration less than 50% and stored in metal containers shall be protected as Class IV commodity.</p> <p>ii. All other type of flammable and combustible liquids stored in metal containers shall be protected by a fire water sprinkler system as per <b>Table 9.7.HH.</b></p> <p>iii. The in-rack sprinkler design shall be based on the 8 most remote sprinklers if there is one level of in-rack sprinklers or 6 most remote sprinklers for 2 levels of in-rack sprinklers or 6 most remotes sprinklers for top 3 levels, if there are three or more levels of in-rack sprinklers. Water demand per in-rack sprinkler shall be 30 GPM. In-rack sprinkler shall be K5.6 ordinary temperature quick response type.</p> <p>iv. Refer to <b>Table 9.7.KK.</b> For Sprinkler layouts and Schemes.</p>

**Table 9.7.HH.: Water Miscible Flammable and Combustible Liquids in Metal Containers**

LIQUID	STOR- AGE TYPE	STOR- AGE HEIGHT M	CEIL- ING HEIGHT M	FIRE WATER SPRINKLER SYSTEM DESIGN CRITERIA				PUMP CAPACITY	
				CEILING			IN- RACK LAYOUT		
				SPRINKLER	DESIGN DENS- ITY mm/ min	DESIGN AREA m <sup>2</sup>		WITHOUT HY- DRANT GPM	WITH HY- DRANT GPM
NON-RELIEVING TYPE CONTAINER OF SIZE ≤ 1 GAL.									
Class IB/IC/II/ IIIA	Rack	6.1	9.1	K ≥11.2/QR/ HT	24.4	186	L – 2	2000	2500
All Class	Shelf	1.8	5.5	K ≥8.0/QR/ HT	7.8	139	-	500	750
NON-RELIEVING TYPE CONTAINER OF SIZE ≤ 5 GAL.									
Class IB/IC/II/ IIIA	Rack	7.6	9.1	K ≥8.0/QR/ HT	12.2	278	L – 3	1500	2000
	Pallet	1.5	5.5	K ≥8.0/QR/ HT	12.2	278	-	1250	1500
	Pallet	2	9.1	K ≥11.2/QR/ HT	18.3	278	-	1500	2000
Class IIIB	Rack	12.2	15.2	K ≥8.0/QR/ HT	12.2 <sup>1</sup>	186	L – 4	1500	1500
	Pallet	5.5	9.1	K ≥8.0/QR/ HT	10.5	278	-	1000	1250
RELIEVING TYPE CONTAINER OF SIZE ≤ 5 GAL.									
Class IB/IC/II/ IIIA	Rack	4.3	5.5	K ≥11.2/QR/ HT	26.5	186	-	1500	2000
	Rack	7.6	9.1	K ≥8.0/QR/ HT	12.2	278	L-4,7	1500	2000
	Pallet	3.7	9.1	K ≥11.2/QR/ HT	24.2	278	-	2000	2500
Class IIIB	Rack	12.2	15.2	K ≥8.0/QR/ HT	12.2 <sup>1</sup>	186	L-4,7	1500	1500
	Pallet	5.5	9.1	K ≥8.0/QR/ HT	10.5	278	-	1000	1250