

Table 9.7: Automatic Sprinkler System Requirements

ITEMS	REQUIREMENTS
56. DESIGN CRITERIA FOR IN-DOOR STORAGE OF FLAMMABLE AND COMBUSTIBLE LIQUIDS IN NON-METAL CONTAINERS	<ul style="list-style-type: none"> i. Water miscible flammable and combustible liquids with concentration less than 20% and stored in non-metal container shall be protected as Class IV commodity. ii. Water miscible flammable and combustible liquids with concentration 20% to 50% and stored in non-metal container shall be protected as Group A Plastic. iii. All other flammable and combustible liquids stored in non-metallic containers shall be protected as per Table 9.7.II. iv. The in-rack sprinkler design shall be based on the 6 most remote sprinklers for one level of in-rack sprinkler or 4 most remote sprinklers for top 2 levels if there are two levels or more levels of in-rack sprinklers. Demand per in-rack sprinkler shall be 60 gpm for Scheme S - A & S - B and 30 gpm for Scheme S - C. v. In-rack sprinkler shall be Ordinary temperature quick response type. vi. Ceiling sprinkler shall be standard response type. vii. Plastic container shall not be permitted if protection criteria are not available as per Table 9.7.II, unless full scale fire test is carried out by listing body for protection criteria and approved by Dubai Civil Defense. viii. Refer to Table 9.7.KK. For Sprinkler layouts and Schemes.

Table 9.7.II.: Flammable and Combustible Liquids in Non-Metallic Containers

Liquid	Storage Type	Storage Height m	Ceiling Height m	Ceiling Sprinkler Type	Design Density mm/min	Design Area m ²	In-rack		Pump Capacity	
							Sprinkler Type	Scheme	Without Hydrant gpm	With Hydrant gpm
WATER IMMISCIBLE LIQUID IN PLASTIC CONTAINER OF SIZE ≤ 1 OZ PACKED IN DOUBLE CORRUGATED BOX										
Class IB/IC/II/III	All	Protection shall be as per NFPA 13 for Group A Unexpanded Plastic								
WATER IMMISCIBLE LIQUID IN PLASTIC CONTAINER ≤ 5, CARTOONED / UN-CARTOONED										
Class IIIB (>93°C)	Rack	All	All	K8/OT/SR	8	270	K8	S - A	1250	1500
WATER IMMISCIBLE LIQUID IN FLEXIBLE PLASTIC LINER WITHIN A COMPOSITE CORRUGATED PAPERBOARD BOX OF SIZE ≤ 6 GAL										
Class IIIB (>190°C)	Rack	All	All	K8/OT/SR	8	270	K5.6	S - C	1000	1250
WATER IMMISCIBLE LIQUID IN FLEXIBLE PLASTIC LINER CORRUGATE PAPERBOARD IBC OF SIZE ≤ 275 GAL										
Class IIIB (>190°C)	Rack	8.5	9.1	K8/OT/SR	8	270	K5.6	S - C	1000	1250
WATER MISCIBLE LIQUID IN PLASTIC CONTAINER OF SIZE ≤ 1 GALLON CARTOONED										
Class IB/IC/II/III	Rack ₁	All	All	K8/OT/SR	8	270	K8	S - B	1250	1500
WATER MISCIBLE LIQUID IN PLASTIC CONTAINER OF SIZE ≤ 60 GALLON CARTOONED / UNCARTONED										
Class IB/IC/II/III	Rack ₁	7.6	9.1	K8/OT/SR	18.3	270	K8	S - B	2000	2000
WATER MISCIBLE / IMMISCIBLE LIQUID IN LISTED / LABELED IBC CONTAINERS OF SIZE ≤ 793 GAL										
Class II/III	Pallet	1 high	9.1	K11.2/HT/SR	18.3	278	-		1250	1500
Class II/III	Pallet	2 high	9.1	K11.2/HT/SR	24.4	278	-		2000	2500
Class II/III	Rack ₁	7.6	9.1	K11.2/OT/SR	24.4	270	K8	S - B	2500	2500

Note:

1 - The aisle width must be minimum 2.4 meters & rack depth must be maximum 2.7 meters.