

**Table 9.7: Automatic Sprinkler System Requirements**

ITEMS	REQUIREMENTS
<b>57. DESIGN CRITERIA FOR INDOOR STORAGE OF AEROSOL</b>	<p>i. Level 1 aerosol product shall be protected as a Class IV commodity.</p> <p>ii. All other type of aerosol products shall be protected as per <b>Table 9.7.JJ</b>.</p> <p>iii. The in-rack sprinkler design shall be based on 8 sprinklers operation for one level of in-rack sprinkler, 12 sprinklers (6 at each top level) for two level of in-rack sprinklers, 18 sprinkler (6 at each top level) for more than two levels of in-rack sprinkler. The demand per in-rack sprinkler shall be 30 gpm for cartoned Storage and 45 gpm for non-cartoned Storage.</p> <p>iv. Plastic aerosol containers shall be limited to level 1 aerosol and aerosol with capacity less than 118 ml.</p> <p>v. Encapsulated storage shall be treated as non-cartoned storage.</p> <p>vi. Shrink wrapping of carton shall be protected as cartoned storage.</p> <p>vii. Refer to <b>Table 9.7.KK</b>. For Sprinkler layouts and Schemes.</p>

**Table 9.7.JJ.: Sprinkler Design criteria for Storage of Aerosols**

Aero-sol Level	Ceiling Height m	Storage Height m	Ceiling Sprinkler					Inrack Sprinkler		Pump Capacity	
			Sprinkler	Design Densi-ty mm/min	De-sign Area m <sup>2</sup>	Mini-mum Pres-sure	Num-ber of Sprin-klers	Sprin-kler	Lay-out	With-out Hy-drant gpm	With Hy-drant gpm
CARTONED AEROSOLS IN PALLETIZED / SOLID PILE STORAGE CONFIGURATION											
2	9.1	4.6	K 14 ESFR	-	-	3.4	12	-	-	1250	1500
2	9.1	1.5	K ≥8.0/SR/HT	12	232	-	-	-	-	1000	1250
2	7.6	6.1	K 14 /ESFR	-	-	3.4	12	-	-	1250	1500
3	9.1	4.6	K 14 /ESFR	-	-	5.2	12	-	-	1500	2000
3	9.1	1.5	K ≥8.0/SR/HT	25	232	-	-	-	-	2000	2000
3	7.6	4.6	K 14 /ESFR	-	-	3.4	12	-	-	1250	1500
UNCARTONED AEROSOLS IN PALLETIZED / SOLID PILE STORAGE CONFIGURATION											
2	9.1	4.6	K 14 /ESFR	-	-	5.2	12	-	-	1500	2000
2	7.6	4.6	K 14 /ESFR	-	-	3.4	12	-	-	1250	1500
CARTONED AEROSOLS IN RACK STORAGE CONFIGURATION											
2	7.6	6.1	K 14 /ESFR	-	-	3.4	12	-	-	1250	1500
2	9.1	7.6	K 14/ ESFR	-	-	3.4	12	K5.6/QR/OT	L - 1	2000	2500
2	9.1	6.1	K ≥8.0/SR/HT	12	232	-	-	K5.6/QR/OT	L - 1	1500	2000
2	9.1	4.6	K 14 /ESFR	-	-	3.4	12	-	-	1250	1500
3	7.6	4.6	K 14 /ESFR	-	-	3.4	12	-	-	1250	1500
3	9.1	7.6	K 14 /ESFR	-	-	3.4	12	K5.6/QR/OT	L - 1	2000	2500
3	9.1	4.6	K 14 /ESFR	-	-	5.2	12	-	-	1500	2000
All	All	All	K ≥8.0/SR/HT	12	232	-	-	K5.6/QR/OT	L - 8	1500	2000

SR - Standard Response, FR - Fast Response, OT - Ordinary Temperature, HT - High Temperature, ESFR - Early Suppression Fast Response,