

Article 83 Dosage of carbon dioxide fire extinguishing systems shall be provided pursuant to the following provisions:

1. Necessary quantity of fire extinguishing medium for full-area spraying shall be calculated according to the table below:

Place of Installation	Dry electrical equipment Room (except for Oil emersed machine)		Telecom Machine Room, Switchboard Room	Others			
	< 50 m ³	> 50 m ³		< 50 m ³	≥ 50 m ³ < 150 m ³	≥ 150 m ³ < 1500 m ³	≥ 1500 m ³
Required dosage per m ³ of protected volume (kg/m ³)	1.6	1.33	1.2	1.0	0.9	0.8	0.75
Additional required dosage per m ³ of opening area (kg/m ²)	20	20	10	5	5	5	5
Basic dosage requirement (kg)					50	135	1200

2. Quantity of fire extinguishing medium for local application shall meet the following requirements:

- (1) For flammable solid or flammable liquid stored in an open-top container where the flame can be limited to one side in the event of fire and the flammable substance will not be spread outside the container, the required quantity of fire extinguishing medium shall be 13kg per square meter surface area of the protected subject. For side lengths less than 0.6m of the protected object, use 0.6m to calculate the surface area. A multiplier for supplementing the quantity shall be 1.4 for the high-pressure type and 1.1 for the low-pressure type.

- (2) Using the following equation, calculate Unit Volume Dosage of an assumed volume (refers to the space 0.6m from any point of the protected object) for protected objects other than that described in the Item above. The required dosage is calculated by multiplying the assumed volume with the Unit Volume Dosage:

$$Q = 8-6 \times a/A$$

Q: is the Unit Volume Dosage (kg/m³) of fire extinguishing medium for the assumed protection volume; the multiplier for additional quantity shall comply with specifications of the previous Item;

a: is the total area of the actual walls around the protected object (m²)

A: is the total wall area of the assumed volume around the protected object (m²).

3. For movable applications, the required dosage of fire extinguishing medium for each nozzle shall be no less than 90kg.
4. The maximum quantity of fire extinguishing medium shall be used for total flooding and local spraying with two or more protected areas or objects in the same building.