Memo

Recipient:	Suppliers, designers and users of Fire Protection Systems
subject:	Fire Protection of electrical cabinets
From:	Kiwa NCP / Certification Fire Safety
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Fire protection in electrical cabinets / equipment with condensed aerosol generators for fire extinguishing purpose.

Fires in electrical cabinets / equipment are mostly burning solid isolation materials made of plastics and / or polymers. These isolation materials start to burn because of high heat radiation created by electrical failures or overload in circuits and / or -components.

In Europa are these fires mostly classified according to EN2 “Classification of fires” as an A – fire.

The electrical equipment and circuits should be electrical protected by means of an electrical fuse. Based on the situation in the equipment / circuit shall this fuse function direct or indirect. This indirect process can take its time with overload situations just under the limit.

In new situations is the electrical cabinet only equipped with metal and plastic materials. When these cabinets are in use is the experience that other articles are stored in these cabinets packaged like for example cardboard.

In product certification scheme K23001 for non-pressurized condensed aerosol generators and components used in fixed fire extinguishing systems are the following standards used;

Standard	Title	Dated
EN 15276-1	Fixed fire fighting systems - Condensed aerosol extinguishing systems - Part 1: Requirements and test methods for components	2019
ISO 15779	Condensed aerosol fire extinguishing systems - Requirements and test methods for components and system design, installation and maintenance - General requirements	2011

Both these standards require tests for the determination of the functional density of the aerosol compound expelled by the generators needed to extinguish an A – class fire. The tests are performed on solid materials composed of wood and materials composed of a collection of plastics.

For the protection of electrical cabinets / equipment is the minimal density set on the base on Class A compatible wood crib test according to ISO15779 / EN15726-1 or a higher density determined with one of the plastic sheets.

For system engineering is the 1.3 safety tolerance according to the system requirements than to be added to this density for the protection of these electrical cabinets with -equipment.