

Inertech 120 second discharge

The Inertech 80 and 140 litre cylinder assemblies have been configured to meet the current and impending internationally recognised standards for system discharge times of 120 seconds.

ISO 14520

The current International Standards Organisation ISO 14520-1 Gaseous fire-extinguishing systems — Physical properties and system design — Part 1: General requirements states that “the discharge of 95% of the extinguishant required to achieve the design concentration for flame extinguishing at 20 degC shall not exceed 120 s for Class A hazards”. (see extract)

NFPA 2001

The internationally recognised NFPA 2001 Standard on Clean Agent Fire Extinguishing Systems states “For inert gas agents, the discharge time required to achieve 95% of the minimum design concentration for flame extinguishment shall not exceed 120 seconds for Class A surface fire hazards or Class C hazards”. (see extract)

EN 15004

The new 2019 European Standard EN 15004 Fixed firefighting systems – Gas extinguishing systems – Part 1 Design, installation and maintenance states: “For inert gas agents, the discharge time is the time required to discharge from the nozzles 95% of the extinguishant required to achieve the minimum design concentration for flame extinguishing at 20 degC and shall not exceed 60 s for Class B fuel hazards, 120 s for Class A hazards”. (see extract)

NOTE: Please note that for Class B concentrations, all the standards state that ONLY 60 seconds can be used as the discharge time.

Conclusion

FSL recommends that for Class A fires the discharge time for Inertech be 120 seconds for 80 and 140 litre capacity cylinders.



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7.9 Prestazioni del sistema

7.9.1 Tempo di permanenza

UNI EN 15004-1:2019

7.9.1.1 Agente estinguente liquefatto

La scarica dell'agente estinguente liquefatto deve essere completata il più rapidamente possibile per soffocare l'incendio e limitare la formazione di prodotti di decomposizione. In nessun caso il tempo di scarica richiesto per raggiungere il 95% della concentrazione di progetto deve essere maggiore di 10 s a 20 °C o quanto altrimenti richiesto dall'autorità.

Il tempo di scarica è definito come il tempo necessario per scaricare dagli ugelli il 95% della massa di agente estinguente calcolata richiesta per raggiungere la concentrazione di progetto a 20 °C. Per gli agenti estinguenti liquefatti, ciò può essere approssimato come l'intervallo tra la prima comparsa del liquido all'ugello e il momento in cui la scarica diventa prevalentemente gassosa. Per dimostrare la conformità al presente punto, si devono utilizzare i calcoli di portata eseguiti in conformità al punto 7.3 o ai manuali di istruzioni dei sistemi pre-ingegnerizzati.

7.9.1.2 Agente estinguente non liquefatto

Per gli agenti a base di gas inerti, il tempo di scarica è il tempo richiesto per scaricare dall'ugello il 95% dell'agente estinguente necessario per raggiungere la concentrazione minima di progetto per fiamme in estinzione a 20 °C, e non deve essere maggiore di 60 s per pericoli di combustibili di Classe B, 120 s per pericoli di Classe A. Per dimostrare la conformità al presente punto, si devono utilizzare i calcoli di portata eseguiti in conformità al punto 7.3 o ai manuali di istruzioni dei sistemi pre-ingegnerizzati.

ISO 14520-1:2015

7.9 System performance

7.9.1 Discharge time

7.9.1.1 Liquefied extinguishant

The liquefied extinguishant discharge shall be completed as quickly as possible to suppress the fire and limit the formation of decomposition products. In no case shall the discharge time required to achieve 95 % of the design concentration exceed 10 s at 20 °C, or as otherwise required by the authority.

The discharge time period is defined as the time required to discharge from the nozzles 95 % of the extinguishant mass required to achieve the design concentration at 20 °C. For liquefied extinguishants, this can be approximated as the interval between the first appearance of liquid at the nozzle and the time when the discharge becomes predominantly gaseous. Flow calculations performed in accordance with 7.3 or with the approved pre-engineered systems instruction manuals shall be used to demonstrate compliance with this.

7.9.1.2 Non-liquefied extinguishant

For inert gas agents, the discharge time is the time required to discharge from the nozzles 95 % of the extinguishant required to achieve the minimum design concentration for flame extinguishing at 20 °C and shall not exceed 60 s for Class B fuel hazards, 120 s for Class A hazards. Flow calculations performed in accordance with 7.3 or with the approved pre-engineered systems instruction manuals shall be used to demonstrate compliance with this.

5.7 Distribution System.

5.7.1 Rate of Application.

NFPA 2001:2022

5.7.1.1* Discharge Time.

5.7.1.1.1* For halocarbon agents, the discharge time required to achieve 95 percent of the minimum design concentration for flame extinguishment based on a 20 percent safety factor shall not exceed 10 seconds or as otherwise required by the authority having jurisdiction.

5.7.1.1.2* For inert gas agents, the discharge time required to achieve 95 percent of the minimum design concentration for flame extinguishment shall not exceed 60 seconds for Class B fuel hazards, 120 seconds for Class A surface fire hazards or Class C hazards, or as otherwise required by the authority having jurisdiction.

5.7.1.1.3* The discharge time period is defined as the time required to discharge from the nozzles 95 percent of the agent mass [at 70°F (21°C)] necessary to achieve the minimum design concentration based on a 20 percent safety factor for flame extinguishment.

