

Fire suppression system for engine compartment of buses and coaches

Issued to

Reacton Fire Suppression Ltd

14 Baynes Place, Waterhouse Business Park, Chelmsford, Essex, CM1 2QX, United Kingdom

Product and product name

Fire suppression system, Reacton CTX Indirect Powder

Type

Dry powder fire suppression system

Suppression agent:

- Furex ABC 770

Technical data/Performance/Classification

See appendix to this certificate.

Certificate

The product described above fulfils the requirements in RISE Certification rules regarding Fire suppression systems in engine compartments of buses and coaches, SPCR 183 edition 2017-09-08. The certification is based on the manufacturer's technical file and type tests performed in accordance with standards specified in the appendix to this certificate.

Marking

Marking shall show SPCR 183, RISE logo, manufacturer's logo, the number of this certificate, the name of the product, its serial number, the name of the manufacturer and RISE P-symbol. See appendix for details.

Validity

This certificate is valid until not longer than 17th January 2025.

Miscellaneous

The manufacturer's in-house inspection is under surveillance by RISE in accordance with section 4 and 5 of SPCR 183. Other terms and conditions are set out in section 6 of SPCR 183.

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Product information

Technical data of the tested suppression system

Table 1 shows technical data of the suppression system tested for 4 m³ engine compartment volumes. The system may be scaled to fit the size of a specific engine compartment according to the scaling rules in SPCR 183.

Table 1, Technical data of the tested Reacton fire suppression system with 6 nozzles and an agent container pressurized to 25 bar

Manufacturer	Reacton Fire Suppression Ltd
Fire suppression system name	Reacton CTX Indirect Powder
Suppression agent name	Furex ABC 770
Suppression agent type	Dry powder
Suppression agent mass	9 kg
Suppression agent container	12L
Suppression agent container article number	RE-CTXCE-120-090-ABC
Propellant gas	Nitrogen
Working pressure	25 bar (at +20°C)
Suppression agent delivery hose	3/8"
Suppression agent delivery pipes	Double braided synthetic rubber. Outer diameter 19,7 mm.
Type of nozzles	5 x RE7145 1 x RE7154
Number of nozzles	6
Distance to the most remote nozzle	6 m
Total length of agent delivery system	18 m
Number of fittings	6 x Straight couplings 3 x T-couplings 3 x 90° elbows

Performance - Tested fire scenarios according to SP Method 4912

A summary of the results can be found in Table 2. The test numbers refer to SP Method 4912. More information about the tests is shown in the test report.

Table 2, Reacton fire suppression system with 6 nozzles and an agent container pressurized 25 bar. Suppression agent: Furex ABC 770.

Test	Air flow	Test scenario category	Results
1	0 m ³ /s	High fire load test at minimum operating temp: T _{min} = -40 °C	Pass
2	0 m ³ /s	Low fire load test	Pass*
3	0 m ³ /s	Hidden fire test	Pass**
4	0.5 m ³ /s	Class A-fire test	Pass
5	1.5 m ³ /s	High fire load test	Pass
6	1.5 m ³ /s	Low fire load test	Pass*
7	1.5 m ³ /s	Hidden fire test	Pass**
8	3 m ³ /s	High fire load test	Pass
9	3 m ³ /s	Low fire load test	Pass*
10	3 m ³ /s	Hidden fire test	Pass**
11	0 m ³ /s	Hot surface re-ignition	1:51 minutes
11	0 m ³ /s	Hot surface re-ignition	1:03 minutes

* Passed with an amount of agent reduced by 20% compared to the ordinary amount of agent.

** Passed with test 10.

Assessment - Rating according to SP Method 4912

A summary of the results can be found in Table 3. The rating numbers refer to SP Method 4912. More information about the tests is shown in the test report.

Table 3, Rating according to SP Method 4912. Reacton fire suppression system with 6 nozzles and an agent container pressurized to 25 bar. Suppression agent: Furex ABC 770.

Category	Category Rating
1. High fire load	3
2. Low fire load	3
3. Class A-fire	1
4. Hidden fire	3
5. Hot surface re-ignition protection	1:03 min
Total Rating	10

Component tests

In addition to fire tests components in the fire suppression system need to be verified and tested through international standards as specified below.

Table 4

Property	Standard	Result
Mechanical stress resistance (vibration and shock)	ISO 16750-3:2007 (Test VII)	Pass
Corrosion resistance	ISO 21207:2016, test method B (3 cycles)	Pass

Conditions

Electrical equipment included in the system shall have a classification of at least IP65, and tested in accordance with IEC 60529:1989/A1:2009/COR3:2009.

A risk assessment in accordance with SPCR 183 section 3.2 shall be made prior to equipment being placed into service. The risk assessment shall be made by personnel having documented experience for the task.

It is the responsibility of the suppression system manufacturer to assure compliance of its suppression system components with legal requirements and vehicle manufacturer requirements.

The marking of the product shall be legible and durable and be placed adjacent to the engine compartment and be designed as below. The size of the sign shall be 40 x 60 mm.

Marking plate template:

