

Testing and Commissioning Checklist for CO₂/Clean Agent Extinguishing System

I. REFERENCE

Project FSD Ref.
 Address Location/Room

Working/Design Drawing Ref. Yes No N/A
 Is drawing enclosed? [] [] []
 Approved Computer Program Ref.
 Is program enclosed? [] [] []
 Is catalogue enclosed? [] [] []
 Is certification for pneumatic test to pipings enclosed? [] [] []

II. TYPE OF SYSTEM

			CO ₂	FM200	Others*
			[]	[]	[]
Total Flooding	[]	Local Application	[]		*Please specify
Modular	[]	Cylinder	[]		
Pre-engineered	[]	Engineered	[ ]		.....
High Pressure	[]	Low Pressure	[]		
Single Hazard	[]	Multiple Hazard	[]		
Primary Bank Only	[]	With Reserve Bank	[]		

III. PROTECTED AREA

		Yes	No	Remarks
3.1	Does occupancy tally with approved building plans?	[ ]	[ ]	.....
3.2	Does compartmentation of protected premises tally with approved building plans?	[ ]	[ ]	.....
3.3	Does general layout tally with FSI drawings?	[ ]	[ ]	.....
3.4	Are openings properly sealed or closable automatically during/before agent discharge?	[ ]	[ ]	.....
3.5	Are warning/instruction signs provided at entrance to; and in the case of normally occupied premises, inside the protected area?	[ ]	[ ]	.....
3.6	Does the following components:—			
		Tally with drawings?		If not, whether the as-fitted location/position acceptable?
		Yes	No	Yes No Remarks
3.6.1	Audio Alarm—Bell/Buzzer etc.	[]	[]	[] []
3.6.2	Visual Alarm—Light/Strobe etc.	[]	[]	[] []
3.6.3	Detector	[]	[]	[] []
3.6.4	Manual Release	[]	[]	[] []

		Tally with drawings?		If not, whether the as-fitted location/position acceptable?		Remarks
		Yes	No	Yes	No	

3.6.5	Piping	[ ]	[ ]	[ ]	[ ]	.....
3.6.6	Nozzles	[ ]	[ ]	[ ]	[ ]	.....
3.6.7	Agent Container	[ ]	[ ]	[ ]	[ ]	.....
3.6.8	Control/Indication Panel	[ ]	[ ]	[ ]	[ ]	.....
3.6.9	Ignition/Fuel Source Shut Down Device	[ ]	[ ]	[ ]	[ ]	.....
3.6.10	Other Mechanical/Electrical/ Pneumatic Operating Device	[ ]	[ ]	[ ]	[ ]	.....

IV. *THE SYSTEM (STATIC CHECK)*

		Yes	No	Remarks
4.1	Are system components approved/listed?	[ ]	[ ]	.....
4.1.1	Actuating Solenoid	[ ]	[ ]	.....
4.1.2	Cylinder Valve Assembly	[ ]	[ ]	.....
4.1.3	Cylinder/Agent Container	[ ]	[ ]	.....
4.1.4	Flexible Hose	[ ]	[ ]	.....
4.1.5	Distributor/Selector Valve	[ ]	[ ]	.....
4.1.6	Pilot Cylinder	[ ]	[ ]	.....
4.1.7	Alarm Bell (for Normal Application)	[ ]	[ ]	.....
4.1.8	Siren/Yodalarm	[ ]	[ ]	.....
4.1.9	Control/Indication Panel	[ ]	[ ]	.....
4.1.10	Remote Manual Release Unit	[ ]	[ ]	.....
4.1.11	Detector	[ ]	[ ]	.....
4.1.12	Discharge Nozzle	[ ]	[ ]	.....
4.2	Is permanent nameplate with adequate information provided to:—			
4.2.1	CO ₂ Container?	[ ]	[ ]	.....
4.2.2	FM200 Container?	[ ]	[ ]	.....
4.2.3	NAFSIII Container?	[ ]	[ ]	.....
4.3	Is reliable means of indication provided for the determination of pressure in FM200/NAFSIII container?	[ ]	[ ]	.....
4.4	Does the means of indication account for variation of container pressure with temperature?	[ ]	[ ]	.....
4.5	Is agent of sufficient quantity provided?	[ ]	[ ]	.....
4.6	Is cylinder/container properly mounted/secured?	[ ]	[ ]	.....
4.7	Are markings on nozzles showing make, type and orifice size readily discernible?	[ ]	[ ]	.....
4.8	Are pipings properly installed and secured in accordance with approved guide?	[ ]	[ ]	.....
4.9	Are pipings properly earthed?	[ ]	[ ]	.....
		Yes	No	Remarks
4.10	Are pipings suitably protected against mechanical, chemical, vibration or other damage?	[ ]	[ ]	.....
4.11	Are pipings of the approved type provided? (Please indicate the type used):—	[ ]	[ ]	.....

- 4.11.1 For 25-bar or 42-bar system:—
- 4.11.1.1 BS 3601 Seamless Schedule 80 []
- 4.11.1.2 ASTM A53 []
- 4.11.1.3 ASTM A106 []
- 4.11.1.4 JIS 3454 []
- 4.11.2 For 25-bar system only:—
- 4.11.2.1 BS 1387 Heavy Grade Butt Welded
(Up to and including
50 mm nominal pipe size) []
- 4.11.2.2 BS 3601 Seamless Schedule 40
(Up to and including 100 mm nominal
pipe size) []
- 4.12 Are jointings of approved type
provided? [] []
(Please indicate the type employed):—
- Screwed Joints []
- Welded Joints []
- Others (Please state) []
-
-
- 4.13 Is electrical apparatus intrinsically safe or of
flame-proof type?
(For application in explosive atmosphere only)
- 4.13.1 Detector [] []
- 4.13.2 Fire Alarm Bell/Sounder [] []
- 4.13.3 Opening/Closing device will not generate
sparks [] []
- 4.13.4 Ventilation shut down device will not generate
sparks [] []

V. DETECTION, ACTUATION & CONTROL SYSTEM (STATIC CHECK)

- 5.1 Is the correct type of detector provided?
(Please indicate the type employed):—
Heat [] Smoke []
- 5.2 Is operating alarm/indicator provided?
(Please indicate the type provided):—
Alarm [] Indication []
Both [] Audio []
Visual [] Olfactory []
- 5.3 Do electrical sources i.e. AC & DC provide
adequate source of energy for:—
- 5.3.1 Detection? [] []
- 5.3.2 Operating device? [] []
- | | Yes | No | Remarks |
|--|-----|-----|---------|
| 5.4 Is manual control suitably protected against
mechanical, weather or environmental damage? | [] | [] | |
| 5.5 Is manual control for actuation easily
accessible at all times? | [] | [] | |

VI. FUNCTIONAL TEST (DYNAMIC TEST)

- | | | | | |
|-----|---|-----|-----|-------|
| 6.1 | Does detector operate satisfactorily? | [ ] | [ ] | ..... |
| 6.2 | If cross-zoning employed, is the zoning of detectors satisfactorily arranged? | [ ] | [ ] | ..... |
| 6.3 | Does operating alarm/indication function properly? | [ ] | [ ] | ..... |
| 6.4 | Does actuating solenoid operate satisfactorily? | [ ] | [ ] | ..... |
| 6.5 | Does selector/distributor valve operate properly? | [ ] | [ ] | ..... |
| 6.6 | Does the manual control require a force of not more than 178 newtons to secure operation? | [ ] | [ ] | ..... |
| 6.7 | Does the manual control require a movement of not more than 356 mm to secure operation? | [ ] | [ ] | ..... |
| 6.8 | Is the shut-down of ventilation system satisfactorily accomplished? | [ ] | [ ] | ..... |
| 6.9 | If time delay of not more than 30 seconds is incorporated, does it function properly? | [ ] | [ ] | ..... |

VII. *PRACTICAL DISCHARGE TEST (DYNAMIC TEST) (IF REQUIRED)*

- | | | | | |
|-----|---|-----|-----|-------|
| | By Designed Agent | [] | | |
| | By Approved Substitute | [] | | |
| 7.1 | Does agent discharge time within the limit specified by FSD? | [ ] | [ ] | ..... |
| 7.2 | Are pipings securely installed to prevent pipe displacement or hazardous movement during discharge? | [ ] | [ ] | ..... |
| 7.3 | Is mechanical tightness of pipings and associated equipment in order? | [ ] | [ ] | ..... |

VIII. *REINSTATEMENT OF SYSTEM AFTER DISCHARGE (STATIC CHECK)*

- | | | | | |
|-----|--|-----|-----|-------|
| 8.1 | Is replacement cylinder/container of the correct type with sufficient pressure and content provided? | [ ] | [ ] | ..... |
| 8.2 | Is cylinder/container properly mounted? | [ ] | [ ] | ..... |
| 8.3 | Is cylinder/container properly connected? | [ ] | [ ] | ..... |
| 8.4 | Is control/indication panel properly reset? | [ ] | [ ] | ..... |
| 8.5 | Is ETL properly replaced/reinstated? | [ ] | [ ] | ..... |
| 8.6 | Is actuating solenoid properly linked/connected? | [ ] | [ ] | ..... |

IX. *GENERAL COMMENTS & REMARKS*

Test conducted by:

..... (Signature)

.....
Name of FSI Contractor's Representative (in block letters)

.....
Company Chop

.....(RC /)
Name of FSI Contractor (FSI Contractor Registration Number)

Date