
I.S. 3218 :2013

Fire Detection & Alarm Systems

Overview of significant changes

Today's Programme

- Commencement
 - Transition
 - Competence & Qualifications
 - System Certification
 - System Design – Significant changes
 - Installation/ Commissioning
 - Service
 - Residential
-

Commencement

- Published & in Effect
 - Dec 17th 2013
 - I.S. 3218:2009
 - Revoked Dec 17th 2013
 - Phase in period
 - None
 - Anticipated 1 Year not included
 - No applicable retrospectively
-

Transition

- Same as I.S.3218:1989 to 2009
 - Existing FSC - Proceed as certified
 - List Variations 2009 vs 2013 on Certificates
 - Use 2013 Certificates
 - Update to 2013 where possible
 - Installation/ Commissioning/Service
 - comply with 2013
 - User Responsibilities
 - comply with 2013
-

Enforcement

- Fire officer requirement for warning to be included (and emphasised).
 - Appears 5 times through the document
 - Really aimed at certification parties

 - Paraphrased as


The issuing of false or misleading information is an offence under the Fire Services act 1981/ 2003 as per section 22 (6)(d)

 - It is a Criminal offence
-

Competence Requirements

- Design/ Install/ Commission/ Service/ verification
 - All providers “Shall” be Competent
 - All providers “Shall” be able to Demonstrate Competence
 - User
 - Requirement to assess competence of providers
-

Designer - Qualifications

- Designer *Such as:*
 - Experienced Chartered Engineer
 - Experienced Professional Engineer
 - Other Competent Person
 - Designer
 - "Shall" have experience in FDAS design
 - BCAR & CEN TC4
 - May introduce new qualifications
- 

System Certification

- Mandatory fixed layout for Certificates
 - Design
 - Installation
 - Commissioning
 - Service
 - Verification
 - Additional information ?
 - Limited to Providers sequential reference number
-

System Design/
Layout
Significant Changes

Design – Alarm Devices & Circuits

- Two sounder circuits **within** building
 - Auto silence of outside sounder
 - Reduced from 30 minutes to 15 minutes
 - Max Sounder
 - 120 dB(A) reduced to 118 dB(A)
 - Staff Alarms
 - Reference to HTM removed
 - Use of “Other codes” to be identified on certificates
-

Alarm Sound Levels

- Measure within 1 metre of wall
- Reduced sound levels – 60dB(A)
 - Corridors, Stairwells & Rooms < 25m²
- Rooms 25m² to 60m²
 - Sliding Scale 60dB(A) to 65 dB(A)
- Campus
 - Same Sound throughout site



Visual Alarm devices (VADs)

- Tech Doc M
 - VAD's Required for Disabled toilets
 - I.S.3218 :Not mandatory - Risk Assess
 - Difficult to justify not including VAD's
 - If use is determined for reasons of Disability
 - Must use EN54-23 product
 - Mandatory as of 1-1-2014
-

Manual Call Points

- At “All Exits” not “All Exits to Open Air”
 - Exit defined as point of “Safe Dispersal”
 - On Defined Escape Routes
 - Not Designated Escape routes
 - In each Refuge area
 - Inside Storey Exit
 - Reduced requirement in Stairwells
 - Possibly offset by requirement for Refuge
 - Double Knock Prohibited
-

Point Detectors

■ Smoke

- Extension of height for Enhanced Sensitivity
- Height limit not applicable to Lift Shafts
- Wall mounting – L3 Adjoining rooms
 - conditional

■ Carbon Monoxide (CO)

- Use as Toxic Gas Sensor prohibited

■ Flame detectors

- Compliance with EN54-10 now referenced
-

Air Sampling - Height

Sampling configuration	Hole sensitivity	Mounting Height (m)
Standard EN 54-20	Normal sensitivity Same as point det	10.5
5 Class C holes or 2 Class B holes	Normal sensitivity Enhanced sensitivity	15
15 Class C holes or 5 Class B holes	Normal sensitivity Enhanced sensitivity	25
15 Class B holes	Normal sensitivity	40

Detector Locations - General

- Light wells <10% of ceiling surface area
 - No detection unless acting as a vent
- Store Rooms
 - "SHOULD" consider not "SHALL"
- Toilet Lobby: < 2m²
 - no detection
 - Previously 1m²
 - Conditional on "No Fire load" in the lobby

Design - Voids

- Clarified as meaning Horizontal voids
 - >800mm Deep - Protection required for
 - Escape routes
 - All voids on L1
 - Unless **No Risk** and **All parties agree** and **Variation listed On Certificate**
 - <800mm Deep
 - Risk assessment **AND**
 - No possibility of spread of smoke through voids
-


Video Smoke Detection

- Design to ensure full duration of emergency supply (battery) included
 - 24 Hour or 48 Hour duration
 - May impact use of Existing cameras as they are not normally supported by standby battery.
-

Design - General

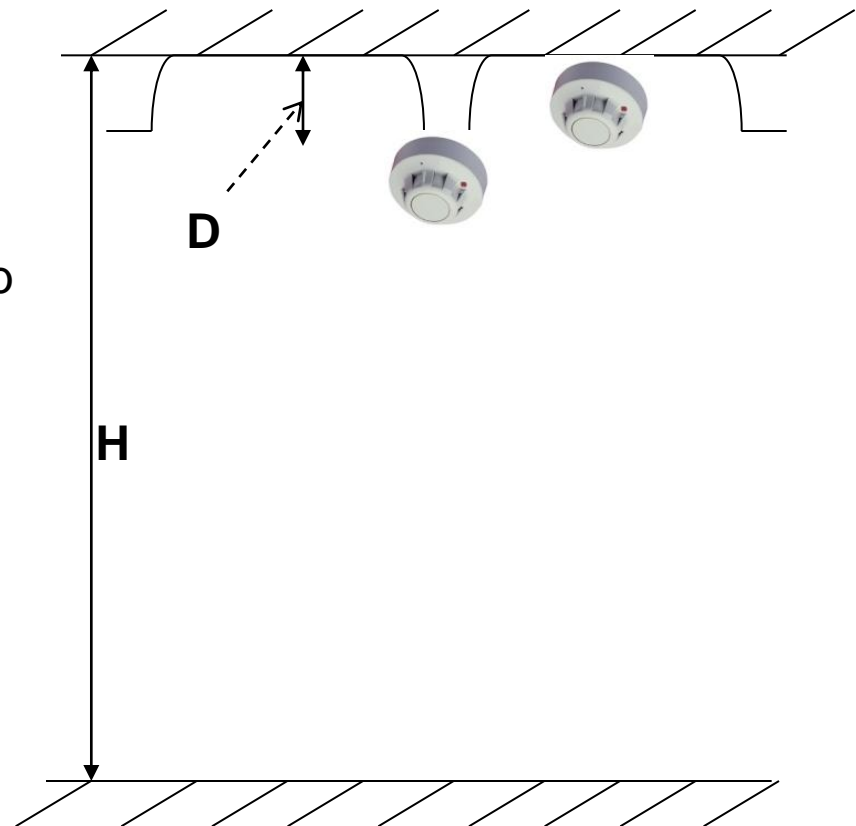
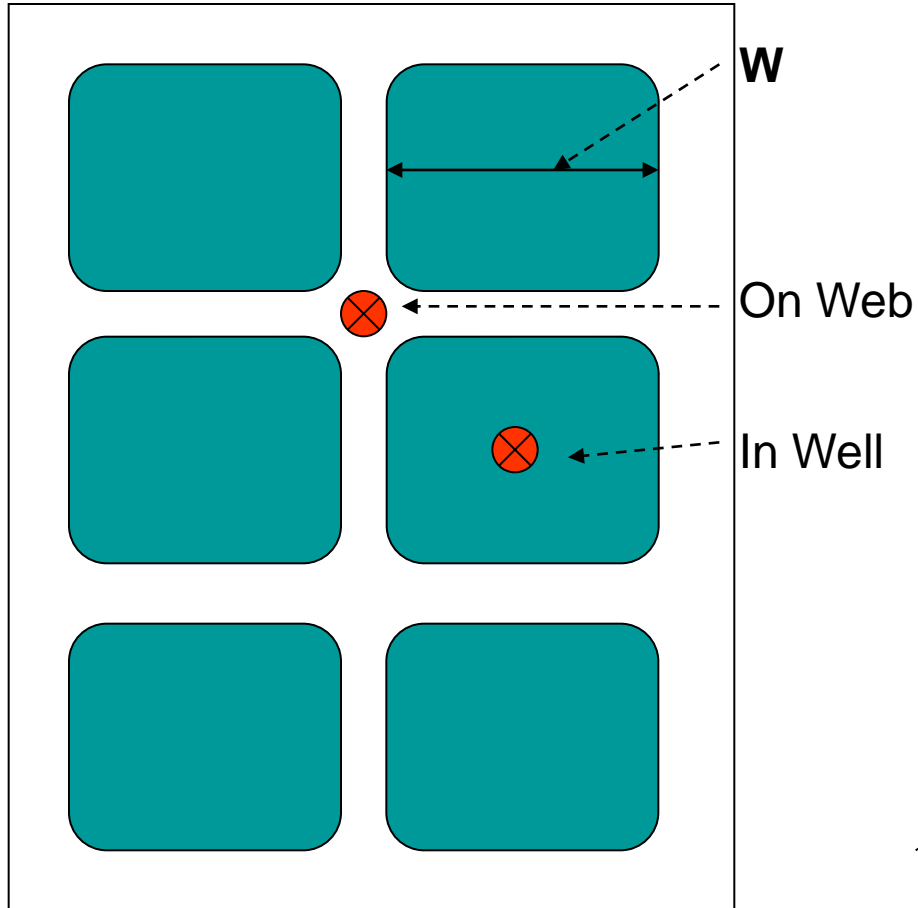
- Power supply units
 - Must be EN54-4 construction
 - Linear Beam detector
 - limit of 100m range deleted
 - Standby battery
 - Add 20% to calculated required capacity
-

Honeycombs/ Coffers/Beams

- New Guidance – Flow chart 
 - Determines Maximum Spacing between Detectors
- Also guides Positioning
 - on Beam/ Web or In well/ On slab
- Based on
 - Slab to Slab Height (H) **And**
 - Depth of Well (D) **And**
 - Ratio : Width (W) to Depth (D) of Well

Honeycombs/Coffers - Position

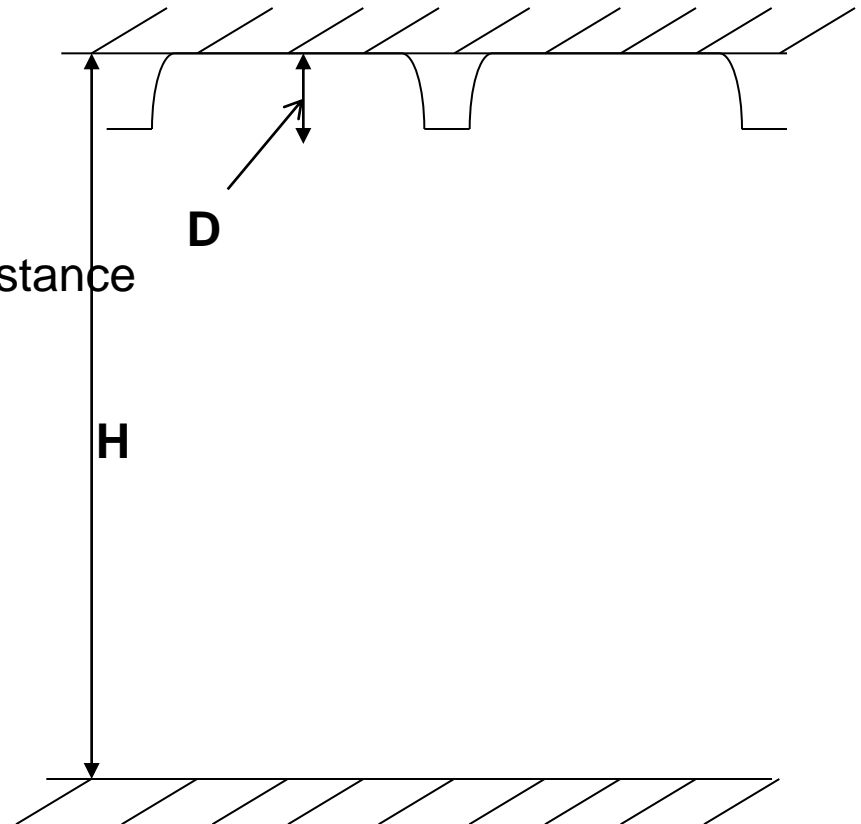
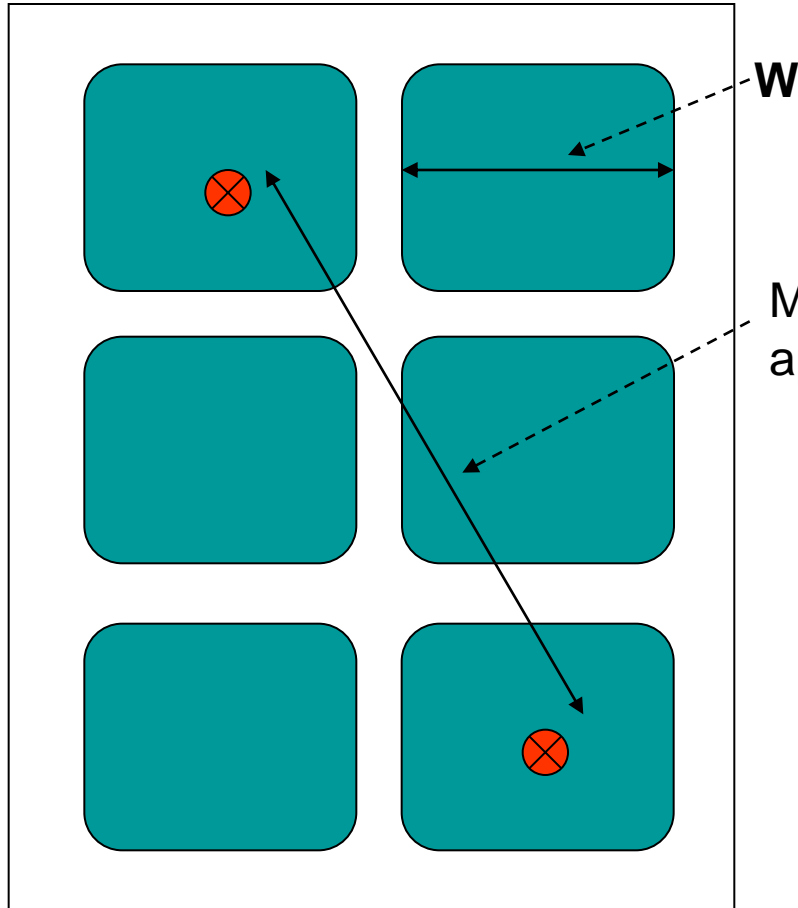
Reflected Plan



Section

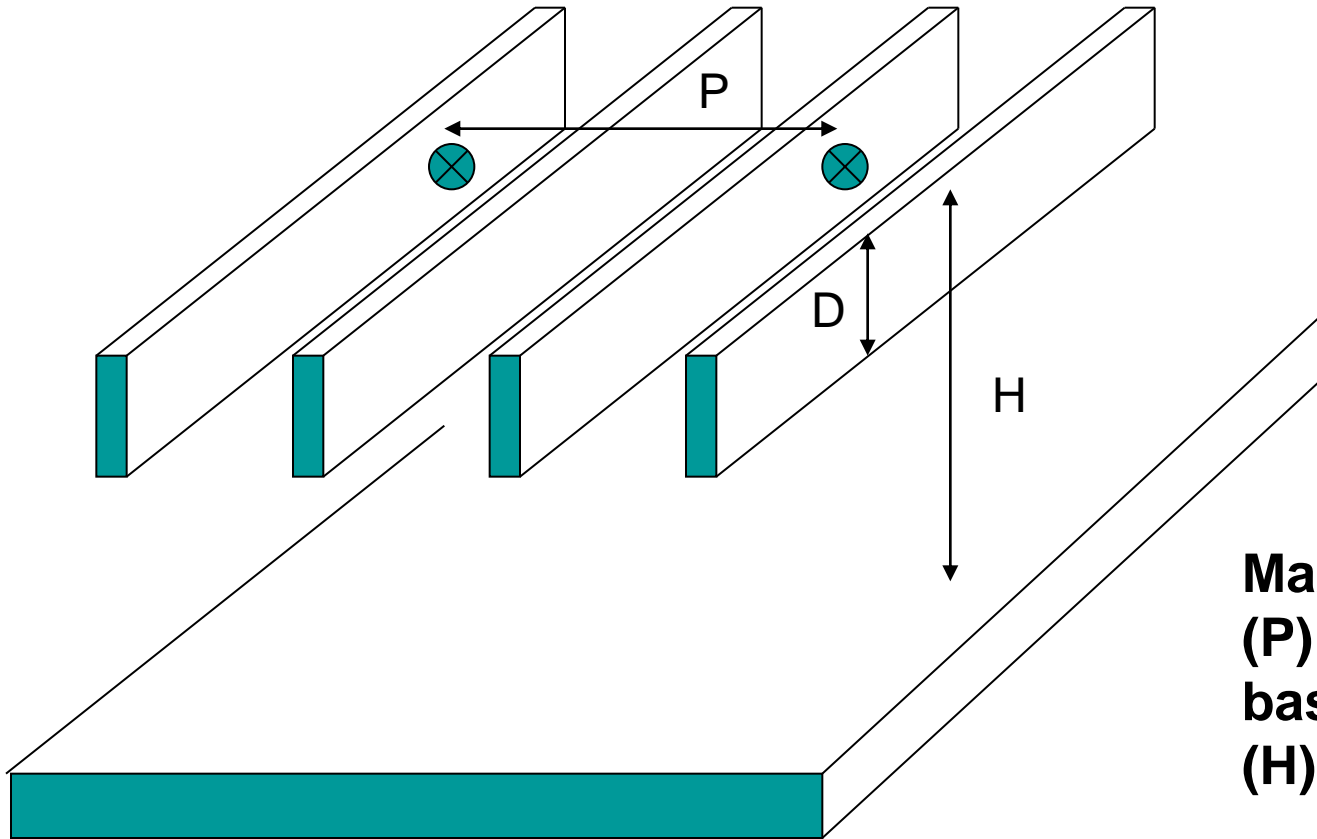
Honeycombs/Coffers - Spacing

Reflected Plan




Section

Closely Spaced Beams



**Maximum spacing
(P) from a Table
based on Height
(H) and Depth (D)**

Design - C.I.E.

- Duplicate C.I.E. for Special Needs 
 - Height consideration
 - Primary Indication:
 - Detection Zone of Alarm
 - Multi Occupancy
 - Local Panel per Occupancy
 - Interface to House CIE
 - "Zone Indication" on Main CIE per occupancy
-

Cables - Design/ Installation

- Confirmed Type of Cable
 - Corrigendum from 2009 included
 - Cable Glands Required
 - Unless closed mechanical protection provided e.g. Conduit
 - Cable Mounting options outlined
 - Top of Tray
 - In Screwed Steel conduit
 - Stainless steel ties
-

Installation/ Commissioning

- Few material changes
 - 8.5.5 Parties involved in Commissioning
 - Now to include - Interfaced Equipment Supplier e.g. Lift, Vent etc.
 - 8.5.11.2.2 Verification
 - Alteration from “Should” to “Shall” be carried out by a competent person
-

Servicing

- Frequency amended
 - Only Annual requirements outlined
 - All Devices Once per Annum
 - Central equipment Four times per Annum
 - Interval : Min 2 Month Max 4 Month
 - Total Visual inspection on phased basis per annum
 - Emphasis on Annual certificate
 - Will now show Central equipment test dates
-

Residential - Category

- Category LD1
 - Now to cover Attics/ Lofts
 - Remote Control for Test, Alarm Location & Silence
 - Category LD2
 - < 4 Floors & < 200m² per floor
 - 1 Family or max 6 persons
 - Now to cover Bedrooms
-

Residential - Radio

- Grade D
 - Interconnection by Radio acceptable
 - Still needs Mains + Battery device
 - Previously unprotected Dwellings
 - Includes Multi Occupancy & Houses
 - Radio with 10 year battery allowed
 - Interconnection required (as per Grade D)
-

Residential - Detector Location

- Coverage now specified
 - Smoke/CO Alarm unit: 100m²
 - Heat Alarm unit: 50m²
 - Spacing – distance to detector
 - Habitable area : Max = 6m from Detector
 - Bedroom Door : Max = 3m from Detector
-

Residential - L3X System

- Interconnections
 - No interconnection of Residential alarm units to central L3X system
- L3X Sounder in Apt Hall can be omitted
 - If other L3X sounders in bedrooms achieve sound level



Questions
