

A SYSTEM AND METHOD FOR CONDUCTING INSPECTIONS OF FIRE DOORS

Technical Field

5 The present invention relates to a system and method for conducting inspections of fire doors.

Background to the Invention

10 Fire and safety regulations in many jurisdictions require that fire doors in properties are inspected at regular intervals. For this reason, identification tags are applied to doors which carry information relating to each door. In order to carry out the inspection, a trained operator visits each location where fire doors are installed, locates the identification tag applied to each door, inspects the door and then makes a record of the inspection.

15 It has been found that accurately tracking the installation and subsequent regular inspections of fire rated doorsets is problematic. From time to time, either deliberately or accidentally mistakes have been made, such as:

- Identification tags have been removed by painters or building occupants. Thus
20 the doors to which the tags were applied must fail inspection and need to be replaced.
- Doors have been replaced with non compliant doors using original identification tags. The inspector may not notice this at the time of inspection and thus the non compliant door remains in service. This poses a fire risk to building occupants.
- Identification tags have come off doors due to normal wear and tear. Again,
25 these doors must fail inspection and must be replaced at considerable cost.

 It would be advantageous to improve the effectiveness and the efficiency of fire door inspections.

30 Summary of the Invention

 In a first aspect the present invention provides a system for conducting inspections of fire doors including: a number of information storage devices, each device being permanently associated with a fire door; a mobile device which is arranged to communicate with the information storage devices over a wireless communication
35 link.

The mobile device may be arranged to retrieve information from the information storage devices.

The mobile device may be arranged to store information in the information storage devices.

5 In a second aspect, the present invention relates to a fire door including an information storage device which can be interrogated over a wireless communication link.

The information storage device may be inserted into a recess provided at an edge of the door.

10 The information storage device may be covered in the recess by a plug of sealant.

In a third aspect the present invention provides a method of conducting inspections of fire doors including the steps of: providing a number of information storage devices and permanently associating each of the storage devices with a fire
15 door; providing an operator with a mobile device, the mobile device being arranged to communicate with the information storage devices over a wireless communication link; at each door, the operator uses the mobile device to retrieve information from the storage device, makes an inspection of the door, and stores information relating to the inspection in the information storage device.

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Brief Description of the Drawings

An embodiment of the present invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a table illustrating fields of information in a printout record of an
25 inspection carried out in accordance with an embodiment of the invention.

Detailed Description of the Preferred Embodiment

In this embodiment, storage devices in the form of read and writable RFID tags, each having an antenna and a memory are each implanted into a fire door. Each tag is
30 implanted in top edge of door by means of drilling a small hole approx 10mm diameter, implanting the tag in the hole, and then covering the tag with metal or wood filler.

A mobile device in the form of a hand held transceiver is configured to read and write information to and from the tags when the receiver comes into proximity of the tag.

35 Following installation of new fire doors, an initial inspection of each door is made. The operator records the following information in their hand held device:

- # Inner core manufacturer and core identification number.
- # Finished door manufacturer and door identification number.
- # Fire test sponsor and test report number.
- 5 # Month & year of manufacture.
- # Name of door installation company.
- # Installed doorset Certifier.
- # Certificate number.
- # Initial inspection date.
- 10 # Inspection officers name.
- # Pass/Fail report.

Thereafter, regular inspections of the door are made at the required frequency.
 At each regular inspection, the operator uses the hand held device to download the data
 15 stored in the tag. The inspector then makes his inspection and records the following
 information in the hand held device:

- # Date of this inspection.
- # Name of inspection company
- 20 # Inspection officers name.
- # Pass/Fail report.

At each regular inspection, the new data recorded by the operator is uploaded to
 the tag by way of the hand held device.

25 The operator may make a printout record of each inspection for record keeping
 purposes. A typical printout is shown in figure 1.

- It can be seen that embodiments of the invention have the following advantages:
- The inspection information relating to each door cannot be painted over,
 accidentally removed or peeled away as is the case with a physical label attached
 30 to the door. This reduces cost associated with replacing doors that fail
 inspection.
 - If the door is replaced by another inferior door, then this will be evident by the
 fact that there is no tag to be interrogated, or if a tag is present in the
 replacement door, its information will not match the earlier inspection
 35 information recorded for that door. Thus, it will be evident to an operator if the
 door has been substituted. This reduces fire risk for building occupants.

Any reference to prior art contained herein is not to be taken as an admission that the information is common general knowledge, unless otherwise indicated.

Finally, it is to be appreciated that various alterations or additions may be made to
5 the parts previously described without departing from the spirit or ambit of the present invention.

CLAIMS

1. A method of conducting inspections of fire doors including the steps of:
providing a number of information storage devices and permanently associating each of the storage devices with a fire door;
providing an operator with a mobile device, the mobile device being arranged to communicate with the information storage devices over a wireless communication link;
at each door, the operator uses the mobile device to retrieve information from the storage device, makes an inspection of the door, and stores information relating to the inspection in the information storage device, wherein the information relating to the inspection includes data identifying either an inspection company or an inspection officer.
2. A system for conducting inspections of fire doors including:
a number of information storage devices each permanently associated with a fire door;
a mobile device, the mobile device being arranged to communicate with the information storage devices over a wireless communication link;
the mobile device being arranged to store information relating to an inspection of a fire door and information storage device, wherein the information relating to the inspection includes data identifying either an inspection company or an inspection officer.