LVE 5

Session 2005

ANGLAIS

⮜ GROUPE 14 ⮞

	Durée	*Coefficient*
BTS Chimiste	*2 heures*	*1*
BTS Techniques physiques pour l'industrie et le laboratoire	*2 heures*	*2*

DICTIONNAIRE BILINGUE AUTORISÉ.

L'USAGE DE LA CALCULATRICE EST INTERDIT.

Tout autre matériel est interdit.

Avant de composer, le candidat s'assurera que le sujet comporte bien 3 pages numérotées de 1/3 à 3/3.

I - TRANSLATE INTO FRENCH **(6 points)**

Translate the article from line 1 « *Steel fire doors...* » to line 7 « *... they take to fail* ».

II - ANSWER IN ENGLISH **(14 points)**

Compare the two tests. Which one is the more reliable? Explain why? **Use your own words.**
(80 words) *(6 points)*

Give three or four examples of objects or devices that people use every day and that can be dangerous. What criteria would make them reliable?
(120 words) *(8 points)*

Fire tests spark safety fears

Steel fire doors that are supposed to give people at least an hour to escape a blaze can fail in less than 20 minutes, tests in France show. The results raise severe doubts about the reliability of the international standard for testing fire doors.

The doors are usually tested using a method laid down by ISO, the International Organization for Standardization in Geneva. A section of the door is put in a furnace and the temperature gradually increased until it fails. Different types of fire doors can then be categorised according to the time they take to fail.

Daniel Joyeux, a fire researcher at the Industrial Technical Centre of Steel Construction near Paris, took a fire door consisting of a wooden filling sandwiched between two steel sheets, which had an ISO rating of 60 minutes. He used ISO's method to test the door and found it survived for 70 minutes - easily exceeding the ISO rating.

Joyeux then recreated a typical hotel fire to test how effective the fire door would be in a real blaze. He found that the outer steel sheeting buckled and the door failed in less than 20 minutes. The ISO fire rating doesn't reflect the door's performance in a real fire, he says.

This disparity could mean people grossly overestimate how long they have to escape a fire. « The whole point of fire doors is that they give people time to escape, » says Peter Bressington of Arup Fire International in London.

Typical bedroom

The reason for the different results is that the ISO test is highly artificial. « It doesn't represent what happens in a real fire, » says Ed Galea, director of fire safety engineering at the University of Greenwich in London.

First, only part of the door is tested and, second, the temperature of the ISO standard fire increases gradually, reaching a peak around an hour after ignition. Real fires often get hotter much more quickly.

Complete overhaul

Joyeux points out that this peak roughly coincided with the buckling of the steel plate. After hitting this peak, the temperature of a real fire begins to drop as it runs out of fuel and oxygen.

Fire safety experts have had their doubts about the ISO test for some time. « This is a debate that is going on, » says Galea. « But what you hope for from the furnace tests is an assessment that errs on the pessimistic side, rather than one that is optimistic. »

Bressington argues that wood is a better choice for fire doors in hotels than steel, because it costs less, is lighter, needs less maintenance and its fire performance is well understood.

ISO acknowledges that its testing method is in need of a complete overhaul and says it is working out how to improve the standard. « We want to make the test more realistic, » says Peter Jackman, who chairs the working group revising the standard.

Journal reference: *Fire Safety Journal* (vol 32, p 605) *21 August 2002*

From : New Scientist