

## TEST 02 - READING 02

NAME:.....

## Reading Passage 2

You should spend about 20 minutes on Questions 14–27, which are based on Reading Passage 2 below.

### Designing and shipping after the Restriction of Hazardous Substances (RoHS) directive

- 1 Almost two months after the European Union's ban on the use of six environmentally unfriendly materials went into effect, designers have clear evidence that failure to meet the Restriction of Hazardous Substances (RoHS) directive means lost sales. Palm Inc. recently announced that its Treo 650 smart phone is no longer being shipped to Europe, since it doesn't meet RoHS requirements. And several Apple Computer Inc. products will not be sold in Europe for the same reason.
- 2 The EU directive, which took effect on 1st July, covers lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers. Electronics vendors worldwide are working to eliminate those substances from nearly all new products developed for the European market, while also adapting their manufacturing processes to a lead (Pb)-free environment.
- 3 But that is only the beginning. Other countries, including China, Taiwan and South Korea, and certain U.S. states are creating their own "green" or RoHS-like legislation. That means RoHS compliance must become an integral part of a designer's development process, with RoHS checks at each step: concept, development, prototype, first builds and volume production.
- 4 Major companies will run the gamut from finding component databases of qualified green components to taking due care to prove compliance and developing processes that allow for the higher-temperature requirements of Pb-free manufacturing. And for designers, those are just the tip of the iceberg. A host of technical and reliability issues remain to be sorted out in Pb-free board processing and soldering.
- 5 What it comes down to is what Ken Stanvick, senior vice president at Design Chain Associates, calls a lack of 'tribal knowledge' on design RoHS-compliant systems. 'We had a great tribal knowledge when it came to dealing with leaded systems, but we haven't built up that same amount of knowledge for Pb-free,' he said. 'Every problem will be blamed on Pb-free until it's been worked out. We need to figure out tests that replicate more of the environment and different stresses that we're going to see in this new system.'
- 6 Manny Marcano, president and CEO of EMA Design Automation Inc. (Rochester, N.Y.), cited the impact of parts obsolescence, including the need to redesign older products and the resultant emphasis on component engineering at the expense of conceptual design. A key challenge is identifying RoHS design specifications as early as possible in the design process, he said.

- 7 But even before they get to that point, designers must understand whether they are designing a fully compliant product or one that's subject to some exemptions, said Robert Chinn, director for consultant firm PRTM (Mountain View, Calif.). 'This affects their design parameters,' he said. 'Previously, they looked at components based on size, performance, electrical parameters, features and functionality. Now they have to add on a new constraint, revolving around environmental compliance: Is it RoHS 6-compliant or is it RoHS 5-compliant?' (RoHS 6 components eliminate all six of the banned substances, while RoHS 5 models, because of exemptions, still contain lead.)
- 8 If designers do not take RoHS seriously, any country that can prove a product does not comply can levy fines against the vendor. That can cost market share, Marcano said, since noncompliant companies become non-competitive. And then, not being prepared can mean belatedly diverting resources to RoHS compliance, causing missed market opportunities.
- 9 But many industry observers believe smaller and medium-size companies will continue to be complacent about the RoHS transition until some major company is cited for non-compliance. 'When that happens, there will be an earthquake throughout the industry, and it will wake up every design engineer,' said Steve Schultz, director of strategic planning and communications at Avnet Logistics and program manager for the distributor's compliance efforts for RoHS in the Americas.
- 10 'The product developer's RoHS concerns center on the fear of lost revenue – from a product ban, a customer who demands a RoHS-compliant product that the company doesn't have, or competition', said Harvey Stone, managing director for consultancy GoodBye Chain Group (Colorado Springs, Colo.). 'With price, quality and service being relatively equal, a savvy customer is going to choose a RoHS-compliant product,' he said.
- 11 Meanwhile, designers are looking over their shoulders at several other – and potentially stricter – environmental regulations in the pipeline. These include the EU's Registration, Evaluation and Authorization of Chemicals legislation, which could restrict the use of thousands of chemicals, and its Energy-using Products (EuP) directive, which will initially target energy-efficiency requirements.



**Questions 14–17**

Look at the following people and the list of statements below.

Match each person with the correct statement.

Write the correct letter A–G in boxes 14–17 on your answer sheet.

14 Manny Marcano

15 Harvey Stone

16 Steve Shultz

17 Ken Stanvick

**List of Statements**

- A believes that the EU directive requires no action
- B claims that old products need to be redesigned
- C claims that customers will want a RoHS compliant product
- D states that many products will be RoHS exempt
- E is involved in planning and communications
- F predicts that design engineers will like RoHS
- G claims that more knowledge about Pb-free systems is needed

**Questions 18–24**

Complete the summary using the list of words A–P below.

Write the correct letter A–P in boxes 18–24 on your answer sheet.

The EU has banned the use of six materials that are **18** ..... to the environment. This means that if designers do not meet the Restriction of Hazardous Substances (RoHS) directive, sales will **19** ..... Similar legislation is being put together around the world, which indicates that RoHS compliance needs to become a **20** ..... part of a designer's development process. RoHS checks at every step from concept to mass production is also a necessity. But **21** ..... technical and reliability problems remain to be **22** ..... Previously, the performance etc. of components were **23** ....., but now a new **24** ..... needs to be taken into account: environmental compliance.

- |               |                 |             |              |
|---------------|-----------------|-------------|--------------|
| A requirement | E big           | I variety   | M idea       |
| B friendly    | F basic         | J decline   | N small      |
| C hostile     | G insignificant | K solved    | O recognised |
| D increase    | H numerous      | L important | P need       |

**Questions 25–27**

*Do the following statements agree with the information in Reading Passage 2?*

*In boxes 25–27 on your answer sheet write*

**TRUE**            *if the statement agrees with the information*  
**FALSE**         *if the statement contradicts the information*  
**NOT GIVEN**   *if there is no information about the statement*

**25** Countries can impose fines on the sellers of products that do not comply with RoHS.

**26** Smaller companies are taking the changeover to RoHS seriously.

**27** The Energy-using directive will be introduced in the very near future.

*Before you check your answers to Reading Passage 2, go on to page 52.*

### Further practice for Reading Passage 2

The questions below will help you make sure that you have chosen the correct answers for questions 14–24 in Reading Passage 2.

#### Matching names and statements

Look at questions 14–17 and answer the following:

- 1 Is it possible to use the same technique as in classification? Yes/No
- 2 Is it easier to see the names when you box them? Yes/No
- 3 Which words from each statement A–G can you use to scan between the boxes?

A .....

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B .....

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C .....

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D .....

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E .....

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F .....

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G .....

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#### Summary completion

Look at questions 18–24 and put the words A–P into the following groups.

Adjectives: .....

.....

Nouns: .....

.....

Verbs: .....

.....

#### Word type

Decide what type of word is needed for each gap.

18 .....

19 .....

20 .....

21 .....

22 .....

23 .....

24 .....

#### Checklist questions 18–24

Circle Yes/No.

18 If the materials have been banned, are they environmentally good? Yes/No

19 If the directive is not met, will something positive happen? Yes/No

20 If the legislation is everywhere, is compliance essential? Yes/No

21 Is there more than one problem? Yes/No

22 Is the word *solved* related to the word *problems*? Yes/No

23 In the past was the performance of components significant? Yes/No

24 Is compliance something that is unnecessary? Yes/No

Now check your answers to these exercises. When you have done so, decide whether you wish to change any of your answers to Reading Passage 2. Then check your answers to Reading Passage 2.