

## 第 16 集：魔法材料：自癒混凝土

牆角開始剝落，窗邊也悄悄浮現滲水的痕跡？

你是不是也住過一間年久失修的老房子？斑駁的牆面出現了裂痕...

大家總會說：「這房子老了嘛。」，但有沒有想過

What if it could fix itself? 如果它能自己修好呢？

一個讓我們重新定義「混凝土」的新科技

- Self-healing concrete，自癒混凝土。

### A. News in Tech Tones

Concrete that fixes itself? It's real! Tiny capsules or special bacteria fill in cracks as soon as they appear.

混凝土會自己修？真的！裡頭藏著膠囊或細菌，裂縫一出現就自動補起來。

This self-healing concrete helps buildings last longer and cuts down repair costs.

這種自癒混凝土可以延長建築壽命，還能省下大筆維修費！

### B. Tech Key Words

#### 自癒混凝土

Self-healing = able to repair itself automatically without external help 自我修復

Concrete = strong, gray stuff used to build buildings and roads 混凝土。

Self-healing concrete 具有自我修復能力的混凝土材料。

對話練習：

A：This concrete repairs its own cracks, and tiny capsules inside release healing material.

這種混凝土會自動修補裂縫，裡面的微膠囊會釋放修復材料。。

B：That's self-healing concrete! Like skin healing with a built-in bandage!

這就是自癒混凝土！就像皮膚自己帶著 OK 繃一樣！

### C. If Technology can talk

如果科技會說話，”Self-healing concrete 自癒混凝土”會說什麼？

I feel the cracks. I heal myself quietly, patiently, like I was meant to.

我感受到裂縫，我靜靜地、耐心地癒合，如同我與生俱來的本能。

### D. 字彙整理

Cracks (noun) 裂縫

Capsules (noun) 膠囊

### E. 關鍵字應用練習

Q1. What is self-healing concrete?

- ☐ A. Concrete that repairs its own cracks using capsules or bacteria.
- ☐ B. Concrete that melts when it gets hot.
- ☐ C. Concrete that can move by itself.

Q2. What makes self-healing concrete “heal”?

- ☐ A. Tiny capsules or bacteria that release healing material when cracks appear.
- ☐ B. Magnets inside the concrete.
- ☐ C. A special paint on the surface.

Q3. Why is self-healing concrete important?

- ☐ A. It helps buildings last longer and saves repair costs.
- ☐ B. It makes roads change color.
- ☐ C. It makes concrete lighter but weaker.

Q4. (造句練習 sentence builder ) 請用” Self-healing concrete 自癒混凝土”造一個屬於你的句子。

舉例

主詞	動詞/動詞片語	其他元素
Engineers	are developing	self-healing concrete to make safer and longer-lasting buildings.
Self-healing concrete fixes		small cracks before they become big problems.
This new material	uses	tiny capsules or bacteria to repair damage automatically.

我的句子：\_\_\_\_\_

### Q5. Fill in the blanks (填空)

1. Self-healing concrete can repair \_\_\_\_\_ when they appear.
2. Tiny \_\_\_\_\_ or special \_\_\_\_\_ release healing material to fill the cracks.
3. This technology helps buildings last \_\_\_\_\_ and reduces repair \_\_\_\_\_.
4. Self-healing concrete shows that even strong materials can have a \_\_\_\_\_ life.

( 參考答案：cracks • capsules • bacteria • longer • costs • second )

**Q6. Reflection**（反思題）請用 2－3 句英文回答下列問題：

1. How does self-healing concrete change the way we think about materials?
2. Where do you think the self-healing concrete technology could be most useful?

有些裂縫，看得見；有些裂縫，從來沒被發現。

Self-healing concrete 自癒混凝土，不等人修，它自己靜靜癒合，守住建築的生命。

It heals before you notice.

在你發現之前，修復已經開始。