

## **F 2026 – Teil/part/partie 2**

Die europäische Patentanmeldung, die Dokumente zum Stand der Technik sowie die Ansprüche finden Sie in Anhang 1. Die geänderten Ansprüche (relevant ab Frage 7) sind in Anhang 2 verfügbar. Bitte beachten Sie, dass bei der Prüfung die Ansprüche nicht Teil der Dokumente zum Ausdrucken sind. Diese sind nur auf dem Bildschirm verfügbar.

Please see annex 1 for the European patent application, the state of the art documents and the claims. The amended claims (relevant from question 7 onwards) are available in annex 2. Please note that for the examination, the claims are not part of the printable documents. These are available on screen only.

Veillez consulter l'annexe 1 pour la demande de brevet européen, les documents relatifs à l'état de la technique et les revendications. Les revendications modifiées (pertinentes à partir de la question 7) sont disponibles à l'annexe 2. Veuillez noter que pour l'examen, les revendications ne font pas partie des documents imprimables. Elles sont disponibles uniquement à l'écran.

### **Hinweis / note / note**

DE: Jede der folgenden Fragen ist unabhängig von den anderen zu beantworten. Bezieht sich eine Frage auf eine bestimmte Rechtsvorschrift (z. B. Artikel 84 EPÜ), so dürfen Sie bei der Beantwortung ausschließlich diese Vorschrift berücksichtigen und sich nicht auf Ihre Angaben in anderen Fragen beziehen, die andere Rechtsvorschriften betreffen (z. B. Artikel 123(2) EPÜ).

EN: Each of the following questions must be answered independently of the others. Where a question refers to a specific legal provision (e.g. Article 84 EPC), you must consider only that provision when formulating your answer and must not rely on your statements made in other questions concerning different provisions (e.g. Article 123(2) EPC).

FR: Chacune des questions suivantes doit être traitée indépendamment des autres. Lorsqu'une question se réfère à une disposition juridique spécifique (par exemple l'article 84 CBE), vous ne devez prendre en compte que cette disposition pour formuler votre réponse et ne devez pas vous appuyer sur vos déclarations figurant dans d'autres questions portant sur d'autres dispositions (par exemple l'article 123(2) CBE).

## **Frage/Question 1**

### **2 PUNKTE / MARKS / POINTS**

**DE:** Gehören nach dem EPÜ alle vier Entgegenhaltungen D1 bis D4 zum Stand der Technik?

**EN:** Are all the items D1 to D4 considered as being comprised in the state of the art under the EPC?

**FR:** Les éléments D1 à D4 sont-ils tous considérés comme compris dans l'état de la technique au titre de la CBE ?

- Ja/Yes/Oui
- Nein/No/Non

## Frage/Question 2

### 5 PUNKTE / MARKS / POINTS

**DE:** Der Gegenstand von Anspruch 1 wie ursprünglich eingereicht ist neu gegenüber dem Stand der Technik D1 bis D4.

**EN:** The subject-matter of claim 1 as originally filed is novel over the prior art D1 to D4.

**FR:** L'objet de la revendication 1 telle qu'initialement déposée est nouveau par rapport aux éléments D1 à D4 de l'état de la technique.

	Wahr/True/Vrai	Falsch/False/Faux
D1	<input type="checkbox"/>	<input type="checkbox"/>
D2	<input type="checkbox"/>	<input type="checkbox"/>
D3	<input type="checkbox"/>	<input type="checkbox"/>
D4	<input type="checkbox"/>	<input type="checkbox"/>

### Frage/Question 3

#### 4 PUNKTE / MARKS / POINTS

**DE:** Der Gegenstand von Anspruch 2 wie ursprünglich eingereicht ist neu gegenüber dem Stand der Technik D1 bis D4.

**EN:** The subject-matter of claim 2 as originally filed is novel over the prior art D1 to D4.

**FR:** L'objet de la revendication 2 telle qu'initialement déposée est nouveau par rapport aux éléments D1 à D4 de l'état de la technique.

	Wahr/True/Vrai	Falsch/False/Faux
D1	<input type="checkbox"/>	<input type="checkbox"/>
D2	<input type="checkbox"/>	<input type="checkbox"/>
D3	<input type="checkbox"/>	<input type="checkbox"/>
D4	<input type="checkbox"/>	<input type="checkbox"/>

## Frage/Question 4

### 3 PUNKTE / MARKS / POINTS

**DE:** Der Gegenstand der Ansprüche 3 bis 5 wie ursprünglich eingereicht ist neu gegenüber dem Stand der Technik D3.

**EN:** The subject-matter of claims 3 to 5 as originally filed is novel over the prior art D3.

**FR:** L'objet des revendications 3 à 5 telles qu'initialement déposées est nouveau par rapport au document D3 de l'état de la technique.

	Wahr/True/Vrai	Falsch/False/Faux	
Anspruch 3 / Claim 3 / Revendication 3	<input type="checkbox"/>	<input type="checkbox"/>	
Anspruch 4 / Claim 4 / Revendication 4	<input type="checkbox"/>	<input type="checkbox"/>	
Anspruch 5 / Claim 5 / Revendication 5	<input type="checkbox"/>	<input type="checkbox"/>	

## Frage/Question 5

4 PUNKTE / MARKS / POINTS

**DE:** Der Gegenstand von Anspruch 6 wie ursprünglich eingereicht ist neu gegenüber dem Stand der Technik D1 bis D4.

**EN:** The subject-matter of claim 6 as originally filed is novel over the prior art D1 to D4.

**FR:** L'objet de la revendication 6 telle qu'initialement déposée est nouveau par rapport aux éléments D1 à D4 de l'état de la technique.

	Wahr/True/Vrai	Falsch/False/Faux
D1	<input type="checkbox"/>	<input type="checkbox"/>
D2	<input type="checkbox"/>	<input type="checkbox"/>
D3	<input type="checkbox"/>	<input type="checkbox"/>
D4	<input type="checkbox"/>	<input type="checkbox"/>

## Frage/Question 6

**3 PUNKTE / MARKS / POINTS**

**DE:** Welches der Dokumente des Stands der Technik D1 bis D4 kann als nächstliegender Stand der Technik für Anspruch 5 wie ursprünglich eingereicht gelten?

**EN:** Which of the prior-art documents D1 to D4 can be considered the closest prior art with regard to claim 5 as originally filed?

**FR:** Quel est, parmi les éléments D1 à D4 de l'état de la technique, celui qui peut être considéré comme l'état de la technique le plus proche au regard de la revendication 5 telle qu'initialement déposée?

- D1
- D2
- D3
- D4

## Frage/Question 7

### 5 PUNKTE / MARKS / POINTS

**DE:** Der geänderte Anspruchssatz erfüllt nicht die Erfordernisse des Artikels 84 EPÜ, weil:

**EN:** The amended set of claims does not comply with the requirements of Article 84 EPC because:

**FR:** Le jeu modifié de revendications ne satisfait pas aux exigences de l'article 84 CBE parce que :

	Wahr/True/Vrai	Falsch/False/Faux
<p><b>DE:</b> Der Ausdruck "in einem Gebäude" den geänderten Anspruch 1 unklar macht.</p> <p><b>EN:</b> The expression "in a building" renders amended claim 1 unclear.</p> <p><b>FR:</b> L'expression "dans un bâtiment" rend obscure la revendication 1 modifiée.</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>DE:</b> Der Ausdruck "ultrahochmolekular" den geänderten Anspruch 2 unklar macht.</p> <p><b>EN:</b> The expression "ultra-high molecular weight" renders amended claim 2 unclear.</p> <p><b>FR:</b> L'expression "masse moléculaire très élevée" rend obscure la revendication 2 modifiée.</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p><b>DE:</b> Der Ausdruck "Gewebe" ein Product-by-Process-Merkmal definiert, das nach Artikel 84 EPÜ nicht zulässig ist.</p> <p><b>EN:</b> The expression "woven fabric" defines a product-by-process feature which is not allowable under Article 84 EPC.</p> <p><b>FR:</b> L'expression "tissu tissé" définit une caractéristique d'un produit caractérisé par son procédé d'obtention ("product-by-process") qui n'est pas autorisée au titre de l'article 84 CBE.</p>	<input type="checkbox"/>	<input type="checkbox"/>

	Wahr/True/Vrai	Falsch/False/Faux
<p><b>DE:</b> Die geänderten Ansprüche 1 und 3 einander widersprechen.</p> <p><b>EN:</b> Amended claims 1 and 3 contradict each other.</p> <p><b>FR:</b> Les revendications 1 et 3 modifiées se contredisent.</p>	<input type="checkbox"/>	<input type="checkbox"/>

## Frage/Question 8

**2 PUNKTE / MARKS / POINTS**

**DE:** Der geänderte Anspruch 7 ist abhängig vom geänderten Anspruch 4.

**EN:** Amended claim 7 is dependent on amended claim 4.

**FR:** La revendication 7 modifiée dépend de la revendication 4 modifiée.

- Ja/Yes/Oui
- Nein/No/Non

## Frage/Question 9

### 4 PUNKTE / MARKS / POINTS

**DE:** Die geänderten Ansprüche 1 bis 3 erfüllen die Erfordernisse des Artikels 123 (2) EPÜ.

**EN:** Amended claims 1 to 3 meet the requirements of Article 123(2) EPC.

**FR:** Les revendications 1 à 3 modifiées satisfont aux exigences de l'article 123(2) CBE.

	Ja/Yes/Oui	Nein/No/Non
Geänderter Anspruch 1 / Amended claim 1 / Revendication 1 modifiée	<input type="checkbox"/>	<input type="checkbox"/>
Geänderter Anspruch 2 / Amended claim 2 / Revendication 2 modifiée	<input type="checkbox"/>	<input type="checkbox"/>
Geänderter Anspruch 3 / Amended claim 3 / Revendication 3 modifiée	<input type="checkbox"/>	<input type="checkbox"/>

## Frage/Question 10

### 5 PUNKTE / MARKS / POINTS

**DE:** Die geänderten Ansprüche 4 bis 7 erfüllen die Erfordernisse des Artikels 123 (2) EPÜ.

**EN:** Amended claims 4 to 7 meet the requirements of Article 123(2) EPC.

**FR:** Les revendications 4 à 7 modifiées satisfont aux exigences de l'article 123(2) CBE.

	Ja/Yes/Oui	Nein/No/Non
Geänderter Anspruch 4 / Amended claim 4 / Revendication 4 modifiée	<input type="checkbox"/>	<input type="checkbox"/>
Geänderter Anspruch 5 / Amended claim 5 / Revendication 5 modifiée	<input type="checkbox"/>	<input type="checkbox"/>
Geänderter Anspruch 6 / Amended claim 6 / Revendication 6 modifiée	<input type="checkbox"/>	<input type="checkbox"/>
Geänderter Anspruch 7 / Amended claim 7 / Revendication 7 modifiée	<input type="checkbox"/>	<input type="checkbox"/>

## Frage/Question 11

**4 PUNKTE / MARKS / POINTS**

**DE:** Der Gegenstand des geänderten Anspruchs 1 ist neu gegenüber dem Stand der Technik D1 bis D4.

**EN:** The subject-matter of amended claim 1 is novel over the prior art D1 to D4.

**FR:** L'objet de la revendication 1 modifiée est nouveau par rapport aux éléments D1 à D4 de l'état de la technique.

	Ja/Yes/Oui	Nein/No/Non
D1	<input type="checkbox"/>	<input type="checkbox"/>
D2	<input type="checkbox"/>	<input type="checkbox"/>
D3	<input type="checkbox"/>	<input type="checkbox"/>
D4	<input type="checkbox"/>	<input type="checkbox"/>

## Frage/Question 12

### 3 PUNKTE / MARKS / POINTS

**DE:** Der Gegenstand der geänderten Ansprüche 5 bis 7 ist neu gegenüber dem Stand der Technik D3.

**EN:** The subject-matter of amended claims 5 to 7 is novel over the prior art D3.

**FR:** L'objet des revendications 5 à 7 modifiées est nouveau par rapport au document D3 de l'état de la technique.

	Ja/Yes/Oui	Nein/No/Non
Geänderter Anspruch 5 / Amended claim 5 / Revendication 5 modifiée	<input type="checkbox"/>	<input type="checkbox"/>
Geänderter Anspruch 6 / Amended claim 6 / Revendication 6 modifiée	<input type="checkbox"/>	<input type="checkbox"/>
Geänderter Anspruch 7 / Amended claim 7 / Revendication 7 modifiée	<input type="checkbox"/>	<input type="checkbox"/>

## Frage/Question 13

**2 PUNKTE / MARKS / POINTS**

**DE:**

Der Anmelder zieht die Einreichung eines weiteren geänderten Anspruchs mit folgendem Wortlaut in Betracht:

Bauelement für ein Gebäude, wobei das Bauelement umfasst:  
eine Verstärkungsstruktur umfassend Kohlenstofffasern und Glasfasern,  
sowie eine Matrix, wobei  
die Verstärkungsstruktur in die Matrix eingebettet ist.

Würde die Prüfungsabteilung diesen geänderten Anspruch gewähren?

**EN:**

The applicant considers filing another amended independent claim with the following wording:

A construction element for a building, the construction element comprising:  
a reinforcement structure comprising carbon fibres and glass fibres, and  
a matrix, wherein  
the reinforcement structure is embedded in the matrix.

Would such an amended claim be allowed by the examining division?

**FR:**

Le demandeur envisage de déposer une autre revendication indépendante modifiée, formulée comme suit :

Élément de construction pour un bâtiment, l'élément de construction comprenant :  
une structure de renforcement comprenant des fibres de carbone et des fibres de verre, et  
une matrice,  
la structure de renforcement étant logée dans la matrice.

La division d'examen admettrait-elle cette revendication modifiée ?

- Ja/Yes/Oui
- Nein/No/Non

## Frage/Question 14

**2 PUNKTE / MARKS / POINTS**

**DE:** Der Anmelder darf erwarten, dass sich die in der Recherchenphase durchgeführte Recherche auch auf den Gegenstand des geänderten Anspruchs 2 erstreckt hat.

**EN:** The applicant may expect that the subject-matter of amended claim 2 was covered by the search performed during the search phase.

**FR:** Le demandeur peut s'attendre à ce que l'objet de la revendication 2 modifiée a été couvert par la recherche effectuée pendant la phase de recherche.

- Ja/Yes/Oui
- Nein/No/Non

## Frage/Question 15

**2 PUNKTE / MARKS / POINTS**

**DE:** Der Anmelder darf erwarten, dass sich die in der Recherchenphase durchgeführte Recherche auch auf den Gegenstand des geänderten Anspruchs 5 erstreckt hat.

**EN:** The applicant may expect that the subject-matter of amended claim 5 was covered by the search performed during the search phase.

**FR:** Le demandeur peut s'attendre à ce que l'objet de la revendication 5 modifiée a été couvert par la recherche effectuée pendant la phase de recherche.

- Ja/Yes/Oui
- Nein/No/Non

## European patent application as filed on 12 February 2026 without claiming priority

### Description

The present application is directed to construction elements for buildings.

Concrete is a well-known construction material which is much appreciated for its durability. It is a composite material comprising a mineral aggregate, such as gravel or sand, and a binder, which is normally cement.

Concrete has a very high compressive strength (resistance to breaking when squeezed by two opposing forces along the same axis). However, for many applications, its tensile strength (resistance to breaking when pulled apart) is not sufficient.

To address this problem, reinforcement structures having a higher tensile strength than the concrete are embedded into the concrete. Such reinforcement structures are often steel rods or steel cages. The material into which the reinforcement structure is embedded is called "matrix".

A problem with these known steel-based reinforcement structures is that they need to be protected against corrosion due to contact with water and oxygen which infiltrates through the concrete.

This problem is normally solved by applying a concrete cover of sufficient thickness to insulate the steel reinforcement structure from these environmental influences. The concrete cover is defined as the distance between the reinforcement structure and the outer surface of the concrete matrix (see Figure 1).

The manufacture of concrete is responsible for about 4% to 8% of global carbon dioxide emissions. Hence, it is desirable to reduce the thickness of the concrete cover to reduce the environmental impact of concrete-based construction elements.

The present invention addresses this problem by providing a construction element with the features as defined by claim 1. Preferred aspects of the invention are defined by the dependent claims.

It is essential for the invention that the known steel reinforcement structure be replaced by a reinforcement structure comprising fibres and that the reinforcement structure be embedded in the matrix. Many fibre materials are less prone to corrosion than steel such that the thickness of the concrete cover can be reduced.

A fibre is a substance that is significantly (more than 1 000 times) longer than it is wide. Many natural substances are fibres such as cotton, wool or straw fibres. For applications requiring high tensile strength, synthetic fibres such as carbon fibres, glass fibres or ultra-high molecular weight polyethylene fibres are available. Ultra-high molecular weight polyethylene is a well-known material and often abbreviated as UHMWPE. Steel rods are not fibres.

In a preferred embodiment of the invention, the fibres of the reinforcement structure are either carbon fibres or glass fibres. UHMWPE fibres do not adhere to the concrete and cannot be used as a reinforcement structure with concrete.

In the case of glass fibres, the fibres are preferably made of an alkali-resistant glass. The concrete matrix has an alkaline environment and alkali-resistant glass fibres are more durable in these environments than other types of glass fibres. As an alternative or in addition to using alkali-resistant glass fibres, it is possible to coat the glass fibres with an epoxy resin to protect the fibres from the alkaline environment. The protective effect can already be achieved by a thin coating having a thickness of 0.1 mm.

Carbon fibres are sufficiently resistant in the alkaline environment of the concrete matrix such that no protective measures against the alkaline environment are needed.

In a preferred embodiment, the reinforcement structure is a textile structure made of the fibres. A textile structure is a two-dimensional sheet-like structure made of fibre materials. Such structures are also called fabrics. A collection of loose fibres is not a textile.

Suitable textile structures for the present invention are woven fabrics or non-crimp fabrics.

Figure 2 shows example structures of a woven fabric (a) and a non-crimp fabric (b) in a top view (top) and cross-sectional view (bottom). A woven fabric is obtained by interlacing at least two thread systems of fibre material at right angles to one another (see horizontal and vertical threads in Figure 2). The interlacement of the threads leads to a certain amount of waviness of the threads. This waviness is undesired because the fibres are not optimally aligned within the matrix reducing the available tensile strength of the fibres. Non-crimp fabrics overcome this drawback. These fabrics are made of multiple flat layers of threads of fibre material (two layers are shown in Figure 2(b)), wherein the layers are fixedly connected to each other, e.g. by glue or yarns.

## Claims

1. A construction element for a building, the construction element comprising:  
a reinforcement structure comprising fibres, and  
a matrix, wherein  
the reinforcement structure is embedded in the matrix.
2. The construction element according to claim 1, wherein  
the matrix comprises a mineral aggregate and cement, and wherein  
the reinforcement structure is a textile structure comprising the fibres.
3. The construction element according to claim 2, wherein  
the fibres are glass fibres, wherein  
the glass fibres are preferably made of an alkali-resistant glass.
4. The construction element according to claim 3, wherein  
the fibres are coated with an epoxy resin.
5. The construction element according to any of claims 3 to 4, wherein  
the textile structure is a non-crimp fabric.
6. A building comprising a construction element, wherein  
the construction element comprises concrete, wherein  
the building further comprises a textile structure.

## Figures

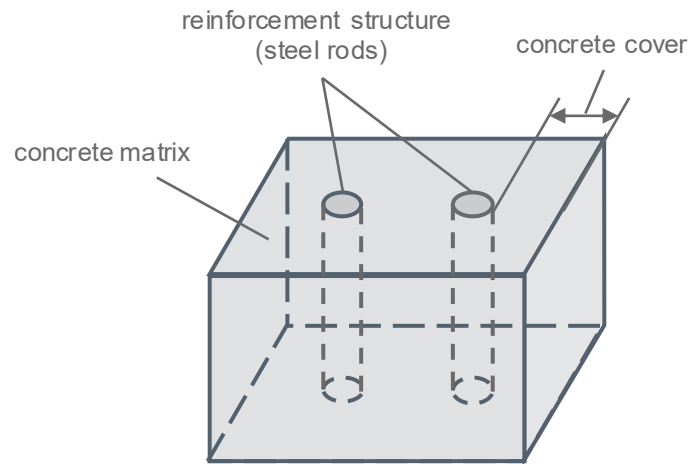


Figure 1: Steel-reinforced concrete construction element with concrete cover

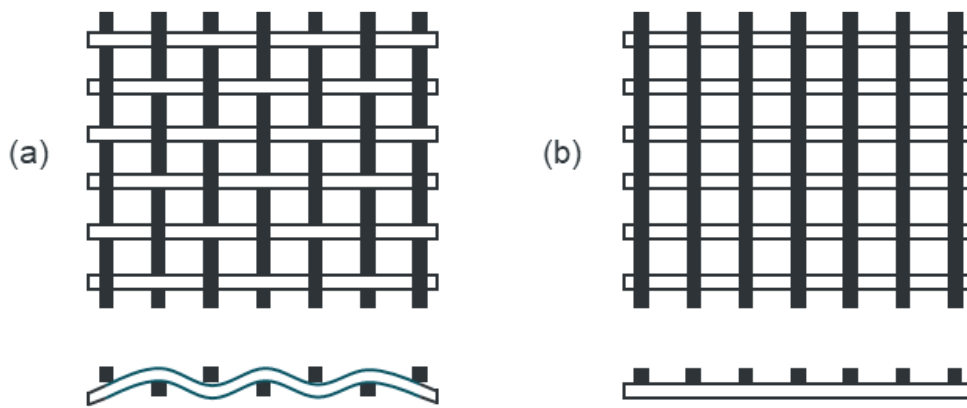


Figure 2: Woven fabric (a) and non-crimp fabric (b)

## **Available prior art**

### **D1 – Video published online on internet platform on 31 December 2025**

The video relates to a do-it-yourself blog and shows an influencer explaining best practices for replacing wallpaper. In addition to the influencer, the video shows the interior of a room with a blank wall from which the old wallpaper has been removed, revealing a wall made of conventional concrete blocks. The floor of the room is covered with a woven textile carpet.

### **D2 – US patent application published in 1980**

Conventional concrete construction element with a steel rod reinforcement structure.

### **D3 – EP patent application published in 2023**

A textile-reinforced concrete construction element for buildings comprises a woven fabric as a reinforcement structure. The woven fabric is made of glass fibres. The fabric is coated with an epoxy resin to improve the bond between the glass fibres and the concrete matrix. The effect of improved bonding is only achieved if the coating has a thickness of between 0.5 mm and 1 mm. Also disclosed is a building comprising such construction elements.

### **D4 – History book from the 1960s about construction methods in ancient Egypt**

Clay bricks reinforced with embedded loose straw fibres.

**Amended claims filed during substantive examination**

1. Textile structure in a building, wherein the textile structure is a woven fabric.
2. The textile structure of claim 1, wherein the woven fabric comprises ultra-high molecular weight polyethylene fibres.
3. The textile structure of claim 1, wherein the textile structure is a non-crimp fabric.
4. A construction element for a building, the construction element comprising:  
a reinforcement structure comprising glass fibres, and  
a matrix, wherein the reinforcement structure is embedded in the matrix, wherein  
the matrix comprises a mineral aggregate and cement, wherein  
the reinforcement structure is a textile structure comprising the glass fibres.
5. The construction element according to claim 4, wherein  
the glass fibres are made of an alkali-resistant glass.
6. The construction element according to claim 4 or 5, wherein  
the fibres are coated with an epoxy resin improving the bond between the glass fibres and the  
matrix.
7. The construction element according to claim 4, wherein the textile structure comprises carbon  
fibres instead of glass fibres.