

Examiners' Report: Mock Paper A

Introduction

The purpose of this mock paper is to provide an example of an EQE paper A which is deemed to be suitable for candidates from all technical fields. Importantly, this mock paper is for training purposes only and is only illustrative of possible future EQE papers. It cannot be used as a reference or baseline against which future papers could be judged.

This mock paper is based on the C-paper of 2012. It has been prepared with the same care and using almost the same processes than for “normal” EQE paper. However, since this examination has not been sat by candidates, the present examiner report is purely artificial and can only represent the imperfect view of the (enlarged) drafting sub-committee involved in its preparation. For a real paper, there is a second stage which starts with the analysis by the markers of the hundreds of responses provided by the candidates.

In this paper, the applicant is a company working in the field of skin patches for delivery of a skin care composition.

According to the applicant, the conventional skin patches used to deliver cosmetic agents to human skin have several drawbacks.

As explained by the applicant, conventional patches have either a high flexibility or a high mechanical stability, but not both. Both properties are however required if the user is to easily apply and remove patches from body parts such as the armpits, fingers or the area around the eyes. A further problem associated with conventional patches is that they do not allow air to circulate to the skin.

As solution, the applicant proposes multi-layered patches comprising a storage layer placed between a top layer and a support layer. In one embodiment, the applicant proposes a new patch using a hydrogel as storage layer, which storage layer is placed

between a support layer made of textile and a top layer comprising perforations which are small enough to prevent passage of liquid, but large enough to allow air to pass through.

For patches comprising hydrogel, the applicant also had to adapt conventional manufacturing methods as those were unsuitable for such patches.

1.1. Prior art document D1

Prior art document D1 discloses a cosmetic patch comprising a depot layer, an adhesive layer and a fabric carrier, i.e. a multi-layered cosmetic patch. D1 refers to the use of Gore-Tex®, i.e. a layer comprising perforations which are small enough to prevent passage of liquid but large enough to allow air to pass through, as the fabric layer, i.e. the layer coming into contact with the skin. Moreover, in this document, it is also suggested that a top layer (called backing layer) could be used and that it could be made of the same material as the layer coming into contact with the skin.

D1 also refers to a multi-layered patch having the same arrangement as depicted on Figure 2 of the client's letter.

The fact that D1 describes the therein-disclosed patches the other way around as compared to the client's letter does, of course, not play a role.

D1 does however not refer to, or suggest, hydrogels, and is silent about manufacturing processes.

1.2. Prior art document D2

Prior art document D2 also discloses multi-layered patches for cosmetic uses.

Furthermore, D2 describes the conventional manufacture process of making such patches.

D2 does however not refer to, or suggest, the use of hydrogels as the storage layer.

1.3. Claims

A total of 70 marks is available for the main claims. For dependent claims up to 15 marks can be awarded. Similarly, the description can attract 15 marks.

No marks were awarded for any claims subsequent to the 15th claim since the client stated that claims fees will not be paid.

Example solutions could be as follows:

1.3.1 Patch claim

A multi-layered patch for cosmetic use on the skin comprising

- a storage-layer containing an active ingredient, said storage layer being placed between

- a top layer entirely covering said storage layer, and

- a support layer made of a flexible woven material, said support layer coming into contact with the skin upon use of the patch and allowing and controlling the release of the active ingredient from the patch to the skin,

characterised in that

the storage layer comprises a hydrogel,

and in that the top layer comprises perforations which are small enough to prevent passage of liquid, but large enough to allow air to pass through.

A maximum of 40 marks can be awarded for this product claim directed to a multi-layered patch for use to deliver a cosmetic agent to the skin.

This claim is novel over the patches disclosed in D1 and D2 due to the presence of a hydrogel as storage layer. The patch is also inventive over the prior art as none of them refer to hydrogels. Moreover, as shown in the examples, the patches using hydrogel are much more efficient in treating wrinkles as compared to patches corresponding to the one of D1.

15 marks were deducted for not specifying that the storage layer is made of hydrogel. The candidates also have to realise that the use of hydrogel requires some further restrictions:

The hydrogels have to be isolated from the environment, otherwise they leak and leave wet stains. To prevent the hydrogel leaking out, a top layer entirely covering the hydrogel has to be used ([0009]). Moreover, the top-layer itself has to fulfil some requirements: It must cover the storage layer entirely ([0009]; 3 marks), let air pass through ([0012]; 3 marks) but prevent the passage of liquid ([0009]; 3 marks). Up to 9 points could be lost if no top layer was present in the claim.

A textile support layer is indispensable for patches of the type used in example B, and thus containing a hydrogel ([0006]; 5 marks). This textile (or flexible woven material or fabric, each term being equally acceptable) has however to allow and control the release of the active ingredient ([0007]; 3 marks). Up to 8 points could be lost if no support layer was present in the claim.

Last but not least, the arrangement of the layers necessary to achieve the required effects was to be defined. This was worth up to 8 marks.

The candidates lost 5 marks per limitation when unnecessary limitations (e.g. silver particles, release rate, adhesive layer, or nature of the active ingredient) were in the independent claim. A minor lack of clarity led to a loss of 2 marks whereas a severe lack of clarity was penalised with a deduction of 5 marks.

A claim lacking novelty did not gain any marks.

1.3.2 Kit claim

A kit comprising a multi-layered patch according to any of claims 1-10 and 13, together with a container containing a perfume composition.

In his letter ([0011]), the client explains that perfume could be added to the patch, for instance shortly before use. D1, which also refers to perfumes added to a patch shortly before use, describes kits comprising patches and the perfumes and stresses that these products are commercially highly relevant ([0006]).

Candidates were expected to realise that such kits were perfectly in line with the client's letter and to accordingly claim such a kit.

10 marks were available for this independent claim.

1.3.3 Process claim

*A manufacturing process for a patch for cosmetic use on the skin wherein
a support layer made of flexible woven material,
a storage layer comprising an active ingredient,
a top layer comprising perforations which are small enough to prevent passage of liquid,
but large enough to allow air to pass through
are arranged on top of one another on a protective sheet and subsequently pressed
together,
characterised
in that the storage layer is a hydrogel,
in that the pressing step is performed with a pressure of more than 200 kPa, but not more
than 300 kPa,
and in that said pressing step is followed by heating the pressed patch to a temperature
between 80°C and 90 °C for at least 20 seconds.*

The client explains that for patches comprising hydrogel, a special manufacturing process has to be used ([0013]). In order to receive full marks (20 marks), the candidates were expected to introduce the special features related to the presence of the hydrogel (pressure with a defined force (5 marks) and a defined heating step (5 marks)). In addition, the required protective sheet ([0013]) had to be present in the claim (10 marks).

Candidates lost 5 marks per limitation when unnecessary limitations were in the independent claim.

A claim lacking novelty did not attract any marks.

2. Further claims

A total of 15 marks are available for further dependent claims.

The following dependent claims give good fall back position. The marks they could attract is indicated.

2. The multi-layered patch according to claim 1, wherein said hydrogel comprises water, gelatine and an alcohol. (1 mark)

3. The multi-layered patch according to claims 1 or 2, wherein the hydrogel further comprises silver particles, wherein the content of the silver particles is at least 5% and at most 40 % by weight of the hydrogel. (4 marks)

4. The multi-layered patch according to claim 3, wherein the content of the silver particles is 25 % by weight of the hydrogel. (1 mark)

5. The multi-layered patch according to claims 1-4, wherein the active ingredient comprised in the storage layer is a cosmetic agent. (1 mark)

6. The multi-layered patch according to claim 5, wherein the active ingredient comprised in the storage layer is a deodorisation agent. (1 mark)

7. The multi-layered patch according to claim 5, wherein the active ingredient comprised in the storage layer is anti-wrinkling agent. (1 mark)

8. The multi-layered patch according to claims 1-7 further comprising an adhesive layer. (1 mark)

9. The multi-layered patch according to claim 8 wherein said adhesive layer is placed between the top layer and the storage layer, completely overlapping with the storage layer and partly overlapping with the support layer. (2 marks)

10. The multi-layered patch according to claims 1-7 wherein the support layer is made of cotton soaked with a skin-friendly glue. (2 marks)

11. The multi-layered patch according to claims 1-10 further comprising a perfume composition. (1 mark)

12. The multi-layered patch according to claim 11, wherein said perfume composition is associated with the support layer. (1 mark)

13. The multi-layered patch according to any of claims 1-12, wherein the support layer allows the release of the active ingredient at a rate of 5 to 10 mg of active ingredient per cm² per hour. (1 mark)

3. Description

Up to 15 marks are available for the description. 4 marks are available for a summary of the relevant aspects of prior art documents D1 and D2. It was also expected that, as required by Rule 42(1)(c) EPC, the technical problem and its solution are described. 6 marks are available for this aspect. Finally, consistency between the claims and the description was evaluated (5 marks).

Example set of claims:

1. A multi-layered patch for cosmetic use on the skin comprising
 - a storage-layer containing an active ingredient, said storage layer being placed between
 - a top layer entirely covering said storage layer, and
 - a support layer made of a flexible woven material, said support layer coming into contact with the skin upon use of the patch and allowing and controlling the release of the active ingredient from the patch to the skin,characterised in that
the storage layer comprises a hydrogel,
and in that the top layer comprises perforations which are small enough to prevent passage of liquid, but large enough to allow air to pass through.
2. The multi-layered patch according to claim 1, wherein said hydrogel comprises water, gelatine and an alcohol.
3. The multi-layered patch according to claims 1 or 2, wherein the hydrogel further comprises silver particles, wherein the content of the silver particles is at least 5% and at most 40 % by weight of the hydrogel.
4. The multi-layered patch according to claim 3, wherein the content of the silver particles is 25 % by weight of the hydrogel.
5. The multi-layered patch according to claims 1-4, wherein the active ingredient comprised in the storage layer is a cosmetic agent.
6. The multi-layered patch according to claim 5, wherein the active ingredient comprised in the storage layer is a deodorisation agent.
7. The multi-layered patch according to claim 5, wherein the active ingredient comprised in the storage layer is anti-wrinkling agent.
8. The multi-layered patch according to claims 1-7 further comprising an adhesive layer.

9. The multi-layered patch according to claim 8 wherein said adhesive layer is placed between the top layer and the storage layer, completely overlapping with the storage layer and partly overlapping with the support layer.
10. The multi-layered patch according to claims 1-7 wherein the support layer is made of cotton soaked with a skin-friendly glue.
11. The multi-layered patch according to claims 1-10 further comprising a perfume composition.
12. The multi-layered patch according to claim 11, wherein said perfume composition is associated with the support layer.
13. The multi-layered patch according to any of claims 1-12, wherein the support layer allows the release of the active ingredient at a rate of 5 to 10 mg of active ingredient per cm^2 per hour.
14. A kit comprising a multi-layered patch according to any of claims 1-10 and 13, together with a container containing a perfume composition.
15. A manufacturing process for a patch for cosmetic use on the skin wherein
a support layer made of flexible woven material,
a hydrogel comprising an active ingredient,
a top layer comprises perforations which are small enough to prevent passage of liquid, but large enough to allow air to pass through
are arranged on top of one another on a protective sheet and subsequently pressed together,
characterised in that the pressing step is performed with a pressure of more than 200 kPa, but not more than 300 kPa,
and in that said pressing step is followed by heating the pressed patch to a temperature between 80°C and 90 °C for at least 20 seconds.