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**D E C I S I O N**  
**of 22 June 2006**

**Case Number:** T 0247/04 - 3.2.05

**Application Number:** 96117881.1

**Publication Number:** 0774357

**IPC:** B41J 2/32

**Language of the proceedings:** EN

**Title of invention:**

Thermal recording films and method of thermal image recording  
using the same

**Patentee:**

FUJI PHOTO FILM CO., LTD.

**Opponent:**

Agfa-Gevaert N.V.

**Headword:**

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**Relevant legal provisions:**

EPC Art. 54, 56, 83, 111(1), 123(2)

**Keyword:**

"Added subject-matter (no)"

"Sufficiency of disclosure (yes)"

"Novelty (yes)"

"Inventive step (yes)"

"Remittal to the Opposition Division (no)"

**Decisions cited:**

T 0392/01, T 0327/92, T 0402/99

**Catchword:**

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Case Number: T 0247/04 - 3.2.05

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.05  
of 22 June 2006

**Appellant:**  
(Opponent)

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**Respondent:**  
(Patent Proprietor)

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**Representative:**

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**Decision under appeal:**

Decision of the Opposition Division of the  
European Patent Office posted 10 December 2003  
rejecting the opposition filed against European  
Patent No. 0774357 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** W. Moser  
**Members:** P. Michel  
W. Zellhuber

## Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the decision of the Opposition Division rejecting the opposition filed against European Patent No. 0 774 357.

The Opposition Division held that the patent in suit as granted satisfied the requirements of Articles 123(2), 83, 54 and 56 EPC.

II. Oral proceedings were held before the Board of Appeal on 22 June 2006.

III. The appellant requested as main request that the decision under appeal be set aside and that the European Patent No. 0 774 357 be revoked in its entirety. As an auxiliary request, the appellant requested that the decision under appeal be set aside and that the case be remitted to the Opposition Division for further prosecution on the basis of the grounds for appeal.

The respondent (patentee) requested that the appeal be dismissed.

IV. The following documents are referred to in the present decision:

D1: EP-A-0 543 441

D2: US-A-2,910,377

D3: US-A-4,996,537

V. Claims 1 and 2 as granted read as follows:

"1. A thermal recording film (A) comprising a clear film base (90), a thermal recording layer (92) formed on one side of said film base (90), and a matted layer (94) formed on the other side of said film base (90), said matted layer providing the viewing side of the thermal recording film (A)."

"2. A method of thermal image recording using a thermal recording film (A) according to claim 1, said method comprising the steps of processing the image to be recorded in such a way that the correct image will come out when viewed from said viewing side, and recording the thus processed image on the thermal recording layer in said thermal recording film (A)."

VI. The appellant has argued substantially as follows in the written and oral proceedings:

There is no restriction on the form of the matted layer specified in claim 1. As indicated in the presentation to the Opposition Division by Dr. Defieuw, there is no direct correlation between surface roughness and gloss. In decision T 392/01 it was decided that a disclosure which left it to trial and error to find a suitable adhesive was not sufficient.

The term "image" is used in the patent in suit sometimes to refer to image data and other times to refer to a visible image. The person skilled in the art is thus not in a position to carry out the method of claim 2 which requires "processing the image to be

recorded in such a way that the correct image will come out when viewed from said viewing side".

The patent in suit thus does not provide sufficient disclosure to enable a person skilled in the art to carry out the invention.

The term "thermal recording layer" as used in claim 1 should be given a broad construction in view of paragraph [0022] of the description, which states that the thermal recording layer is an "ordinary thermal film", and paragraph [0042] of the description, which states that the invention "is in no way limited to the stated embodiments". The components necessary for image formation could accordingly arise from other layers.

The thermal dye diffusion process disclosed in document D1 occurs in the manner illustrated at page 5 (Fig. 3) of the presentation of Dr. Defieuw. At the time of image formation, the donor element and the receiver element are laminated together under heat and pressure applied between a printhead and a platen. Decision T 327/92 held that novelty can be destroyed by the existence of an intermediate product which only exists for a short time. In the present case, the laminate of a donor layer and a receiving layer can be considered to constitute a thermal recording layer which exists for a short time.

Claim 1 thus lacks novelty in view of the disclosure of document D1.

Document D2 discloses a thermal recording film intended to be viewed from the side of a transparent carrier opposite the recording layer, for example in Example 2.

The sole difference between claim 1 and the disclosure of document D2 is thus the provision of a matted layer. The problem to be solved is to avoid reflections when viewing.

The solution to this problem, that is, to provide a matted layer, is obvious in view of the disclosure of document D2 either alone, or in view of document D2 in combination with document D1, which at page 2, lines 38 to 49, refers to the problem of reflections interfering with viewing.

Insofar as the subject-matter of claim 1 of the patent in suit is regarded as being distinguished from the disclosure of document D1 by construing the reference to thermal recording material as excluding the material of document D1, the problem to be solved may be regarded as being to use a different type of recording material. The use of a thermal recording material is an obvious choice.

Document D3 discloses a thermal recording film comprising a thermal recording layer formed on one side of a carrier, which may be a transparent film (column 5, line 57). In addition, there may be provided a backing layer on the reverse side of the carrier, which may use similar components to those used in a protective layer which is described at column 11, lines 26 to 33. These include finely powdered styrene beads, thus resulting in a matted layer. In order to improve viewability of

the image, it is obvious in view of the disclosure of document D3 either alone, or in view of document D3 in combination with document D1, to provide a matted backing layer.

The subject-matter of claim 1 of the main request of the respondent thus does not involve an inventive step, regarding any of documents D1, D2 or D3 as the closest prior art alone, or regarding either of documents D2 or D3 as the closest prior art in combination with document D1.

The introduction of an acknowledgement of the prior art in order to satisfy the requirements of Rule 27(1)(b) EPC constitutes an exception to Article 123(2) EPC, and must therefore be construed narrowly. Such an acknowledgement which has the effect of introducing subject-matter not originally disclosed must therefore be restricted to matter which is directly and immediately derivable from the cited document (see decision T 402/99).

The amendments included in paragraph [0007] of the patent in suit include a comparison of thermal recording films and thermal image recording processes with thermal dye transfer printing which is not disclosed in the application as filed or in the cited document D1.

In addition, the accuracy of the added matter is disputed, since they were introduced in order to differentiate the subject-matter of the patent in suit from the prior art.

The amendments included in paragraph [0007] thus do not satisfy the requirements of Article 123(2) EPC.

In view of the criticisms of the decision under appeal raised by the appellant, the auxiliary request to remit the case to the Opposition Division is appropriate.

VII. The respondent has argued substantially as follows in the written and oral proceedings:

If the disclosure of the patent in suit is read with a mind willing to understand, sufficient disclosure is provided to enable a person skilled in the art to carry out the invention. In particular, it is possible to produce a matted layer having a satisfactory lustre. Further, it is clear to a skilled person that references to processing an image refer to processing image data.

Claim 1 specifies that the thermal recording layer is "formed on one side of said film base". The small part of the donor and receiver layers which are in contact during printing in the arrangement of document D1 cannot be described as forming such a layer.

The subject-matter of claim 1 is thus novel.

Neither of documents D2 and D3 include any suggestion of the provision of a matted layer.

In document D1, the problem of abrasion affecting image viewing quality does not exist, since the receiver sheet does not come into contact with the printhead.



The subject-matter of claim 1 thus involves an inventive step.

The amendments made to the description are derivable from the prior art and the application as filed. It follows that, if the subject-matter of claim 1 is novel in view of the disclosure of document D1, the amendments in paragraph [0007] do not introduce any additional matter. The amendments thus satisfy the requirements of Article 123(2) EPC.

## **Reasons for the Decision**

Main Request

### 1. *Sufficiency of disclosure*

- 1.1 Claim 1 requires that a matted layer be formed on the side of the film base opposite to the thermal recording layer. As stated in paragraph [0019] of the patent in suit, the function of the matted layer is to adjust the lustre on the image viewing side of the film. Methods of forming the matted layer are disclosed in paragraphs [0019] and [0020].

It can be accepted that, as indicated in the presentation to the Opposition Division by Dr. Defieux, there is no direct correlation between surface roughness and gloss. Claim 1 does not, however, specify that the matted layer must have a particular degree of gloss. Therefore, in order to carry out the invention, it is not necessary to adjust the degree of gloss within fine limits.

In decision T 392/01, it was decided that a disclosure which required trial and error to find an adhesive satisfying a number of parameters as specified in claim 1 was insufficient, since the tests required would constitute an undue burden on the addressee. This is not the case with the necessity of providing a degree of lustre which will have the effect of facilitating viewing of a recorded image as specified in the present claim 1. The Board is of the opinion that a suitable matted layer having a lustre such as to facilitate viewing of a recorded image can be formed without undue burden using the information given in paragraphs [0019], [0020] and [0021] of the patent in suit.

- 1.2 It is correct that, as alleged by the appellant, the term "image" is used in the patent in suit sometimes to refer to image data and other times to refer to a visible image. However, this does not lead to a degree of confusion such as to prevent a person skilled in the art willing to understand the invention from obtaining a sufficient teaching of the invention. Thus, when the specification, for example in claim 2, refers to processing an image, this is understood as referring to processing of image data. On the other hand, when the specification refers to viewing an image, this is understood as referring to viewing of a visible image.

The patent in suit thus provides sufficient disclosure to enable a person skilled in the art to carry out the invention.

2. *Novelty*

The term "thermal recording film" as used in claim 1 is construed in the context of the patent in suit as referring to a film which is capable of generating an image when subjected to an elevated temperature, without components necessary for image production being supplied from an external source. It is noted that, as described in paragraphs [0003] and [0004] of the patent in suit, thermal image recording in the context of the patent in suit is understood to involve contact between a thermal head and the thermal recording film, whereby heating of a thermal recording layer effects image recording. In processes in which a dye or other component necessary for the production of an image is supplied from an external source, no such contact occurs, since a donor element is present between the thermal head and the thermal recording film which prevents such contact.

Document D1 relates to a thermal dye transfer method, in which dye is transferred from a dye donor element to a dye image receiving element. As stated in the preceding paragraph, in such a method, the dye donor element is positioned between the printhead and the dye image receiving element during image formation. The image receiving layer of the image receiving element disclosed in document D1 is not capable of generating an image when subjected to an elevated temperature in the absence of a dye donor element. The image receiving element disclosed in document D1 thus does not constitute a thermal recording film as required by claim 1 of the patent in suit.

It is suggested on behalf of the appellant that, during the brief period of time during which the dye donor element and the dye image receiving element are subjected to an elevated temperature and are pressed between a printhead and a platen, the dye donor element and the dye image receiving element together form a thermal recording layer as specified in claim 1 of the patent in suit.

This cannot be accepted. The portion of the dye donor element and the dye image receiving element which are in contact during printing only represents a narrow strip of the respective elements extending across the width of the elements. This cannot be described as providing a thermal recording layer formed on one side of the film base. A thermal recording film as defined in claim 1 thus does not exist even for a brief period during printing in accordance with document D1. In contrast, in the case of T 327/92, a film laminate forming the subject-matter claimed in the patent in suit was disclosed in a document belonging to the state of the art as an intermediate product existing for a short period of time after undergoing stretching in one direction, but before undergoing stretching at right angles to this direction.

Documents D2 and D3 do not disclose a matted layer as discussed in more detail below.

The subject-matter of claim 1 is thus novel.

3. *Inventive step*

3.1 The closest prior art is represented by the prior art acknowledged in the patent in suit in paragraphs [0003] and [0004]. As stated in paragraph [0004], during image recording, abrasions are formed on the thermal recording layer which is in sliding contact with the thermal head. Such abrasions interfere with viewing of the image.

The subject-matter of claim 1 of the patent in suit is distinguished over this prior art by the provision of a matted layer formed on the "other" side of the film base, that is, the side of the film base opposite to the thermal recording layer. As further specified in claim 1, the matted layer provides the viewing side of the thermal recording film.

The provision of the matted layer facilitates viewing of the image from the side of the film base opposite to the thermal recording layer. In this way, the image can be viewed without the clarity of the image being affected by damage to the thermal recording layer resulting from abrasion caused by the thermal head sliding over the surface of the thermal recording layer during image recording (cf. paragraph [0010] of the patent in suit).

3.2 The problem to be solved is thus regarded as being to reduce the deleterious effects of abrasion resulting from contact of the thermal head with the thermal recording layer.

3.3 Document D1 cannot be considered to be the closest prior art, since the present invention is concerned with thermal recording of images in which a thermal recording layer generates an image under the application of heat without components necessary for image production being supplied from an external source. Thermal dye diffusion in which a dye is provided by a donor element is thus considered to relate to a less closely related technical field.

As discussed in the preceding paragraph, document D1 relates to image recording using thermal dye transfer as opposed to thermal recording. Whilst document D1 proposes the provision of a matted surface on the side of the support remote from the image receiving layer (page 3, lines 57 and 58), this side of the support is preferred in order to enable a tight contact between the donor element and the receiver element, which would be prevented if the matted layer were to be provided on the receiving layer. The teaching of this document thus does not suggest to the person skilled in the art that such a layer should be provided on the side of the support remote from the image recording layer of a thermal recording film in order to solve the problem as stated above.

3.4 Document D2 discloses a thermal recording film comprising a thermal recording layer formed on one side of a carrier, which may be transparent so as to permit the recorded image to be viewed through the carrier (column 1, line 71 to column 2, line 6). There is, however, no suggestion in document D2 of the provision of a matted layer on the side of the carrier opposite to the thermal recording layer.

In addition, since document D2 discloses the use of an infrared lamp which does not contact the thermal recording film, the problem of abrasion of the film surface does not occur. Document D2 is thus considered to form a more remote state of the art than the prior art discussed above in section 3.1. Further, for the reasons given in section 3.3 above, neither does document D1 provide any incentive for modifying the thermal recording film of document D2 by providing a matted layer on the side of the carrier opposite to the thermal recording layer.

Document D3 discloses a thermal recording film comprising a thermal recording layer formed on one side of a carrier, which may be a transparent film (column 5, line 57). In addition, there may be provided a backing layer on the reverse side of the carrier "in order to improve properties such as curling correction, antistaticness, and smoothness" (column 11, lines 38 to 40). At column 11, lines 40 to 43, it is stated that the backing layer may use similar components to those used in a protective layer which is described at column 11, lines 26 to 33. These include finely powdered styrene beads. This does not, however, amount to a disclosure that the backing layer is in any way matted, since, even if a powdered material was present in the backing layer, this does not necessarily imply that the surface of the layer is matted.

There is thus no suggestion in document D3 of the provision of a matted layer on the side of the carrier opposite to the thermal recording layer.

In addition, the image is not intended to be viewed from the side of the carrier opposite to the thermal recording layer. Whilst document D3 is concerned with negative-positive reversal in order to avoid problems of glare outside the image area (see, for example, column 13, lines 31 to 45), there is no suggestion that the image could be reversed so as to enable viewing of a correct image from the backing layer side of the film. There is thus no incentive to modify the thermal recording film of document D3 by providing a matted layer on the side of the carrier opposite to the thermal recording layer.

The subject-matter of claim 1 thus involves an inventive step. Claim 2 relates to a method of thermal image recording using the thermal recording film according to claim 1. Claim 2 thus similarly involves an inventive step.

4. *Extension of the subject-matter beyond the content of the application as filed*

As indicated above in section 2 in connection with the issue of novelty, the Board is of the opinion that the term "thermal recording film" as used in the patent in suit should not be construed so as to include within its scope a dye image receiving sheet intended for use in a dye transfer printing method. This construction also applies to the term as used in the application as filed. Thus, the addition of statements setting out the difference between thermal image recording as discussed at column 1, lines 21 to 36 of the application as filed and thermal dye transfer printing in paragraph [0007] of the patent in suit merely make explicit what is



disclosed implicitly in the application as filed. Even in the absence of the amendments included in paragraph [0007], the claims would not be construed so as to include within their scope thermal dye transfer recording films or methods.

In decision T 402/99, it was merely stated that an acknowledgement of a prior art document which was taken word for word from the description of the cited document was allowable. There is nothing in this decision which can be seen as indicating that the amendments under consideration in the present case should not be allowable.

Accordingly, the discussion of the prior art introduced into the application does not have the effect of extending the subject-matter of the patent in suit beyond the content of the application as filed.

5. *Auxiliary Request*

The present appeal procedure is based on the patent in suit as granted, as was the decision under appeal. No new documents have been introduced during the appeal procedure.

The Board is of the opinion that there are no circumstances which could warrant the exercise of its discretionary powers under Article 111(1) EPC to remit the case to the Opposition Division for further prosecution.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:

M. Dainese

W. Moser