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# Datasheet for the decision of 19 May 2017

**Case Number:** T 1564/13 - 3.3.09

**Application Number:** 03006475.2

**Publication Number:** 1347341

**IPC:** G03G9/08, G03G9/097, G03G15/09

**Language of the proceedings:** EN

**Title of invention:**
Use of a toner and developer for electrophotography, image-forming process cartridge, image-forming apparatus and image-forming process using the toner

**Patent Proprietor:**
Ricoh Company, Ltd.

**Opponent:**
Canon Kabushiki Kaisha

**Headword:**

**Relevant legal provisions:**
EPC Art. 123(2), 54, 56



This datasheet is not part of the Decision.
It can be changed at any time and without notice.

**Keyword:**
Added subject-matter (no)
Novelty (yes)
Inventive step (yes)

**Decisions cited:**
G 0001/15

**Catchword:**


This datasheet is not part of the Decision.
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**Case Number: T 1564/13 - 3.3.09**

# D E C I S I O N
# of Technical Board of Appeal 3.3.09
# of 19 May 2017

| | |
|---|---|
| **Appellant:** (Opponent) | Canon Kabushiki Kaisha<br>30-2, Shimomaruko 3-Chome<br>Ohta-Ku,<br>Tokyo 146-8501 (JP) |
| **Representative:** | TBK<br>Bavariaring 4-6<br>80336 München (DE) |
| **Respondent:** (Patent Proprietor) | Ricoh Company, Ltd.<br>3-6, Nakamagome 1-chome<br>Ohta-ku<br>Tokyo 143-8555 (JP) |
| **Representative:** | Held, Stephan<br>Meissner Bolte Patentanwälte<br>Rechtsanwälte Partnerschaft mbB<br>Widenmayerstraße 47<br>80538 München (DE) |
| **Decision under appeal:** | **Interlocutory decision of the Opposition Division of the European Patent Office posted on 6 May 2013 maintaining European patent No. 1347341 in amended form.** |

**Composition of the Board:**

| | |
|---|---|
| **Chairman** | W. Sieber |
| **Members:** | J. Jardón Álvarez |
| | T. Karamanli |

## Summary of Facts and Submissions

I. This decision concerns the appeal filed by the opponent against the interlocutory decision of the opposition division that European patent No. 1 347 341 as amended met the requirements of the EPC.

II. The opponent had requested revocation of the patent in its entirety on the grounds that the claimed subject-matter lacked novelty and inventive step (Article 100(a) EPC in conjunction with Articles 52(1), 54 and 56 EPC). The documents cited during the opposition proceedings included:

D2: EP 1 239 334 A1;

D3: Catalogue of IMAGIO MF6550 RC, English translation of general specification on page 6 of the catalogue;

D4: US 2002/0028093 A1; and

D6: New release by Ricoh Company, Ltd., IMAGIO MF6550 in Japanese, partially translated into English.

III. The opposition division maintained the patent in amended form on the basis of the then pending auxiliary request 1 including eighteen claims. Claim 1 read as follows (amendments over claim 1 as granted in bold):

"1. Use of a toner in electrophotography for developing a latent electrostatic image by using a developer-bearing member at a linear velocity of 150 mm/s to 500 mm/s (150 mm/sec to 500 mm/sec), wherein **the toner is used in a developer containing the toner in a**

**concentration of 4% by weight or more and** the toner contains:

a resin particle containing a coloring agent; and

a charge control agent particle, mixed with the resin particle so as to form a toner particle of the toner,

wherein a ratio (M/T) of an amount M (% by weight) of an element in a surface of the toner particles to an amount T (% by weight) of an element in an entire portion of the toner particle is 20 to 500, wherein the amount of the element in the surface is determined by electron spectroscopy for chemical analysis (ESCA) and the amount of the element in the entire portion of the toner particle is determined by X-ray fluorescence analysis, the element is contained only within the charge control agent particle, and the element is selected from one of the first, second, third, fourth and the fifth period in a long form of periodic table, excluding a hydrogen element, a carbon element, an oxygen element, and rare gas elements."

IV. The reasoning of the opposition division can be summarised as follows:

- the amendments made complied with Articles 123(2) and (3) EPC;

- the claimed subject-matter differed from the disclosure of D2 at least in the linear velocity of the image bearing member being 150 mm/s to 500 mm/s; and

- the claimed subject-matter involved an inventive step starting from D4 or D2 as the closest prior-art document.

V. This decision was appealed by the opponent (in the following: the appellant). The statement setting out the grounds of appeal was filed on 13 September 2013, including the following further document:

D7: EP - 0 962 832 A1.

The appellant requested that the decision under appeal be set aside and that the patent be revoked in its entirety.

VI. With its reply filed on 27 January 2014 the patent proprietor (in the following: the respondent) requested that the appeal be dismissed (main request) or, subsidiarily, that the patent be maintained on the basis of the claims of one of auxiliary requests I to VII as filed with the reply.

VII. In a communication dated 21 September 2015 the board indicated the points to be discussed during the oral proceedings scheduled for 26 February 2016.

VIII. Replies to the communication of the board were filed by both parties.

The respondent referred to the then pending referral in case G 1/15 and argued that a partial priority should be acknowledged for claim 1 of the main request.

The appellant referred to the following fresh document:

D8: US 2012/0315573 A1.

IX. On 25 January 2016, the board cancelled the scheduled oral proceedings in view of the pending referral. The

parties were informed accordingly by the registrar's communication dated 1 February 2016.

X. On 14 December 2016 the board issued a further summons to oral proceedings.

XI. Further submissions were filed by both parties, the respondent's submission included an amended set of claims to replace previous auxiliary request I and a copy of a corrected comparative example already filed during the examination proceedings:

CCE: copy of corrected comparative example, submitted with letter of 24 November 2008 (1 page).

XII. On 19 May 2017 oral proceedings were held before the board. During the oral proceedings the respondent withdrew its previously filed requests that D7, D8 and the arguments related thereto not be admitted into the appeal proceedings.

XIII. The relevant arguments of the appellant, insofar as they are relevant for the present decision, may be summarised as follows:

- The subject-matter of claim 1 of the main request extended beyond the content of the application as filed because there was no support in the application as filed for the use of a toner at a linear velocity of 150 to 500 mm/sec together with a toner concentration ≥ 4% by weight. These were independent embodiments in the application as filed.

- The subject-matter of claim 1 of the main request lacked novelty in view of the disclosures of D2 and

D7. D2 anticipated all the features of claim 1 except the linear velocity of the printer used but this value could be calculated from the information provided by D3 and D6. Example 12 of D7 anticipated all the features of claim 1 except the M/T ratio. However, this feature was inherently anticipated because it was stated in D7 that the production method therein applied led to toner particles in which the charge control agent was concentrated in the surface of the toner particles, so that it was technically safe to assume that the claimed ratio was inherently disclosed.

- The claimed subject-matter lacked inventive step starting from D2, D7 or D4. Whichever document was chosen as closest prior art, the problem underlying the patent in suit could not rely on any improvement over the prior art. In fact, only one toner had been exemplified and there was no evidence that other toners would also avoid scattering when used at high speed. In particular, toners including zinc stearate as cleaning improver would include a further charge control agent that had not been considered when determining the M/T ratio, essentially because zinc stearate could also function as a charge control agent. In any case, to use the toners known from D2 in high-speed printers would be obvious for the skilled person.

- Even if the board acknowledged an improvement, the claimed subject-matter still lacked inventive step. Thus when starting from D7 as closest prior art, the skilled person aiming at preventing scattering of the toner in high-speed printers would be motivated by D7 itself to put the charge controlling agent in the surface of the toner to

attain favourable charging properties of the toner. Alternatively, if the skilled person wanted to quantify this parameter he would turn to D2, and it would be a matter of routine to find the best values of the M/T ratio within the range disclosed in D2.

XIV. The arguments of the respondent may be summarised as follows:

- The combination of a linear velocity of 150 mm/sec to 500 mm/sec and the toner concentration of 4% by weight or more was supported by the paragraph bridging pages 10 and 11 of the application as filed and by claims 11 to 13 of the application as filed.

- The claimed subject-matter was novel over D2 because this document did not disclose at which velocity the printer IMAGIO MF6550 was used. Moreover, even assuming that it had been used at a linear velocity as claimed, the claimed subject-matter would be still novel because there was no embodiment in D2 disclosing all the features of claim 1 of the main request in combination (multiple selection).

- The claimed subject-matter was also novel over D7 at least because there was no disclosure in D7 of an M/T ratio of 20 to 500 as required by claim 1.

- Starting from D7 as the closest prior-art document, the problem underlying the patent was to effectively prevent toner scattering from the developer-bearing member when using a high linear velocity of the developer combined with a high

toner concentration. The improved prevention of scattering under the claimed use of a toner with an M/T ratio in the range of 20 to 500 was not suggested in any of the cited documents.

XV. The appellant requested that the decision under appeal be set aside and that the European patent be revoked.

The respondent requested that the appeal be dismissed (main request). As an auxiliary measure, it requested that the patent be maintained in amended form on the basis of the claims of auxiliary request I filed with the letter dated 18 March 2017 or one of auxiliary requests II to VII filed with the letter dated 27 January 2014 (reply to the grounds of appeal).

## Reasons for the Decision

MAIN REQUEST (claims maintained by the opposition division)

*1. Amendments*

1.1 Compared to granted claim 1, claim 1 of the main request has been amended to specify that "the toner is used in a developer containing the toner in a concentration of 4% by weight or more". This feature can be found, for instance, on page 9, lines 12 to 13, on page 11, lines 1 and 2, and in claim 13 of the application as filed.

1.2 The appellant did not dispute that the toner concentration as such was disclosed in the application as filed, but argued that it was not disclosed in combination with a linear velocity of the developer-bearing member in the range of 150 to 500 mm/sec.

In its view, the application as filed was directed to four different and independent embodiments aiming to prevent scattering of toner particles from the developer-bearing member as set out on page 5, line 9, to page 6, line 6, namely:
(1) a developer-bearing member used at a linear velocity of 150 to 500 mm/sec;
(2) a developer-bearing member used at a linear velocity of 150 to 500 mm/sec and employing a sharp line contact (SLIC) developing system;
(3) a developer containing a toner in a concentration of 4% by weight or more; and
(4) a developer containing a toner in a concentration of 4% by weight or more and employing a SLIC developing system.

The passage on page 9, lines 6 to 13, further confirmed that the linear velocity, the SLIC system and the toner concentration were independent embodiments of the application as filed.

1.3 The board accepts that the passages cited by the appellant do not provide a proper basis for the combination of high speed and toner concentration. However, the sentence bridging pages 10 and 11 of the application as filed does provide a basis for this combination:

"Accordingly, the toners for electrophotography of the present invention are typically useful in an image-developer that can keep its high image quality even at a high speed **and** is used with a developer containing a toner in a concentration of 4% by weight or more" (emphasis by the board).

It is evident from the application as filed that the term "high speed" in this sentence implies a linear velocity of 150 to 500 mm/sec, which is the linear velocity mentioned in relation to the developer-bearing member throughout the application as filed (see, for example, page 5, lines, 12 and 16; page 7, line 22 and page 9, lines 9 to 10; see also claims 11 and 16 to 18 as filed).

1.4 This finding is confirmed by claim 13 as filed, which reads as follows:

"A toner according to any one of Claim 11 and Claim 12, wherein the developer contains 4% by weight or more of the toner."

According to claim 11 the toner is used in an image-developer wherein the developer-bearing member moves at a linear velocity of 150 to 500 mm/sec.

Furthermore, examples 1 and 2 were evaluated under condition 4 at a linear velocity of the development sleeve of 250 mm/sec and a toner concentration of 5% (page 58, lines 13 to 14), i.e. within the scope of amended claim 1.

1.5 For these reasons the board is satisfied that the amendment objected to complies with the requirements of Article 123(2) EPC.

*2. Priority; status of D2*

2.1 The European patent application underlying the patent in suit was filed on 21 March 2003 and claimed priority from Japanese application No. JP 2002081952 of 22 March 2003.

2.2 Since the priority document discloses a linear velocity of 300 mm/sec or more while claim 1 requires a linear velocity in a range of 150 to 500 mm/sec, it was a matter of dispute whether or not the overlapping velocity range was entitled to partial priority. This question was relevant in view of the intermediate document D2.

D2, a European patent application, was filed on 6 March 2002 and published on 11 September 2002, i.e. it was published between the priority date (22 March 2002) and the filing date (21 March 2003) of the European patent application underlying the patent in suit.

2.3 As regards novelty, the issue of partial priority is not relevant, because document D2 has to be considered as prior art in any case: either under Article 54(3) EPC, if partial priority were to be acknowledged, or under Article 54(2) EPC 1973, if partial priority were to be denied. Thus, there was no need to decide on partial priority in relation to the assessment of novelty.

2.4 During the oral proceedings the board proposed to leave out the partial priority issue for the assessment of inventive step, because for a velocity range of 150 to less than 300 mm/sec document D2 was in any case prior art under Article 54(2) EPC 1973. The parties agreed to the inventive-step objection based on D2 being assessed under this assumption (worst-case scenario for the respondent).

2.5 During the oral proceedings the board concluded that the subject-matter of claim 1 involved an inventive

step over the cited prior art even if D2 were a prior-art document pursuant to Article 54(2) EPC 1973. Since the claimed subject-matter was based on an inventive step even in the worst case for the respondent, quite logically no other conclusion could be reached if partial priority were to be acknowledged. This was accepted by the parties. Thus, in the end there was no need for the board to decide on the validity of the claimed priority.

*3. Novelty*

3.1 Claim 1 is directed to the use of a toner in electrophotography for developing a latent electrostatic image with the following features:

(a) the developer-bearing member is used at a linear velocity of 150 to 500 mm/sec,
(b) the toner is used in a concentration of 4% by weight or more, and
(c) the toner contains:
  (c1) a resin particle containing a colouring agent; and
  (c2) a charge control agent particle, mixed with the resin particle so as to form a toner particle of the toner,
  (c3) wherein the M/T ratio is from 20 to 500, M being the amount in % by weight of an element in the surface of the toner particles and T being the amount in % by weight of an element in the entire portion of the toner particle; the element and the methods of determining M and T being as specified in the claim.

3.2 The appellant argued that the subject-matter of claim 1 lacked novelty in view of the disclosures of documents D2 and D7.

3.3 Document D2

3.3.1 D2 discloses a toner composition comprising:

toner particles which comprise a binder resin and a colourant,
and a charge controlling agent which is at least located on the surface of the toner particles,
wherein the toner composition has a spherical degree of from 0.96 to 0.99,
and wherein the toner composition has an M/T ratio from 10 to 1000, preferably 100 to 800, M and T being defined as in claim 1 of the patent in suit (see claims 1 and 2 of D2). The toner is preferably used in a concentration of 1 to 10% by weight (see paragraph [0169]).

3.3.2 Whilst the opposition division held that D2 disclosed a toner as defined in claim 1 (without considering that feature (b) of claim 1 only overlapped with the concentration range disclosed in D2 and that feature (c3) is selected from a broader M/T ratio), it acknowledged novelty over D2 because the claimed linear velocity of the developer-bearing member (i.e. feature (a) according to the feature analysis of point 3.1 above) could not be assumed to be implicitly disclosed in general or in combination with the remaining features of claim 1.

3.3.3 The appellant maintained that such a linear velocity was implicitly disclosed in D2 and that therefore D2

was novelty-destroying for the subject-matter of claim 1.

It relied on the disclosure in paragraphs [0312] to [0314] of D2, including table 4, where particular toners were tested using an IMAGIO MF6550 copier manufactured by Ricoh Company, Ltd. It argued that the linear velocity of the developer-bearing member used in this copier could be calculated from the information in documents D3 and D6 (see in both documents the English translated page) mentioning a continuous print speed of 65 A4 sheets per minute.

Based on this print speed, and making assumptions with respect to the distance of the sheets and the relationship between the linear velocity of the developer-bearing member and the image-bearing member, the appellant calculated that the linear velocity of the developer member of the copier IMAGIO MF6550 was within the linear velocity as defined in claim 1.

Therefore it concluded that D2 anticipated the subject-matter of claim 1.

3.3.4 The board disagrees. Firstly, the assertion of the appellant is defective for several reasons. Apparently more than one model of the IMAGIO MF6550 copier was on the market: a copier MF6550 **RC** (emphasis by the board) is mentioned in D3. Also, the linear velocity cannot necessarily be determined from the printing speed because, as pointed out by the respondent, other factors relating to the configuration of the particular device may affect the linear velocity. In particular, there is no indication in D2 that in the experiments of table 4 the maximum printing speed had been used.

Secondly, and more importantly, D2 discloses neither the M/T ratios nor the concentration(s) of the toners employed in the evaluation examples of table 4. The board cannot accept the argument of the appellant that, in view of the considerable overlap of the M/T ratio or the similarity of the toners of table 4 with other toners in D2 having an M/T ratio as required by claim 1, it could be assumed that at least some examples would fall within the scope of the claim. This argument is speculative and not supported by any evidence.

3.3.5 For these reasons the board concludes that the subject-matter of claim 1 is novel over the disclosure of D2.

3.4 Document D7

3.4.1 D7 discloses a toner comprising toner particles containing at least a binder resin, a wax and a compound represented by Formula (A) as specified in claim 1 of D7. The compound of Formula (A) is said to be incorporated to restrain toner particles from being excessively charged and to provide the toner with an appropriate charge quantity. Thus, it corresponds to the charge control agent of claim 1, i.e. feature (c2).

3.4.2 The appellant contests the novelty of the subject-matter of claim 1 in view of the disclosure of example 12 of D7. In this example toner H prepared in example 8 is used at a peripheral speed of the toner carrying member of 160 mm/sec (see paragraph [0325]).

3.4.3 However, example 12 is silent as to the toner concentration (feature (b)) and the M/T ratio (feature (c3)).

3.4.4 Notwithstanding this lack of disclosure, the appellant argued that D7 was novelty-destroying because (i) the toner in D7 was preferably used in a concentration of from about 2 to 15% by weight (see paragraph [0152]), which overlapped to a large extent with the claimed concentration, and (ii) the toner was prepared by "suspension polymerisation", a method which ensured that the charge control agent was retained in the vicinity of the toner particle surfaces (see paragraph [0155]).

3.4.5 The board disagrees. It is a fact that an M/T ratio between 20 and 500 is not disclosed in D7. The appellant has not convincingly shown that such a ratio would be obtained when preparing a toner according to example 8. Nor has it been shown that the rather general teaching in D7 that the charge control agent is concentrated in the surface always and unequivocally amounts to a disclosure of an M/T ratio as required by feature (c3) of claim 1.

3.4.6 At least for this reason, the subject-matter of claim 1 is also novel over D7.

*4. Inventive step*

4.1 The invention relates to the use of a toner in electrophotographic systems. It aims to avoid the scattering of the toner particles that often occurs when using copying apparatus at high speed and at a high toner concentration (see paragraphs [0005] to [0007] of the patent specification).

4.2 Closest prior art

4.2.1 The appellant considered that any of documents D2, D7 or D4 could be used as the closest prior art. The respondent, on the other hand, saw the disclosure of D7 as representing the closest prior art.

4.2.2 According to the established jurisprudence of the boards of appeal, in selecting the closest prior art, the first consideration is that it must be directed to the same purpose or effect as the claimed invention. Otherwise, it cannot lead the skilled person in an obvious way to the claimed invention.

4.2.3 From the documents cited by the appellant only document D7 mentions the problem of toner scattering; neither D2 nor D4 does so.

- Thus, the object of D2 is to provide a toner with the following advantages: (1) having a high transferability and being capable of producing high-resolution images; (2) having a high charge rising property when the toner is contacted with a carrier, a developing sleeve or like members even though the toner has a relatively spherical form, a relatively small particle diameter, and a relatively narrow particle diameter distribution; and (3) having uniform charge properties and being capable of producing high-quality images for a long period of time without being deformed and/or excessively pulverised (see paragraph [0016]). Thus, D2 is silent about the problem of toner scattering when using high-speed apparatus.

- D4 aims to provide a cost-effective image-forming apparatus capable of increasing image density and

faithfully reproducing even low-contrast images and of reducing image defects, including granularity and local omission, to enhance image quality even if the range over which the magnet brush and the image carrier are in contact is reduced (see paragraphs [0012] and [0013]). D4 deals with high-speed SLIC systems using a linear velocity of 240 mm/sec (see paragraph [0072]) but is silent about any scattering of the toner when used at this speed. Moreover, D4 does not focus at all on the toner concentration.

- Like the patent in suit, D7 aims to prevent scattering of the toner in high-speed printers by controlling the charge polarity. Thus, in paragraphs [0239] and [0249] the following is stated:

  "However, insufficient charging of the toner tends to cause problems such as toner scatter and lowering of transfer performance of the toner."

  "..., when the image forming method employing the cleaning-at-development system is used in the formation of images at a high process speed of 120 mm/sec or above, or further 150 mm/sec or above, as the process speed of a developing roller, the control of charge polarity must be made more quickly in order to improve transfer residual toner collection performance at the time of development, and, in order to keep developing performance, the control of charge polarity of the transfer residual toner must be made more surely and uniformly when it passes through the charging member".

4.2.4 It follows that D7 is the most appropriate starting point for the assessment of inventive step.

4.3 Problem to be solved and its solution

4.3.1 According to the respondent, the technical problem to be solved by the patent was "to effectively prevent toner scattering from the developer-bearing member in conjunction with a high linear velocity of the developer combined with a high toner concentration in a developer" (see letter of 18 March 2017, page 4, point 10).

4.3.2 As a solution to this problem, the patent in suit proposes to use toners having an M/T ratio in the range from 20 to 500 as defined in feature (c3) of claim 1.

4.3.3 Examples 1 and 2 in the patent specification using a toner with an M/T ratio within the claimed range, namely a value of 25 for example 1 and a value of 460 for example 2, show that this problem has been credibly solved by the measures taken. Thus, when the toners of examples 1 and 2 are used at a linear velocity of the development sleeve of 250 mm/sec and a toner concentration of 5%, scattering is prevented and very high quality images are achieved (see table 1, condition 4, entry C). The toners further show very good results in other tests, e.g. for black image density and thin line reproducibility (Table 1 condition 4, entries A and B).

4.3.4 Moreover, there is experimental evidence on file which shows that such good results are not achieved when working outside the claimed M/T ratio, namely comparative example 1 in the patent specification using a toner with an M/T ratio of 15 and the further

comparative experiment filed during examination proceedings using a toner with an M/T ratio of 570. These comparative tests demonstrate that the improved effects of the invention cannot be achieved when working outside the M/T range claimed (see table 1, condition 4 of the patent and the further comparative example, CCE, filed with letter of 24 November 2008 during examination proceedings and re-filed with letter dated 18 March 2017 during the appeal proceedings).

4.3.5 In view of this experimental evidence, the board is satisfied that the technical problem underlying the patent in suit as defined above has been credibly solved.

4.3.6 The appellant did not dispute that finding of the board concerning the experimental evidence on file, but it argued that it was not credible that the problem was solved over the whole scope of the claim, essentially because:

- (i) only two toners using the same charge control agent, namely a zinc complex, had been exemplified, while the claim was very broad and not limited to the use of a zinc compound as charge control agent; and

- (ii) the claim covered the possibility of using cleaning improvers such as zinc stearate that could also act as charge control agents. In its view, claim 1 would thus cover embodiments in which the claimed M/T ratio was met without preventing the toner scattering.

4.3.7 The board agrees with the appellant that the claimed subject-matter is broad, but notes that the appellant

has not filed any evidence to support its other assertions. Thus, the appellant's doubts whether other toners covered by the claim would provide different results have to be disregarded.

4.3.8 The board is therefore satisfied that the above technical problem has been credibly solved by the measures taken.

4.4 Obviousness

4.4.1 It remains to be decided whether, in view of the available prior art, it would have been obvious for the skilled person to solve this technical problem by the means claimed.

4.4.2 D7 itself cannot give any hint to the claimed solution. As already discussed above in relation to novelty (see point 3.4), D7 suggests concentrating the charge control agent on the surface of the toner but does not mention any M/T ratio of the toners, with the consequence that it cannot suggest the now claimed range.

4.4.3 The appellant also combined the teaching of D7 with D2.

However, there is no hint whatsoever in D2 to use these toners to prevent scattering at high speed. But even if this combination were made, it would result in the use of a toner having an M/T ratio of between 10 and 1 000, preferably from 100 to 800 (see D2, claims 1 and 2), i.e. embodiments which might or might not fall within the scope of claim 1. There is no hint towards the M/T ratio required by claim 1 in order to avoid the scattering.

In this context, the board notes that the argument of the appellant made during the oral proceedings that a skilled person would work somewhere in the middle of the range disclosed in D2 and thus arrive at the toners of the invention is clearly made with knowledge of the invention. There is simply no hint in D2 towards any preference for the now claimed range.

Hence, nothing in D2 suggests to the skilled person seeking to solve the technical problem underlying the patent to use toners with the claimed M/T ratio in order to obtain high quality images at high speed and high toner concentration.

4.4.4 For these reasons a combination of D7 with D2 does not suggest the claimed subject-matter.

4.4.5 Although, as set out above, D2 and D4 are not suitable starting points for the assessment of inventive step, similar considerations apply when starting from these documents as closest prior art.

The argumentation essentially fails for the same reasons given above when starting from D7 as closest prior art, namely that there is no hint in the cited documents to use a toner having an M/T ratio as defined in feature (c3) to improve scattering at high speed and high concentration.

4.5 In view of the above, the board concludes that the skilled person would not have arrived in an obvious manner at the subject-matter of claim 1. By the same token, the subject-matter of the remaining independent claims which use the toner as defined in claim 1, and the subject-matter of all dependent claims, also involve an inventive step.

AUXILIARY REQUESTS I TO VII

5. Since the main request is allowable, there is no need for the board to deal with the auxiliary requests.

**Order**

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

The appeal is dismissed.

The Registrar: The Chairman:

M. Cañueto Carbajo W. Sieber

Decision electronically authenticated