Internal distribution code:
(A) [ ] Publication in OJ
(B) [ ] To Chairmen and Members
(C) [X] To Chairmen
(D) [ ] No distribution

Datasheet for the decision of 24 April 2008

Case Number: T 1105/04 - 3.3.09

Application Number: 92301933.5

Publication Number: 0502745

IPC: G11B 5/64

Language of the proceedings: EN

Title of invention:
Biaxially oriented laminated film

Patentee:
TORAY INDUSTRIES, INC.

Opponent:
Teijin Limited

Headword:
-

Relevant legal provisions:
EPC Art. 56, 123
EPC R. 43
RPBA Art. 13(1)

Relevant legal provisions (EPC 1973):
-

Keyword:
"Main request - inventive step - no"
"Auxiliary requests 1-4 (late filed - not admitted)"
"Auxiliary request 5 (admitted, inventive step - yes)"

Decisions cited:
T 0736/99

Catchword:
sec. 2.3.7

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1105/04 **-** 3.3.09

D E C I S I O N
of the Technical Board of Appeal 3.3.09
of 24 April 2008

Appellant: (Opponent)
Teijin Limited
6-7, Minamihonmachi 1-Chome,
Chuo-ku, Osaka-shi,
Osaka 541 (JP)

Representative:
Cockerton, Bruce Rogers
Carpmeals & Ransford
43-45 Bloomsbury Square
London WC1A 2RA (GB)

Respondent: (Patent Proprietor)
TORAY INDUSTRIES, INC.
2-1, Nihonbashi Muromachi 2-chome,
Chuo-ku
Tokyo 103-8666 (JP)

Representative:
Webster, Jeremy Mark
Mewburn Ellis LLP
York House
23 Kingsway
London WC2B 6HP (GB)

Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 16 July 2004 concerning maintenance of European patent No. 0502745 in amended form.

Composition of the Board:

Chairman: P. Kitzmantel
Members: J. Jardón Álvarez
W. Sekretaruk

Summary of Facts and Submissions

I. The grant of European patent No. 0 502 745 in respect of European patent application No. 92301933.5 in the name of TORAY INDUSTRIES, INC., which had been filed on 6 March 1992, was announced on 28 August 1996 (Bulletin 1996/35) on the basis of 16 claims. The sole independent claim of the granted patent read as follows:

"1. A laminated film having at least three layers, at least one of which layers is biaxially oriented and an outermost layer A of which contains

a) inorganic particles A selected from zirconia, chain-like silica and alumina particles and having a mean primary particle size D which is in the range 1 to 100 nm and satisfies the equation

$$D \leq T \leq 200\ D$$

where T is the thickness of the layer A; and

b) particles B selected from calcium carbonate particles, crosslinked polymer particles and colloidal silica particles and having a mean primary particle size D1 which is in the range 0.3 to 2 μm and a primary particle size distribution with a relative standard deviation of not greater than 0.6; and, in which outermost layer A,

c) the mean primary particle size D of the particles A is less than the mean primary particle size D1 of the particles B."

II. A Notice of Opposition was filed against the patent by Teijin Limited on 27 May 1997. The Opponent requested the revocation of the patent in its full scope on the grounds of Article 100(a) EPC for lack of inventive step.

The opposition was supported by the following documents:

D1: EP - A - 0 378 154;

D2: EP - A - 0 347 646; and

D3: JP - A -Hei 2-60937 and a partial English translation thereof.

By its first interlocutory decision announced orally on 27 April 1999 and issued in writing on 19 May 1999, the Opposition Division maintained the patent in amended form.

III. During the subsequent first appeal proceedings this first instance decision was set aside by the Board of Appeal decision T 0736/99 of 20 June 2002. The Board admitted document

D4: JP - A - 3 90 329 (with full English translation)

into the opposition appeal proceedings and remitted the case to the department of first instance for further prosecution.

IV. At the end of the resumed first instance proceedings, by a second interlocutory decision announced orally on

6 July 2004 and issued in writing on 16 July 2004, the Opposition Division decided that the patent as amended met the requirements of the EPC, because the subject-matter of Claims 1 to 13 as received on 4 June 2004 was inventive over the cited prior art. The Opposition Division admitted, due to its relevance for the assessment of inventive step, ***inter alia*** the following document into the proceedings:

D5: JP - A -3 121 136 (and its English translation);

Claim 1 as maintained by the Opposition Division read as follows:

"1. A laminated film having at least three layers, at least one of which layers is biaxially oriented and an outermost layer A of which contains

a) inorganic particles A in an amount within the range of 0.01 to 2% by weight, which inorganic particles are selected from zirconia, chain-like silica and alumina particles, have a ratio of the mean secondary particle size to the mean primary particle size of the particles A in the range of 2 to 60 and have a mean primary particle size D which is in the range 1 to 100 nm and satisfies the equation

$$D \leq T \leq 200\ D$$

where T is the thickness of the layer A; and

b) particles B selected from calcium carbonate particles, crosslinked polymer particles and

colloidal silica particles in an amount within the range of 0.005 to 5% by weight and having a mean primary particle size D1 which is in the range 0.3 to 2 μm and a primary particle size distribution with a relative standard deviation of not greater than 0.6; and, in which outermost layer A,

c) the mean primary particle size D of the particles A is less than the mean primary particle size D1 of the particles B."

The Opposition Division, starting from D4 as closest prior art, saw the problem to be solved by the patent in suit as being the provision of an alternative laminated film having good abrasion and electromagnetic properties. It pointed out that the small particles of D4 were agglomerated in a chain or network-like form and were positioned around the large particles. Such a structure would not make it possible to define a linear dimension of the smaller particle aggregates from which a ratio of primary to secondary radius could be calculated. The skilled person would have no motivation to forgo this special particle distribution in favour of a different one and would not therefore turn to the teaching of either D1 or D5 in order to solve the above mentioned problem. Consequently, the Opposition Division acknowledged an inventive step.

V. On 9 September 2004 the Opponent (Appellant) lodged an appeal against the decision of the Opposition Division and paid the appeal fee on the same day.

In the Statement of Grounds of Appeal filed on 23 November 2004, the Appellant requested that the

decision of the Opposition Division be set aside and the patent revoked. It also filed the following documents:

D9: Graph illustrating the non-functional area of Claim 1 of the patent in suit; and

D10: photomicrographs of the particle system of D4.

VI. The Respondent (Patent Proprietor) presented its arguments in a written submission dated 8 April 2005. It disputed all the arguments submitted by the Appellant and requested that the appeal be dismissed. It also filed, ***inter alia*** a corrected English translation of page 6 of D4.

VII. By letter dated 25 March 2008, the Respondent filed sets of claims for seven auxiliary requests in order to more clearly specify the subject-matter of the claimed invention. Claim 1 of the fifth auxiliary request reads as follows:

"1. A laminated film having at least three layers, at least one of which layers is biaxially oriented and an outermost layer A of which contains

a) inorganic particles A in an amount within the range of 0.01 to 2% by weight, which inorganic particles are selected from zirconia, chain-like silica and alumina particles, have a ratio of the mean secondary particle size to the mean primary particle size of the particles A in the range of 2 to 60 and have a mean primary particle size D

which is in the range 1 to 100 nm and satisfies the equation

$$D \leq T \leq 200\ D$$

where T is the thickness of the layer A, which inorganic particles A reinforce the surface of the outermost layer A; and

b) particles B selected from calcium carbonate particles, crosslinked polymer particles and colloidal silica particles in an amount within the range of 0.005 to 5% by weight and having a mean primary particle size D1 which is in the range 0.3 to 2 μm and a primary particle size distribution with a relative standard deviation of not greater than 0.6, which particles B form protrusions on the surface of the outermost layer A such that the abraded amount, when determined in accordance with the following method:

(i) the film is slit into a tape having a width of ½ inch;

(ii) a safety razor is pressed onto the tape so that it is positioned lower by 0.5 mm than the level of the tape;

(iii) the tape is run for 200 m at a running speed of 200 m/min with a tension of 100 g; and

(iv) the abraded amount is measured, being the height of the powder on the razor, as determined using a microscope, which powder is cut off from the tape by the razor and adhered to the razor, is not greater than 180 μm;

and, in which outermost layer A,

c) the mean primary particle size D of the particles A is less than the mean primary particle size D1 of the particles B."

VIII. The arguments presented by the Appellant in its written submissions and at the oral proceedings held on 24 April 2008 may be summarized as follows:

– There was a significant part of the claim which did not solve the subjective problem underlying the patent in suit, namely to provide films having improved high-speed abrasion resistance. Indeed, the subject-matter of Claim 1 embraced embodiments which by the Patentee's own admission have poor high-speed abrasion resistance. That was the case for the A particles having a primary particle size in the upper region of the range 1 to 100 nm and presenting an agglomeration in the upper part of the range of 2 to 60. Thus the claim embraced films in which the size of the secondary A particles was up to 6 μm and therefore well above of the upper limit permitted for the B particles (2 μm). According to the specification, particles of such size could deteriorate the films' abrasion resistance. As shown by the graphical presentation of D9 a very significant portion, in fact one-third of Claim 1, was therefore unable to solve the problem of improved high-speed abrasion resistance.

– As a consequence of the improved abrasion resistance at high speed not being achieved across the whole breadth of the claim, the problem to be

solved by the patent in suit had to be reformulated as the provision of an alternative film having comparably good (not improved) abrasion resistance and good electromagnetic conversion properties.

– The solution to this problem, namely, the claimed films, was obvious in view of the disclosure of D4 alone or in combination with D5 or D1, essentially because the function of the large particles and the agglomerates of small particles in the prior art films was the same as in the claimed films. Thus, the features "missing" from D4 were either not distinguishing, as established by Appellant's reworking of Example 1 of D4, or did not contribute to an inventive step.

– The Appellant further requested that the auxiliary requests filed by the Respondent with its letter dated 25 March 2008 should not be admitted into the proceedings. They addressed a long standing objection which had already been made before the Opposition Division and there had been no new issues brought into the proceedings in the meantime which could justify their late submission. Due to their filing at a very late stage of the proceedings the Appellant had not had enough time to consider them.

– As to the fifth auxiliary request, the Appellant pointed out that it was already the aim of D1 to improve the chipping resistance at increased speeds. The limitation of the subject-matter of the claims to films showing improved high speed

abrasion could not therefore alter the lack of inventive step conclusion drawn with regard to the films of the main request.

IX. The arguments presented by the Respondent in its written submissions and at the oral proceedings may be summarized as follows:

– Although it was conceded that - by combining extreme values of the claimed ranges - embodiments which did not solve the problem of providing improved high-speed abrasion resistance were theoretically covered by the claims, the skilled person would immediately recognise by reading the specification that these extreme values should not be used in combination. It would therefore involve no burden for the skilled person to determine, from the patent itself, the film structures which would work and those which would not.

– In any case the claimed subject-matter would involve an inventive step even if the problem to be solved was merely to be seen as being to provide an alternative film for recording media. D4 required that the small particles form agglomerates without having directional property which range continuously around the large particles. Therefore the agglomerates would not form close-to-spherical-type secondary particles having a measurable R^2/R^1 ratio. Departing from this teaching by introducing different agglomerate structures from D1 or D5 would go against the very point of D4.

– Concerning the admissibility of the auxiliary requests the Respondent pointed out that these requests provided a further clarification of the scope of the claims without altering it. They neither introduced a new issue into the proceedings nor occasioned any difficulty of understanding.

X. The Appellant (Opponent) requested that the decision under appeal be set aside and that the European patent No. 0 502 745 be revoked.

It further requested that the auxiliary requests 1 to 7, filed with letter dated 25 March 2008, not be admitted into the appeal proceedings.

The Respondent (Patentee) requested that the appeal be dismissed or that the European patent be maintained on the basis of any of the auxiliary requests 1 to 7 filed with the letter dated 25 March 2008.

Reasons for the Decision

1. The appeal is admissible.

MAIN REQUEST.

2. Inventive step (Article 56 EPC).

2.1 Claim 1 of the main request is directed to a laminated film having at least three layers which provides high quality images when used as the base film of magnetic recording media and has a good abrasion resistance.

2.1.1 Claim 1 may be analysed as directed to a laminated film containing the following features:

(a) the film has at least three layers, at least one of which is biaxially oriented, and its outermost layer contains:

(b) inorganic particles A selected from zirconia, chain-like silica and alumina,

(b1) in an amount within the range of 0.01 to 2% by weight,

(b2) having a ratio of the mean secondary particle size to the mean primary particle size of the particles A in the range of 2 to 60, and

(b3) having a mean particle primary size D which is in the range 1 to 100 nm and satisfies the equation $D \leq T \leq 200D$, where T is the thickness of the layer A; and

(c) particles B selected from calcium carbonate, crosslinked polymer and colloidal silica,

(c1) in an amount within the range of 0.005 to 5% by weight,

(c2) having a mean primary particle size D1 which is in the range of 0.3 to 2μm and

(c3) a primary particle size distribution with a relative standard deviation of not greater than 0.6; and,

(d) wherein the mean primary particle size D of the particles A is less than the mean primary particle size D1 of the particles B.

2.2 Closest prior art.

2.2.1 Document D4, a late filed document admitted into the proceedings by the Board of Appeal pursuant to decision T 736/99 of 20 June 2002 (not published in the OJ EPO), was considered by both parties as the closest prior art document. The Board sees no reason to deviate from this finding.

2.2.2 D4 also describes biaxially oriented films suitable as a base film of magnetic recording media and having improved scratch and chipping resistance. The biaxially oriented films include two types of inert particles, namely inert particles B from relatively hard materials and being agglomerates of primary particles having a small average particle diameter [which correspond to inert particles A in the terminology of the patent] and inert particles A [which are particles B in accordance with the patent] selected from relatively soft materials and having a bigger size (see Claim 1; see also page 6, second full paragraph).

[To avoid any confusion, in the following reference will be made to particles A or B only in relation to the particles the subject of the patent in suit. The prior art particles will be named small or large, depending of their size but without any reference to the terminology used in the prior art documents to designate said particles.]

2.2.3 As in the films of the patent in suit, the large inert particles of the films of D4 serve to form protrusions on the surface of the film and the small inert particles serve to increase the retention strength of

the large particles and reinforce the laminated film layer (see page 6, lines 18 - 21).

2.2.4 It was not in dispute that the laminated films of Claim 1 differ from the films known from D4 by:

(a) the amount of large particles B (feature (c1)), and

(b) the ratio of the mean secondary particle size to the mean primary particles size of the particles A, R^2/R^1, (feature (b2)).

2.3 Problem to be solved.

2.3.1 According to the Respondent (see also page 2, lines 15 to 19 of the specification), prior art films used in magnetic recording media, such as those of D4, present some drawbacks when used in high speed processes such as high speed dubbing, being processes which have been enabled by the development of high-speed magnetic field transfer technology. One reason for this is that due to the abrasion of the films at high speeds the image quality suffers.

2.3.2 The Respondent defines the problem to be solved by the patent in suit as being to provide laminated films having improved abrasion resistance and electromagnetic conversion properties **at high speeds** (see also page 2, lines 24 to 28 of the patent in suit).

2.3.3 The Respondent stated that the claimed films having the above mentioned features including ***inter alia*** an R^2/R^1 ratio which is controlled so as to lie within the range 2 to 60 show improved abrasion resistance and

electromagnetic conversion properties at high speed. The examples and comparative examples in the specification as well as in the further experimental evidence filed during the proceedings demonstrate the advantageous properties of a number of films meeting the claimed requirements. Thus the films of examples 1 to 4 having a R^2/R^1 ratio between 4 and 20 show good abrasion resistance in the order of 55 to 80 μm. On the contrary, films outside the claimed range abraded to an extent greater than 180 μm in the same test (see comparative example 4 with a ratio of 1 and Reference Example 4 of the experimental report filed with letter dated 2 June 2004 using a ratio of 70).

2.3.4 The Appellant did not dispute that a large proportion of the films covered by Claim 1 indeed show improved properties but argued that the claim also embraced a considerable proportion of films having poor high-speed abrasion resistance and therefore not showing any improvement over the films of D4.

2.3.5 The latter conclusion is drawn from the fact that by selecting the specified upper values of the ranges for the size of the primary particle size for the A particles (feature (b3)) and for the ratio R^2/R^1 (feature (b2)) agglomerates having a secondary size of up to 6 μm are covered by the claim. Such agglomerates must lead to films whose high-speed abrasion resistance is unacceptable, as stated in the specification itself on page 4, lines 15 - 16, where it is set out that particles having a size greater than 2 μm form too large protrusions causing the abrasion resistance to deteriorate.

2.3.6 The Board cannot accept the argument of the Respondent that the skilled reader would immediately recognise from the description that value combinations which fail to solve the high-speed abrasion resistance problem should be regarded as outside the claimed invention and would therefore exclude from the "true" scope of the claim the use of A particles whose secondary particle diameter provides too large protrusions. In the Respondent's view this exercise, i.e. to determine on the basis of the information in the patent specification those film structures which would work and those which would not did not involve an undue burden for the person skilled in the art.

2.3.7 The Board notes that the above argument of the Respondent, which boils down to the conclusion that the wording of Claim 1 should be ignored, is contrary to the very concept of claim drafting according to which the claims shall define the matter for which protection is sought in terms of the technical features of the invention (Rule 43 EPC). While in situations where certain definitions in a claim require interpretation, the description may be consulted for that purpose, the present situation is different therefrom in that the characterising features of Claim 1 are entirely self-explanatory and do not require any interpretation. Indeed the Appellant has voluntarily chosen to define the claimed subject-matter by features (a) to (c) (see above 2.1.1) without imposing any limitation on a specific combination of the claimed ranges. These features then determine the subject-matter covered by the claim. Since the claim itself does not require that the films exhibit a certain value of abrasion resistance, the Respondent's argument, that the skilled

person when consulting the description would find out that part of the claim is inoperable (in terms of the subjective problem underlying the claimed subject-matter) and would cut it out from the claimed area, must fail. While it is not decisive in this context, it is noted that the part of the claimed scope that does not provide an improved high-speed abrasion is about 20% or more and thus by no means negligible.

2.4 Reformulation of the problem.

2.4.1 In view of the above, an improvement of the abrasion resistance in high-speed processes cannot be acknowledged as the objective problem underlying the invention for the whole breadth of Claim 1. As a consequence the problem has to be reformulated in a less ambitious manner not involving such an improvement.

2.4.2 This objective problem can thus be formulated as the provision of films for magnetic recording media having good abrasion resistance and good electromagnetic conversion property comparable to the films of D4.

2.5 Solution to the problem.

2.5.1 It is acknowledged that this less ambitious problem is solved by the totality of the films according to Claim 1. Although the specification does not include examples testing the abrasion resistance of the claimed films at moderate speed, the Appellant did not contest that the films exhibit the required properties and the Board has no reason to doubt that this problem has actually been solved by the claimed films.

2.6 Inventive step.

2.6.1 The question which remains to be decided is whether this solution involves an inventive step over the available prior art, that is to say, if in view of the reformulated problem the claimed subject-matter is obvious in view of D4 alone or in combination with D1 and/or D5 as argued by the Appellant.

2.6.2 As pointed out above (see 2.2.4) the two features of the claimed films which are distinguishing over D4 are the amount of the large particles B (c1) and the ratio R^2/R^1 (b2).

2.6.3 Concerning the amount of the large particles, D4 states that the combined weight of all particles (small and large) ranges from 0.3 to 55 wt% (page 16, penultimate line). Taking into account that the amount of small particles in D4 varies from 0.05 to 1 wt% (page 6, last full paragraph), it is evident that the amount of large particles in D4 and in the patent in suit overlaps to a great extent.

The Respondent has not shown any unexpected effect resulting from the use of the selected claimed range of the amount of the B particles. Moreover this range appears to be standard in the art (see, for instance, D1, col. 4, lines 38 - 41). This feature, (c1), cannot therefore justify the presence of an inventive step.

2.6.4 The question whether the other distinguishing feature, the ratio R^2/R^1, justifies the acknowledgement of an inventive step was hotly disputed in the proceedings. Both parties filed different versions of the English

translation of D4, experimental evidence in accordance with example 1 of D4 and microphotographs of the structures of the films thus prepared.

The Appellant argued essentially that the wording of Claim 1 did not define a particle structure different from that of D4 because feature (b2) did not limit the subject-matter of the claim to agglomerates having a spherical-like structure. It argued that the process parameters for the preparation of the films of D4 were not relevant, and the important feature of the films was the presence of the agglomerates of the small particles which had the same function in the patent and in D4.

The Respondent argued that the claimed films presented a different type of agglomerated particle structure, susceptible to be defined differently from the agglomerate structure of the small particles of D4, namely by the R^2/R^1 ratio. In contrast to the claimed films, and owing to the process conditions applied according to D4, the agglomerate structure of D4 had a chain-like structure for which it was not possible to measure a R^2/R^1 ratio. As a consequence of the process conditions used according to the present invention, namely (i) the incorporation of particles A and B into respective separate glycol components by the so-called "media dispersion method", (ii) subjecting each glycol component to separate polymerization processes as well as (iii) the use of further specific processing steps, spherical-like aggregates were formed of a shape completely different from that of the aggregates of D4.

2.6.5 Taking account of the evidence submitted by both parties, the Board considers that while the exact structure of the agglomerates of the films of D4 and the films of Claim 1 of the patent in suit cannot be established, this evidence is sufficient to prove that the agglomerates of D4 do not exhibit a spherical-like structure, this term including particle clusters of e.g. also elliptical-like - or even less symmetrical - shape (cf. comparison of the agglomerate structures of the patent and of D4 as illustrated by the Respondent Patentee in its submission dated 2 June 2004). As compared thereto the agglomerates of D4 have an extended chain-like or network-like structure of linear-like shape (cf. D10: photomicrograph with highest resolution provided by the Appellant with its submission dated 23 November 2004) which is clearly different from the structure of the agglomerates of the claimed films.

This finding is fully in agreement with one of the two alternative methods for measuring the size of the agglomerates set out in the specification (page 7, lines 7-13), which requires the determination of the "equivalent diameter" of the particles. While this term already implies that the aggregates are not strictly spherical, the use of the word "diameter" can only refer to an agglomerate structure with a cluster of particles grouped around a centre; only then does it become possible to define the agglomerate structure by an R^2/R^1 ratio.

One reason for the different structure of the D4-agglomerates of the small particles, i.e. their chain-like or network-like form (page 6, line 10) can be seen

in the manufacturing conditions adopted according to D4, which are different from those used according to the present patent and which do not involve the use of the media-dispersion method.

2.6.6 In summary, the R^2/R^1 ratio required by the claimed films is not accessible by the processes of D4 and consequently D4 alone does not make the claimed subject-matter obvious.

2.6.7 It remains to be decided if the claimed subject-matter is obvious over the teaching of D4 in combination with D1 or D5.

D1 discloses a biaxially oriented polyester film having improved scratch and chipping resistance containing small inorganic particles which form agglomerates and large particles (see abstract). The large particles are provided for forming protrusions and the small particles serve to reinforce the film (see column 5, lines 7 - 14). Although D1 is silent about any measurement of the R^2/R^1 ratio, the process used in D1 is the same process as the one used for the preparation of the agglomerates of the patent, as acknowledged by the Respondent in its letter dated 8 April 2005 (page 6 point F.6). Consequently the shape of the D1 agglomerates must correspond to a spherical-like shape comparable to that of the agglomerates of the present subject-matter.

2.6.8 Both documents D4 and D1 relate to the production of biaxially oriented thermoplastic films having properties which make them suitable for the use as a base film of magnetic recording media at moderate

speeds. Both films include large particles which form protrusions and small particles which agglomerate and reinforce the large particles, the main difference between the films being the process of preparation of the films and the shape of the resulting agglomerates.

It would thus be clear for a person skilled in the art that the particle system disclosed in D1 with the agglomerates in a spherical-like form would also lead to films having good abrasion resistance at moderate speeds. He would consider this particle system as an obvious alternative to the system of D4 for the same use and purpose.

2.6.9 The Board cannot accept the argument of the Respondent that the skilled person would be discouraged from using the particle system of D1 because the thickness of the films in D1 is higher than the thickness of the films of D4. The teaching in column 5, lines 7 - 15 of D1 indicating that the large particles form protrusions on the surface of the film informs the skilled person of the suitability of the particle system of D1 for increasing the scratch and chipping resistance, effects which are independent of the thickness of the film.

2.6.10 For these reasons the Board concludes that, in the absence of any improvement resulting from the different structure of the small particle agglomerates, the claimed films are obvious over the combined teaching of documents D4 and D1.

AUXILIARY REQUESTS.

3. Admissibility of the auxiliary requests.

3.1 The Respondent filed auxiliary requests 1 to 7 at a late stage of the proceedings, namely one month before the date fixed for the oral proceedings.

3.1.1 The amendments introduced into these requests aim to exclude from the subject-matter of the claims those films which do not show improved abrasion resistance at high speeds.

3.2 The Appellant objected to the admissibility of these requests. It pointed out that no new issue had been raised which could justify their late filing; the objection they intended to overcome had been known from the outset of the appeal proceedings. Moreover, the amendments newly introduced gave rise to new objections (support, clarity, etc.) which could not be dealt with by the Appellant in the short interval of time left before the oral proceedings.

3.3 According to Article 13(1) of the Rules of Procedure of the Boards of Appeal any amendment to a party's case after it has filed its grounds of appeal may be admitted and considered at the Boards's discretion. The discretion has to be exercised in view of inter alia the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy.

3.4 In the present case the Board decided not to admit auxiliary requests 1 to 4 into the proceedings

principally because they do not overcome the objection raised against the main request.

The amendments made by the Respondent in auxiliary requests 1 to 4 aim to exclude films having poor high-speed resistance by defining the role of the particles A and B in the film, their position in the film and/or their intended use. However, these amendments do not serve the intended purpose.

Therefore, for the same reasons as given under paragraph 2.3.7 above for the main request, the subject-matter of auxiliary requests 1 to 4 does not solve the problem of providing films having improved high-speed abrasion resistance across the entire claimed breadth.

3.5 In contrast, auxiliary request 5 is admitted into the proceedings. Although it was filed at the same late stage, the amendments made in Claim 1 of auxiliary request 5 ensure that only those films having improved abrasion resistance at high speeds are embraced by the claim, thus overcoming the objections concerning the failure of the higher ranking requests to solve the problem of improved high-speed abrasion, which required the reformulation of the problem for the main request.

Moreover the amendments do not give rise to new issues and do not confront the Respondent with facts, evidence or arguments not yet in the proceedings.

AUXILIARY REQUEST 5

4. Amendments

4.1 The main amendment made to the claims is the requirement that the abrasion resistance of the films is such that the abraded amount, as determined by the method disclosed in the patent, is not greater than 180 μm. This amendment is supported by the disclosure on page 31, lines 9 to 21 of the application as originally filed. Additionally the claim indicates that the particles B form protrusions on the surface of the outermost layer and the particles A reinforce the surface of the outermost layer (support, page 6, line 2 to 8).

The requirements of Article 123(2) EPC are thus fulfilled.

4.2 By excluding films which do not fulfil the abrasion resistance requirements, the subject-matter of the claims has clearly been limited and does not extend the protection conferred by the granted patent (Article 123(3) EPC).

4.3 Although the Appellant did not raise a clarity objection pursuant to Article 84 EPC to the amendments made, it submitted that some of the features of the method of measurement would need interpretation and gave rise to an objection of lack of sufficiency of disclosure (Article 83 EPC).

4.4 The Board cannot accept this argument. The method of measurement is disclosed in the specification in a

manner sufficiently clear and complete for it to be carried by a person skilled in the art. As the Appellant itself used the test method of the patent to measure the abrasion resistance when repeating example 1 of D4, he can hardly deny the repeatability of the relevant information.

5. Inventive step (Article 56 EPC).

5.1 Claim 1 of the fifth auxiliary request includes all the features of Claim 1 of the main request (see paragraph 2.1.1 above) and furthermore the feature that:

(e) the abrasion resistance is such that the abraded amount when measured by the method therein disclosed is not greater than 180μm.

5.2 The problem to be solved can now be seen in accordance with paragraph 2.3.2 above as being the provision of laminated films having improved abrasion resistance and electromagnetic conversion properties **at high speeds**.

5.3 The solution to the problem.

5.3.1 This problem is credibly solved by the now claimed films. As already discussed under paragraph 2.3.3 above the examples and comparative examples in the proceedings show the advantageous abrasion resistance of the films now claimed. This was not contested by the Appellant with regard to this request and therefore no further comments are needed.

5.4 Obviousness

5.4.1 There is no indication either in D4 or in the other available documents as to the use of films with a R^2/R^1 value within the range now claimed in order to improve the abrasion resistance at high speeds. In these documents (see D4, page 16 under (11) and D1 column 10, lines 25 - 45) the abrasion resistance (therein called chipping resistance) is measured by using the test of the patent in suit but carried out at a speed of 6.7 cm/sec (about 4 m/min), which is well below the speed of 200 m/min now used. Both D4 and D1 are silent about the problem of abrasion improvement at high speeds and consequently there is no incentive for the skilled person to use the particle system of D1 in the films of D4 in order to improve the high-speed abrasion resistance.

5.4.2 The Board cannot accept the argument that the reference to the increase in speed in column 1, lines 20 - 22 of D1 would provide the skilled person with the incentive to use the particle system of D1 in the films of D4, because this reference is clearly directed to the (much lower) speeds used in this document because there is no mention of dubbing processes requiring much higher speeds.

5.4.3 In summary, the teaching that improved abrasion at high speeds can be obtained by providing films with the features (a) to (e) as defined in Claim 1 of the fifth auxiliary request is a teaching not derivable from the available prior art.

5.5 For these reasons the subject-matter of Claim 1 of the auxiliary request 5 involves an inventive step (Article 56 EPC).

Order

For these reasons it is decided that:

- The decision under appeal is set aside.

- The case is remitted to the Opposition Division with the order to maintain the European patent on the basis of Claims 1 to 13 filed as auxiliary request 5 on 25 March 2008, after any necessary consequential amendment of the description.

The Registrar: The Chairman:

G. Röhn P. Kitzmantel