

Internal distribution code:

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

D E C I S I O N
of 2 July 2004

Case Number: T 0555/03 - 3.3.7

Application Number: 96902093.2

Publication Number: 0871567

IPC: B32B 5/16

Language of the proceedings: EN

Title of invention:

Clear conformable oriented films and labels

Applicant:

Avery Dennison Corporation

Opponent:

-

Headword:

-

Relevant legal provisions:

EPC Art. 83, 84, 123(2)

Keyword:

"Amendments - allowable (yes)"
"Claims - clarity (yes)"
"Disclosure - enabling"

Decisions cited:

-

Catchword:

-



Case Number: T 0555/03 - 3.3.7

D E C I S I O N
of the Technical Board of Appeal 3.3.7
of 2 July 2004

Appellant:

Avery Dennison Corporation
150 North Orangegrove Boulevard
Pasadena
California 91103 (US)

Representative:

Geissler, Bernhard, Dr. jur., Dipl.-Phys.
Patent- und Rechtsanwälte
Bardehle . Pagenberg . Dost
Altenburg . Geissler
Galileiplatz 1
D-81679 München (DE)

Decision under appeal:

Decision of the Examining Division of the
European Patent Office posted 20 December 2002
refusing European patent application
No. 96902093.2 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: R. E. Teschemacher
Members: B. L. ter Laan
B. J. M. Struif

Summary of Facts and Submissions

- I. European patent application No. 96 902 093.2, filed as international application PCT/US96/00142, claiming a priority of 13 January 1995 (US 08/372 299) and published as WO 96/21563, was refused in a decision of the Examining Division of the European Patent Office dated 20 December 2002.

Claim 1 as originally filed read:

"1. A machine-direction oriented propylene homopolymer or copolymer film wherein the copolymer is selected from the group consisting of propylene-ethylene copolymers containing up to about 10% by weight of ethylene and propylene-1-butene copolymers containing up to about 15% by weight of 1-butene wherein the oriented film has an opacity of about 10% or less and a haze of about 10% or less in the machine-direction and in the cross-direction."

The decision of the Examining Division was based on a set of 25 claims filed on 13 November 2002.

Claim 1 read:

"1. A machine-direction oriented propylene homopolymer or copolymer film, wherein the tensile modulus of the film in the cross direction is less than about 0.75 times the tensile modulus of the film in the machine direction, wherein the copolymer is selected from the group consisting of propylene-ethylene copolymers containing up to about 10% by weight of ethylene, and propylene-1-butene copolymers containing up to about

15% by weight of 1-butene, wherein the oriented film has an opacity of about 10% or less, preferably about 8% or less, and a haze of about 10% or less in the machine-direction and in the cross-direction."

The other claims referred to specific embodiments of the film according to claim 1 and to particular applications of the film.

The Examining Division held that the claimed subject-matter did not satisfy the requirements of Articles 83 EPC because the description contained contradictory statements regarding the relationship between the comonomer content of the polymer and the stretch ratio to be applied to the film in order to obtain the required haze and opacity. Apart from the decisive issue of Article 83 EPC, it was also noted that Articles 84, 54 and 56 EPC were complied with.

- II. On 25 February 2003, a notice of appeal was lodged against that decision, together with payment of the prescribed fee. In the statement of grounds of appeal filed on 30 April 2003, the Appellant (Applicant), argued against the objections under Article 83 EPC and stated that there was no relationship between the stretch ratio and the film properties. Nor was there any contradiction regarding the stretch ratios given in the description which were indicated as being useful for various comonomer contents.

- III. On 15 April 2004, the Board sent a communication in preparation of the oral proceedings. Several points to be discussed were raised regarding Articles 123(2), 84, 83, 54 and 56 EPC. The meaning of several expressions

used in the claims was not clear. In particular, the question was asked how the machine and transverse directions of the opacity and haze were measured. Concerning novelty and inventive step, the Appellant's attention was drawn to a document cited in the description of the application under discussion: US-A-5 186 782 (D4).

- IV. In reply, by letter dated 1 June 2004, the Appellant filed a set of 26 claims as its sole request as well as copies of the measuring methods for opacity, haze and tensile properties, but failed to indicate the basis for the amendments in the claims and the precise disclosure of the measuring methods.

Claim 1 reads as follows:

"1. A machine-direction oriented propylene homopolymer or copolymer film, wherein the tensile modulus of the film in the cross direction is less than 0.75 times the tensile modulus of the film in the machine direction, wherein the copolymer is selected from the group consisting of propylene-ethylene copolymers containing up to 10% by weight of ethylene, and propylene-1-butene copolymers containing up to 15% by weight of 1-butene, wherein the oriented film has an opacity of 10% or less, preferably 8% or less measured using TAPPI Test T425 os, and a haze of 10% or less in the machine-direction and in the cross-direction, measured in accordance with ASTM test method D-1003."

The indication "os" after TAPPI Test T425 was present in the hand-written version of the claims, but omitted in the typed version. In view of the disclosure in the

original description, page 14, line 28, the indication should be present.

The other claims refer to specific embodiments of the film according to claim 1 and to particular applications of the film.

V. Oral Proceedings were held on 30 June 2004. Upon the Board's question regarding the measuring method for the haze in two directions, the representative declared that he had not yet sufficient information from his client to address those points. Therefore, he requested interruption of the oral proceedings in order to contact his client. Since the question was decisive for the further prosecution of the case and since no other parties were involved, the oral proceedings were interrupted till 1 July 2004, 09.00 hr. After a telephone call from the representative on 30 June 2004, at the end of the day, informing the board that his client could not be reached, a further interruption was allowed till 2 July 2004, 09.00 hr.

VI. The Appellant's arguments can be summarized as follows:

(a) Regarding the opacity and haze of the claimed films, both were measured in machine as well as in transverse or cross direction. The values were measured according to the standards indicated in the description. Those standards did not indicate measurements in different directions, but normally, when a light beam passed through a film, a circle resulted due to dissipation of the light. In uniaxially drawn films such as those according to the application in suit, the circle had a more

oval form. Therefore, measuring in two directions would give different results, albeit, as shown in the examples, not to a great extent. In the examples only one value was given for the opacity, probably since the values in the two directions did not differ, but opacity as well had been measured in two directions.

As to the elongation mentioned in claim 18, the standard cited in the application in suit mentioned two kinds of elongation, one of which, the elongation at break, was the one usually measured. The elongation at yield on the other hand was less current, only to be used "where applicable", hence not normally used. Therefore, the "elongation" in the description had to be read as "elongation at break".

- (b) The basis in the original application for the amendments was indicated.

- (c) As regards sufficiency of disclosure, the Appellant argued that the statements in the description regarding the relationship between the comonomer content of the polymer and the stretch ratio to be applied to the film in order to obtain the required haze and opacity, specified the stretch values that gave the desired result for most of the copolymers. Also an indication was given that for a higher amount of comonomer it was possible to apply a higher stretch ratio.

The tensile modulus had been introduced into the claims since there was no other means to

distinguish them from the prior art without undue limitation. The values for the tensile modulus given in Table VII that fell outside the claimed scope could be explained by the fact that many parameters were responsible for the properties of the produced films. However, based on the information contained in the description and examples, the skilled person knew how to operate so as to arrive at a film in accordance with the claimed subject-matter.

- (d) Regarding novelty, although orientation in the cross-direction was not explicitly excluded from the present claims, the claimed subject-matter differed from D1 in the relationship between the tensile modulus of the films in the cross direction and that in the machine-direction, which was higher in D1. The composition of the polymer from which the film was made in D4 was such as to result in a higher haze than that of the films now being claimed.

VII. The Appellant requested that the decision of the first instance be set aside and that a patent be granted on the basis of the claims filed with letter dated 1 June 2004 and that the case be remitted to the first instance, considering that the Board raised questions that had not been dealt with before and in view of D4 which had not been cited by the Examining Division.

Reasons for the Decision

1. The appeal is admissible.

Amendments

2. Claim 1 differs from the original claim 1 in the deletion of the word "about" before the ranges and the addition of the measuring methods as indicated in the original description (page 14, lines 27 to 29). The condition that the tensile modulus of the film in the cross direction should be less than 0.75 times the tensile modulus of the film in the machine-direction is based on original description page 11, lines 20 to 22. The addition of the preferred opacity value of 8% or less is based on original claim 8.

In claims 2, 3 and 4 the word "about" before the ranges has been deleted, claim 3 being a combination of original claims 3, 4 and 5 and claim 4 being a combination of original claims 6 and 7.

Claims 5, 6 and 8 correspond to original claims 9, 10 and 13, respectively. Claim 7 is a combination of original claims 11 and 12.

Claims 9 and 10, which both refer to claim 5, are based on original claims 8 and 14, and 8 and 16, respectively.

Claim 11 finds its basis in original claim 18. By its reference to present claim 6, which again refers to present claim 1, the features of those claims are included and need not be explicitly mentioned anymore, as was the case in original claim 18. The preference

for a propylene homopolymer is disclosed in original claim 19.

Claim 12 is a combination of original claims 20, 21 and 34 as well as page 14, lines 26 to 27.

Claim 13 is original claim 22.

Claim 14 is a combination of original claims 23, 24 and 25, claim 15 of original claims 26 and 27, claim 16 of original claims 28 and 29 and claim 18 of original claims 31 and 32. Claims 17 and 19 are original claims 30 and 33, respectively.

Claim 20 finds its basis in original claim 35. By its reference to present claims 1 to 8 the features of those claims are included. Although original claim 35 required that the haze of the **oriented propylene copolymer** (emphasis added) should be 10% or less, from the context of the claims and description it appears that that was a mistake and that the haze of the film was meant (Rule 88, second sentence, EPC).

Claim 21 is a combination of original claims 37 and 38.

Claim 22 is based on original claim 41. By its reference to present claim 11, which refers to present claim 6, which again refers to present claim 1, the features of those claims are included and need not be explicitly mentioned anymore, as was the case in original claim 41.

Claim 23 is a combination of original claims 43 and 44. Claim 24 is original claim 45.

Claim 25 is based on original claim 46. By its reference to present claim 11, which refers to present claim 6, which again refers to present claim 1, the features of those claims are included and need not be explicitly mentioned anymore, as was the case in original claim 46.

Claim 26 finds its basis in original claims 47, 48 and 49. It refers to claim 20, which corresponds to original claim 35, to which original claim 47 referred.

In view of the above, the Board sees no reason to raise any objections pursuant to Article 123(2) EPC.

Clarity

3. According to claim 1, the oriented polypropylene film should have an opacity of 10% or less and a haze of 10% or less in the machine-direction and in the cross-direction. ASTM Test Method D-1003 (haze) and TAPPI Test T 425 os (opacity) were indicated as the measuring methods for these values (page 14, lines 27 to 29 of the description). However, those methods do not mention any directional differences of the measured properties.

In its communication in preparation of the oral proceedings, the Board pointed out that the term "an opacity of ... and a haze of ... in machine-direction and in the cross-direction" was not clear. The appellant was requested to indicate how these values were measured, to file copies of the methods referred to in the description (TAPPI T 425 and ASTM D-1003) and

to indicate the page and line numbers dealing with the measurements in machine- and cross-direction.

It was also pointed out that only if Articles 123(2) and 84 EPC were complied with, the questions of sufficient disclosure, novelty and inventive step could be discussed.

- 3.1 The Appellant had sent copies of the measuring methods ASTM D-1003 and TAPPI T 425 om-01, without any reference to page and line numbers. Those copies did not mention any direction-dependent measurement of the film. In order to answer the Board's questions in that respect, an unforeseen interruption of two days of the oral proceedings had to be allowed. This was only possible due to the coincidental fact that all Board members as well as a suitable room were available at the date the oral proceedings could finally be concluded. It needs no explanation that such an interruption is highly exceptional and can under no circumstances be counted on.

As regards the direction-dependent measurement of haze and opacity, the appellant stated that it was known to the skilled person that normally a circle resulted when a beam of light was passed through a film and that that circle was more elongated in uniaxially drawn films such as those according to the application in suit. Therefore, measuring in two directions would give different results, albeit, as shown in the examples, not to a great extent. In view of the Appellant's detailed technical background knowledge, the Board accepts this explanation.

As to the elongation mentioned in claim 18, from the context of the application in suit, according to which a machine-direction oriented polypropylene film is claimed (claim 1; original page 18, lines 3 to 6), it can be accepted that in fact the "elongation at break" is meant, since this elongation is the one usually measured according to ASTM D-882, the standard cited in the application in suit (page 18, lines 14 to 16).

- 3.2 In view of the above, the clarity requirements of Article 84 EPC are considered to be fulfilled.

Sufficiency of disclosure

4. The question to be answered is whether, in the light of the information contained in the application, the skilled person can prepare products according to the claimed subject-matter, in particular a film according to claim 1, which is a machine-direction oriented polypropylene film having an ethylene content of up to 10 weight% or a 1-butene content of up to 15 weight%, with a tensile modulus in the cross direction of less than 0.75 times the tensile modulus in the machine-direction, and an opacity as well as a haze of up to 10% in both directions.
- 4.1 According to original page 15, lines 4 to 16, "The clear copolymer films of the present invention may be obtained when the film is oriented at a stretch ratio of about 7 or less." For example, for a copolymer having an ethylene content of about 5 to about 6 weight%, a stretch value of about 7 or less, more often about 5 or less is given. A stretch ratio of about 4 or less is stated to be useful for a copolymer having

about 3 to about 6 weight% of ethylene. In particular, according to page 15, lines 11 to 14, a propylene-ethylene copolymer containing about 5.5 weight% ethylene provides a clear film when oriented in the machine-direction at a stretch ratio of about 5:1. For film out of a 3.2 weight% ethylene copolymer, a stretch ratio and about 4:1 is said to provide a clear film.

4.2 In its decision, the Examining Division held that the above-cited passage indicated that certain (non-disclosed) factors played a role in governing the properties of the claimed films. In particular, it was apparent that a relationship existed between the comonomer content of the copolymer and the stretch ratio to be applied in order to obtain a film of the required haze and opacity. That contradictory and confusing passage provided no clear teaching which would enable the skilled person, without facing an undue burden of experimentation, to operate within the scope of the claims with a reasonable expectation of success (point 3 of the decision).

4.3 The above-cited passage on page 15 of the original application contains an indication of the stretch ratios that can be used in the preparation of clear films out of propylene copolymers. Those are general directives from which no specific conclusions can be drawn regarding any relationship between comonomer content and stretch ratio. The Board fails to see how such a relationship can be apparent when the information would be contradictory and confusing at the same time.

The above-cited passage on page 15 is also in conformity with the values of about 4:1 and 5:1 mentioned for about 8 to 14 weight% 1-butene copolymer films (page 15, lines 14 to 16), as well as with the values of 7 or less, more preferably between 3 and 7 and most preferably at about 4 to 6, given for obtaining the desired tensile modulus ratio (original page 11, lines 1 to 5). Apart from those more general instructions, the application contains 37 examples in which further details (such as stretch ratios of 4:1 and 5:1) about the preparation of films according to claim 1 can be found. All those particulars provide sufficient information to enable the skilled person to prepare the claimed films.

- 4.4 Amongst the 37 examples, the tensile modulus ratios in examples 36 and 37 in Table VII fall outside the claimed scope since the requirement of a ratio of at most 0.75 for the tensile modulus in the cross-direction to the machine-direction has not been fulfilled. However, in those two examples three layer films using a stretch ratio of only 4:1 are described, whereas according to the description the stretch ratio can be as high as 7:1 (page 11, lines 1 to 5). From a comparison of the three layer films of Examples 26, 27, 30, 31 and 34 (stretch ratio 4:1) with Examples 25, 28, 29, 32 and 33 (stretch ratio 5:1), respectively, it appears that a higher stretch ratio leads to a lower tensile modulus ratio (Tables IV and V). This suggests that raising the stretch ratio would result in a lower tensile modulus ratio. It is not evident that, following the instructions of the application in suit, such films could not be made.

- 4.5 In view of the above, there is no reason to believe that the skilled person would not be able to produce a film according to the subject-matter now being claimed. The requirements of Article 83 EPC are fulfilled.

Novelty and inventive step

5. The Examining Division did not give a decision on the issues of novelty and inventive step, but it did indicate that both requirements were considered to be complied with. However, that opinion was based on three documents (D1: EP-A-399 492, D2: US-A-4 439 478 and D3: US-A-5 338 790) and did not take into account US-A-5 186 782 (D4), which is mentioned in the description of the application in suit (page 3, line 17 to page 4, line 2) and cited in the International Search Report as a "Y" document, and to which the Board drew the Appellant's attention in its communication in preparation of the oral proceedings (point 3). Since D4 had not been considered during the examination procedure and in view of the Appellant's request to remit the case to the first instance, the Board decides accordingly.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.

The Registrar:

The Chairman:

G. Eickhoff

R. Teschemacher