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# D E C I S I O N
## of 20 November 1997

**Case Number:** T 0329/93 - 3.3.3

**Application Number:** 84308387.4

**Publication Number:** 0147088

**IPC:** B32B 7/04

**Language of the proceedings:** EN

**Title of invention:**
One-sided cling stretch wrap

**Patentee:**
MOBIL OIL CORPORATION

**Opponent:**
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Borden Inc.
Bonar Polythene Films Ltd.
Stamicarbon bv
Rosenlew Emballage AB
W. Hamburger Unterland Ges. für Kunststofftechnik mbH

**Headword:**
-

**Relevant legal provisions:**
EPC Art. 83, 56

**Keyword:**
"Sufficiency of disclosure (yes) - sufficient information in the patent specification as well as in the prior art"
"Inventive step (no) - obvious combination of known features with known effect"

**Decisions cited:**
-

**Catchword:**
T 0409/91, G 0004/92, G 0009/92, G 0004/93

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Beschwerdekammern | Boards of Appeal | Chambres de recours

**Case Number:** T 0329/93 - 3.3.3

# D E C I S I O N
## of the Technical Board of Appeal 3.3.3
## of -20-11-97

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**Decision under appeal:** **Decision of the Opposition Division of the European Patent Office posted 29 January 1993 revoking European patent No. 0 147 088 pursuant to Article 102(1) EPC.**

**Composition of the Board:**

**Chairman:** C. Gérardin
**Members:** B. ter Laan
J. Stephens-Ofner

## Summary of Facts and Submissions

I. Mention of the grant of European patent No. 0 147 088 in respect of European patent application No. 84 308 387.4, filed on 4 December 1984, claiming priority from an earlier application in the United States (564664 of 23 December 1983), was announced on 30 May 1990, on the basis of ten claims, Claim 1 reading:

"A stretch wrap film having one-sided cling comprising a transparent thermoplastic A/B film structure wherein the exposed surface of layer A, in its stretched condition, has a comparatively high cling force to the exposed surface of layer B and the exposed surface of layer B has at least substantially no cling force to a layer of itself and has a slide property when the exposed surface of layer B is in contact with a layer of itself with relative motion therebetween."

Claims 2 to 10 were dependent and referred to preferred embodiments of the film of Claim 1.

II. Between 24 and 28 February 1991 six Notices of Opposition against the granted patent were filed, in which the revocation of the patent in its entirety was requested on the grounds set out in Articles 100(a) and 100(b) EPC.

III. By a decision issued on 29 January 1993, the Opposition Division revoked the patent on the grounds that, although the requirements of Article 83 EPB were

fulfilled, the claimed subject-matter was neither novel nor inventive over the cited prior art.

IV. On 5 April 1993 the Appellant (Proprietor) lodged an appeal against the above decision and paid the prescribed fee simultaneously. The Statement of Grounds of Appeal was filed on 28 May 1993, in response to which Respondents I, II, III, V and VI (Opponents I, II, III, V and VI) field counterstatements. By a letter dated 8 October 1997, four sets of amended claims were filed by way of main and three auxiliary requests.

Oral proceedings were held on 20 November 1997, at which the Appellant and Respondents I, II and III (Opponents I, II and III) were present. The other Respondents, although having been duly summoned, did not attend.

Following the discussion of the admissibility under Article 123(2) EPC of the claims of the main request, which had been slightly amended, all requests were replaced by three new sets of claims as the main and two auxiliary requests. Claim 1 of the main request reads:

"A stretch wrap film having one-sided cling and a stretch capability of at least 90% comprising a transparent thermoplastic A/B film structure wherein layer A comprises a linear low density polyethylene, the linear low density polyethylene consisting essentially of ethylene co-polymerized with a minor amount of at least one alpha-olefin having 4 to 10 carbon atoms, and wherein the exposed surface of layer

A, when stretched, has a comparatively high cling force to the exposed surface of layer B and the exposed surface of layer B has at least substantially no cling force to a layer of itself and has a slide property when the exposed surface of layer B is in contact with a layer of itself with relative motion therebetween."

In the first auxiliary request the addition of cling and non-cling additives to layers A and B, respectively, was included and the second auxiliary request additionally contained the specification of the B layer as being a low density polyethylene.

After the submission of the amended claims, the discussion concerned the issues of sufficient disclosure and inventive step. The arguments were mainly based upon the following documents:

D1: AU-A-91930/82
D3: EP-A-0 009 376
D4: US-A-4 327 009

V. Regarding sufficiency of disclosure, the Appellant, after the positive finding of the Opposition Division and the lack of objections against that finding by the Respondents, did not agree that the Board raised that point. The Respondents were of the opposite opinion in view of he latest case law developments, e.g. T 0409/91 (OJ EPO 94, 653).

In substance, the Appellant pointed at the examples and other information present in the patent specification as well as in the documents on file, in particular D4,

from which it appeared that the required cling and non-cling features were known to be inherent properties of some materials, such as LLDPE (high cling) and HDPE (non-cling), so that no additives were necessary for the result to be achieved.

The Respondents maintained that the patent in suit lacked precise instructions how to arrive at the required cling and slide properties and whether the addition of specific additives was necessary.

VI. A considerable part of the discussion concerned the determination of the closest document, as the views of the parties, the Opposition Division and the Board all differed in that respect.

According to the Appellant, D4 was the closest document since it concerned the same field as the patent in suit, namely that of stretch wrap film, and also referred to a similar problem, namely that of drag between adjacent loads. D3 was not considered to be a suitable starting point since it addressed a different problem. D1 was even more remote as it referred to the altogether different technical field of household wrap films, which required different properties.

The Respondents agreed with the Opposition Division that D1 was the closest document as the field of household wrap films concerned the same polymers and the same properties as the field of stretch wrap, the only difference between those two fields being in the film's dimensions, in particular its thickness. Moreover, D1 addressed the same problem as the patent

in suit, namely to combine the contradictory requirements of cling and non-cling. D4 and D3 were not regarded as suitable starting points since the former referred mainly to symmetrical films, although a film made of an LDPE-layer and an LLDPE-layer was also disclosed, and the latter did not address the problem of non-cling.

Following the arguments and counterarguments of the parties the Board indicated briefly why in its view a proper application of the problem-solution approach would lead to regard D3 as the closest state of the art.

VII. Regarding the main request, the Appellant formulated the problem to be solved as to provide a stretch wrap film with reduced drag without impairment of the cling properties. However, after a question of the Board whether there was any proof available that that problem was effectively solved, the problem was redefined as providing an alternative stretch wrap film. The Respondents did not disagree with the latter definition.

VIII. The Appellant, starting from D4, argued that, like all documents concerning stretch wrap film, that citation referred to the use of single layer films and did not suggest the use of two-layer films having different properties on both sides. As D3 was primarily concerned with 3-layer films having an LLDPE core and LDPE surface layers, a combination of D4 with D3 would also not lead to the claimed combination. D1, even if it would be considered by the skilled person, in view of

its silence about the use of LLDPE and its teaching that preferably two layers of material of the same nature (LDPE) were used, did not contain any directions as to how to modify the film of D4 so as to arrive at a stretch wrap film with both cling and slide properties when stretched.

Also if D3 would be taken as the starting point, as suggested by the Board, a combination with either of D4 or D1, the latter unlikely in itself, would not result in a film having LLDPE on the surface of the film. Therefore, the claimed subject-matter was inventive.

The Respondents, starting from D1, stated that that document revealed the concept of different properties on the two surfaces of a film which, although it was not actually used as a stretch wrap film, in view of the technical information contained in the Tables, possessed all the properties to make it suitable for such use. The use of an LLDPE layer which was known to improve strength, tear resistance and cling properties, was disclosed by D3, the combination of which with D1 rendered the claimed subject-matter obvious. The same was true for the same combination of documents when starting from D3, in view of the concept of asymmetrical properties of the film surface layers disclosed by D1.

IX. Regarding the auxiliary requests, the Appellant also considered D4 to be the closest document. The problem to be solved was to provide a stretch wrap film with reduced drag while maintaining good cling properties. In view of the information contained in D4 that the

addition of an anti-block agent reduced drag, the examples of the patent in suit showed that problem to be solved. Nothing in the prior art suggested to use a cling additive-modified LLDPE layer in combination with an anti-cling modified second (LDPE) layer as the surface layers of the film. D1 in particular described the preferred use of two layers of material of the same nature and did not mention LLDPE at all, whereas D3 taught the use of 3-layer films having an LLDPE core and LDPE surface layers.

Starting from D3, the problem was defined as improving the non-cling properties of the film described in D3. In view of the teachings of D4 and D1, for the reasons already indicated regarding the main request, the claimed solutions could not be inferred from any combination of those documents.

The Appellant concluded that the claimed subject-matter of the auxiliary requests also involved an inventive step.

The Respondents argued that the concept of adding an anti-cling agent to one of the surface layers and a cling agent to the other one was known from D1. Also the combination of an LDPE layer with an LLDPE layer was abundant in the prior art, e.g. D3. Thus the claimed subject-matter lacked an inventive step.

X. The Appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of the main request, or, alternatively, of one of the auxiliary requests.

The Respondents requested that the appeal be dismissed. Additionally, Respondent VI (in its counterstatement of appeal filed on 15 October 1993, point 4) requested that witnesses be heard in order to prove its case of public prior use, if the Board would decide to maintain the patent.

## Reasons for the Decision

1. The appeal is admissible.

*Articles 123(2) and 123(3) EPC*

2. Claim 1 of the main request differs from the claim as granted in that a stretch capability of the film of at least 90% is required. That additional feature can be found in column 5, lines 16 to 18 of the patent specification (page 7, lines 6 to 7 as originally filed). The requirement that layer A should comprise LLDPE and the chemical definition of that compound can be found in column 3 lines 2 to 10 (page 3, line 33 to page 4, line 4 as originally filed). The amendment of layer A having a comparatively high cling force from "in its stretched condition" to " when stretched" is of editorial nature and does not change the scope of the claim. In the auxiliary requests further requirements are added which were previously present in original Claims 2 and 5, respectively. Therefore, Article 123(2) EPC is complied with.

As the addition of those further features limits the scope of Claim 1 of the main as well as the auxiliary requests, the requirements of Article 123(3) are also fulfilled.

*Sufficiency of disclosure*

3. The question of sufficiency of disclosure has been raised during the proceedings before the first instance and the Opposition Division has decided the point in favour of the Appellant. Therefore, the Appellant did not raise the point in its appeal and, consequently, the Respondents did not respond to that point. That does however not mean that the point could not be raised by any of the parties or by the Board during the oral proceedings. The discussion about the sufficiency of the disclosure had been part of the opposition proceedings and it was dealt with in the Opposition Division's decision. Therefore, it is not a new opposition ground, nor is it based upon any fact, evidence or argument not already present in the proceedings. Since, according to G 0004/92 (OJ EPO 1994, 149) the opponent can raise new arguments based on grounds, facts and evidence already present in the proceedings, even when the other party is absent, an objection that had been discussed during the first instance proceedings but had not been part of the written proceedings before the Board, can always be raised by the opponent and hence a fortiori by the Board, all the more so when the other party is present.

The Appellant's reference to G 9/92 and G 4/93 (OJ EPO 1994, 875 including footnote) is not appropriate since, contrary to the situation in those decisions, in the present case the patent had been revoked by the first instance, so that the Appellant could not be put in a worse position than it was under the contested decision by any request of the Respondents, nor by any action of the Board.

Therefore, the Board's question regarding Article 83 EPC was justified.

4. In substance, the patent specification contains the information that the cling layer is preferably made of polyolefins, in particular of polyethylene, including copolymers such as in particular LLDPE, which is defined as a copolymer of ethylene with a $C_4$ to $C_{10}$ olefin like butene-1 or octene-1, in a density range of 0.905 to 0.940 g/cm$^3$ (column 2 line 54 to column 3, line 18). Regarding the non-cling layer, any thermoplastic could be employed, but a preference for polyolefins, in particular LDPE which has a density of 0.905 to 0.940 g/cm$^3$ is indicated (column 3, lines 19 to 26). Both layers can contain additives like a cling agent, such as, for example, polyisobutylene with a specific number average molecular weight for the cling side (column 3, lines 27 to 41), and anti-cling or anti-block agents like silica and certain silicates with a specific particle size range for the non-cling side (column 3, lines 42 to 53). From the examples it can be seen which actual values for cling force and coefficient of friction are considered to fall within the claimed definitions. Therefore, the patent not only

informs the reader of the meaning of the terms used, but also which materials in general are suitable for the intended use and which values are desired.

That information is confirmed by the prior art documents. In particular, in D4 the meaning of "slip" is defined as "the coefficient of sliding friction" (column 1, lines 60 to 61), which is in conformity with the wording of present Claim 1. Reference to that property is also made in column 3, lines 42 to 47, according to which "the destructive auto-adhesion of the film during shipping or storage" is to be avoided. Moreover, LLDPE is specifically mentioned as having high cling and block characteristics, whereas HDPE has good slip properties without the necessity of using slip agents (column 1, lines 41 to 68).

Therefore, both from the patent specification itself as well as from the prior art, the skilled person would know which materials inherently had high or low cling, block and slide properties, and that those properties could be enhanced by appropriate additives. Hence, the requirements of Article 83 EPC are fulfilled.

*Novelty*

5. The Respondents did not deny the novelty of the subject-matter of the claims as amended during the oral proceedings, so that that topic was not further discussed, although the Board, in view of the inherence of cling and non-cling properties in the materials used in the prior art (see point 4 above), has some doubts in that respect. However, in view of the conclusion

regarding the issue of inventive step it did not appear appropriate to consider the question of novelty in further detail.

*Closest document*

6. The patent in suit concerns a one-sided cling stretch wrap. Films used in wrap applications are disclosed in D1, D3 as well as D4.

6.1 D1 discloses a multilayer film comprising a first thermoplastic outer layer having a cling surface forming a first outer surface of the multilayer film and a second thermoplastic outer layer having a non-cling surface forming the second outer surface of the multilayer film, said first outer layer comprising a thermoplastic resin and a cling agent (Claim 1). Preferably the thermoplastic material of both layers comprises polyethylene with a density between 0.910 and 0.940 g/cm$^3$, although any thermoplastic material could be used (page 5, lines 16 to 31). The first layer has a cling agent incorporated, the second layer can for instance be made out of high density polyethylene with or without an anti-blocking agent incorporated therein (page 5, line 27 to page 6, line 9). Hence, although there is a preference for using two layers of the same material, that preference can by no means be interpreted as being a compulsory embodiment, let alone that the two materials should be exactly the same.

Likewise, it cannot be concluded that the films disclosed in D1, even if they are not actually stretched, could not be expanded to the extent required for stretch wrap applications. As demonstrated by D3,

Table 2, last column, a film made of LDPE has an elongation of 500% in the machine direction and 700% in the transverse direction, which would be sufficient for the desired application. Other features, like puncture resistance and tensile strength are also addressed in D1 (page 7, lines 11 to 15), so that it cannot be said either that those elements would not play a role in household wrap.

The laminate of D1 thus differs from the present one in that the low density polyethylene used for the high cling, outer layer is not specified as being LLDPE. The problem it refers to is to provide a laminate for use as household wrap, to contain and seal food to preserve its freshness and to prevent the spread of odours. For that purpose it should have the combination of both good cling properties so that it adheres well to itself when wrapped or to other surfaces when used as a cover for containers, as well as good handleability in order to resist the tangling that results from the film clinging to itself during use (page 1, lines 13 to 29).

6.2 D3 describes a laminar plastic film adapted for use as a stretch-wrap film consisting of at least two layers, one comprising a low density polyethylene layer and the other one comprising a linear low density polyethylene layer, said layers being bonded through their interface (Claim 1). D3 addresses the problem of providing a stretch-wrap film suitable for over-wrap packaging of goods, in particular pallet loads. To that end, the films should have good puncture resistance, toughness, good elongation characteristics and a high resistance to tearing under tension (page 2, third full paragraph)

as well as good cling and gloss properties (page 4, second paragraph). The use of a cling modified film is mentioned (page 1, last two lines), so that overlapping film layers have a pronounced tendency to cling together at their interface (passage bridging pages 1 and 2). Although the possibility of a two layer system is explicitly mentioned (page 4, first paragraph), the preferred laminar structures comprise three film layers (page 3, last paragraph, first sentence) and the exemplified films all have three layers: the core layer being LLDPE which imparts the desired mechanical properties, and both surface layers being LDPE which provides the requisite cling and gloss properties (page 4, second paragraph).

6.3 D4 describes a process for reducing block, but retaining high cling, of extrusion-cast films of linear low density ethylene copolymers which inherently exhibit high block and high cling, which process comprises the incorporation of a specific anti-block agent into the LLDPE before extrusion of the film (Claim 1). In the examples the LLDPE film is used as such or covered with a very thin skin of LDPE on each side, which would not affect the properties of the LLDPE core (column 3, lines 10 to 17). The object to be achieved is to reduce the blocking characteristics of the LLDPE, so that the destructive auto-adhesion of the film during shipping or storage is avoided, without impairing the desirable high cling and mechanical and optical properties (column 3, lines 42 to 51).

6.4 From the above it is clear that the films of both D3 and D4 are used as stretch wrap, whereas the film of D1

is a household wrap. In view of the teachings of those documents as discussed above, the Board concludes that a skilled person working in the field of stretch wrap applications would indeed take into account the teachings of the neighbouring field of household wrap, but would not directly start from it, so that D1, which, apart from referring to household wrap, also does not describe the use of LLDPE, is not considered to be the closest document. D4 addresses the same problem as the patent in suit, but it refers basically to LLDPE single layer films, rather than to laminates like D3 does, so that again the skilled person would take into account its teachings, but not start from it when working on a laminate film. Therefore, D3, which, like the patent in suit, concerns laminate films based on LLDPE in stretch wrap applications, is considered to be the closest document.

*Problem and solution*

7. According to the description of the patent in suit and according to the Appellant's initial submission during the oral proceedings, the object of the invention is to reduce the drag by improving the slide properties of stretch wrap films without reduction of the cling properties.

7.1 The laminates obtained in D3 are said to have the requisite stretch, cling and gloss properties for stretch wrap applications, but the slide properties were not mentioned and the patent in suit contains no examples comparing the state of the art films with the claimed ones. Therefore, it is not clear whether the

slide properties are in fact improved, nor whether the cling properties remain unimpaired.

7.2 In view of this, the technical problem underlying the patent in suit has to be reformulated on a less ambitious basis, namely to provide an alternative laminate stretch wrap film with both good cling and good slide properties.

7.3 According to the patent in suit that problem is to be solved by a laminate one outer layer of which has good cling and is made out of LLDPE, whereas the other outer layer has good slide properties.

7.4 The examples in the patent show that the above-defined problem is effectively solved. In particular, it has been shown that the claimed films, like those of D3, are suitable for stretch wrap purposes and have both good cling and slide properties.

8. It remains to be decided whether the claimed subject-matter is obvious having regard to the documents on file.

8.1 According to the general teaching of D1, in household wrap applications, a film should have two conflicting properties: on the one hand it should have good cling properties in order to seal to itself or to insure a tight seal when the film is used as a cover for containers, whereas on the other hand it should have good non-cling properties in order to avoid the film's tangling as a consequence of clinging to itself (page 1, lines 19 to 29). The solution offered by D1 is to add a cling agent to the cling surface layer and to

provide non-cling properties to the other layer by selection of the material and/or by addition of an anti-block agent. When comparing the requirements for stretch wrap applications as described in e.g. D4 and in the patent in suit, with the information regarding household wrap given in D1 (see the discussion in point 6 above), it is clear that the requirements for the cling/non-cling properties are in fact the same in both fields. Therefore, the skilled person, when confronted with the problem of providing a cling/non-cling wrap film suitable for stretch wrap applications, would not hesitate to apply that solution to the film of D3 so as to arrive at the claimed subject-matter.

8.2 Also if one of D1 or D4 would be regarded as the closest document, the conclusion would not be any different.

8.2.1 Starting from D1, the problem would be to provide a laminar film suitable for stretch wrap applications. In the light of the above-discussed teaching of D3 that laminates of two or more layers of LLDPE and LDPE are used as stretch wrap films, the skilled person would at once see the possibility of using LLDPE for the material of the cling layer, especially in the light of the information contained in D4 that LLDPE is known as a high cling material.

8.2.2 Starting from D4, since, like in the case of D3 as the closest document, the results achieved cannot be compared to those of the patent in suit, the problem would also be to provide an alternative film for stretch wrap applications having both good cling and

non-cling properties. In view of the conflicting requirements described in point 8.1 above, and for the same reasons, the skilled person would apply the teaching of D1 to the film of D4 and thus arrive at the claimed subject-matter.

9. From the above discussion of the prior art it is clear that the amendments in the form of additional features introduced in Claim 1 of both auxiliary requests, that is, the addition of cling and non-cling additives and the specification of the non-cling layer as being LDPE, respectively, which features are all disclosed in the above-identified documents, cannot contribute to the inventiveness of the claimed subject-matter.

10. For the above reasons, the claimed subject-matter of the main and both auxiliary requests lacks an inventive step.

11. In view of the above finding of the Board, the question of public prior use brought forward by Respondent VI need not be addressed.

## Order

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

The appeal is dismissed.

The Registrar: The Chairman:

E. Görgmaier C. Gérardin