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**Datasheet for the decision
of 20 December 2016**

Case Number: T 2237/13 - 3.3.09

Application Number: 00902946.3

Publication Number: 1176002

IPC: B32B27/18, B65D65/40

Language of the proceedings: EN

Title of invention:
PACKAGING LAMINATE

Patent Proprietor:
Kureha Corporation

Opponent:
LUDWIG, Gabriele

Headword:

Relevant legal provisions:
EPC Art. 54, 56, 84

Keyword:

Main request - novelty (no)

Auxiliary request I - inventive step (no)

Auxiliary request II - novelty (no)

Auxiliary request III - inventive step (no)

Auxiliary request IV - clarity (no)

Auxiliary request V - inventive step (no)

Auxiliary request VI - inventive step (no)

Decisions cited:

T 0472/88

Catchword:



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Case Number: T 2237/13 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 20 December 2016

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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on
23 September 2013 rejecting the opposition
filed against European patent No. 1 176 002
pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman W. Sieber
Members: N. Perakis
D. Prietzel-Funk

Summary of Facts and Submissions

- I. This decision concerns the appeal filed by the opponent against the decision of the opposition division rejecting the opposition filed against European patent No. 1 176 002.

Claim 1 as granted reads as follows:

"1. A packaging laminate being heat-shrinkable and comprising at least three layers including an inner surface layer coming into contact with an object to be packed, an intermediate layer adjacent thereto and containing an organic lubricant, and an outer surface layer, wherein the inner surface layer contains an inorganic lubricant and an organic lubricant and consists essentially of at least one kind of resin selected from the group consisting of polyethylene produced through polymerization in the presence of a single-site catalyst, LLDPE, VLDPE, EVA, EMAA, ethylene-methacrylic acid-unsaturated aliphatic carboxylic acid copolymer, ethylene-acrylic acid copolymer, and ionomer resin, said inner surface layer having self-weldability obtainable by heat-treating said at least one kind of resin at a specific temperature which gives a ratio of enthalpy of crystal fusion within the specific temperature or lower to enthalpy of crystal fusion within the entire fusion temperature range of at least 15 % (measured by means of differential Scanning calorimetry as described in the description under point "4 Measurement of enthalpy of crystal fusion")."

- II. With the notice of opposition the opponent requested revocation of the patent in its entirety on the grounds

of Articles 100(a) (lack of novelty and of inventive step), 100(b) and 100(c) EPC.

The documents filed during opposition included:

D1 : EP 0 810 087 A2;

D8 : US 6 592 975 B1;

D9 : US 4 178 401 A;

D15: Georg Schwedt, Taschenatlas der Analytik, 2. Auflage, 1996, "6.4 Differenz-Scanning-Kalorimetrie", pp. 80-81; and

D16: ASTM Designation D3417-83.

The opposition division held that the subject-matter of claim 1 as granted did not extend beyond the content of the application as filed. It also held that the skilled person was able to reproduce the claimed invention. The patent disclosed and explained the migration of the organic lubricant into the intermediate layer in paragraph [0011], the self-weldability of the inner surface layer in paragraph [0012] and tables 2-2 and 3-2 (in this context reference was made to D9 as evidence for common general knowledge), and the required heat-treatment in paragraphs [0011], [0035] and [0039]. The measurement used for determining the enthalpy of crystal fusion belonged to the skilled person's general technical knowledge, as apparent from D15 and D16. Regarding novelty, D1 did not disclose, either explicitly or implicitly, the "self-weldability" as defined in claim 1 of the patent in suit. Lastly, the subject-matter of claim 1 involved an inventive step starting from D1 as the closest prior art.

III. On 30 October 2013, the opponent (in the following: the appellant) filed an appeal against the decision of the opposition division. The statement setting out the grounds of appeal was filed on 3 February 2014 and included the following document:

D19: Internet excerpt "Liquid Paraffins Oil",
[http://www.columbiapetro.com/Our_Products/
Liquid_Paraffin/liquid_paraffin.html](http://www.columbiapetro.com/Our_Products/Liquid_Paraffin/liquid_paraffin.html),
3 February 2014.

IV. With letter of 12 June 2014, the patent proprietor (in the following: the respondent) filed observations on the appeal and requested that the appeal be dismissed (main request) or, alternatively, that the patent be maintained on the basis of one of the included six auxiliary requests.

Claim 1 of auxiliary request I corresponds to claim 1 of the main request (claims as granted), with the additional feature that the inner surface layer has a dynamic friction coefficient of 0.1-0.5.

Claim 1 of auxiliary request II corresponds to claim 1 of the main request, with the limitation that the ratio of enthalpy of crystal fusion within the specific temperature or lower to enthalpy of crystal fusion within the entire fusion temperature is in the range of at least 25%.

Claim 1 of auxiliary request III corresponds to the combination of claims 1 of auxiliary requests I and II.

Claim 1 of auxiliary request IV corresponds to claim 1 of the main request, adding also that
"... the inner surface layer contains an inorganic

lubricant and an organic lubricant and **consists of** at least one kind or resin selected from ..."

(highlighted by the board)

Claim 1 of auxiliary request V corresponds to claim 1 of the main request, but "polyethylene produced through polymerization in the presence of a single-site catalyst" is deleted from the list of the kind of resins used in the inner surface layer.

Claim 1 of auxiliary request VI corresponds to claim 1 of the main request, with the additional feature that the inner surface layer contains an inorganic lubricant in an amount of 0.3 to 2 wt.% and an organic lubricant in an amount of 0.1 to 1 wt.%.

- V. On 26 October 2016, the board issued a communication in preparation of the oral proceedings.
- VI. On 20 December 2016, oral proceedings were held before the board.
- VII. The appellant's arguments, insofar as they are relevant for the present decision, may be summarised as follows:
- The subject-matter of claim 1 of the main request lacked novelty in view of examples 5 and 8 of D1. The presence of an organic lubricant in the intermediate layer was implicit in view of the migration of the organic lubricant from the inner surface layer into the intermediate layer as disclosed in the patent in suit. The self-weldability of the inner surface layer was also an implicit feature of the inner surface layer of the cited examples of D1, taking into account the very broad definition of the heat treatment and the

technical information submitted by the patent proprietor before the examining division.

- The subject-matter of claim 1 of auxiliary request I was not novel, since the additional feature, namely the dynamic friction coefficient, was also implicitly disclosed in examples 5 and 8 of D1. But even if this were not the case, the subject-matter of claim 1 lacked inventive step. D1 was considered to be the closest prior art. On the one hand, no unexpected technical effect had been shown to result when the dynamic friction coefficient varied within the claimed range. On the other hand, both D1 and the patent in suit referred to the sliding/slip properties of the inner surface layer, which were intrinsically connected to the friction coefficient, and related them to the amount of lubricant in the inner surface layer (patent: last sentence of [0028]; D1: page 9, lines 50-53). Thus the skilled person starting from D1 and aiming at an inner surface layer with suitable sliding/slipping properties would use an appropriate amount of lubricant and would as a matter of routine obtain the claimed friction coefficient without the exercise of inventive skill.

- The subject-matter of claim 1 of auxiliary request II lacked novelty in view of examples 5 and 8 of D1, for the reasons given for claim 1 of the main request. For the same reasons as given for the main request, the increased value for the enthalpy ratio of the inner surface layer was also implicitly disclosed in D1.

- The subject-matter of claim 1 of auxiliary request III, which was the combination of claim 1 of auxiliary request I and claim 1 of auxiliary request II, lacked inventive step in view of D1 for the reasons given for those requests.
- The subject-matter of claim 1 of auxiliary request IV lacked clarity in view of the amended definition of the inner surface layer.
- The subject-matter of claim 1 of auxiliary request V lacked novelty in view of examples 5 and 8 of D1. Despite the limitation of the list of alternatives for the resins to be used in the inner surface layer, D1 still disclosed a resin falling within the definition of claim 1.
- The subject-matter of claim 1 of auxiliary request VI lacked inventive step in view of D1. According to the description (paragraph [0029]), the specific amounts of the inorganic and organic lubricant in the inner surface layer improved the optical properties of the laminate film. However, D1 too dealt with this problem (page 3, lines 30-31). In the absence of any comparison with the films of D1, no improvement of the optical properties had been plausibly shown. The amount of lubricant in claim 1 was simply adapted to improve the slip properties as discussed in the context of auxiliary request I. This adaptation was however considered to lack any inventive merit.

VIII. The respondent's arguments, insofar as they are relevant for the present decision, may be summarised as follows:

- The subject-matter of claim 1 of the main request was novel over examples 5 and 8 of D1, because they did not disclose an intermediate layer with an organic lubricant and an inner surface layer with the claimed self-weldability.

- The subject-matter of claim 1 of auxiliary request I was not only novel over D1 but also involved an inventive step when considering D1 to be the closest prior art. Contrary to claim 1, D1 did not disclose any friction coefficient for the inner surface layer, let alone the value range of claim 1. The technical evidence of the patent in suit (tables 2.1 and 3.1) showed that the films according to claim 1 provided an improved friction coefficient, which was due to the amount of lubricant used (patent in suit, paragraph [0028]). However, D1 gave the impression that there was no reason to use a lubricant in the inner surface layer (page 9, lines 57-58) and thus did not hint at the use of a lubricant in order to improve the friction coefficient of the inner surface layer.

- The subject-matter of claim 1 of auxiliary request II was novel over D1, which did not disclose the claimed self-weldability.

- The subject-matter of claim 1 of auxiliary requests III, IV and V was novel and involved an inventive step, for the reasons already provided for the previous requests.

- The subject-matter of claim 1 of auxiliary request VI involved an inventive step. It differed from examples 5 and 8 of D1 in that it specified the amounts of organic and inorganic lubricant,

which had an impact on the improvement of the optical properties of the inner surface layer. In view of D1 the technical problem concerned the increase in the resin polymer alternatives to be used in the inner surface layer. This was not obvious in view of the state of the art.

- IX. The appellant requested that the decision under appeal be set aside and that the patent be revoked in its entirety.
- X. The respondent requested that the appeal be dismissed or, alternatively, that the patent be maintained on the basis of the claims of one of auxiliary requests I to VI filed with the letter dated 12 June 2014.

Reasons for the Decision

1. Main request (claims as granted)

1.1 Claim 1

Claim 1 of the main request relates to a packaging laminate

- being heat-shrinkable (**feature 1**), and
- comprising at least three layers (**feature 2**) including
 - an inner surface layer coming into contact with an object to be packed (**feature 3**),
 - an intermediate layer adjacent thereto and containing an organic lubricant (**feature 4**), and

- an outer surface layer (**feature 5**)

- wherein the inner surface layer contains an inorganic lubricant and an organic lubricant (**feature 6**), and

- [the inner surface layer] consists essentially of at least one kind of resin selected from the group consisting of polyethylene produced through polymerization in the presence of a single-site catalyst, LLDPE, VLDPE, EVA, EMAA, ethylene-methacrylic acid-unsaturated aliphatic carboxylic acid copolymer, ethylene-acrylic acid copolymer, and ionomer resin (**feature 7**),

- said inner surface layer having self-weldability obtained by heat-treating said at least one kind of resin at a specific temperature which gives a ratio of enthalpy of crystal fusion within the specific temperature or lower to enthalpy of crystal fusion within the entire fusion temperature range of at least 15% (measured by means of differential scanning calorimetry as described in the description under point "4 Measurement of enthalpy of crystal fusion") (**feature 8**).

1.2 Interpretation of feature 7

The board notes that two different wordings are used in claim 1 for defining the inner surface, namely "contains" in feature 6 and "consists essentially of" in feature 7. The former (the inner surface layer contains an inorganic and an organic lubricant) defines the components making up the inner surface in an open manner, i.e. allowing for the presence of other

ingredients besides the lubricants, whereas the latter (the inner surface layer consists essentially of a resin selected from ...) is more restricted, allowing for apart from the polymeric resin(s) for no other components materially affecting the essential characteristics of the inner surface layer (in this context see e.g. T 472/88, point 3 of the reasons).

It is, however, absolutely clear from the application as filed (e.g. the examples) that the lubricants are essential components of the inner surface layer. In the board's view the only meaningful interpretation of this seeming contradiction is that the term "consisting essentially of" refers only to the polymeric component(s) of the inner surface and has no bearing on the other components that could be present in the inner layer.

1.3 Novelty

1.3.1 Novelty of the subject-matter of claim 1 was objected to only in view of examples 5 and 8 of D1. In the following, the board will only deal with example 5, bearing in mind that the disclosure of example 8 is similar to that of example 5 and would lead to the same result.

1.3.2 D1 generally relates to

- heat-shrinkable multilayer packaging films (**feature 1** of claim 1),
- which comprise at least three layers (see page 3, lines 6-8) (**feature 2** of claim 1),
- include a sealing resin layer as the innermost layer (**feature 3** of claim 1),
- an intermediate layer, and an outermost layer (**feature 5** of claim 1).

The specific heat-shrinkable multilayer packaging film of example 5 of D1 has an innermost/sealing resin layer obtained by blending a mixture of AFFINITY™ FW 1650 and AFFINITY™ PL 1840 in a weight ratio of 70:30, i.e. it consists of these two kinds of resins, which are very-low-density ethylene-1-octene copolymers (see table 1; the acronym VLDPE will be used in this decision) obtained by using constrained geometry catalysts (page 5, lines 19-20) (**feature 7** of claim 1).

Furthermore, the innermost layer of this packaging film comprises a lubricant composition which is a masterbatch obtained by adding 2 wt.% of erucic amide (which corresponds to the organic lubricant of claim 1) and 4 wt.% of aluminum silicate (which corresponds to the inorganic lubricant of claim 1) (**feature 6** of claim 1).

- 1.3.3 Example 5 of D1 does not explicitly disclose **features 4 and 8** of claim 1, which means that the skilled reader would at first glance consider that they constitute distinguishing features of claim 1 over D1.

However, in view of the following the board concludes that D1 also discloses these features.

- 1.3.4 The organic lubricant in the intermediate layer (**feature 4** of claim 1)

According to claim 1, the intermediate layer contains an organic lubricant. However, as correctly pointed out by the appellant, the description of the patent in suit (paragraph [0011]) discloses that this lubricant need not be present in the intermediate layer during manufacture of the laminate since, over time, it

migrates from a neighbouring polyolefin layer into the intermediate layer:

"In the present invention, the expression "a layer contains a lubricant" refers also to "a layer contains a lubricant which has not been contained in the layer at an initial stage but has migrated from another layer ... When attainment of film lubricity within a short period of time is required due to a requirement for immediately forwarding products to the market, lubricity can be adjusted by adding a lubricant to the inner surface layer or the outer surface layer as well as to an intermediate layer adjacent thereto ... Migration of the lubricant occurs readily when the adjacent layer is formed of polyolefin".

The migration mentioned in the description of the patent in suit inevitably takes place in the multilayer film of D1, which is made of similar resins. Thus, irrespective of the fact that the intermediate layer of the film of example 5 of D1 does not contain an organic lubricant during its manufacture, this layer will contain part of the organic lubricant migrating from the adjacent innermost polyolefin layer after a certain period of time. Consequently, this feature cannot distinguish claim 1 of the main request from the packaging multilayer film of example 5 of D1.

In this respect, the board does not agree with the respondent that no migration is expected to occur in example 5 of D1 in view of the very low amount of organic lubricant in the innermost layer of example 5 of D1. The patent does not disclose that migration occurs only at a specific amount of organic lubricant in the adjacent polyolefin layer.

Also the argument that this migration can be very slow is irrelevant - it usually takes 7 to 14 days to occur after completion of the film production according to D8 (column 4, lines 44-46). What is relevant is that migration takes place, irrespective of its speed. Even if one considered migration to occur only after 14 days, it is undeniable that at that moment in time the packaging film of example 5 of D1 would not be different from that of claim 1 as regards the intermediate layer.

1.3.5 Self-weldability (**feature 8** of claim 1)

As already said above, D1 does not explicitly disclose that the packaging film of example 5 shows self-weldability in the course of a future heat treatment. At this point it is worth mentioning that neither the heat treatment nor the temperature applied during this heat treatment is specified in claim 1. With regard to the latter, claim 1 simply refers to a "specific temperature". Consequently, any heat treatment, and not only those disclosed in the last sentence of paragraph [0011] of the patent, at any temperature, and not only that used in the examples, would fall within the scope of claim 1.

Regarding the term "self-weldability", the board agrees with the appellant that it was known in the art at the priority date of the patent in suit as defining a property of a material. Reference is made to D9 which defines "self-welding" and by extension "self-weldability" as the ability of a material (in the present case the resin of the inner surface layer of claim 1 or the resin of the innermost layer of example 5 of D1) to adhere to itself at elevated temperatures (column 1, lines 33-35). Furthermore, D9 states that

the term "self-welding" is not defined in precise measurable parameters but that it is a subjective term (column 2, lines 38-39).

This was not objected to by the respondent, who argued that the patent went beyond the disclosure of D9 and defined for the first time "self-weldability" as a precisely measurable parameter. This parameter as defined by the wording of feature 8 of claim 1 requires that:

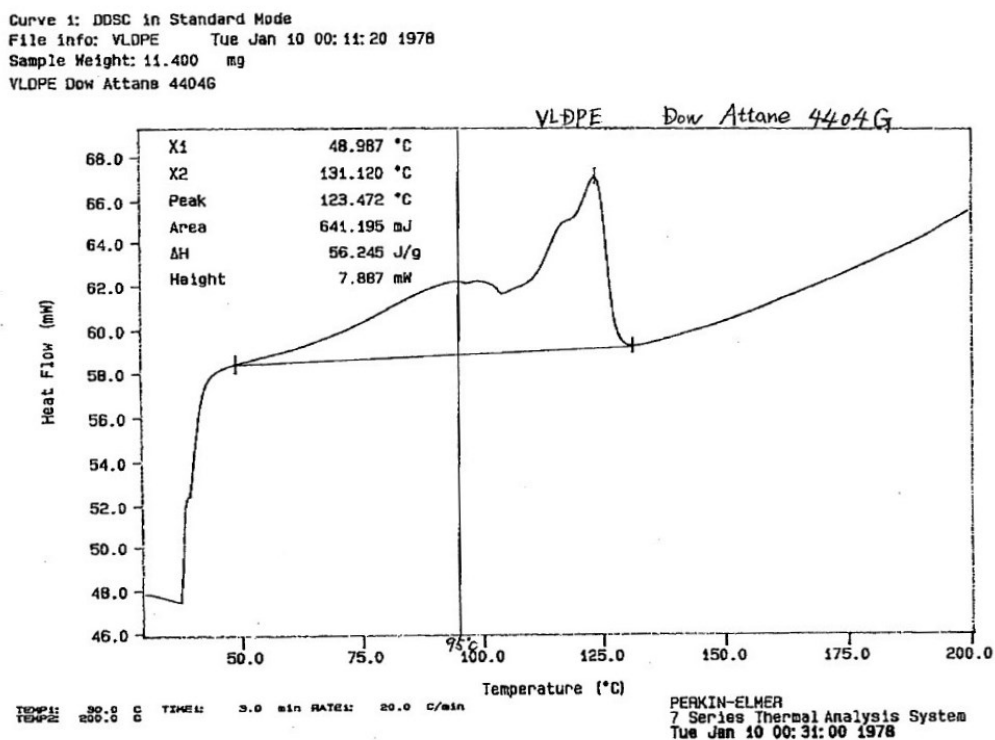
(i) it is obtained by heat-treating the resin of the inner surface layer at a specific temperature, and

(ii) it is expressed as the ratio of the enthalpy of crystal fusion within the specific temperature or lower to the enthalpy of crystal fusion within the entire fusion temperature range, this ratio being of at least 15% and measured by means of differential scanning calorimetry (the acronym DSC is used in this decision) as described in the description (see paragraphs [0043] to [0045]).

The board accepts that this definition of "self-weldability" is not disclosed in D1. The board is, however, not convinced that the rather broad meaning of this definition, in particular regarding the heat treatment and the specific temperature, is suitable to provide a distinguishing feature over the disclosure of example 5 of D1.

The board makes particular reference to the "additional technical evidence" filed by respondent (then applicant) with letter of 6 February 2008 before the examining division (see also page 1 of the patent in suit under "Remarks"). This evidence comprises three

DSC charts representing the heat flow as a function of the temperature. Each of these charts was obtained using one of the following resin samples: a VLDPE sample, a LLDPE sample and a PP-Et sample. The heat treatment took place at the (specific) temperature of 95°C, and the measurement of the enthalpy ratio by means of differential scanning calorimetry under the conditions mentioned in the patent in suit. On the basis of these charts, one is able to calculate the ratio of the enthalpy of crystal fusion at the (specific) temperature of 95°C or lower to the enthalpy of crystal fusion within the entire fusion temperature range for each of the resin sample. The chart of the VLDPE sample (commercial product Dow Attane 4404G) is provided below. At 95°C, the enthalpy ratio is 35%, i.e. the self-weldability falls within the scope of claim 1.



It is apparent from this chart that, if the self-weldability requirement was not fulfilled at the specific temperature of 95°C, this could be easily fulfilled simply by shifting the "specific temperature" along the temperature axis towards higher temperatures. This could be done because claim 1 does not specify the "specific temperature" and thus the skilled person is free to choose the suitable temperature which fulfils the claimed enthalpy ratio requirement of at least 15%. From the above, it is concluded that the enthalpy ratio is merely a matter of choice of the "specific temperature". The same conclusion is also drawn from the other DSC charts of the additional technical evidence, which are not set out in this decision.

Since the VLDPE resins used in example 5 of D1 are similar to the resin used in the above chart, it is reasonable to expect a similar DSC chart for the VLDPE resin of the innermost layer of the packaging film of example 5 of D1. As set out above, there will always be a "specific temperature" at which the ratio of enthalpy of crystal fusion is of at least 15%, with the result that the innermost layer of the packaging film of example 5 implicitly fulfils the self-weldability requirement of claim 1 (**feature 8**).

1.3.6 Thus example 5, and by analogy example 8, of D1 disclose also feature 8 of claim 1 of the main request. Consequently, claim 1 lacks novelty and the main request is not allowable.

1.4 As to the other objections raised by the appellant against the main request (claims as granted), the board decided that the subject-matter of the European patent does not extend beyond the content of the application as filed (Article 100(c) EPC) and that the invention is

sufficiently disclosed (100(b) EPC). Since, however, the main request was found to lack novelty, there is no need to further elaborate on these issues.

2. Auxiliary request I

2.1 Claim 1 of auxiliary request I differs from claim 1 of the main request in that the inner surface layer is defined by an additional feature, namely that it has a dynamic friction coefficient of 0.1 to 0.5. According to the patent in suit, this feature is the expression of the sliding property of the inner surface layer of the packaging film (paragraph [0028]).

2.2 Novelty

Examples 5 and 8 of D1 do not disclose any dynamic friction coefficient for the innermost layer, let alone a dynamic friction coefficient which varies within the claimed range. Moreover, the appellant has not shown that this feature was implicitly disclosed in said examples of D1. Thus the subject-matter of claim 1 of auxiliary request I is novel over D1.

2.3 Inventive step

2.3.1 The parties considered D1 to be the closest prior-art document. D1 discloses that the heat-shrinkable multi-layer packaging film has excellent slip property due to the presence of a lubricant (a slip agent) in the innermost layer (page 2, line 53; page 3, line 4; page 6, line 18; page 9, lines 51-54; page 10, line 39; page 20, line 21). The slip property disclosed in D1 is equivalent to the sliding property referred to in the patent in suit (page 6, line 17), which is linked to the friction at an interface between the film

and an object and is controlled by adding a lubricant to the film (patent in suit: page 3, lines 25-26, 40-43 and 53-54).

- 2.3.2 Neither the patent nor the file contains any technical evidence showing that the feature of the claimed dynamic friction coefficient improves the sliding/slip property of the inner surface layer of the packaging film when compared to the packaging film of D1.

Contrary to the assertions of the respondent, comparative examples 2 and 3 of the patent (table 3-1) do not contain any organic lubricant in the inner surface layer and thus do not correspond to the disclosure of D1.

- 2.3.3 Thus the technical problem in view of D1 concerns the provision of a further/alternative packaging laminate with an inner surface layer having satisfactory lubricity.

- 2.3.4 The skilled person starting from D1 and aiming at such a packaging laminate would find in D1 the motivation to add in the innermost layer a suitable amount of a lubricant batch comprising an organic and an inorganic lubricant, so that the sliding/slip property becomes satisfactory (page 9, lines 51-54). The skilled person would have no difficulty in determining a suitable amount by simple trial and error, which as a consequence will provide a dynamic friction coefficient within the claimed value range. Thus he would arrive at the subject-matter of claim 1 of auxiliary request I without exercising any inventive skill.

- 2.3.5 The board does not agree with the assertion of the respondent that D1 teaches away from using a lubricant

in the inner surface layer (page 9, lines 47-58). On the contrary, line 52 of the cited passage discloses the use of a lubricant, and at the preferred amount of 1-10 wt.% based on the sealing resin layer (i.e. the inner surface layer of the claim).

- 2.4 In view of the above, the subject-matter of claim 1 of auxiliary request I does not involve an inventive step and auxiliary request I is not allowable.

3. Auxiliary request II

Claim 1 of auxiliary request II differs from claim 1 of the main request only regarding the enthalpy ratio which is of at least 25%.

The board agrees with the appellant that, as set out above in the context of claim 1 of the main request, there is unavoidably a "specific temperature" in the DSC chart of the VLDPE resins of examples 5 and 8 of D1 at which the enthalpy ratio is of at least 25%.

Thus claim 1 of auxiliary request II lacks novelty and auxiliary request II is not allowable.

4. Auxiliary request III

Claim 1 of auxiliary request III is the combination of claim 1 of auxiliary request I with claim 1 of auxiliary request II. In view of what has been set out above regarding these auxiliary requests, the subject-matter of claim 1 of auxiliary request III also does not involve an inventive step, with the consequence that this request is not allowable.

5. Auxiliary request IV

Claim 1 of this request differs from claim 1 as granted as regards the definition of the inner surface layer.

According to claim 1 of auxiliary request IV, this layer:

- on the one hand contains an inorganic lubricant and an organic lubricant, and
- on the other hand **consists of** at least one kind of resin selected from a list.

With regard to claim 1 as granted, the board interpreted the apparent contradiction between the wording "contains" and "consists essentially of" in the manner set out above (see section 1.2). It did so because claim 1 had been granted with this contradiction. However, claim 1 of auxiliary request IV, submitted in appeal, is not based on granted claims and thus has to fulfil the clarity requirement. As already said above, the inner surface layer cannot consist of at least one kind of resin and at the same time contain inorganic and organic lubricants. The term "consists of" has a close definition rendering the addition of lubricants impossible. In view of this apparent contradiction, the board decided that the subject-matter of claim 1 of auxiliary request IV does not fulfil the requirements of Article 84 EPC, with the consequence that this request is not allowable.

6. Auxiliary request V

Claim 1 of auxiliary request V differs from claim 1 of the main request only regarding the alternatives in the list from which the resins for the inner surface layer can be selected. The list of claim 1 of auxiliary

request V has been restricted so that it no longer contains the specific component "polyethylene produced through polymerization in the presence of a single-site catalyst". However, it still contains a VLDPE, irrespective of its production method, which can be any method also including "polymerization in the presence of a single-site catalyst".

Thus, examples 5 and 8 of D1, which disclose innermost layer resins of the VLDPE-type, still fall within the restricted list of claim 1 of auxiliary request V. In view of the reasons provided in the context of claim 1 of the main request, examples 5 and 8 of D1 disclose the subject-matter of claim 1 of auxiliary request V.

Consequently claim 1 lacks novelty and auxiliary request V is not allowable.

7. Auxiliary request VI

7.5 Claim 1 of auxiliary request VI differs from claim 1 of the main request regarding the amount of the lubricants, organic and inorganic, added to the inner surface layer. According to claim 1 of auxiliary request VI, the inner surface layer contains an inorganic lubricant in an amount of 0.3 to 2 wt.% and an organic lubricant in an amount of 0.1 to 1 wt.%.

7.6 The inner surface layer in examples 5 and 8 of D1 contains 3 PHR of a lubricant (masterbatch obtained by adding 2 wt.% of erucic amide and 4 wt.% of aluminium silicate to LDPE). The appellant did not contest novelty on the basis of these examples.

7.7 But even if one accepts, in favour of the respondent, that these examples are not novelty-destroying for the

subject-matter of claim 1 of auxiliary requests VI, these examples still represent the closest prior art.

D1 discloses in its general part that the amount of the lubricant masterbatch to be added to the innermost layer is preferably 1-10 wt.% (page 9, lines 54-55), which is broader than the total lubricant amount according to claim 1 of this request.

- 7.8 In the absence of any technical evidence comparing the films having inner surface layers satisfying the lubricant requirements of claim 1 with films having inner surface layers satisfying the lubricant requirements of D1, no technical effect can be reasonably associated with the claimed amounts of the organic and inorganic lubricants.
- 7.9 In fact, the claimed amounts can only be considered as arbitrary selections, depending on circumstances, from the amount range disclosed in D1, i.e. the skilled person would have no difficulty in varying the amount of the lubricants in examples 5 and 8 within the range of 1-10 wt.%, which is broader than that of claim 1 of auxiliary request VI, and in arriving at the claimed amounts without the exercise of any inventive skill.
- 7.10 Consequently, claim 1 of auxiliary request VI lacks inventive step and this request is not allowable.
8. In view of the above, none of the requests of the respondent is allowable and thus the patent has to be revoked.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



M. Cañueto Carbajo

W. Sieber

Decision electronically authenticated