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Datasheet for the decision of 25 March 2015

Case Number: T 0460/13 - 3.3.09

Application Number: 07254465.3

Publication Number: 1923440

IPC: C09J7/02

Language of the proceedings: EN

Title of invention:
Emulsion based adhesive product

Patent Proprietor:
Rohm and Haas Company

Opponent:
Synthomer Deutschland GmbH

Headword:

Relevant legal provisions:
EPC Art. 84, 123(2), 83, 54, 56
RPBA Art. 12(2), 13(1), 13(3), 12(4)
EPC R. 99(2)

Keyword:
Claims - clarity after amendment (yes)
Amendments - added subject-matter (no)
Sufficiency of disclosure - (yes)
Novelty - (yes)
Inventive step - (yes)
Admissibility of public prior use
Admissibility of new inventive step attack
Request to hear witnesses

Decisions cited:
G 0009/91, G 0004/93, G 0001/99, T 0220/83, T 0213/85, T 0328/87, T 0145/88, T 0169/89, T 0922/05, T 1404/05, T 0390/07, T 0608/07, T 1581/08, T 2542/10, T 2532/11

Catchword:

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Case Number: T 0460/13 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 25 March 2015

Responent: (Patent Proprietor)	Rohm and Haas Company 100 Independence Mall West Philadelphia, PA 19106-2399 (US)
Representative:	Buckley, Guy Julian Patent Outsourcing Limited 1 King Street Bakewell Derbyshire DE45 1DZ (GB)
Appellant: (Opponent)	Synthomer Deutschland GmbH Werrastrasse 10 45768 Marl (DE)
Representative:	Müller Schupfner & Partner Patent- und Rechtsanwaltspartnerschaft mbB Schellerdamm 19 21079 Hamburg (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 4 January 2013 concerning maintenance of the European Patent No. 1923440 in amended form.**

Composition of the Board:

Chairman	W. Sieber
Members:	M. O. Müller
	K. Garnett

Summary of Facts and Submissions

I. This decision concerns the appeals filed by the opponent and the patent proprietor against the decision of the opposition division that European patent No. 1 923 440 as amended met the requirements of the EPC.

II. The opponent had requested revocation of the patent in its entirety on the grounds that the claimed subject-matter was neither novel nor inventive (Article 100(a) EPC), and that the patent did not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 100(b) EPC).

III. The documents submitted during the opposition proceedings included:

D1: Y. Liu et al, "Herstellung von acrylatbasierten Haftklebstoffdispersionen mit hohem Festgehalt und geringer Viskosität", German Translation;

D3: EP 0 081 083 A2;

D4: DE 102 03 885 A1;

D5: DE 196 42 762 A1;

D6: Stefan Roeber, "Packaging Tapes", Handbook of pressure sensitive adhesive technology, pages 786 to 801 and 813 to 813;

D8: Analysis of the particle size distribution of Neocryl™ A45;

D9: Analysis of the particle size distribution of Primal™ PS83D;

D18: "Integrating Sound Level Meters", 2 pages;

D19: Test report on the influence of the position of the sound meter on the noise level;

D25: WO 2007/012616 A1;

S05: Report of S. Martina of her visit to Straptech-Maillis (1 February 2005);

S10a: "BI-DCP Distribution Table" of sample BASF DS3547X;

S10b: Weight Distribution Job 28/Run 128 of sample BASF DS3547X;

S10c: Volume distribution of Acronal™ DS3457X; and

S12c: "Herstellvorschrift: Plextol D260".

IV. The opposition division's decision announced orally on 8 November 2012 and issued in writing on 4 January 2013 was based on a main request and auxiliary request 1. The independent claims of the auxiliary request read as follows:

"1. A low noise adhesive product comprising an adhesive layer formed by the drying of an emulsion polymer on a polyolefin film; wherein the emulsion polymer comprises:

a) a fine mode comprising 5-95% by weight, based on a total weight of polymer, of first particles having a weight average diameter of less than or equal to 250 nanometers; and

b) a large mode comprising at least 5% by weight, based on a total weight of polymer, second particles having a weight average diameter of greater than 250 nanometers; and

further wherein the overall Tg of the emulsion polymer is less than -20°C and the emulsion polymer does not comprise one or more aziridines; and

further wherein the emulsion polymer is (i) an acrylic dispersion containing from 1 to 2.5% by weight of (meth)acrylic acid units and 99 to 97.5% by weight of n-butyl acrylate or 2-ethylhexyl acrylate units or any combination thereof, or (ii) is an acrylic dispersion containing 80-90% by weight of 2-ethylhexyl acrylate units and from 8 to 20% by weight of n-butyl acrylate units."

"6. A process of making a low noise adhesive product comprising

a) coating a treated surface of a polyolefin film with an emulsion polymer wherein the emulsion polymer comprises:

i) a fine mode comprising 5-95% by weight, based on a total weight of polymer, first particles having a weight average diameter of less than or equal to 250 nanometers; and

ii) a large mode comprising at least 5% by weight, based on a total weight of polymer, second particles having a weight average diameter of greater than 250 nanometers;

and further wherein the overall Tg of the emulsion polymer is less than -20°C and the emulsion polymer does not comprise one or more aziridines; and

further wherein the emulsion polymer is (i) an acrylic dispersion containing from 1 to 2.5% by weight of (meth)acrylic acid units and 99 to 97.5% by weight of n-butyl acrylate or 2-ethylhexyl acrylate units or any combination thereof, or (ii) is an acrylic dispersion containing 80-90% by weight of 2-ethylhexyl acrylate units and from 8 to 20% by weight of n-butyl acrylate units;

b) drying the emulsion polymer on the polyolefin film after coating; and

c) treating the uncoated side of the polyolefin film."

V. The opposition division decided that the main request was not inventive but that auxiliary request 1, which is identical to the main request in the present appeal proceedings, was allowable:

- The invention as defined in auxiliary request 1 was sufficiently disclosed. Firstly, the feature

"low noise" was not a limiting feature and therefore could not give rise to any insufficiency of disclosure. Secondly, the opponent's assertion that the problem of providing adhesives with a low noise was not solved by the claimed subject-matter was relevant for assessing inventive step rather than for sufficiency of disclosure. Furthermore, all tapes made from the emulsion polymers prepared in the examples of the patent had a noise level below 100 dB, which qualified them as low noise adhesive products according to the patent. Thirdly, the patent provided sufficient indications regarding the preparation of the claimed adhesive product.

- The claimed subject-matter was novel over the public prior uses Fabo, Straptech and BASF. As regards the public prior uses Fabo and Straptech, it was doubtful whether the allegedly prior used products, namely the batches sold to Fabo and Straptech, had been prepared with the recipe given in S12c. Furthermore, the actual monomer composition applied in the recipe disclosed in S12c was unknown due to the facts that several data in S12c were blacked out, others were coded with acronyms without definition of their meanings, and at least one line had been deleted at the bottom of the table in S12c, thereby creating doubt as to whether or not other constituent(s) were present. S12c thus did not constitute evidence that the allegedly public prior used products did not contain aziridines. As regards the public prior use BASF, firstly the composition of Acronal™ DS3547X referred to in S05 was not mentioned anywhere in the file, secondly, the nature of the film used for preparing the

adhesive product, i.e. onto which the Acronal product was applied, was not mentioned in any document on file, and thirdly, there were several gaps in the chain linking the public availability of the product Acronal™ DS3547X and the analysis sheets S10a-c. Fourthly, D25 could not help to establish whether the allegedly prior used product contained aziridines or not since D25 was published after the priority date of the opposed patent.

- The subject-matter of claims 1 and 6 of auxiliary request 1 was novel over D1 since it was not directly and unambiguously derivable from this document that the polymer emulsion used to prepare the adhesive tape comprised two different types of particles as defined in claim 1. Furthermore the overall glass transition temperature of the polymer was not disclosed and nothing was said about whether aziridines were present or not.

  The subject-matter of claims 1 and 6 was furthermore novel over D4 since the opponent had not proved that Neocryl™ A45 did not contain any aziridine.

  The subject-matter of claims 1 and 6 was also novel over D5 since D5 did not disclose that the polymer dispersion of this document was dried on a polyolefin film.

- Finally, inventive step could be acknowledged. The objective technical problem solved in view of the closest prior-art document D4 was to find an alternative adhesive product that was cost effective to produce and a low noise product.

Apart from D4, none of the cited documents addressed this problem. Thus, there was no incentive to combine D4 with any of these further documents. Furthermore, even if such a combination had been made, the result would not have been the claimed subject-matter, in particular as regards the amount of monomers.

- The opponent's request for apportionment of costs was refused.

VI. Appeals were filed by

- the opponent on 21 February 2013, and by

- the proprietor on 4 March 2013.

As the proprietor and the opponent were respectively appellant and respondent in these proceedings (until the proprietor withdrew its appeal at the oral proceedings - see point XVII below), for simplicity the board will continue to refer to them as the proprietor and the opponent.

VII. On 13 May 2013, the opponent filed its statement setting out the grounds of appeal together with the following documents:

A01: Overview of documents and evidence;

A02a: Overview of the documents filed with regard to the public prior uses Fabo, Straptech and BASF;

A02b: Overview of the documents filed with regard to the public prior use MAC;

A3: Test report "Messergebnisse Geräuschentwicklung";

D3a: US 4,456,726 A;

D26: R. Jovanovic et al, Macromol. Symp., vol. 206, 2004, pages 43 to 56;

D27: M. do Amaral et al, Journal of Colloid and Interface Science, vol. 281, 2005, pages 325 to 338;

D28: DE 101 28 512 A1;

D29: EP 1 342 762 A2;

D30: WO 03/031488 A1;

D31: WO 02/10304 A1;

D32: US 2003/0055150 A1;

D33a: JP 63-238179 A;

D33b: Abstract of JP 63-238179, Patent Abstracts of Japan;

D33c: German translation of JP 63-238179;

D34: Affidavit of D. Wolters, signed on 25 April 2013;

D35: Affidavit of H. Wessel, signed on 17 April 2013;

D36: Affidavit of G. Steuernagel, signed on 25 April 2013;

D37: Test report "AFM PeakForce QNM/tapping mode characterisation and particle size distribution calculation of acrylic based adhesives", dated 24 April 2013;

D38: Test report "Auswertung PL-PSDA Daten" of Plextol^{TM} D261, dated 29 November 2012;

D39: Material safety data sheet for Propylene imine Menadiona S. L.;

D40: Material safety data sheet for Propylene imine MP Biomedicals, LLC;

Supplementary evidence relating to prior use "Fabo"

F12: Way bill "KVO-Frachtbrief für den Güterfernverkehr";

F13: "Speditions-Übergabeschein-Nr IE/ 00103056/0001";

F14: International way bill, signed on 12 July 2006;

F15: Delivery note, dated 12 July 2006;

F16: "Attestato di controllo specifico" for 0602B0008, dated 16 April 2013;

F17: "Attestato di controllo specifico" for 0607B0037, dated 5 November 2009;

F18: Copies of data base entries concerning deliveries to Fabo, delivery date 7 March 2006;

F19a: Affidavit of M Fagni, signed on 26 March 2013;

F19b: Invoice for 1000 kg Plextol D260, material code 900916084, dated 3 March 2006;

F19c: Invoice for 1000 kg Plextol D260, material code 900916084, dated 12 May 2006;

F19d: Invoice for 20000 kg Plextol D260, material code 900916084, dated 12 July 2006;

F19e: Invoice for 2000 kg Plextol D260, material code 900916084, dated 5 October 2006;

F19f: Test certificate dated 22 June 2006, control number 889;

F19g: Test certificate dated 20 July 2006, control number 907;

F19h: Test certificate dated 20 July 2006, control number 908;

F19i: Test certificate dated 30 August 2006, control number 965;

F19j: Test certificate dated 29 August 2006, control number 947;

F19k: Invoice Nr. 936, dated 21 July 2006;

F19l: Invoice Nr 937, dated 21 July 2006;

F19m: Invoice Nr 4071, dated 1 September 2006;

F20: Affidavit of S. Menegato, signed on 30 April 2013;

F21: "Materialkalkulation", delivery number 83135495;

F22: "Materialkalkulation", delivery number 83144046;

F23: "Kunststoffanalytik", sample "Fabo Anlage 03; transparent";

Supplementary evidence relating to prior use "Straptech"

S10d: Analysis of PL-PSDA data of Acronal™ DS3457X Pr.0403200501;

S14: Inspection certificate for Plextol™ X4500 CA.57% IBC, dated 16 April 2013;

S15: E-mail of G. Steuernagel to D. Wolters and K. Greiner, dated 7 March 2013;

S16: "Kunststoffanalytik", sample "Straptech Anlage S08";

S17: "Materialkalkulation", delivery number 83109838;

S18: "Materialkalkulation", delivery number 83114463;

Supplementary evidence relating to prior use "Mac"

M1: Invoice for 1000 kg Plextol™ X4500 CA. 57% IBC, material code 900915694, dated 28 January 2005;

M2: Delivery note dated 28 January 2005;

M3: "Attestato di controllo specifico" for 0411A0622, dated 29 January 2013;

M4: "Referenzen Abfüllungen/Lieferungen zu internen Chargennummern MacFralex", dated 25 January 2005;

M5: "Weight Distribution Job 95/Run 96";

M6i: Test report "Su Adesivo: Polymer Latex Plextol X4500" by of A. Capaccioli, signed on 8 March 2005;

M6e: English translation of M6i;

M7i: Test report "Relazione Prove Su Adesivo: Polymer Latex Plextol X4500" by A. Capaccioli, signed on 19 December 2005;

M7e: English translation of M7i;

M8: "Materialkalkulation", delivery number 83112387;

M11: Invoice for 6000 kg Plextol™ X4500 CA. 57% IBC, material code 900915694, dated 22 March 2005;

M12: Delivery note dated 22 March 2005;

M13: "Attestato di controllo specifico" for 0503A0142, dated 29 January 2013;

M14: "Referenzen Abfüllungen/Lieferungen zu internen Charbennummern MacFralex", dated 25 January 2005 (seems to be identical to M4);

M15: "Kennzeichnung des Prüfstatus" dated 10 March 2005;

M16: "Weight Distribution Job 30/Run 130";

M17: Sample "avena adhesive tape";

M18: Sample "transparent adhesive tape";

M19: "Materialkalkulation", delivery number 83115780;

M21: Invoice for 24000 kg Plextol™ X4500, material code 900915693, dated 16 January 2006;

M22a: Shipping order from 12 January 2006;

M22b Way bill for Rinnen GmbH & Co KG, dated 12 January 2008;

M23: "Attesto di controllo specifico" for 06/M002A, dated 7 February 2013;

M24: "Referenzen Abfüllungen/Lieferungen zu internen Charbennummern MacFralex", dated 27 November 2006;

M25: Filtration analysis ("Filtrationsblatt") on Plextol™ D260, dated 14 January 2006;

M26: "Weight Distribution Job 44/Run 44";

M27: "Materialkalkulation", delivery number 83132822;

M31: Invoice for 23600 kg Plextol™ D260, material code 900916083, dated 24 January 2006;

M32a: Shipping order dated 20 January 2006;

M32b: Way bill for Rinnen GmbH & Co KG, dated 20 January 2006

M33: "Attesto di controllo specifico" for 06/M004A, dated 24 January 2006;

M34: "Referenzen Abfüllungen/Lieferungen zu internen Charbennummern MacFralex", dated 26 January 2006;

M35: Filtration analysis ("Filtrationsblatt") on Plextol™ D260, dated 21 January 2006;

M36: "Weight Distribution Job 43/Run 43";

M37: "Materialkalkulation", delivery number 83133281; and

M38: Affidavit of R. Lastrucci, signed on 8 May 2013.

In its statement of grounds of appeal, the opponent requested that Ms Capaccioli, Ms Menegato and Mr Conrads be heard as witnesses on the public prior uses.

VIII. On 14 May 2013, the proprietor filed its statement of grounds of appeal and requested that the patent be maintained on the basis of the main request (patent as granted) or on the basis of any of auxiliary requests 1 to 9. Auxiliary request 4 was a retyped version of the claims as allowed by the opposition division and auxiliary requests 8 and 9 were newly filed requests. The other auxiliary requests had already been filed during the opposition proceedings.

IX. With its responses dated 2 December 2013, 17 January 2014 and 17 February 2014, the opponent filed:

D43: Report by D. Kainer and N. Deutsch, signed on 19 November 2013;

D44: Supplementary affidavit by D. Wolters, signed on 27 November 2013;

D45: "Adhesive Lab report SBU Functional Polymers", "Geräuschmessung PSA Tapes", dated 14 May 2009;

F01-u: Invoice for 1000 kg Plextol™ D260, material code 800916084, dated 3 March 2006;

F01a-u: Invoice for 20000 kg Plextol™ D260, material code 900916084, dated 12 July 2006;

S03a-u: Invoice for 3000 kg Plextol™ X4365, material code 900915812, dated 3 December 2004;

S04a-u: Invoice for 2000 kg Plextol™ X4500 CA. 57% IBC, dated 23 February 2005;

D46: Report by N. Deutsch, signed on 11 December 2013;

D47: IR spectrum for PP (isotactic);

D48: Supplementary Affidavit by D. Wolters, signed on 17 February 2014;

D49: "Adhesive Lab report SBU Functional Polymers", dated 14 February 2014; and

D50: Experimental report Nr A140002400.

In its response dated 2 December 2013, the opponent reiterated its request to hear Ms Capaccioli and Ms Menegato as witnesses.

X. With its response dated 17 February 2014, the proprietor filed new auxiliary requests I to VIIIa and

D41: First declaration of W. B. Griffith signed on 6 December 2013.

XI. On 17 October 2014, the board issued its preliminary opinion. As regards sufficiency of disclosure, the board *inter alia* observed that the opponent's assertion that the particle size distribution of the emulsion polymer used to prepare the claimed adhesive product was no longer visible in the product touched upon clarity or infringement of the claim but not insufficiency. The board furthermore commented in detail on the admissibility of the various public prior use attacks. The board in this respect in particular addressed the question whether these attacks could have been filed during the opposition proceedings and also whether they were substantiated such that it was possible to understand why, in the opponent's view, the opposition division's decision was wrong. The board also observed that the opponent's request to hear witnesses would probably be refused since the issues with regard to which the witnesses had been offered appeared not to be relevant to the reasons why the opposition division had considered the public prior uses not to be pertinent to novelty. As regards the novelty attacks relying on D1, D4 and D28, the board gave its preliminary opinion that novelty could be

acknowledged. Concerning inventive step, the board emphasised that in its preliminary view it was D4 rather than D5 that constituted the closest prior art.

XII. Further arguments were filed with the proprietor's letter dated 9 October 2014.

XIII. With its letter dated 23 December 2014, the opponent filed

D25: WO 2007/012616 A1.

XIV. With its letter of 26 January 2015, the opponent submitted:

D51: "Joint Environmental Statement for the Marl Chemical Park and the PolymerLatex Centre", 2007, 5 pages; and

F24: Affidavit of D. Giudici, signed on 26 January 2015.

XV. With its letter dated 17 February 2015, the proprietor submitted its previous auxiliary requests renumbered as auxiliary requests 1 to 14.

XVI. By its communication dated 19 March 2015 the board informed the parties of the number convention to be applied for the documents filed during the appeal proceedings.

XVII. On 24 and 25 March 2015, joined oral proceedings were held before the board in T 450/13 and in the present case. As regards the present case:

- At the beginning of the oral proceedings, the proprietor withdrew its main request (maintenance of the patent as granted) and auxiliary requests 1 and 2, and requested that the patent be maintained on the basis of auxiliary request 3 (dismissal of the opponent's appeal).

- The opponent maintained its request made during the written proceedings that the decision under appeal be set aside and the patent be revoked.

- The opponent stated that it no longer relied on the alleged public prior use BASF in relation to its novelty and inventive step attacks as regards the new main request. As far as the public prior uses Mac and Straptech were concerned, it relied on its written submissions.

- The opponent accepted that the subject-matter of the new main request was novel over the cited written prior art and declared that it no longer attacked novelty on the basis of the public prior use Fabo.

- The opponent no longer relied on the following inventive step attacks presented during the written proceedings:
  - D28 in combination with D32 or D33,
  - D29 in combination with D27 or D32, and
  - D26 in combination with D31.

- The opponent maintained its request made during the written proceedings that Ms Menegato be heard as a witness on the alleged public prior uses. The requests made during the written proceedings that Ms Capaccioli and Mr Conrads be heard as witnesses

and Ms Greiner and Mr Wolters as technical expert or witness, were not pursued.

- The opponent withdrew its request for apportionment of costs.

- After the discussion of the main request (previous auxiliary request 3: claims as found allowable by the opposition division), the proprietor withdrew auxiliary requests 4 to 14 and its appeal.

- The proprietor maintained its requests made during the written proceedings that none of the new documents filed by the opponent in the appeal proceedings be admitted into the proceedings and that the public prior use Mac be not admitted into the proceedings.

XVIII. So far as relevant to the present decision, the opponent's arguments can be summarised as follows:

- Amendments - Articles 84 and 123(2) EPC

  - Claim 1 was unclear since the wording "the emulsion polymer is" in the claim implied that the emulsion polymer consisted of the monomer units cited in the claim, which was in contradiction to the fact that the amounts of monomers for alternative (ii) did not add up to 100%.

  - Claim 1 was furthermore unclear because the requirement in the claim that the emulsion polymer was a dispersion did not make sense since a dispersion contained a liquid phase apart from any polymer.

- Claim 1 did not meet the requirements of Article 123(2) EPC. The monomer composition defined in claim 1 differed from that disclosed on page 11, lines 9 to 14 of the application as filed in that the monomer amounts were given as "% by weight" rather than "%", as was the case on page 11 of the application as filed.

- The main request was insufficiently disclosed since (i) the feature "low noise" in claim 1 was unclear, (ii) the weight percentages of the fine and large modes could not be determined when the fine and large modes had similar particle sizes, and (iii) the particle size distribution in the adhesive product, if present at all, was different from the particle size distributions present in the emulsion polymer used to prepare the adhesive product (for the opponent's detailed arguments, see point 4 of the Reasons below).

- The public prior uses - Admissibility

  - The opposition division's decision on the public prior use Fabo was based on the assumption that it was not correct that the product Plextol^{TM} D260 did not contain any aziridines. The grounds of appeal put the board in a position to understand why this aspect of the decision was wrong. More specifically, F23, which was mentioned in the grounds of appeal, was an analysis of the publicly prior used adhesive tape and showed the monomer compositions of the polymer present in this tape. From F23 it followed that this polymer did not contain any aziridines.

- The proprietor had brought forward its arguments concerning the public prior uses only during the oral proceedings before the opposition division and had submitted new auxiliary requests at the last second during opposition proceedings. Therefore the opponent should be allowed to file further evidence with the grounds of appeal in reaction to the proprietor's arguments and auxiliary requests.

- Inventive step

  - The inventive step attack on the public prior use Fabo as the closest prior art should be admitted into the proceedings. This attack had been mentioned in the grounds of appeal. It had been stated therein that the monomer concentration was the distinguishing feature and this was a timely reaction to the opposition division's decision and the proprietor's auxiliary request filed during the opposition proceedings.

  - The subject-matter of claim 1 lacked inventive step in view of D4 as the closest prior art. The proprietor had not provided any proof that the specific monomer concentrations required by claim 1 provided any effect. Therefore the problem solved in view of D4 was the provision of further adhesive products with low noise that did not contain aziridines. It was known at the priority date of the patent that aziridines were toxic and D4 described aziridines as optional components. It would thus have been obvious to

the skilled person to omit aziridines from the acrylic dispersion of D4.

- The subject-matter of claim 1 furthermore lacked inventive step over D5. In this respect, the proprietor's assertion that D5 did not represent the closest prior art was wrong. This document disclosed all features of claim 1 except for the polyolefin film. It furthermore concerned adhesive tapes and thus was in the same technical field.

- Apart from D4 or D5, also D6 could be considered to represent the closest prior art. (In fact, however, all arguments presented by the opponent in this respect started from D5 as the closest prior art and combined this document with D6).

- Finally, the claimed subject-matter lacked inventive step in view of D28 as the closest prior art. This attack should be admitted into the proceedings since it was filed with the grounds of appeal in direct reaction to the proprietor's auxiliary request filed shortly prior to the oral proceedings before the opposition division. Dispersion 1 of D28 had a monomer composition and an overall glass transition temperature as required by claim 1. The polypropylene film onto which this dispersion was applied corresponded to the polyolefin film of claim 1. D28 contained a direct reference to D3 where a bimodal particle size distribution as required by claim 1 was disclosed. This particle size distribution was furthermore known from figure 3 of D27. The

claimed subject-matter was thus obvious in view of D28 in combination with D3 or D27.

- Requests to hear witnesses or experts

  - Ms Menegato should be heard as a witness as regards the processing of the product Plextol^{TM} X4500 and the sale of adhesive tapes by Fabo.

XIX. So far as relevant to the present decision, the proprietor's arguments can be summarised as follows:

- Amendments - Articles 84 and 123(2) EPC

  - Contrary to the opponent's assertion, the wording "the emulsion polymer is" in claim 1 was not in contradiction to the fact that the amounts of monomers for alternative (ii) of claim 1 did not add up to 100% such that further monomer units had to be present. More specifically, what claim 1 actually required was that the emulsion polymer was, i.e. consisted of, an acrylic dispersion and that this contained, i.e. comprised, the monomers specified in claim 1 and possibly further monomers.

  - The opponent's argument that the requirement in claim 1 that the emulsion polymer (i.e. the polymer as such) was a dispersion (i.e. the polymer plus a liquid phase) did not make sense was not correct. More specifically, in the first two lines of claim 1, the claim referred to "the drying of an emulsion polymer". Furthermore, claim 7 required the solids-content of the

emulsion polymer to be greater than 56 weight percent. The facts that the emulsion polymer was both dried and that its solids content was below 100% could only mean that, in terms of the opposed patent, "emulsion polymer" referred to the polymer when in emulsion or dispersion, i.e. together with a liquid phase.

- The opponent's argument that the monomer composition defined in claim 1 differed from that disclosed on page 11, lines 9 to 14 of the application as filed in that the monomer amounts were given as "% by weight" in claim 1 rather than "%" was not true. Just prior to the passage cited by the opponent, it was stated that the (meth)acrylic acid content ranged from "2.5% by weight to 1% by weight". It was thus clear that the amount of "1 to 2.5% (meth)acrylic acid" and by the same token all other percentages given in the passage cited by the opponent were weight percentages. The monomer composition as defined in claim 1 therefore met the requirements of Article 123(2) EPC.

- The main request was sufficiently disclosed.

  - Contrary to the opponent's assertion, there was no ambiguity as regards the measurement method for determining the noise of the adhesive tape on unwinding. Firstly, the results obtained in D19 for different positions of the noise level meter lay consistently around 101 and 103 dB. Secondly, as evidenced by D18, the skilled person knew which frequency scale to use for the measurement. Thirdly, the skilled person knew that he had to condition the sample before the

measurement as described in paragraph [0035] rather than [0038] of the patent since the latter did not refer to any concrete measurement results that were qualified as being "low noise". Fourthly, the opponent's argument that the noise level depended on the pH during the preparation of the emulsion polymer and the type of corona treatment was irrelevant since these parameters were not part of the measurement method.

- The opponent's assertion that the weight percentages of the fine and large modes could not be determined if both modes had similar particle sizes was not correct. Possibly it was difficult but it was not impossible to determine these weight percentages. Furthermore, any ambiguity, if present, related to the clarity of the claim rather than sufficiency of disclosure.

- Finally, also the opponent's argument that after drying at high temperature and/or after a longer time period, the particle size distributions of the fine and large modes of the emulsion polymer initially used changed or even disappeared was not correct. It had in particular been proven experimentally that individual particles were still visible in the final adhesive product.

- Public prior uses - Admissibility

- No documentation or proof of any kind had been submitted during the opposition proceedings as regards the alleged Mac public prior use. This public prior use attack in fact had been made

for the first time during the appeal proceedings and therefore should be held inadmissible.

- The reason why the opposition division decided that the alleged public prior uses Fabo and Straptech were not novelty-destroying were deficiencies in S12c. These deficiencies were not addressed by the grounds of appeal, in particular not by documents D34 and F20 mentioned therein. Therefore, these public prior use attacks should be held inadmissible as well.

- Inventive step

  - The inventive step attack on the basis of the public prior use Fabo as the closest prior art should not be admitted into the proceedings. This attack had not been made in the grounds of appeal but rather had been made for the first time during the oral proceedings in the appeal. It had never been discussed whether Fabo could be considered as the closest prior art and whether there was any effect linked to the monomer concentration. There was no chance to react to this attack during the oral proceedings since it was not possible to present a counter-attack based on experimental data.

  - D4 constituted the closest prior art. The subject-matter of claim 1 differed from the acrylic dispersion of trial B in terms of the absence of azridines and the monomer contents. The problem solved in view of D4 was the provision of an alternative adhesive product with low noise that did not contain aziridines. In order to arrive at the claimed adhesive

product starting from D4, it would have been necessary to omit aziridines, to adapt the glass transition temperature, to adjust the ratio between fine and large mode, to restrict the monomer amounts to those required by claim 1 and to select particle sizes as required by claim 1. Neither D4 nor any of the other cited documents contained any suggestion that, by taking these measures, a further adhesive product with low noise could be obtained. Therefore, the claimed subject-matter was inventive in view of D4 as closest prior art.

- D5 did not represent the closest prior art. It did not concern adhesive tapes and did not address the problem of providing adhesive tapes with low noise.

- The claimed subject matter-matter was inventive in view of D6, which did not disclose anything about bimodal tapes or say that they produced low noise upon unwinding.

- The opponent's attack based on D28 should not be admitted into the proceedings since it was filed late and could have been filed during the opposition proceedings. Furthermore, D28 did not constitute the closest prior art since it did not address the problem of providing low noise adhesive tapes. As regards dispersion 1 that was cited by the opponent, no particle sizes were disclosed in D28. The ranges disclosed for the particle sizes and the amounts of fine and large mode in D3 only overlapped with those of claim 1 such that one had to mosaic various features of D28 and D3 together in order to arrive at the

claimed subject-matter. The same applied as regards D27, where the particle sizes but not the monomer composition was according to claim 1.

XX. The final requests of the parties were as follows:

The opponent requested that the decision under appeal be set aside and the patent be revoked.

The proprietor requested that the appeal be dismissed.

Reasons for the Decision

1. The opponent's appeal is admissible.

Main request

2. The main request is identical to auxiliary request 1 found allowable by the opposition division (see point IV above). Claim 1 of this request refers to a low noise adhesive product comprising an adhesive layer formed by the drying of an emulsion polymer on a polyolefin film; wherein the emulsion polymer comprises:

(a) a fine mode comprising 5-95% by weight, based on a total weight of polymer, of first particles having a weight average diameter of less than or equal to 250 nanometers; and

(b) a large mode comprising at least 5% by weight, based on a total weight of polymer, second particles having a weight average diameter of greater than 250 nanometers; and

further wherein the overall Tg of the emulsion polymer is less than -20°C and the emulsion polymer does not comprise one or more aziridines; and

further wherein the emulsion polymer is (i) an acrylic dispersion containing from 1 to 2.5% by weight of (meth)acrylic acid units and 99 to 97.5% by weight of n-butyl acrylate or 2-ethylhexyl acrylate units or any combination thereof, or (ii) is an acrylic dispersion containing 80-90% by weight of 2-ethylhexyl acrylate units and from 8 to 20% by weight of n-butyl acrylate units.

3. Amendments - Articles 84 and 123(2) EPC

3.1 The opponent argued that the further limitation in claim 1 by means of the two alternatives (i) and (ii) introduced a lack of clarity. The wording "the emulsion polymer is" in this limitation implied that the emulsion polymer consisted of the monomer units cited in this claim, which was in contradiction to the fact that the amounts of monomers for alternative (ii) of claim 1 (80-90% by weight of 2-ethylhexyl acrylate units and from 8 to 20% by weight of n-butyl acrylate units) did not add up to 100% such that further monomer units had to be present.

However, the wording quoted by the opponent is incomplete. The relevant wording in claim 1 in total reads "the emulsion polymer is (i) an acrylic dispersion containing ..., or (ii) is an acrylic dispersion containing 80-90% by weight of 2-ethylhexyl acrylate units and from 8 to 20% by weight of n-butyl acrylate units". It is thus not true that according to claim 1 the emulsion polymer consists of the monomer units cited in this claim. In fact, what the claim

requires is that the emulsion polymer is, i.e. consists of, an acrylic dispersion and that the dispersion contains, i.e. comprises, 2-ethylhexyl acrylate units and n-butyl acrylate units. There is thus no contraction between the closed language "the emulsion polymer is" and the fact that the percentages of monomer units do not add up to 100%.

3.2 The opponent argued that the requirement in claim 1 that the emulsion polymer was a dispersion did not make sense since the term "emulsion polymer" implied the polymer as such while a dispersion contained a liquid phase apart from the polymer. Also for this reason claim 1 was unclear.

The board acknowledges that from an academic point of view an emulsion polymer is the polymer as such (obtained by emulsion polymerisation) while a dispersion contains a solid phase (i.e. the polymer) together with a liquid phase. However, in the first two lines of claim 1, the claim refers to "the drying of an emulsion polymer". Furthermore, claim 7 requires the solids-content of the emulsion polymer to be greater than 56 weight percent. Both the fact that the emulsion polymer is dried according to claim 1 and the fact that claim 7 refers to a solids-content well below 100% can only mean that, in terms of the opposed patent, the "emulsion polymer" refers to the polymer when in emulsion or dispersion, i.e. together with a liquid phase. In terms of the opposed patent, the requirement in claim 1 that the emulsion polymer is a dispersion therefore does make sense such that claim 1 is not unclear in this respect.

3.3 The opponent also argued that the monomer composition defined in claim 1 differed from that disclosed on

page 11, lines 9 to 14 of the application as filed in that the monomer amounts were given as "% by weight" in claim 1 rather than "%" as was the case on page 11 of the application as filed. Claim 1 did therefore not meet the requirements of Article 123(2) EPC.

The board does not agree. The first sentence of the first full paragraph on page 11 (lines 7 to 8) states that

> "The acid monomer content in the present invention ranges from upper limit of 5, 3, and **2.5% by weight** to 0.25, 0.5, and **1% by weight**" (emphasis added by the board).

Then the text goes on (page 11, lines 8 to 14):

> "An example of acid monomer is (meth)acrylic acid. In one example, acrylic dispersions containing from 1 to 2.5% of (meth)acrylic acid units and 99.5 to 90%, with particular preference 99 to 97.5%, of n-butyl acrylate or 2-ethylhexyl acrylate units are used and any combination thereof. Another example of acrylic dispersions of the invention are acrylic dispersions containing 80-90% of 2-ethylhexyl acrylate units and from 8 to 20% of n-butyl acrylate units."

The skilled person would immediately understand that the amounts indicated in lines 9 to 14 in "%" have to be read in the context of the first sentence, where the amount is given in % by weight, and which sets the framework for the whole paragraph. Therefore, lines 9 to 14 in combination with lines 7 and 8 provide a basis for the monomer composition defined in claim 1 including the requirement that the percentages are

weight percentages. The monomer composition as defined in claim 1 therefore meets the requirements of Article 123(2) EPC.

4. Sufficiency

4.1 The opponent raised an insufficiency objection as regards the requirement that the adhesive product of claim 1 had to be a "low noise" adhesive product.

The patent specifies in paragraph [0035] the feature "low noise" to mean a decibel level under 100 dB when unwinding the adhesive product at 60 m/min. According to the patent (paragraph [0035]), this decibel level is to be determined as follows:

"Rolls of tape are prepared and then aged for 1 week at 50°C. The tapes are removed from the oven and then equilibrated in an environmental room which is set at 23°C and 50% relative humidity. After at least 24 hours equilibration, noise was then measured under these conditions by placing standard commercial sound level meter from Bruel & Kjear (type 2226) 8 cm from the tape as it was being unwound."

4.1.1 The opponent argued that the distance between the sound-level meter and the tape of 8 cm as specified in the patent was unclear. The opponent in this respect referred to D19 in which six different positions of the sound level meter are shown, all meeting the requirement of being positioned 8 cm from the tape (positions 2 to 7 in the figure on page 4 of D19). According to the opponent, depending on the position chosen, different sound levels were measured so that it was not clear what "low noise" in claim 1 meant.

Therefore, the claimed subject-matter was insufficiently disclosed.

The board acknowledges that the definition "8 cm from the tape" in paragraph [0035] of the patent leaves the skilled reader with some freedom as to the specific position of the sound level meter. The board furthermore agrees with the opponent that D19 shows that for different positions, but all meeting the requirement of being spaced 8 cm from the adhesive tape, different noise levels are obtained. However, the variation in the noise level ranges only from 95 to 103 dB (table on page 3 of D19). Such a variation, if not within the experimental error range, at most implies an ambiguity at the edge of claim 1. For an insufficiency arising out of ambiguity it is, however, not enough to show that an ambiguity exists at the edges of the claims (T 608/07, point 2.5.2). In the absence of any evidence that the ambiguity is such that it leads to insufficiency of disclosure, the opponent's argument must therefore fail.

The opponent argued in this respect that according to decision T 1404/05 a vaguely formulated claim led to insufficiency of disclosure and that in the light of this decision, sufficiency had to be denied in the present case as well.

The board acknowledges that the case underlying T 1404/05 is comparable to the present one in so far as also in that case an ambiguity was present in claim 1. However, in that case it was undisputed that due to this ambiguity, the claim covered embodiments that could not be put into practice (see in particular point 3.4 of the decision). It was for this reason that the board decided in that case to deny sufficiency of

disclosure. This is different from the present case where it has not been argued, let alone been proved, that due to the alleged ambiguity of the feature "low noise", the claim covers embodiments that cannot be carried out.

4.1.2 The opponent argued that the specification of the measurement method in paragraph [0035] of the patent left it open which frequency scales had to be used during the measurement so that also for this reason the feature "low noise" was unclear, leading to insufficiency.

This is however not correct since for the sound-meter "Bruel&Kjear 2226" specified in paragraph [0035] of the patent, frequency scale A has to be used (entry "2226" in the table on the bottom of page 2 of D18). There is thus no uncertainty as regards the frequency scale and, linked thereto, the feature "low noise".

4.1.3 The opponent argued that the conditioning of the adhesive product prior to the measurement of the noise level as specified in paragraph [0035] of the patent was different from that described in paragraph [0038], that the measured noise levels depended on the type of conditioning, and that also for this reason, the feature "low noise" in claim 1 was unclear.

The opponent's argument is however of no relevance since the definition of the feature "low noise" is given only in paragraph [0035]. Hence, the skilled person, having to decide on whether an adhesive tape satisfies the requirement "low noise" of claim 1, would apply the conditioning as specified in this paragraph rather than that of paragraph [0038].

4.1.4 The opponent finally argued that the noise level depended on the pH during the preparation of the emulsion polymer and the type of corona treatment of the film onto which the emulsion polymer was applied.

The board does not see how this argument can lead to insufficiency of disclosure as regards the feature "low noise". The preparation of the emulsion polymer and the corona treatment are not part of the measurement of the noise level but are steps during the preparation of the adhesive product. Therefore, even though it is true that the way the emulsion polymer is prepared and treated has an impact on the noise level, this does not imply that the noise level is unclear. There is thus no ambiguity, let alone insufficiency in this respect.

4.1.5 For the above reasons, the feature "low noise adhesive product" in claim 1 does not lead to any insufficiency of disclosure.

4.2 The opponent's second insufficiency attack related to the weight percentages of the fine and large modes of the emulsion polymer used to prepare the adhesive product of claim 1. The opponent in particular argued that for a fine and large mode with similar particle sizes, the weight percentages of these modes could not be determined.

However, in the same way as for the feature "low noise adhesive product" (point 3.1.1 above), this at most implies that there is an ambiguity at the edge of claim 1, namely for embodiments where the fine and large modes have similar particle sizes around 250 nm. The opponent has however not shown that this ambiguity is such that it leads to insufficiency of disclosure.

4.3 The opponent's third insufficiency attack related to the particle size distribution in the claimed adhesive product.

According to the patent (claim 6), the claimed adhesive product is prepared by coating the surface of a polyolefin film with the emulsion polymer comprising the fine and large modes. The opponent argued that after drying at high temperature and/or after a longer time period, i.e. for older adhesive products, the particle size distributions of the fine and large modes of the emulsion polymer initially used changed or even disappeared. Hence, the particle size distribution in the adhesive product, if present at all, would be different from the particle size distributions present in the fine and large modes of the emulsion polymer used to prepare the adhesive product.

However, claim 1 merely requires that the low noise adhesive product is **formed by** drying of an emulsion comprising two different modes of particles. In other words the mode requirement concerns the starting material and not the **final** product. The board accepts that such a product-by-process feature leads to a broad claim. The broadness of a claim does not however mean that the invention defined by this claim is insufficiently disclosed.

Apart from that, the proprietor even contested that the particle size distributions of the emulsion polymer used to prepare the adhesive product would no longer be visible in the final product and provided evidence in this respect.

4.4 Therefore, the ground under Article 100(b) EPC does not prejudice the maintenance of the patent in the form of the main request.

5. Admissibility of the public prior use attack Mac

5.1 According to the statement of grounds of appeal, the public prior use Mac Autoadesivi s.r.l. ("Mac") destroys the novelty of the claimed subject-matter.

5.2 The proprietor requested that this public prior use attack not be admitted into the proceedings because no documentation or proof of any kind had been submitted during the opposition proceedings as regards the alleged Mac public prior use. In fact, this objection had been made for the first time during the appeal proceedings.

It is established case law (see, e.g., decision T 328/87) that in order to substantiate a public prior use, information must be provided as to what was made available, when it was made available, where it was made available, by whom it was made available and, finally, how it was made available.

The public prior use Mac was mentioned in the notice of opposition under the heading "8.3. Weitere offenkundige Vorbenutzungen" on the penultimate page, together with the following information:

Delivery date: 24 March 2005
Client name: MAC AUTOADESIVI srl
Article: PLEXTOL X 4500 CA.57.

This information does not address at all the questions "what, when, where and how", needed for the

substantiation of a public prior use. At no point during the opposition proceedings did the opponent provide any such substantiation and, accordingly, this public prior use was not dealt with in the decision of the opposition division at all.

Therefore, the attack on the basis of the public prior use Mac in the statement of grounds of appeal constituted a new attack, made for the first time in the appeal proceedings.

5.3 The essential nature of appeal proceedings is to determine whether the decision reached by the department of first instance was correct (G 9/91, point 18; G 4/93, point 5; G 1/99, point 6.1). Appeal proceedings are not a means of continuing the first instance proceedings whereby a party is free to improve or repair holes in its case by filing additional material. In this respect, it lies within the discretion of the board to hold inadmissible evidence which could have been presented in the first instance proceedings.

As set out above, the alleged public prior use Mac was mentioned in the opposition proceedings but not pursued by the opponent: it is not even mentioned in the decision of the opposition division. It is not acceptable to substantiate the alleged public prior use Mac for the first time with new evidence in the appeal proceedings, i.e. the numerous documents submitted under the heading "Supplementary evidence relating to prior use Mac" (point VII above). The board therefore saw no reason to admit new evidence relating to the alleged public prior use Mac and the novelty attack associated therewith into the proceedings.

5.4 The present board is aware that in exceptional cases, a new novelty objection based on a new document in appeal proceedings has been admitted on the ground that it was *prima facie* relevant (see, e.g., T 2542/10, point 2.2.2). However, in the present case, all that is contained in the statement of grounds of appeal with regard to the alleged public prior use Mac is a reference to tables A02a and A02b, without further explanation. Table A02b, which deals with four public prior uses relating to Mac, namely Mac-1, Mac-2, Mac-3 and Mac-4, does not contain any information as regards, e.g., the questions of when, where, by whom and how the adhesive tape mentioned in this table ("avana" (M17) and "transparent" (M18)) had been rendered accessible to the public before the priority date of the patent. Consequently, the alleged public prior use attack Mac is not *prima facie* relevant.

5.5 In the exercise of its discretion under Article 12(4) RPBA, the board therefore decided not to admit the alleged public prior use attack Mac into the proceedings.

6. Admissibility of the further public prior use attacks

6.1 The statement of grounds of appeal relied on three further public prior use attacks, namely:

- the alleged public prior use of the product Acronal™ DS 3547X from BASF, which was handed over to PolymerLatex (see S05), hereinafter referred to as the public prior use "BASF";

- the alleged public prior use based on the delivery of the product Plextol™ X4365 to Straptech,

hereinafter referred to as the public prior use "Straptech"; and

- the alleged public prior use based on the delivery of the product Plextol^{TM} D260 to Fabo, hereinafter referred to as the public prior use "Fabo".

6.2 The opponent no longer relied on the alleged public prior use BASF in relation to its novelty and inventive step attacks as regards the main request. Consequently, the admissibility of this public prior use needs not to be dealt with in the present decision.

6.3 The public prior use: Straptech

6.3.1 Unlike the public prior use Mac, this public prior use was to at least some extent discussed in the notice of opposition and was dealt with in the decision of the opposition division. Hence, the above considerations made with regard to the public prior use Mac do not necessarily lead to the conclusion that the public prior uses Straptech is inadmissible.

6.3.2 As set out above when discussing the public prior use Mac, appeal proceedings aim at contesting a decision. This implies that reasons must be given in the statement of grounds of appeal why the decision under appeal should be reversed, amended or upheld (Rule 99(2) EPC and Article 12(2) RPBA). The submissions in the statement of grounds of appeal must be such as to enable the board (and any other party) to understand immediately why the decision is alleged to be incorrect, without first having to make investigations on their own (T 2532/11, points 2.2.1 and 2.2.5 and decisions cited therein: T 220/83, OJ EPO 1986, 249, headnote; T 213/85, OJ EPO 1987, 482,

points 2 and 3; T 145/88, OJ EPO 1991, 251, headnote; T 169/89, points 2 and 3 and T 1581/08, point 3). Even assuming that laborious sequences of exercises would tell the reader what the appellant's case against the decision might be, such conjecture is exactly what the statement of appeal is designed to prevent (T 2532/11, point 2.5.1). It cannot be expected that a board fills in the missing links of the chain of reasoning of an appellant and thereby establishes a coherent and complete chain of argument for the appellant, no matter how straightforward it may seem in light of the particulars of the specific case (T 922/05, point 16).

6.3.3 Turning back to the present case, the opposition division decided that the subject-matter of claims 1 and 6 was novel over the public prior use Straptech.

This decision was based on two grounds, the first being that it was doubtful whether the allegedly prior used product, namely the batch sold to Straptech, had been prepared with the recipe given in S12c, which the opponent had relied upon as regards the composition of the allegedly prior used batch. The opposition division's second ground was that the monomer composition of the product disclosed in S12c was unknown due to the fact that several data in S12c were blackened, while others were coded with acronyms (such as NAPS) without definition of their meanings, and at least one line had been deleted at the bottom of the table in S12c, thereby creating doubt as to the presence or not of other constituent(s). S12c did thus not constitute evidence that the allegedly public prior used product did not contain aziridines.

As observed in the board's preliminary opinion, it is not clear how the opponent's submissions in the

statement of grounds of appeal relate to the objections raised by the opposition division in its decision, in particular as regards S12c and the absence of aziridines. In fact, the only submission present in this respect in the statement of grounds of appeal is that F20 shows that no nitrogen compounds are detectable and thus aziridines are not present. However, F20 does not contain any reference to the recipe of S12c and thus does not address at all the opposition division's objections as regards this recipe. The opponent's submissions in the statement of grounds of appeal therefore do not put the board in a position to understand why the opposition division's decision on the public prior use Straptech were wrong in the opponent's view.

In response to the board's preliminary opinion, the opponent argued that the proprietor had brought forward its arguments concerning the public prior uses only during the oral proceedings before the opposition division and had submitted new auxiliary requests at the last moment during opposition proceedings. Therefore the opponent should be allowed to file further evidence with the statement of grounds of appeal in reaction to the proprietor's arguments and auxiliary requests.

The board acknowledges that indeed the statement of grounds of appeal would have been the appropriate point in time to react to the proprietor's claim requests. However, as set out above, in fact the opponent did not properly react and did not submit a substantiated attack on the basis of the alleged public prior use Straptech when filing the statement of grounds of appeal.

In the absence of any further submission of the opponent during the oral proceedings, the board did not see any reason to diverge from its preliminary opinion and decided not to admit the public prior use Straptech into the proceedings.

6.4 The public prior use: Fabo

6.4.1 In the same way as for the Straptech public prior use, it needs to be examined whether the statement of grounds of appeal puts the board and the proprietor in a position to understand why the opposition division's decision was said to be wrong. In this respect, the opponent argued during the oral proceedings that document F23 referred to in the statement of grounds of appeal disclosed the composition of the allegedly prior used batch of the product Plextol™ D260 and provided evidence that this product did not contain aziridines. F23 indeed refers to an analysis of the product Plextol™ D260 isolated from an allegedly prior used adhesive tape. It shows the monomer composition of this product and states that the nitrogen amount and the analytical results gave no indication that aziridines were present. The board therefore accepted the opponent's argument and admitted the allegation of a public prior use in relation to Fabo into the proceedings.

6.4.2 Incidentally, it is noted that F23 refers only to an adhesive tape containing Plextol™ D260 and does not give any information about a tape with the product Plextol™ X4365 having been the object of the alleged public prior use Straptech. This is why the board admitted the alleged public prior use Fabo but not Straptech.

7. Novelty

7.1 The opponent declared during the oral proceedings that it no longer made any novelty attack on the basis of the only public prior use admitted into the proceedings, i.e. the Fabo public prior use. Furthermore, the opponent accepted during the oral proceedings that the claimed subject-matter was novel over the cited written prior art.

7.2 In the absence of any novelty attack or any reason for not acknowledging novelty, the board accepts that the claimed subject-matter is novel.

8. Inventive step

8.1 Inventive step on the basis of the alleged public prior use Fabo

8.1.1 During the oral proceedings, the opponent argued that the subject-matter of claim 1 was not inventive in view of the public prior use Fabo as the closest prior art. The proprietor requested that this attack be not admitted into the proceedings.

As stated above, the allegation of a public prior use in relation to Fabo was admitted into the proceedings. The next issue would have ordinarily been whether the alleged Fabo prior use was in fact established. However, in view of the proprietor's request not to admit the new inventive step attack based on this public prior use into the proceedings, it appeared to be more economical to the board to decide first on whether such an attack should be admitted.

8.1.2 The only indication in the statement of grounds of appeal as regards the relevance of the public prior use Fabo for inventive step is the following:

"*Aufgrund der geringen Abweichungen in der Monomerkonzentration, ist gegenüber den neugefassten Ansprüchen 1 und 6 zumindest keine erfinderische Tätigkeit gegeben*."

The newly drafted claims 1 and 6 ("*neugefasste Ansprüche 1 und 6*") referred to in this statement can only be those of auxiliary request 1 found allowable by the opposition division, which request is identical to the present main request. The reference to small variations in the monomer concentration ("*geringe Abweichungen in der Monomerkonzentration*") can, in the opponent's favour, be interpreted to mean that the monomer concentration in claims 1 and 6 of this request is a distinguishing feature over the public prior use Fabo. However, the opponent's statement in the grounds of appeal does not permit any conclusion to be drawn as regards why the alleged public prior use Fabo constitutes the closest prior art, whether and if so what effect is obtained by the distinguishing feature and whether the claimed solution is obvious. The statement of grounds of appeal therefore does not put the board or the proprietor in a position to understand why in the opponent's view the claimed subject-matter lacks inventive step in view of the alleged public prior use Fabo.

Also during the further written proceedings, the opponent did not raise any inventive step attack on the basis of the alleged public prior use Fabo, not even after the board had observed in its preliminary opinion that D4 was considered to be the closest prior art.

The inventive step attack on the basis of the public prior use has thus effectively been made for the first time during the oral proceedings before the board.

This inventive step attack raises complex new issues, being precisely those issues which the statement of grounds of appeal was silent about, in particular why the alleged public prior use Fabo constitutes the closest prior art, whether and if so what effect is obtained by the distinguishing feature and whether the claimed solution is obvious. There would have been no possibility for the proprietor to react to this attack during the oral proceedings. It would have been, e.g., not possible to carry out experimental tests to study whether the difference identified by the opponent resulted in any effect. Consequently, neither the board nor the proprietor could be expected to deal with this attack at the oral proceedings without an adjournment.

The opponent argued that the proprietor had submitted its auxiliary request very late during the opposition proceedings such that the inventive step objection in the statement of grounds of appeal was a timely reaction to this claim request. The board acknowledges that indeed the statement of grounds of appeal would have been the appropriate point in time to react to the proprietor's claim request. However, as set out above, in fact the opponent did not properly react and did not submit a substantiated attack against this claim request on the basis of the alleged public prior use Fabo when filing the statement of grounds of appeal.

Therefore, the opponent's inventive step attack on the basis of the alleged public prior use Fabo was not admitted by the board under Article 13(1) and (3) RPBA.

8.2 Inventive step on the basis of D4

8.2.1 The invention underlying the opposed patent relates to a low noise adhesive product, more specifically, a low noise tape containing an adhesive coating of a bimodal emulsion polymer and a process for making such a product (page 2, lines 3 to 5 and claims 1 and 6). The invention in particular addresses the problem of noisy unwind (page 2, lines 13 to 15).

8.2.2 In the same way, D4 refers to adhesive tapes and addresses the problem of noisy unwind (page 2, lines 3 to 4 and 41). Therefore, the board considers D4 to represent the closest prior art.

D4 discloses an adhesive product comprising an adhesive layer formed from an acrylic dispersion on a polyolefin film (page 2, lines 3 to 4). The acrylic dispersion consists of first and second acrylic dispersions (b1) and (b2) being present in a ratio of 99:1 and 90:10 (page 3, lines 23 to 28). In the only example of D4 (trial B on page 7), the acrylic dispersion used to prepare the adhesive product consists of a mixture of Primal™ PS83D (first acrylic dispersion) and Neocryl™ A45 (second acrylic dispersion) in a weight ratio of 95 to 5.

Primal™ PS83D has an average particle size of 681 nm (see D9) and thus corresponds to the large mode of claim 1. Neocryl™ A45 has an average particle size of 109 nm (see D8) and thus corresponds to the fine mode in claim 1. As acknowledged by all parties, the overall glass transition temperature of the acrylic dispersion of D4 lies within the range of claim 1.

As stated in paragraph [0049] of D4, Neocryl™ A45 is an example of the "specific acrylic dispersion" disclosed in paragraph [0048], which comprises propylene imine, which is an aziridine. Consequently, Neocryl™ A45 and thus the acrylic dispersion used in trial B of D4 contains an aziridine. Furthermore, as not disputed by the opponent, the amounts of monomer units in the acrylic dispersion in trial B of D4 are different from the amounts as required by claim 1. Therefore, the subject-matter of claim 1 differs from D4 firstly in that the emulsion polymer comprised in the claimed adhesive product does not contain aziridines and, secondly, in terms of the amounts of monomer units present in the emulsion polymer.

8.2.3 Both parties agreed during the oral proceedings that the objective technical problem was the provision of an alternative adhesive product that exhibited low noise upon unwinding while not containing toxic aziridines.

8.2.4 The board agrees with the opponent that aziridines are disclosed in D4 as optional components only and that the skilled person reading D4 and looking for less toxic adhesive products would therefore have omitted aziridines. However, even if the skilled person would omit aziridines in the composition of trial B of D4, he would not arrive at the claimed amounts of monomer units. Therefore, the claimed alternative is inventive in view of D4.

None of the further documents cited by the opponent discloses an emulsion polymer with monomer amounts as required by claim 1, let alone that any of these documents suggests that such an emulsion polymer would result in an adhesive product with low noise. Therefore the claimed alternative is also inventive in view of D4

in combination with any of the further documents cited by the opponent.

8.3 Inventive step on the basis of D5

8.3.1 Apart from D4, the opponent considered D5 to represent the closest prior art.

8.3.2 D5 discloses a process for preparing polymer dispersions with a bimodal particle size distribution (page 2, lines 3 to 5). The problem addressed in D5 is the provision of a process by which aqueous polymer dispersions can be prepared that have a high polymer volume concentration, low viscosity and a reduced amount of micro-coagulates and that are essentially independent from the type of monomers or surfactant used in the process (page 2, lines 45 to 48). The aqueous polymer dispersions can be used as binding agent for coatings, adhesives or for finishing paper, leather, and woven or non-woven fabrics (claim 16).

8.3.3 D5 is not concerned with adhesive tapes, let alone with the problem of noisy unwind. It is to be noted in this respect that the reference to adhesive tapes ("*Klebefilme*", page 2, line 8 of D5) referred to by the opponent is made when discussing the prior art in D5, but not the invention. D5 thus is neither in the same technical field nor does it address the technical problem referred to in the opposed patent. D5 therefore does not qualify as the closest prior art.

8.4 Inventive step on the basis of D6

8.4.1 The opponent mentioned during the oral proceedings that also D6 could be considered to represent the closest prior art. However, all arguments presented during the

oral proceedings as regards D6 in fact started from D5 as the closest prior art and combined this document with D6.

8.4.2 In the same way as the opposed patent, D6 is directed to adhesive tapes with low noise upon unwinding (second paragraph on page 797 and first paragraph on page 792). Therefore, D6 can also be considered as the closest prior art.

This documents describes polypropylene tapes that contain an acrylic dispersion based on 2-ethylhexylacrylate, n-butylacrylate and acrylic acid (paragraph above the figure on page 796). D6 is silent as regards the particle size distribution and the glass transition temperature of the acrylic dispersion and whether aziridines are present.

The subject-matter of claim 1 differs from D6 by (i) the absence of aziridines, (ii) the amounts of monomer units, (iii) the fact that the acrylic dispersion has a bimodal particle size distribution, (iv) the average particle sizes, (v) the amounts of fine and large modes, and (vi) the overall glass transition temperature. In the same way as for the closest prior art D4, the objective technical problem is the provision of an alternative adhesive product that developes low noise upon unwinding while not containing toxic aziridines. In the same way as for the closest prior art D4, the claimed alternative is neither disclosed nor suggested by D6 or any of the further cited prior art documents. Therefore, the subject-matter of claim 1 and by the same token of all remaining claims is inventive in view of D6 as the closest prior art.

8.5 Inventive step on the basis of D28

8.5.1 The opponent argued that the claimed subject-matter was not inventive in view of D28 as the closest prior art in combination with D3 or D27. The proprietor requested that D27 and D28 be not admitted into the proceedings.

8.5.2 The attack on the basis of D28 in combination with D3 or D27 was filed by the opponent with the statement of grounds of appeal. D28 discloses the specific monomer concentrations as required by claim 1 (see point 8.5.3 below). The inventive step attack on the basis of D28 present in the statement of grounds of appeal can thus be considered to constitute a direct reaction to the filing of auxiliary request 1 during the opposition proceedings, where the monomer concentrations had been included into claim 1 (this auxiliary request was found allowable by the opposition division and is the main request in the present appeal proceedings). Therefore, the board decided to admit D27 and D28 into the proceedings.

8.5.3 Unlike D4, D28 does not address the problem of low noise adhesive products. Therefore it is D4 rather than D28 which constitutes the closest prior art. For this reason alone, the opponent's inventive step attack on the basis of D28 must fail. Furthermore, even if one assumes, in the opponent's favour, that D28 represents the closest prior art, the claimed subject-matter is inventive:

D28 discloses a polypropylene film onto which an acrylic dispersion composed of 98.5 wt% butylacrrylate ("BA") and 1.5 wt% of methacrylic acid ("MAS") has been coated (Item "Herstellung des Klebebandes" in conjunction with dispersion 1 disclosed on page 7 of

D28). As not disputed by the proprietor, the overall glass transition temperature of this acrylic dispersion is -52°C. The monomer concentrations and the overall glass transition temperature of dispersion 1 of D28 are thus as required by claim 1.

The subject-matter of claim 1 differs from this dispersion in that the emulsion polymer according to the claim has a bimodal particle size distribution containing a fine and a large mode, and in that the fine mode has 5 to 95 wt% of particles with an average particle size of less than or equal to 250 nm and the large mode at least 5 wt% of particles with an average particle size of greater than 250 nm.

The objective technical problem in view of D28 is the provision of an alternative adhesive product with low noise.

The opponent argued that the claimed alternative was obvious since the claimed particle size distribution was known from D3, which was specifically referred to in D28. D28 discloses on page 5, lines 55 to 58, that in order to avoid a too large viscosity increase, the polymer dispersion should have a bimodal or polymodal particle size distribution, which can be prepared by, e.g., adding a seed as described in EP-A-81083 (which is D3 in the present proceedings). D3 discloses a bimodal particle size distribution with the small mode having an average particle size in the range of 50 to 500 nm and the large mode having an average particle size of 200 to 4000 nm and a ratio of fine to large mode of 1:1 to 100:1 (page 7, lines 22 to 29 and first six lines of page 8). However, first of all, there is no suggestion in D3 that if this particle size distribution is used, a low noise adhesive product will

be obtained. Secondly, even if the skilled person were to incorporate the teaching of this particle size distribution into D28, he would not necessarily arrive at the claimed alternative since the ranges for the particle sizes and ratios of the fine and large mode in D3 only overlap with those in claim 1.

The opponent furthermore argued that the claimed alternative was obvious since the claimed particle size distribution was known from D27. This document discloses in figure 3 a model PSA latex with a bimodal particle size distribution with average particle sizes of the fine and large mode within the ranges as required by claim 1 (about 100 nm for the fine mode and about 700 nm for the large mode). However, this model PSA latex of figure 3 is composed of 88.2 wt% of 2-ethylhexyl acrylate (2-EHA) and 11.8 wt% of methylmethyrylic acid and acrylic acid (MMA and AA) (point "3.2 Synthesis of model PSA latexes" on page 327 of D27), and these monomer amounts are not as required by claim 1 (97.5 to 99 wt% of 2-ethylhexylacrylate and 1 to 2.5 wt% of (meth)acrylic acid. Consequently, even if the skilled person were to incorporate the teaching of the particle size distribution of D27 into D28, he would not arrive at the claimed alternative since the monomer composition would then not be as required in claim 1. Furthermore, in the same way as for D3, there is no suggestion in D27 that if the particle size distribution disclosed in this document was used, a low noise adhesive product would be obtained.

The subject-matter of claim 1 and by the same token of all remaining claims is therefore inventive in view of D28 as the closest prior art.

9. Request to hear a witness

9.1 In its statement of grounds of appeal the opponent requested that Ms Menegato be heard as a witness as regards the processing of the product Plextol™ X4500 and the sale of adhesive tapes by Fabo.

9.2 In its preliminary opinion, the board informed the opponent that the issues with regard to which Ms Menegato had been offered as a witness appeared not to be relevant to the reasons why the opposition division considered the public prior uses not to be pertinent. Therefore the offered testimony of Ms Menegato as witness would be irrelevant, such that the request to hear her as a witness was likely to be refused. Consequently, the board saw at that stage no reason to summon Ms Menegato as a witness.

No arguments were presented by the opponent in reaction to this preliminary opinion, either in writing or during the oral proceedings. The opponent simply affirmed at the oral proceedings its request that an invitation be issued to Ms Menegato to be heard as a witness.

In the absence of any arguments being presented after the issuance of its preliminary opinion, the board did not see any reason during the oral proceedings to diverge from this opinion that the offered testimony of Ms Menegato as a witness would be irrelevant.

9.3 In fact the irrelevance of the witness statement offered by the opponent became even more pronounced in the course of the oral proceedings. More specifically, during the oral proceedings the alleged public prior use attack BASF was withdrawn, the alleged public prior

uses Mac and Straptech were not admitted into the proceedings and the inventive step attack on the basis of the alleged public prior use Fabo was equally not admitted into the proceedings. The issues for which Ms Menegato was offered as a witness, namely the processing of the product Plextol™ X4500 and the sale of adhesive tapes by Fabo, would not have been related to the board's decisions on admissibility. The hearing of Ms Menegato as a witness could thus not have changed these decisions of the board.

9.4 Therefore the board decided to refuse the opponent's request that Ms Menegato be heard as a witness.

9.5 It is to be noted that the opponent was free to bring Ms Menegato to the oral proceedings. Should it have turned out that the offered witness statement had any relevance (which it did not), the board could have heard Ms Menegato. Furthermore, even after the oral proceedings had started in the absence of Ms Menegato, the opponent was free to request an adjournment of the oral proceedings such that Ms Menegato could have been heard as a witness later. Such a request could have been allowed by the board if the offered witness testimony had had any relevance (which it did not). Hence that no summons to hear Ms Menegato as a witness was issued during the written proceedings and the fact that oral proceedings were carried out in her absence did not violate the opponent's right to be heard.

Order

For these reasons it is decided that:

The opponent's appeal is dismissed.

The Registrar: The Chairman:

M. Cañueto Carbajo W. Sieber

Decision electronically authenticated