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**Datasheet for the decision  
of 5 August 2011**

**Case Number:** T 0301/09 - 3.4.02

**Application Number:** 97908088.4

**Publication Number:** 900403

**IPC:** G02C7/02, A61F9/02, G02C7/10

**Language of the proceedings:** EN

**Title of invention:**  
IMPROVED SINGLE VISION LENSES

**Applicant:**  
Carl Zeiss Vision Australia Holdings Ltd.

**Opponent:**  
Rodenstock GmbH

**Headword:**

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

**Keyword:**  
Inventive step  
Late filing of amended claims

**Decisions cited:**

**Catchword:**



Case Number: T0301/09 - 3.4.02

**D E C I S I O N**  
**of the Technical Board of Appeal 3.4.02**  
**of 5 August 2011**

**Appellant:** Carl Zeiss Vision Australia Holdings Ltd.  
(Applicant) Sherriffs Road  
Lonsdale, SA 5160 (AUSTRALIE)

**Representative:** TBK  
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80336 München (ALLEMAGNE)

**Respondent:** Rodenstock GmbH  
(Opponent) Isartalstr. 43  
80469 München (ALLEMAGNE)

**Representative:** Rocke, Carsten  
Müller-Boré & Partner  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted 20 November 2008  
revoking European patent No. 900403 pursuant to  
Article 101(3) (b) EPC.**

**Composition of the Board:**

**Chairman:** A. Klein  
**Members:** M. Rayner  
L. Bühler

## Summary of Facts and Submissions

- I. The patent proprietor has appealed against the decision of the opposition division revoking European Patent No. 900 403 (application number 97908088.4). The patent in dispute concerns a high curvature spectacle lens and spectacles.

In the opposition and appeal proceedings, reference has been made to, amongst others, the following documents:-

- D1 DE-A-32 25 270
- D2 "Oblique Central Refraction in Spherocylindrical Corrections with Both Faceform and Pantoscopic Tilt", Michael P. Keating, Optometry and Vision Science Vol. 72, No. 4, pp. 258 - 265 (1995)
- D3 DE-A-3 016 936
- D8 GB-A-2 281 635
- D9 US-A-1 697 030.

- II. In the decision under appeal, the opposition division reasoned as follows.

The concept underlying the opposed patent is generally known from document D2 concerning corrections of spherical and cylindrical power to be applied to spectacle lenses when used in a tilted configuration with respect to the axes of the eyes, for example in sports goggles (see page 258, right hand column beginning of first full paragraph). The corrections required for various form face tilt angles (about a vertical axis) and pantoscopic tilt angles (about a horizontal axis) for a correction lens are presented. The lens according to the particular example (see page 263, right hand column, 2nd full paragraph), has a

front curvature of +12.00 dpt, the required power is +6.00/ -1.00/ 47°, the lens is tilted 15° temporally (face form tilt), thus being a high curvature lens exhibiting a temporal shield.

A novel feature in claim 1 of the patent in dispute pertains to an aspheric component having non-circular main sections and solves the problem of enhancing vision through the off-axis areas of the lens by providing correction of aberrations occurring in these areas. How to deal with off-axis aberrations is well known in optics and, in particular, it is known in the field of ophthalmic lenses to optimise vision in the peripheral zones of a spectacle lens. Document D3, for example, discloses a spectacle lens designed so as to provide the required correction independent of the direction of sight, i.e. substantially over the entire surface of the lens, particularly in the peripheral areas. This is achieved by using an atoric surface, i.e. a surface having non-circular main sections (see page 12, 3rd paragraph and paragraph bridging pages 12 and 13, as well as Figure 7). Document D3 is only one example of numerous documents concerning aspheric or atoric spectacle lenses designed to improve peripheral vision. A skilled person desiring to improve the lenses of document D2 with respect to peripheral vision would obviously apply the teaching of document D3 (or another document disclosing aspheric or atoric lenses), doing this cannot therefore be regarded as inventive subject matter.

Moreover, the problem of prismatic error, of whatever cause, and its solution is independent of the problem of off-axis error, and so has to be considered independently when assessing obviousness. The provision of prismatic correction in a lens according to an

ophthalmologists prescription is a well known means for correcting phoria or strabismus and will obviously be applied to the lens of document D2 in a conventional manner during surfacing if required. Generally, the occurrence of prismatic errors in tilted highly curved lenses is known e.g. from D9, albeit in lenses without power only. However, a skilled person is well aware that this problem occurs in powered lenses as well. Therefore, when using the lenses of D2 and detecting the occurrence of prismatic errors the skilled person would obviously also correct these errors similarly to the correction of the other errors occurring in tilted lenses.

- III. The appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of a main or one of four auxiliary requests. Oral proceedings were requested on an auxiliary basis.
  
- IV. The respondent (=opponent) requested that the appeal be dismissed, that the first, third and fourth auxiliary requests not be admitted, and, on an auxiliary basis, oral proceedings.
  
- V. During the appeal proceedings, responsive to an official communication, including a letter of the opponent, the appellant indicated in its letter dated 9th August 2010 that it intended to file a further submission in reply and, in particular, it announced that its requests would be adapted. It requested an opportunity to file a further submission before a summons to attend oral proceedings was issued. In a communication dated 16th August 2010, the registrar informed the appellant that the board expected to consider the case in eight months.

VI. With a summons dated 25th May 2011, the board appointed oral proceedings for 5th August 2011 consequent to the auxiliary requests of the parties. In a communication attached to the summons, the board made observations including the following.

If there were just one defect in any one claim in a set of claims in a request, this could lead to that request failing entirely. In view of the large number of claims presented, the board might not be very sympathetic to further amendments or filings, especially if deriving from matters not already raised in the appeal proceedings.

During the oral proceedings, the chairman observed that while having had two opportunities during the appeal procedure, the appellant had not disputed the novelty analysis of document D2 made by the respondent. The chairman further remarked that there was no reference to "non-circular main sections" in the method claim presented as fourth auxiliary request, this being confirmed by the appellant.

VII. Case of the Appellant

Decision of the opposition division

It is incorrect to interpret a peripheral zone for providing a shield in the area of the temples as a zone of the prescription zone of the lens.

Main request

The amended independent claims are based on the claims forming the first auxiliary request before the opposition division. They further include a feature

that the peripheral temporal zone is a non-prescription zone. The specific concept of the invention is based on the fact that knowing the properties of the eye is not enough to correct them when the lens is wrapped. It is also required to use the information about the wrap in order to compute the correction required by the eye.

Document D1 discloses a specialist high positive power spectacle lens requiring strongly positive vertex power. The disclosure of document D1 is entirely silent on lenses of negative power, as, while the lens element is of high curvature, it is not, of positive or negative power of necessity a high positive power lens. The lens element the subject of the claims of the patent in dispute may be of relatively low refractive power. Further, document D1 does not provide or suggest a shield in the area of the temples and the lenses described in document D1 are not adapted to be mounted in a frame of the wrap around type. According to claim 1 of the main request, the peripheral temporal zone is a non-prescription zone optionally exhibiting refractive power. Since the peripheral temporal zone is not present in the lens according to document D1, these features are not disclosed. Consequently, the subject-matter of the independent claims according to the main request is novel over D1. Document D2 discloses a presentation of lens equations which are accurate to third order for effective spherocylindrical parameters for oblique central refractions through spherocylindrical lenses with both faceform and pantoscopic tilt. At least the same features missing in document D1 are not disclosed in document D2. The technical problem to be solved based on the content of reference D2 is to provide a lens element that shields the temples and corrects aberrations resulting from the particular construction. Document D3 is not relevant

since only ordinary lens elements are disclosed which are used in an ordinary lens frame and the lens is not rotated. It follows that the subject-matter in the formulation of the independent claims is based on an inventive step over documents D1, D2 and D3.

Documents D8 and D9 have been introduced into the procedure. However, document D8 is not relevant for the assessment of the subject-matter of the independent claims as it relates to sunglasses having no power and is not a prescription lens. There is no prescription zone. Since there is no prescription zone, the correction of any errors due to a tilt in view of a required prescription is not shown. Figure 4 only suggests a kind of temple zone, which is not distinguished from a prescription zone since this is not present. Document D9 discloses lens elements which are explained and illustrated in the figures as plano lenses with no power. Consequently, there is no reason to study this reference to find a solution based on the previous prior art according to document D1 or D2 to find a solution to the technical problem. Document D9 discloses the problem of correction of the power of lens elements in the first step, in the right hand column, on page 1, yet curved lenses will have a power which is not desired in the context of document D9 which requires no power to correct prism.

The above analysis relating to limiting features and inventive step applies to all auxiliary requests.

During the oral proceedings, the appellant's representative explained that the reason for filing amended requests only at the oral proceedings was poor communication with a correspondent attorney.



The appellant explained that lenses corrected for rotation were not available off the shelf because complications with astigmatism and prism render this uneconomical. The customer receives a lens with a prescription which is different to that ordered. The term "at least partially" means the amount leading to the optimum result. Recitation of "entirely" is inappropriate because of the effect on the prescription, the adjustment must be driven in the correct direction. Moreover, the lens of document D2 would cut into the face of the wearer if tilted at 15° and wrapped around. Use of the term non prescription is to indicate where the prescription ends. Temporal zones are at the side in an area one cannot look through. Document D8 has only a non-prescription zone.

With respect to the second auxiliary request, high negative power means there is a limit to rotation angle to avoid the lens sticking into a wearer's face, this however being mitigated by the plano surface, i.e. tilting angle is not so limited. Combining a powered lens with a plano lens is not a trivial problem. Plano spectacles can be bought over the counter without an eye care professional because plano lenses do not have to be corrected. The lenses of document D1 are of constant thickness at the periphery but have no wrap around temporal zone.

The first and third auxiliary requests involved claims amended to meet admissibility objections raised by the respondent. The fourth auxiliary request is directed to a single claim, which claim had been present ab initio in the requests under appeal.

Before the debate was closed, the appellant raised an objection pursuant to Rule 106 EPC in respect of the

conduct of the proceedings. It contended that its right to be heard had been denied and a fundamental violation of Article 113 EPC thus had occurred. The appellant argued that it had been deprived of an opportunity to have the substance of its method claim considered by the Board as requested, since the Board had not held a discussion on this claim as part of the main and first to third auxiliary request and had refused to admit into the proceedings the fourth auxiliary request limited to said method claim.

VIII. Case of the Respondent

The subject matter of claim 1 differs from the disclosure of document D2 by virtue of the front or back surface having a correction to at least partially adjust for prismatic errors introduced by rotation by applying prism during surfacing of the lens element. Moreover the last feature of the claim pertaining to the aspheric component having non-circular main sections can be considered novel.

Rotation alone is not a technically determinate lens feature as it depends on the situation before and after rotation so that the theoretical and actual values are not known. Use of the word partially is also renders adjustment obscure. The adjustment cannot be determined from a lens "on the table".

It is completely unclear what technically the constructional features of the non-prescription peripheral temporal zone really are. Any aspherical surface, e.g. as disclosed in document D1, D2 or D3, has a temporal zone differently constituted to the central prescription zone. Even supposing any difference existed, any feature involved would simply

be directed to the cosmetic appearance of the spectacle lens.

An example of off axis correction, especially an atoric surface is shown in document D3. The peripheral zone can be produced from a cosmetic viewpoint (see page 8 of this document). Document D9 concerns prismatic errors in wrap around lenses and proposes prismatic correction taking account of the position in use. While document D9 concerns lenses with no power, the skilled person knows it is all the more important to correct the error in the case of a powered lens. It is treated as known in document D8 that a temporal zone can be of lower optical quality. This document also discloses a wrap and a temporal zone is of substantially constant thickness. There is no synergic effect rendering inventive subject matter pertaining to making a plano extension. It is known from document D8 and is the normal case. An extension is not corrected for errors but should be stable, reasonably priced and cosmetically acceptable. That there is no correction cannot be an invention. It is also not difficult to combine a plano lens extension with a prescription lens, and, even if it were a problem, the solution is not claimed. So far as having correction in the temporal zone is concerned, it might be surprising to do this and cut into the wearer's face, no correction cannot be surprising.

The respondent declared that it was surprised by the fresh requests made only during the oral proceedings as they had not been occasioned thereby. They were too late right at the end of a procedure which had lasted over two years. So far as the fourth auxiliary request is concerned, the appellant had never indicated that single claims were to be subject of a request, but had

always filed sets. Moreover, the subject matter concerns an aspheric lens, which also includes a toric lens. The request should not therefore be admitted.

- IX. The requests of the appellant include an independent claim worded as follows, several other independent claims being present in the main and first to third auxiliary requests.

Main Request

"1. A high curvature spectacle lens element of negative or positive refractive power, including a front and back surface, at least one surface being continuous and forming a prescription (Ex) zone, providing a prescription (Rx) correction and a peripheral temporal zone for providing a shield in the area of the temples; the peripheral temporal zone being a non-prescription zone optionally exhibiting refractive power, wherein, when mounted, the lens element is rotated toward the temples about a vertical axis through the optical centre thereof; the front and/or back surface being designed to at least partially adjust for errors induced by said rotation, including astigmatic and mean power errors in the prescription zone and having a correction to at least partially adjust for prismatic errors induced by said rotation by applying prism during surfacing of the lens element; wherein the front and/or back surface includes an aspheric component having non-circular main sections selected to at least partially adjust for off-axis astigmatic and mean power errors."

First Auxiliary Request

Claim 1 has the same wording as claim 1 of the main request.

#### Second Auxiliary Request

"1. A high curvature spectacle lens element of negative or positive refractive power, including a front and back surface, at least one surface being continuous and forming a prescription (Rx) zone, providing a prescription (Rx) correction and a peripheral temporal zone for providing a shield in the area of the temples;  
the peripheral temporal zone being a non-prescription zone formed as plano temporal extension,  
wherein, when mounted, the lens element is rotated toward the temples about a vertical axis through the optical centre thereof;  
the front and/or back surface being designed to at least partially adjust for errors induced by said rotation, including astigmatic and mean power errors in the prescription zone and having a correction to at least partially adjust for prismatic errors induced by said rotation by applying prism during surfacing of the lens element;  
wherein the front and/or back surface includes an aspheric component having non-circular main sections selected to at least partially adjust for off-axis astigmatic and mean power errors."

#### Third Auxiliary Request

Claim 1 has the same wording as claim 1 of the second auxiliary request.

Fourth Auxiliary Request

"1. A method of manufacturing a high curvature spectacle lens element of negative or positive refractive power, said method including providing mathematical or numerical representation of a front or back surface of a spectacle lens element including a section designed to provide the desired prescription (Rx) in a prescription zone; and adding thereto a mathematical or numerical representation of a peripheral temporal zone being a non-prescription zone formed as plano temporal extension to define a complete lens surface;  
rotating about the vertical axis the representation of the lens surface to permit mounting in a suitable frame; and  
modifying the representation of the lens surface to at least partially correct for errors induced by said rotation including astigmatic and mean power errors in the prescription zone and prismatic errors, and such that the front and/or back surface includes an aspheric component selected to at least partially adjust for off-axis astigmatic or mean power errors."

- X. At the end of the oral proceedings, the board gave its decision.

**Reasons for the Decision**

1. The appeal is admissible.
2. Main Request
  - 2.1 The closest prior art document can be considered to be document D2, because, in agreement with the view of the opposition division, it concerns corrections of

spherical and cylindrical power to be applied to spectacle lenses when used in a tilted configuration with respect to the axes of the eyes, for example in sports frames to make sports goggles. Moreover, sports goggles also fit with submission of the appellant that the concept of the invention is that when a lens is wrapped (i.e. faceform rotated), it is necessary also to use the wrap information to calculate eye correction.

2.2 In the written proceedings, the position of the appellant was rather diffuse as it did not specifically analyse document D2, instead referring to document D1 and submitting that the features novel in respect of that document were also novel in the case of document D2, yet not directly disputing the novelty analysis of the opposition division, which, in other words, was not directly challenged. Nor did the appellant take advantage of the time available to it responsive to its request for responding to the respondent. The main thrust of the written proceedings was, in fact, towards patentability of the so called non-prescription temporal zone introduced in the appeal proceedings.

2.3 Novelty of the subject matter of claim 1 is given by (a) the last feature of the claim and (b) the correction of prism introduced by rotation. On the question of (c), the non-prescription temporal zone, while document D2 does not show exact details of the sports frames to which it refers in the first complete paragraph of the right hand column on page 258 and to which the correction of the lenses thereof are to be applied, it does disclose that they have a faceform tilt (=rotation towards temples) of the order of 15°. Since mounting small lenses in a tilted manner makes no sense, a lens rotated to fit sports frames, as stated

by the opposition division, exhibit a temporal shield in the sense of claim 1. The board observes that it is not very clear what exactly the difference between a prescription zone and a non prescription peripheral zone really is because according to claim 1 the non-prescription zone optionally exhibits refractive power. The spherical and cylindrical power to be applied to spectacle lenses according to document D2 are, in a sense, different at the periphery to the centre, so it is difficult to differentiate how this is excluded by the claimed wording. Nevertheless, in the interests of fairness, the board will take a favourable position for the appellant and construe feature (c) as involving a further undefined difference, i.e. it will also acknowledge novelty of feature (c).

2.4 The general problem addressed by the combination of novel features of the claim is providing a different rotated lens. As the opposition division pointed out, there are a number of aspects to this, namely (a) enhancing vision in off-axis areas and (b) correction of prismatic error. Moreover, (c) the feature relating to the non prescription area offers a cosmetic or other difference and may avoid the lens cutting into the wearer's face.

2.5 The argument that the customer receives a lens which is different to the prescription for a non-rotated lens is, per se, not indicative of an inventive step as the corrected lens used in the sports frames taught by document D2 are also different to the non rotated lenses of the original prescription. The board concurs with the opposition division that off-axis correction is generally known in the field of ophthalmic lenses as, for example, evidenced by document D3. The appellant does not deny this as such but dismisses the



relevance of document D3 on the basis that it does not concern a rotated lens. The board is not persuaded by this approach because the skilled person is improving peripheral vision starting from the lens for sports goggles as known from document D2 simply by applying a well known technique, which is obvious.

2.6 The argument about the meaning of "at least partially" in the claim in relation to the errors illustrates the difficulty involved in differentiating between prismatic error deriving from rotation in relation to other errors. Indeed it is apparent from the arguments advanced that a compromise has to be made to provide optimal performance for all the errors which may individually pull in differing directions. Correction for prism is, again concurring with the opposition division, well known and obvious for the skilled person. An illustration of this is provided in this case for rotated lenses by document D9. The appellant does not deny this but dismisses the relevance of document D9 on the basis that it teaches curved lenses have an undesired optical power and concerns plano lenses. The board is not persuaded by this argument because it agrees with the opposition division and respondent that the skilled person knows that the correction has to be applied to lenses with power and would obviously have done so in the process of optimising the lenses taught by document D2, off axis corrected or not.

2.7 The lenses known from document D8 are of optical quality throughout the lens including the wrap area and lens blanks may be cut to provide a variety of cosmetic shapes. Aspheric and/or toric surfaces of the lenses can be used (see paragraph bridging pages 7 and 8). The eyeglasses and sunglasses are of substantially uniform

thickness and sufficient to meet safety standards. When considering a peripheral zone for temporal shielding, the skilled person knows, as illustrated for example in document D8, that stability, price and cosmetic appearance are important. Moreover, as the appellant explained during the oral proceedings, the skilled person, and, in the board's view, the man in the street too, also knows that a prescription in the temporal zones is not necessary owing to limitations of eye movement precluding vision therethrough. In fact, a prescription, especially if it would cause the lens to cut into the wearer's face is obviously at least unnecessary and if it causes cutting surely to be avoided.

2.8 While it may seem that reference to a number of documents in the course of assessing inventive step speaks therefor, this is not so in the present case because each of these documents illustrate separate known problems and their solution. Thus, the board not only concurs with the opposition division that off axis and prism correction are separate and well known procedures for the skilled person, but also hold the same view in relation to the temporal zones. Therefore, it is appropriate to consider separate documents as examples of these problems. Therefore, in dealing with aspects (a), (b) and (c) in an obvious way as taught, by way of example, by documents D3, D9 and D8 the skilled person solves the general problem of providing a different rotated lens to that known from document D2 without any inventive step.

2.9 In view of the foregoing, the main request fails.

3. First Auxiliary Request

3.1 Since claim 1 of this request is the same as that of the main request, the same considerations with respect to its subject matter apply as for the main request. The request therefore fails for the same reasons, consideration of admissibility thereof not being necessary in this circumstance.

4. Second Auxiliary Request

4.1 This request differs from the main request by virtue of the reference to the non-prescription zone being formed as a plano temporal extension. Difference (c) referred to in the main request is therefore more specific. While the appellant has argued that providing plano extensions to powered lenses is a significant technical problem, which the respondent denied, there is no particular feature in the claim which can be identified as solving any such problem. Moreover, the appellant referred to powered lenses disclosed in document D1, which do have a plano periphery for fitting, and by doing so tends rather to support the view of the respondent. The board thus found the position of the respondent more persuasive. The board's view about the templates has already been expressed in point 2.7 above, especially the last two sentences thereof, to which reference is directed. A constant thickness temporal zone, as known in the prior art, is obviously better for meeting the known desiderata and cannot therefore be considered subject matter involving an inventive step.

4.2 Therefore, the second auxiliary request fails.

5. Third Auxiliary Request

5.1 Since claim 1 of this request is the same as that of the second auxiliary request, the same considerations with respect to its subject matter apply as for the main request. The request therefore fails for the same reasons, consideration of admissibility thereof not being necessary in this circumstance.

6. Fourth Auxiliary Request

6.1 According the Rules of Procedure of the Boards of Appeal, any amendment to the party's case after it has filed its grounds of appeal may be admitted and considered at the board's discretion (Article 13(1) RBPA, first sentence). Auxiliary request was presented for the first time at the beginning of the oral proceedings and concerns a single method claim. The request was filed not only after the time available for answering the respondent but also not responsive to the summons and before the oral proceedings. Moreover, subject matter which had not been subject to detailed discussion in the appeal proceedings is involved, namely that included in a claim without reference to non-circular main sections, this aspect would thus have been needed to be discussed for the first time at the oral proceedings. It was not unexpected that questions might arise about admissibility because the board had warned the parties in the communication attached to the summons to oral proceedings that it might not be very sympathetic to further amendments or filings, especially if deriving from matters not already raised in the appeal proceedings.

6.2 The board accepts that the appellant wanted to discuss the method claim, it making a corresponding request at the beginning of the oral proceedings, yet giving no reason going beyond communication difficulties. That

wish to discuss and the reason given does not excuse the very late filing of the request because any communicating could and should have taken place well before the oral proceedings. Nor does the presence of a corresponding claim in higher order requests cure the late filing as those requests included a claim that is not directed to patentable subject matter and therefore led the requests to fail entirely at which point, in the board's discretion, their viability for persuading the board as to favourable consideration of the fourth auxiliary request was exhausted. Nor was the respondent either prepared to agree to or at least not object to the admission of the late request. That such a situation could arise had, moreover, to be expected by the appellant because the board had pointed out in the summons to oral proceedings that if there were just one defect in any one claim in a set of claims in a request, this could lead to that request failing entirely.

6.3 No other reason has been advanced that could satisfy the board that the appellant has conducted its proceedings with the required diligence. Accordingly, the board, having regard to the facts and arguments presented to it, decided to make use of its discretionary powers according to Article 13(1) RPBA not to admit the fourth auxiliary requests into the proceedings.

6.4 Although not necessary to the present decision, it can also be observed that the omission of a feature concerning non-circular main sections would hardly be likely to be instrumental in persuading the board as to patentability.

## **Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:

M. Kiehl

A. Klein

Decision electronically authenticated