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**Datasheet for the decision  
of 4 March 2026**

**Case Number:** T 0079/24 - 3.3.03

**Application Number:** 14847241.8

**Publication Number:** 3056545

**IPC:** C08L101/00, C08K5/3475,  
G02B1/04, G02B5/22

**Language of the proceedings:** EN

**Title of invention:**  
TRANSPARENT PLASTIC SUBSTRATE AND PLASTIC LENS

**Patent Proprietor:**  
Hoya Lens Thailand Ltd.

**Opponent:**  
Zimmer, Michael

**Relevant legal provisions:**  
EPC Art. 56  
RPBA 2020 Art. 12(3), 12(5)

**Keyword:**  
Inventive step - Main request and auxiliary requests 1-23, 1A, 4A, 7A, 10A, 13A, 16A, 19A, 22A, 36-39 and 44-47 (no)  
Discretion not to admit submission - requirements of Art. 12(3) RPBA 2020 met - Auxiliary requests 24-35, 24A-35A, 40-43 and 48-51(no)



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Case Number: T 0079/24 - 3.3.03

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.03**  
**of 4 March 2026**

**Appellant:** Zimmer, Michael  
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**Decision under appeal:** **Decision of the Opposition Division of the European Patent Office posted on 1 December 2023 rejecting the opposition filed against European patent No. 3056545 pursuant to Article 101(2) EPC.**

**Composition of the Board:**

**Chairman**            D. Semino  
**Members:**            D. Marquis  
                              W. Ungler

### Summary of Facts and Submissions

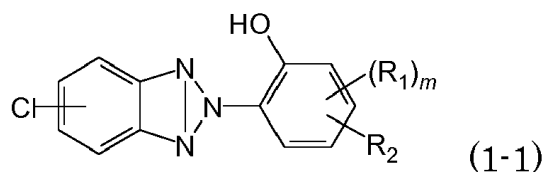
I. The present appeal lies against the decision of the opposition division rejecting the opposition against European patent No. 3 056 545.

II. Claim 1 as granted read as follows:

"1. A transparent plastic comprising

(i) a resin component constituting the transparent plastic substrate, which resin component is an episulfide resin; and

(ii) 0.10-2.00 parts by mass, per 100 parts by mass of the resin component constituting the transparent plastic substrate, of a benzotriazole compound of the formula (1-1):



wherein  $R_1$  is  $C_{1-3}$ -alkyl or  $C_{1-3}$ -alkoxy,  $m$  is 0 or 1, and  $R_2$  is  $C_{1-12}$ -alkyl or  $C_{1-12}$ -alkoxy".

III. The following documents were *inter alia* submitted during the opposition proceedings:

D1: JP 2007 090574 A and machine translation thereof  
D1a

D2: EP 2 058 346 A 1

D3: JP 2001 164110 A and machine translation thereof  
D3a

D4: Technical Data Tinuvin® 326

D7: JP 2012 173704 A and human translation thereof  
D1b

D16: Technical Data Tinuvin® 329

IV. The decision under appeal, as far as it is relevant to the present appeal, can be summarized as follows:

- The subject-matter of claim 1 of the main request was sufficiently disclosed, novel over D1, D2 and D3 and involved an inventive step starting from D7 or D3 as the closest prior art.

V. The opponent (appellant) lodged an appeal against the decision of the opposition division.

VI. The patent proprietor (respondent) filed auxiliary requests 1, 1A, 2, 3, 4, 4A, 5, 6, 7A, 8, 9, 10, 10A, 11 to 13, 13A, 14 to 16, 16A, 17 to 19, 19A, 20 to 22, 22A, 23, 24, 24A, 25, 25A, 26, 26A, 27, 27A, 28, 28A, 29, 29A, 30, 30A, 31, 31A, 32, 32A, 33, 33A, 34, 34A, 35, 35A with the reply to the statement of grounds of appeal and auxiliary requests 36-51 with letter of 4 February 2026.

VII. Oral proceedings before the Board were held on 4 March 2026.

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

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

- The respondent requested that the appeal be dismissed (main request) or, in the alternative, that the patent be maintained on the basis of one of auxiliary requests 1, 1A, 2, 3, 4, 4A, 5, 6, 7A, 8, 9, 10, 10A, 11 to 13, 13A, 14 to 16, 16A, 17 to 19, 19A, 20 to 22, 22A, 23, 24, 24A, 25, 25A, 26, 26A, 27, 27A, 28, 28A, 29, 29A, 30, 30A, 31, 31A, 32, 32A, 33, 33A, 34, 34A, 35, 35A filed with the reply to the statement of grounds of appeal or auxiliary requests 36 to 51 filed with letter of 4 February 2026.

IX. The parties' submissions, in so far as they are pertinent, may be derived from the reasons for the decision below. The disputed points concerned inventive step of granted claim 1 over example 3 of D3 seen as the closest prior art and the admittance of auxiliary requests 24 to 35. For all other auxiliary requests no additional arguments were submitted by the respondent concerning inventive step and admittance.

### **Reasons for the Decision**

Main request (granted claims)

1. Inventive step over D3
  - 1.1 The opposition division came to the conclusion that D7 represented the most suitable starting point for the assessment of an inventive step (decision under appeal, section 14.3.1) but it also dealt with the question of inventive step starting from example 3 of D3 in the decision under appeal (ibid, section 14.3.3). The selection of example 3 of D3 as the closest prior art was not contested in appeal and both parties dealt with inventive step in view of D3 in their submissions

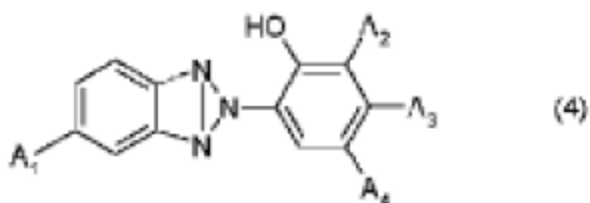
(statement of grounds of appeal, section V.2; rejoinder, section 5.2). The Board has no reason to be of a different view. All references to D3 in what follows refer to its translation D3a.

- 1.2 The opposition division saw the difference with respect to example 3 of D3 in the use of an UV absorber of the specific formula (1-1) as defined in granted claim 1 (reasons, point 14.3.3). Example 3 of D3 in particular discloses the use of 2-(5-tert-octyl-2-hydroxy)phenyl) benzotriazole (referred to as compound (F)) as UV absorber (paragraph 50) which is not according to the formula (1-1) as defined in granted claim 1. Both parties acknowledged that difference with respect to example 3 of D3 and the Board does not see any reason to deviate from that assessment.
- 1.3 An object of the patent in suit is to provide a transparent plastic substrate having a high cut rate of blue light (paragraph 12). This is said to be helpful for the health of eyes that can be damaged by a light ray in the blue region (380-500 nm) referred to as "blue light hazard" (paragraph 2).
- 1.4 Following this object, the appellant (statement of grounds of appeal, section V.2.4) and the respondent (rejoinder, section 5.2.4) formulated the problem in essentially the same terms, namely as the provision of a transparent plastic which cuts off blue light more effectively and thus contributes to the prevention of blue light hazard. The Board has no reason to deviate from this formulation (see also the analysis of the available evidence in D4 and D16 below).
- 1.5 The question of inventive step starting from example 3 of D3 is therefore whether the skilled person would

have considered using a benzotriazole of formula (1-1) according to granted claim 1 in order to solve the posed problem.

1.6 Paragraph 8 of D3 discloses episulfide compositions with UV absorption properties for the purpose of protecting the eyes. It is also apparent from that passage of D3 that the UV absorber is the component to select in order to obtain compositions with the beneficial absorption. Paragraph 12 of D3 discloses the use of benzotriazole UV absorbers in an amount of 0.1-2.0 wt.-% in episulfide resins. It is apparent that D3 teaches the use of the same general family of UV absorbers (benzotriazoles) in the same amounts (0.1-2.0 wt.-%) as granted claim 1 in episulfide resins.

1.7 Paragraph 20 of D3 teaches that any known benzotriazole-based ultraviolet absorber can be used but preferably one selected from the compound group represented by the following formula (4):



Paragraph 23 of D3 further discloses a list of commercially available benzotriazole substances among which one finds (i) 2-(5-tert-octyl-2-hydroxyphenyl) benzotriazole known under the trade name Tinuvin® 329 (compound (F) defined in paragraph 46 and used in example 3 of D3) and (ii) 2-(3-tert-butyl-5-methyl-2-hydroxyphenyl)-5-chlorobenzotriazole known under the trade name Tinuvin® 326.

1.8 The commercially available UV absorbers Tinuvin® 329 used in example 3 of D3 and Tinuvin® 326 listed in paragraph 23 are known to absorb in the wavelength range of 300-400 nm (statement of grounds of appeal, section V.2.5). D16 and D4 more specifically show the UV absorption spectra of the two UV absorbers in chloroform. These spectra show that Tinuvin® 326 (D4) absorbs in a range of higher wavelengths than Tinuvin® 329 (D16) making it a more effective absorber in the part of the wavelength range relevant to the patent in suit (380-500 nm) (patent in suit, paragraph 2). That effect can be seen by considering the shifts in absorption maxima of the two absorbers (Tinuvin® 326: maxima at 312 nm and 353 nm by comparison with Tinuvin® 329: maxima at 301 nm and 343 nm) as disclosed in D4 and D16 but also in the spectra themselves which show an absorption at higher wavelength (i.e. even above 400 nm) for Tinuvin® 326 which is not present for Tinuvin® 329. In view of this a skilled person would have known from the knowledge derivable from the datasheets of the commercially available absorbers that Tinuvin® 326 was a better UV absorber in the wavelength range of 380-500 nm relevant for the posed problem than Tinuvin® 329 used in example 3 of D3. The skilled person would therefore have replaced Tinuvin® 329 with Tinuvin® 326 without any inventive skill when aiming at solving the posed problem.

1.9 The respondent contested that conclusion and submitted at the oral proceedings that the spectra shown in D4 and D16 had been recorded in chloroform and that one could not conclude that any difference in the absorption of Tinuvin® 326 and Tinuvin® 329 would have been also the same once incorporated in an episulfide resin. While it cannot be excluded that the absorption

behaviour of organic compounds might differ when taken in solution or in a resin, the respondent did not provide any element in support of their argument to the extent that it would have had a significant impact on the conclusion reached by the Board in the present case. The conclusion drawn up from D4 and D16 was laid out by the appellant in their statement of grounds of appeal (pages 26 and 27) so that there was ample time for the respondent to consider that argument and, if appropriate, submit evidence to refute it. The respondent however chose to make their point first at the oral proceedings before the Board without providing verifiable facts in support of their submission. Since the argument of the respondent first laid out at the oral proceedings before the Board was contested by the appellant, it was not up to verification without compromising the procedural economy of the appeal case. In the absence of evidence, the Board does not find in these circumstances any reason to change the conclusion based on D4 and D16 reached above.

- 1.10 The respondent also submitted that in the present case one had to consider a synergistic effect resulting from the use of an episulfide resin and an UV absorber of formula (1-1) as defined in granted claim 1 and that the strength of the effect on the cut rate of light at 410 nm and the cut rate of blue light was such that it could not have been expected starting from D3 and even considering D4 and D16. The respondent relied on the comparison of the compositions and effect between example 8 of the patent in suit as the example representing claim 1 as granted and examples 1-3 of D7 representing the composition of example 3 of D3 as the closest prior art. All references to D7 in what follows refer to its translation D7b.

- 1.11 According to the established case law, such an unexpected effect demonstrated in a comparative test can be taken into account but where comparative tests are submitted as evidence of an unexpected effect, there has to be the closest possible structural approximation in a comparable type of use to the subject-matter claimed. It is in particular paramount that if comparative tests are chosen to demonstrate an inventive step on the basis of an improved effect over a claimed area, the nature of the comparison with the closest state of the art must be such that the alleged advantage or effect is convincingly shown to have its origin in the distinguishing feature of the invention compared with the closest prior art (Case Law of the Boards of Appeal, 11th Edition 2025, I.D.4.3.2).
- 1.12 In the present case it is apparent that the respondent relied on a direct comparison of compositions (example 8 of the patent in suit and examples 1-3 in D7) that were prepared and analysed under different conditions.
- 1.13 The composition of example 8 of the patent in suit contains an episulfide resin containing 93.00 parts of monomer M-8 (bis( $\beta$ -epithiopropyl)sulfide), 1.00 part of monomer M-9 (2-hydroxyethyl methacrylate) and 6.00 parts of monomer M-10 (n-butyl thioglycolate) with 0.40 parts by weight of absorber U-1 being 2-(3-tert-butyl-2-hydroxy-5-methyl phenyl)-5-chloro-2-H-benzotriazole (corresponding to the commercially available compound Tinuvin® 326). The preparation is disclosed in paragraph 65 of the patent in suit and the properties shown in Table 1 were measured on a lens with a thickness of 1.6 mm.
- 1.14 The compositions of examples 1-3 are disclosed in paragraphs 103-112 of D7. The preparation describes the

polymerization of bis(2,3-epithio propyl)disulfide and 4,7-bis(mercaptomethyl)-3,6,9-trithia-1,11-undecanoic dithiole as comonomers to obtain an episulfide resin after which 2.8 parts of 2-(2-H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenolic) (UV-01 in example 1), 2.5 parts of 2-(2-hydroxy-5-t-butylphenyl)-2-H-benzotriazole (UV-02 in example 2) or 2 parts of 2-(4-butoxy-2-hydroxyphenyl)-2-H-benzotriazole (UV-03 in example 3) (Table 1) as UV-absorbers are added. It is also apparent that the films produced therefrom additionally contain a polarizing film (paragraph 109), a dye system polyvinyl alcohol (PVAL) polarizing film "Gray-30" with a degree of polarization of 99.5% as F-01 in example 1, a dye system PVAL polarizing film "Brown-30" with a degree of polarization of 99.2% as F-02 in example 2 and an iodine PVAL polarizing film "Brown-41" with a degree of polarization 95.1% as F-03 in example 3 (paragraph 98 in conjunction with Table 1). The cut rate at 410 nm measured on samples is shown in Table 4 of D7.

- 1.15 It is immediately apparent that the samples from which the transmittance properties are compared in the patent in suit and in D7 are very different from one another. The compositions of the patent in suit and those of examples 1-3 of D7 are based on episulfide resins made from a different monomer mix, they contain UV-absorbers present in very different amounts and the samples of D7 contain a polarizing film whose expected impact on the transmittance of the sample was not considered by the respondent. In view of this the comparison relied upon by the respondent is not such that it can establish the presence of a synergy or even any unexpected strength of any effect that one could attribute to the combination of features shown in granted claim 1 over the compositions of the closest prior art (example 3 of

D3). The argument of the respondent relying on the compositions of D7 is therefore not found to be relevant.

1.16 The respondent also argued that the effect addressed in D3, namely the absorption of ultraviolet rays damaging the eyes (paragraph 8) was different from the increase in the cut rate of blue light in the patent in suit and as such the teaching derivable from D3 could not lead a skilled person to the solution of granted claim 1 (rejoinder, section V.2.5).

1.17 The object addressed in the patent in suit (paragraph 12) also identified as the problem over D3 is to cut off blue light more effectively and prevent blue light hazard (rejoinder, section V.5.4). The patent in suit defines the cut rate of blue light as being calculated from the transmittance of every 10 nm according to the expression:

$$\text{Blue light cut rate (\%)} = 100 - \frac{\sum_{380\text{nm}}^{500\text{nm}} (T)}{13}$$

The expression used in the patent in suit shows that the blue light cut rate is defined as 100 minus the mean of the transmittance at every 10 nm in the range of 380-500 nm. Reducing the transmittance of light of a substrate in the wavelength range between 380 nm and 500 nm would therefore by definition lead to an increase of the blue light cut rate and therefore to a reduction of the blue light hazard. Replacing Tinuvin® 329 in the episulfide resin composition of example 3 of D3 by Tinuvin® 326, which is known to have a superior absorption in a range around 400 nm than Tinuvin® 329 (see spectra in D4 and D16 discussed above) naturally leads to a decrease of the transmittance around 400nm and therefore overall to an increase of the cut rate of blue light which means a

reduction of the blue light hazard. In view of this the teaching of D3 relating to the absorption of light at or around 400 nm (D3, page 8, paragraph 24) is directly relevant to the problem defined in the patent in suit and the submissions of the respondent cannot change the conclusion reached above.

- 1.18 On that basis the Board does not find any of the counterarguments of the respondent convincing and following the reasoning in paragraphs 1.1 to 1.8 above comes to the conclusion that granted claim 1 does not involve an inventive step in view of example 3 of D3 as the closest prior art.

Auxiliary requests 1, 1A, 2, 3, 4, 4A, 5, 6, 7A, 8, 9, 10, 10A, 11 to 13, 13A, 14 to 16, 16A, 17 to 19, 19A, 20 to 22, 22A, 23

2. Inventive step over D3

- 2.1 Asked by the Chairman the respondent stated that they had no further arguments in addition to those submitted for the main request as regards the issue of inventive step of auxiliary requests 1, 1A, 2, 3, 4, 4A, 5, 6, 7A, 8, 9, 10, 10A, 11 to 13, 13A, 14 to 16, 16A, 17 to 19, 19A, 20 to 22, 22A and 23. The statement of the respondent made at the oral proceedings is consistent with their written submissions in the rejoinder in which for some auxiliary requests an explicit reference to the main request was made (auxiliary requests 1 and 3-8), for some auxiliary requests inventive step is not addressed at all starting from D3 as the closest prior art (auxiliary requests 2 and 12-23) and for some auxiliary requests the amended feature is discussed but it is not associated with any further effect (auxiliary requests 9-11).

2.2 Since the Board came to the conclusion that granted claim 1 of the main request did not involve an inventive step over example 3 of D3 as the closest prior art, in the absence of any further line of defence from the respondent, the same conclusion therefore applies to claim 1 of auxiliary requests 1, 1A, 2, 3, 4, 4A, 5, 6, 7A, 8, 9, 10, 10A, 11 to 13, 13A, 14 to 16, 16A, 17 to 19, 19A, 20 to 22, 22A and 23.

Auxiliary requests 24-35 and 24A-35A

### 3. Admittance

3.1 With their letter dated 29 October 2024 and at the oral proceedings before the Board the appellant requested that auxiliary requests 24 to 25 be not admitted into the proceedings due to a lack of substantiation, as required by Article 12(3) of the Rules of Procedure of the Boards of Appeal (RPBA). The respondent argued that the appellant did not present any arguments in the statement of grounds of appeal regarding the auxiliary requests. Therefore, the respondent was not required to provide substantiated counterarguments. They also argued that, due to the large number of objections, it was not necessary to respond to each one.

3.2 The Board of Appeal cannot accept the respondent's arguments for the following reasons.

3.2.1 In the present case, it must be kept in mind that the opposition was rejected, i.e. the patent was maintained in its original form and the decision did not address the auxiliary requests filed during the opposition proceedings. Therefore, in such a situation an appellant-opponent only needs to explain in the

statement of grounds of appeal why the opposition division's decision should be overturned but there is no requirement to address auxiliary requests filed by the patent proprietor during the opposition proceedings. This is especially true because it is unclear at this stage which requests the patent proprietor might pursue in the appeal proceedings. Accordingly, Article 12(3) of the Rules of Procedure of the Boards of Appeal (RPBA) provides, *inter alia*, that the statement of grounds of appeal and the reply "shall set out clearly and concisely the reasons why it is requested that the **decision** (emphasis by the Board) under appeal be reversed, amended, or upheld."

3.2.2 Regarding the respondent's argument that they were not obliged to address all objections in a substantiated manner due to the large number of objections, the following should be noted. In the statement of grounds, objections regarding both novelty and inventive step were raised against claim 1 as granted, based on D3 (see sections IV.2 and V.1, respectively). In this context, and given that the respondent made reference to it during the oral proceedings before the Board, it must be taken into account that auxiliary request 24 was filed in response to the opposition division's preparatory communication of 20 April 2022, in order to address the preliminary opinion of lack of novelty in relation to D3 (see there section 7.1.2.3.; see also point 3.3) of the respondent's letter dated 22 December 2022).

3.2.3 Since the respondent had filed auxiliary request 24 to address the opposition division's preliminary view that the subject matter of claim 1 lacked novelty relative to D3, it was reasonable to expect a substantiated explanation of how this request could address the

appellant's objection of lack of inventive step based on D3. This was however not the case.

3.3 The respondent did not submit any further arguments as regards the admittance of auxiliary requests 25 to 35. Under section 13 of the rejoinder the respondent addressed auxiliary requests 24-35 and novelty over D1-D3 is discussed albeit superficially in view of the amendments made in claims 1 of these requests (section 13.5). There is however nowhere in the rejoinder a reasoning as to how the amendments made in claim 1 of auxiliary requests 24-35 address the arguments of inventive step over D3 laid out by the appellant in their statement of grounds of appeal. In view of this the requirement under Article 12(3) RPBA that the rejoinder shall contain the respondent's complete appeal case is not met. This is all the more relevant to the present case as the respondent declared at the oral proceedings before the Board that they had a different line of defence specific to the amendments made in auxiliary requests 24-35 that had never been laid out throughout the written phase of the appeal proceedings.

3.4 In the absence of any substantiation as to why auxiliary requests 24-35 would justify the presence of an inventive step over D3 as the closest prior art, the Board decided not to admit these requests into the proceedings pursuant to Article 12(3) and (5) RPBA.

3.5 Auxiliary requests 24A-35A correspond to auxiliary requests 24-35 in which the wording describing the episulfide resin "wherein the episulfide resin is formed from one or more monomers [...]" was changed to "wherein the episulfide resin is formed by using one or more monomers [...]". These requests are addressed in

section 14.4 of the rejoinder in a cursory manner "We submit that the subject-matter of these requests is novel and inventive for the same reasons as the corresponding requests without the suffix "A"". The question of inventive step over D3 as closest prior art is therefore not addressed in any more details than for the corresponding auxiliary requests 24-35. The same conclusion on admittance reached for auxiliary requests 24-35 therefore applies to auxiliary requests 24A-35A, which are thus not admitted into the proceedings.

Auxiliary requests 36-39 and 44-47

4. Inventive step

4.1 The Board came to the conclusion that granted claim 1 of the main request did not involve an inventive step over example 3 of D3 as the closest prior art. No further arguments on this issue were presented in appeal for any of auxiliary requests 36-39 and 44-47.

4.2 In the absence of additional arguments, the same reasoning on inventive step starting from D3 as the closest prior art applies to claim 1 of auxiliary requests 36-39 and 44-47 and the Board finds that the same conclusion of lack of inventive step applies to these requests.

Auxiliary requests 40-43 and 48-51

5. Admittance

5.1 Auxiliary requests 40-43 and 48-51 were submitted with the letter of 4 February 2026. The amendment made in these requests are discussed in view of Article 123(2) EPC in section 3 of that letter. While the letter

contains a section dealing with novelty and inventive step (section 4), it is apparent that the arguments laid out in that section do not address the specific amendments made in the auxiliary requests 40-43 and 48-51 and do not provide any reasoning as to how the amendments made pertain to inventive step.

- 5.2 The respondent did not provide any further argument on the question of admittance of auxiliary requests 40-43 and 48-51 with respect to their substantiation on the question of inventive step. The Board therefore does not see any reason to come to a conclusion different from the one reached for auxiliary requests 24-35. Auxiliary requests 40-43 and 48-51 are therefore not admitted into the proceedings (Article 12(3) and (5) RPBA).

**Order**

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

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

The Registrar:

The Chairman:



D. Hampe

D. Semino

Decision electronically authenticated