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D E C I S I O N
of 28 June 2001

Case Number: T 0873/97 - 3.3.5

Application Number: 91100155.0

Publication Number: 0437228

IPC: C03C 10/12

Language of the proceedings: EN

Title of invention:

Thermally crystallizable glass, glass-ceramic made therefrom,
and method of making same

Patentee:

CORNING FRANCE S.A.

Opponent:

Schott Glas

Headword:

Glass-ceramic/CORNING

Relevant legal provisions:

EPC Art. 100(b), 56

Keyword:

"Sufficiency of disclosure (yes)"

"Inventive step (yes)"

Decisions cited:

-

Catchword:

-



Case Number: T 0873/97 - 3.3.5

D E C I S I O N
of the Technical Board of Appeal 3.3.5
of 28 June 2001

Appellant:
(Proprietor of the patent) CORNING FRANCE S.A.
44 Avenue de Valvins
B.P. No. 61
FR-77211 Avon Cédex (FR)

Representative: Marchant, James Ian
Elkington and Fife
Prospect House
8 Pembroke Road
Sevenoaks
Kent TN13 1XR (GB)

Respondent:
(Opponent) Schott Glas
Hattenbergstrasse 10
D-55122 Mainz (DE)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 13 June 1997
revoking European patent No. 0 437 228 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: R. K. Spangenberg
Members: M. M. Eberhard
J. H. Van Moer

Summary of Facts and Submissions

I. European patent No. 437 228 based on application No. 91 100 155.0 was granted on the basis of 14 claims. Independent claims 1 and 5 as granted read as follows:

"1. A thermally crystallizable glass exhibiting a liquidus viscosity greater than 700 Pa.s which can be thermally crystallized in situ to a transparent glass-ceramic article demonstrating a linear coefficient of thermal expansion (20°-700°C) of $0 \pm 3 \times 10^{-7}/^{\circ}\text{C}$, containing β -quartz solid solution as the predominant crystal phase, and capable of being crystallized in situ to a plate form exhibiting a distortion of less than 0.1% of its diagonal dimension when subjected to a very short thermal crystallization treatment, said glass consisting essentially, expressed in terms of weight percent on the oxide basis, of

SiO ₂	65-70	MgO + BaO + SrO	1.1-2.3
Al ₂ O ₃	18-19.8	ZrO ₂	1.0-2.5
Li ₂ O	2.5-3.8	As ₂ O ₃	0-1.5
MgO	0.55-1.5	Sb ₂ O ₃	0-1.5
ZnO	1.2-2.8	As ₂ O ₃ + Sb ₂ O ₃	0.5-1.5
TiO ₂	1.8-3.2	Na ₂ O	0-<1.0
BaO	0-1.4	K ₂ O	0-<1.0
SrO	0-1.4	Na ₂ O + K ₂ O	0-<1.0
BaO + SrO	0.4-1.4	2.8Li ₂ O + 1.2ZnO/5.2MgO	>1.8

"5. A transparent glass-ceramic article demonstrating a linear coefficient of thermal expansion (20°-700°C) of $0 \pm 3 \times 10^{-7}/^{\circ}\text{C}$, containing β -quartz solid solution as the predominant crystal phase, and exhibiting in plate form a distortion of less than 0.1% of its diagonal dimension when crystallized in situ by means of a very short thermal crystallization heat treatment from a thermally crystallizable glass consisting essentially, expressed in terms of weight percent on the oxide basis, of (same composition as in claim 1)".

Independent claim 8 is directed to a method for making a transparent glass-ceramic article containing β -quartz solid solution as the predominant crystal phase, and having the properties as defined in claim 5.

- II. The respondent (opponent) filed a notice of opposition requesting revocation of the patent on the grounds of lack of novelty and lack of inventive step. The respondent relied inter alia on DE-A-33 45 316 (D1) and US-A-4 526 872 (D3).
- III. The opposition division revoked the patent on the ground of lack of inventive step. The decision was based on the amended claims filed with the appellant's letter of 23 January 1997, as the main request, and on the claims as granted as the auxiliary request.

The opposition division took the view that the subject-matter of claim 1 did not involve an inventive step. Starting from D1 as the closest prior art, the technical problem was to provide a flat glass-ceramic article exhibiting a coefficient of thermal expansion (CTE) as close as possible to zero, and which could be cerammed in a short time. The preferred glass compositions of D1 and D3 exhibited ranges of Li_2O , ZnO and MgO which overlapped with the claimed ranges. The fundamental role of Li_2O , ZnO and MgO to regulate the CTE was known in the prior art. Therefore, the skilled person would have modified the content of these components so as to achieve the desired CTE without the exercise of an inventive skill. As the very short ceramming time was not defined in claim 1, this feature could not be used to distinguish the claimed subject-matter from the prior art. The patent in suit indicated that a distortion of 0.3 to 0.5% was obtained on an experimental scale. However, it gave no indication how

to achieve an improvement of a factor of 4 to 5 when scaling up to a commercial scale. Therefore, it was not plausible that the technical problem had been solved in respect of the desired flatness.

IV. The appellant (proprietor of the patent) lodged an appeal against this decision and submitted amended claims and comparative examples with the grounds of appeal. In reply to a communication from the board, the appellant filed three sets of amended claims and a further test report. Oral proceedings were held on 28 June 2001. At the oral proceedings the appellant submitted four sets of amended claims as a main request and three auxiliary requests, in replacement of all the requests previously on file. Claim 1 of the main request differs from granted claim 1 in that the phrase "when subjected to a very short thermal crystallisation treatment" has been replaced by the phrase "when subjected to a thermal crystallisation treatment for a time of less than 2 hours". Furthermore the formula " $(2.8\text{Li}_2\text{O}+1.2\text{ZnO})/5.2\text{MgO} > 1.8$ " has been substituted for " $2.8\text{Li}_2\text{O}+1.2\text{ZnO}/5.2\text{MgO} > 1.8$ ". Claim 5 of the main request was amended analogously. In claims 4, 8 and 12 of the main request, the said formula was also amended by incorporating brackets.

V. The appellant put forward inter alia the following arguments in connection with the main request:

The question whether or not the patent sufficiently disclosed how a distortion of less than 0.1% could be achieved had been discussed in the grounds of appeal and decided in the appealed decision. It was only an academic question whether this issue should be considered under Article 56 EPC or Article 100(b) EPC. The appellant agreed to this matter being examined by the board as an objection under Article 100(b). He

argued that no special measures had been taken when scaling up to an industrial scale. The continuous mixing of larger batches of raw materials on an industrial scale brought with it a more uniform mixing and led to a far greater homogeneity of the melt than on the laboratory scale. The ceramming process itself was carried out on an industrial scale in a continuous oven whereas the oven used by the appellant in the laboratory experiments was a static oven with relatively important temperature fluctuations. Both the improved mixing and the better temperature homogeneity in the continuous ceramming kiln contributed to the improvement in flatness when scaling up to an industrial scale. Continuous kilns for the ceramming process were available before the priority date, and the appellant did not use any special equipment for obtaining a distortion $<0.1\%$. In the absence of any evidence to the contrary, the statement in the patent specification that a deformation smaller than 2.1 mm on the laboratory scale correlated to a distortion of less than 0.1% on an industrial scale should be accepted.

The problem to be solved was to obtain a glass having the properties set out in claim 1, which were required to match those of the cooktop plates already on the market, but using a short ceramming time. There was no evidence in D1 or D3 that this could be achieved at all, let alone any indication as to how to achieve it. D1 was concerned with a completely different problem and did not address the problem of shortening the ceramming time at all. The examples of D1 containing MgO met neither the claimed amounts of MgO nor the formula defining the relationship between the amounts of Li_2O , ZnO and MgO. D1 did not suggest that by modifying the MgO content of the glass the ceramming time might be shorter. There was no means of predicting what effect the changes in the amounts of Li_2O , ZnO and MgO would have on the ceramming time.

VI. The respondent's arguments can be summarised as follows:

The patent in suit did not meet the requirement of sufficiency of disclosure. Completely different results of distortion were obtained using the same glass composition and the same ceramming schedule, depending on whether the product was manufactured on an experimental scale or on an industrial scale. The features of claim 1, 5 and 8 could only be achieved under special ceramming conditions which were not derivable from the patent. There was no teaching in the patent in suit as to how the unsatisfactory results obtained on an experimental scale were reliably and reproducibly avoided on an industrial scale. The possibility of obtaining an article with the desired flatness in less than 2 hours did not depend on the composition of the glass but on the kind of oven equipment and on the temperature homogeneity in the oven. The ovens used at present on the laboratory scale were so homogeneous in temperature ($\pm 3^{\circ}\text{C}$ above the plates) that the industrial conditions could be fairly reproduced. As the flatness depended on the oven equipment and atmosphere and not on the glass composition, the corresponding data should have been indicated in the patent in suit. The glass composition itself did not solve the problem of flatness.

The glass components and their amounts in Examples 3 to 5 of D1 were so similar to those of the claimed composition that the latter was derivable from D1 without exercising inventive skill. In view of Examples 3 to 5 of D1, it was obvious to the skilled person to adjust the CTE values between -5 and $+8 \times 10^{-7} \text{K}^{-1}$ by simple variation of the composition within the narrow composition ranges of these examples. This would have required only a few routine experiments. The claimed composition was also obvious in view of the

composition groups A and B disclosed in D1. This document further revealed the trend to shorten the ceramming time. In view of the teaching of D1 the skilled person would have tried to modify the glass composition of D1 and would have adapted the ceramming conditions in order to obtain an article with the desired distortion and CTE in the shortest possible time. He would thus have arrived at the claimed subject-matter by simple routine experimentation.

- VII. The appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the set of claims submitted at the oral proceedings as the main request, alternatively on the basis of one of the three auxiliary requests submitted at the oral proceedings. The respondent requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.

Main request

2. The amended claims according to the main request meet the requirements of Article 123(2) and (3). A ceramming time of less than 2 hours is disclosed in the application as filed (see page 6, lines 27 to 28, corresponding to page 4, lines 21 to 22, of the patent in suit). Amended claim 1 is based on a combination of this feature with original claim 1. Claim 5 is directly and unambiguously derivable from original claim 1 in combination with the following passages of the application as filed : page 5, lines 14 to 21; page 6, line 22 to page 7, line 2. The incorporation of the brackets in the formula $(2\text{Li}_2\text{O}+1.2\text{ZnO})/5.2\text{MgO} > 1.8$

indicated in claims 1, 4, 5, 8 and 12 is based on page 7, lines 18 to 19, and Table 1 of the application as filed corresponding to page 4, line 37, and Table 1 of the patent in suit. This amendment represents in fact the correction of an obvious mistake in the sense of Rule 88 EPC as already accepted by the respondent in the course of the opposition proceedings. In these circumstances the presence of the brackets in the amended claims of the main request does not extend the protection with respect to the claims as granted. It follows from the above that the incorporation of brackets into the formula on page 3, lines 74 and 75, of the description also meets the requirements of Article 123(2)EPC.

3. According to dependent claim 9 a heat treatment in the range of 1050-1200°C leads to a white opaque glass-ceramic containing β -spodumene solid solution as the predominant crystal phase. This claim is not consistent with the method claim 8 to which it is appended and where it is stated that the glass-ceramic article is transparent and contains β -quartz solid solution as the predominant crystal phase. However lack of consistency or clarity is not a ground of opposition. The board has in principle the power to examine clarity only if it arises out of the amendments made to the claims (see T 301/87, OJ EPO 1990, 335; T 472/88 of 10 November 1990 not published in OJ EPO). In the present case claims 8 and 9 were not amended except for the correction of an obvious mistake in claim 8. Therefore, these claims have to be construed on the basis of the patent specification. In the board's judgement, the skilled person would recognise in view of the description that the method of claim 9 is a modification of the method of claim 8 using higher crystallisation temperatures, and that these two

methods lead to different glass-ceramic articles having different applications but which are prepared from the same starting glass composition. This was not disputed by the respondent.

4. The objection of insufficiency of disclosure under Article 100(b) EPC raised by the respondent at the appeal stage was not covered by the notice of opposition. This ground of opposition was based on the allegation that the patent does not describe how a distortion of less than 0.1% of the diagonal dimension of the plates can be achieved. Although this technical question was dealt with in the appealed decision, it was addressed on the basis of Article 56 EPC and not Article 100(b) and the opposition division concluded that the problem of achieving a flat glass-ceramic article (distortion < 0.1%) had not been solved. Therefore, the legal basis on which the respondent supported his objection at the appeal stage is different from the legal basis considered in the appealed decision. At the oral proceedings the appellant agreed to the introduction of the ground of sufficiency of disclosure into the proceedings. Taking into account that the objection under Article 100(b) is primarily based on a technical question already raised by the opposition division and dealt with in the appealed decision, the board considers that the present case need not be remitted to the first instance for examination of sufficiency of disclosure and that this issue can be decided by the board itself (see opinion G 10/91, OJ EPO 1993, 420, in particular point 18).

- 4.1 The respondent's allegations concerning the use of special ceramming conditions on an industrial scale and the fact that the obtaining of the desired distortion in less than 2 hours depended on the oven equipment

rather than on the glass composition (see point VI above) were strongly contested by the appellant. The board cannot accept the respondent's allegations for the following reasons:

- 4.2 According to the patent in suit the cooktop plates made from the claimed glass present a distortion of less than 0.1% of their diagonal dimension when produced under industrial conditions. The patent teaches that in order to obtain this result, the deformation of 30 cm x 30 cm plates which were cerammed under laboratory conditions, ie in a static furnace, must not exceed 2.1 mm (see page 3, line 55 to page 4, line 1). This value corresponds to a distortion of 0.49%. It is further pointed out on page 5, lines 45 to 56, that a deformation smaller than 2.1 mm, measured under laboratory conditions, is considered to lead to the desired distortion of less than 0.1% when large size plates are manufactured under industrial conditions. It is not derivable from the patent in suit that special ceramming conditions should be used on an industrial scale. The patent in fact teaches using the ceramming schedule disclosed in detail on pages 3 and 4 of the patent in suit and in claim 8. The patent in suit is silent about the type of oven equipment used on an industrial scale and does not contain information suggesting that the ceramming treatment had been performed in oven equipment other than the usual oven equipment and atmosphere well-known to the skilled person before the priority date. The respondent's allegation that the distortion results do not depend on the glass composition but on the oven equipment was strongly contested by the appellant and is not in agreement with the teaching of the patent in suit. The latter shows that a change in the glass composition has an effect on the plate deformation (see Tables 1 and 2). The examples of Table 1 whose composition falls within the claimed ranges exhibit a deformation of less

than 2.1 mm on the experimental scale, which, according to the patent, corresponds to a distortion of less than 0.1% on an industrial scale. On the contrary, the deformation values indicated in Table 2, which concern glass compositions lying outside the claimed ranges, are greater than the said limit. It was not contested by the respondent that a better mixing of the raw materials and, thus, a better homogeneity of the melt is obtained when preparing the glass on an industrial scale. Furthermore, the board sees no reason for not accepting the appellant's arguments that the static furnace used in the experiments on a laboratory scale had relatively important temperature fluctuations compared to the industrial ceramming oven, thus leading to higher deformation on a laboratory scale than in the industrial kiln. In this context the board observes that the respondent had raised no objection of insufficiency of disclosure in the notice of opposition and, thus, had himself considered that the improvement indicated in the patent in suit when transposing to the industrial scale was plausible. Although the respondent has the burden of proof, he has provided no evidence showing that the reproduction of any of the Examples 1 to 8 of Table 1 following the ceramming schedule disclosed in the patent in suit would not lead to cooktop plates having the desired distortion of $<0.1\%$ when the ceramming treatment is performed in the usual industrial oven equipment well-known before the priority date. The fact that the laboratory furnaces presently available on the market or presently used by the respondent have a better temperature homogeneity than the laboratory static furnace used by the appellant for performing his experiments before the priority date is not sufficient to prove that, contrary to the teaching of the patent in suit, the indicated dispersion of $<0.1\%$ cannot be obtained in an industrial oven. For the preceding reasons and in the absence of

evidence to the contrary, the board considers that glass-ceramic plates having a dispersion of 0.1 % and the properties indicated in the claims can be obtained by following the ceramming schedule disclosed in the patent in suit (ie in less than 2 hours) and using the usual ceramming ovens well-known in this technical field at the priority date. Therefore, the patent in suit meets the requirement of sufficiency of disclosure.

5. The thermally crystallisable glass of claim 1, the glass-ceramic articles made therefrom (claim 5) and the process for making the said glass-ceramic article (claim 8) are new with respect to the disclosure of the prior art documents cited by the respondent. This was not disputed by the respondent at the appeal stage.
6. The opposition division and the parties considered that D1 represents the closest prior art, in particular the base glass composition of Example 2, since it is closer to the claimed glass compositions than those indicated in any other document cited by the parties. Although D1 does not relate to cooktop plates, let alone to the problem encountered during the manufacture thereof, the board can follow this approach taking into account that D1 concerns glass-ceramic articles for woodstove windows, ie an application of the claimed glass-ceramic articles which is also covered by the patent in suit (see claim 7).
 - 6.1 D1 related to glass-ceramics intended for use as windows in wood and coal-burning stoves which are resistant to chemical attack by the atmospheres generated in such stoves. These glass-ceramic articles contain β -quartz solid solution as the predominant crystal phase. They are manufactured from a precursor glass having the following composition expressed in weight %: SiO₂ 63-75%, Li₂O 1-4%, MgO 0-4%, Al₂O₃ 15-25%,

ZnO 0.5-2%, Na₂O+K₂O 0-2%, TiO₂ 3-6%, ZrO₂ 0-2%, BaO 0-2%, F 0-1.2% (see claims 1 and 7). The articles are subjected to a ion-exchange with H⁺ or K⁺ ions in order to replace the Li⁺ ions by H⁺ or K⁺ ions in the surface of the article to a depth of at least 10µm. D1 discloses a glass composition containing (in weight%) SiO₂ 68.5%, Al₂O₃ 19%, Li₂O 2.8%, Na₂O 0.2%, K₂O 0.1%, ZnO 1.2%, BaO 0.9%, MgO 2.2%, TiO₂ 2.9%, ZrO₂ 1.5%, As₂O₃ 0.7%, Fe₂O₃ 0.028% in Example 2. The plates formed from this glass were crystallised by heating at a rate of about 100°C/hour to 780°C, holding at this temperature for 1 hour to induce nucleation, raising the temperature to 900°C at a rate of about 100°C/hour, maintaining at this temperature for about one hour to cause the growth of crystals on the nuclei, and then cooling to room temperature. The duration of the ceramming step is therefore about 10 hours in this example (see page 21, Table 1, Example 2; page 22, last paragraph).

- 6.2 Starting from this prior art, the problem underlying the patent in suit can be seen in the provision of a glass which can be thermally crystallised to flat and transparent glass-ceramic articles exhibiting a CTE as close as possible to zero in a very short ceramming time, the glass-ceramic articles being suitable for use in particular as cooktop plates.

It is proposed to solve this problem by a glass having the composition stated in claim 1. The glass compositions according to claim 1 differ from that of Example 2 of D1 in that the MgO content and the content of $\sum \text{MgO} + \text{BaO} + \text{SrO}$ are lower and the ratio $(2.8\text{Li}_2\text{O} + 1.2\text{ZnO}) / 5.2\text{MgO}$ (hereinafter ratio R) is more than twice as high (in Example 2 of D1, R= 0.81).

The comparative examples submitted by the appellant on 29 May 2001 show that when the glass composition of Example 2 of D1 is cerammed using the ceramming cycle of the patent in suit, ie in less than 2 hours, the resulting glass-ceramic article is not transparent and exhibits a CTE lying outside the claimed range, contrary to the glass according to the patent in suit. Furthermore, the glass compositions disclosed in Table 1 of the patent in suit lead to glass-ceramic plates (30cmx30cm) having a CTE within the claimed range and a deformation of from 0.7 to 2 mm (ie a distortion of 0.16%-0.47%) when the glass is cerammed on a laboratory scale in less than 2 hours. According to the description (see page 3, lines 55 to page 4, line 1 and page 5, lines 45 to 56), a deformation of 2.1 mm or less measured on the plates produced on the laboratory scale leads to a distortion of less than 0.1% when scaling up from the laboratory scale to the industrial scale. This is also confirmed in the declaration from the inventor submitted with the grounds of appeal. In the absence of evidence to the contrary it is credible that the said distortion is actually achieved when scaling up to the industrial scale. The respondent himself has confirmed that glass-ceramic plates produced by the appellant and having a composition, a CTE and a distortion lying within the ranges stated in claims 1 and 5 were available on the market. The respondent's allegation that the problem has not been solved because the patent in suit does not disclose how to obtain a dispersion of <0.1% when scaling up from the laboratory scale to the commercial scale are not convincing for the reasons given above in points 4.1 and 4.2. It is therefore credible, in the absence of evidence to the contrary, that the problem has actually been solved by the glass compositions defined in claim 1.

6.3 D1 itself does not concern the manufacture of cooktop plates. It addresses the problem of improving the resistance of the known woodstove or coalstove windows to attack by the atmospheres generated in such stoves which tend to result in replacement of Li^+ by H^+ with consequent reduction in volume and development of fissures and roughness (see pages 9 and 10). Therefore D1 is concerned with a completely different problem. The ceramming time of the exemplified glass compositions generally exceeds 7 hours. D1 contains no information suggesting how these compositions might be modified in order to obtain a transparent glass-ceramic article having the CTE and distortion required for cooktop plates while performing the ceramming step in a far shorter time, ie less than 2 hours. In connection with the ceramming time, the respondent referred to Example 5. In this example the glass is held 1 hour at 780°C and 1 hour at 900°C (see page 27, 2nd paragraph); however the total duration of the ceramming cycle exceeds 7 hours (see the heating up rate). It is indeed indicated in the same paragraph that the treatment in two stages is not necessary but gives a more uniform and fine-grained glass-ceramic. This does not suggest that the duration of the one stage treatment might be decreased to less than 2 hours while still obtaining a glass-ceramic article having the properties (in particular distortion and CTE) required for cooktop plates. Furthermore, it cannot be inferred from this statement made in the context of the manufacture of glass-ceramic for woodstove or coalstove windows how the composition of Example 2 might be changed in order to solve the technical problem stated above. The glass compositions of Examples 5 to 29 of D1 contain no MgO . In the glass composition of Examples 1 to 4, MgO is present but its content lies outside the claimed range. Furthermore the ZnO content of Examples 3 and 5 is lower than in the claimed composition and the compositions of Examples 1 and 3 contain no ZrO_2 . D1 is

silent about the distortion and the CTE of the glass-ceramic plates obtained in Examples 1 to 5. As pointed out by the appellant, even if the ratio R is applied to Examples 1 to 4, the values are lower than the values >1.8 required in claim 1 of the patent in suit.

Therefore, neither these examples nor Example 5, which contains no MgO, can suggest decreasing the MgO content of Example 2 of Table 1 and adjusting the MgO, ZnO and Li₂O such that the ratio R is greater than 1.8 in order to solve the problem stated above. The respondent also made reference to the compositions of group A disclosed on page 11 of D1. The compositions of group A overlap partially with the claimed compositions as regards the ZnO, MgO and TiO₂ contents but they contain no ZrO₂ and no BaO+SrO. The compositions of group B (see page 11 of D1) also overlap partially with the claimed compositions for the ZnO and TiO₂ contents, however their MgO content is generally higher than in the claimed glass composition, only the limit value of 1.5 wt% being common to group B and to the claimed glass. It cannot be inferred therefrom that the MgO content of Example 2 of D1 should be decreased and that the contents of MgO, ZnO and Li₂O should be selected such as to fulfil $R > 1.8$ in order to obtain a glass which can be cerammed in less than 2 hours to a transparent glass-ceramic plate exhibiting a distortion of <0.1% and a CTE of $0 \pm 3 \times 10^{-7} / ^\circ\text{C}$ (20-700°C). In the board's judgment the respondent's arguments and conclusion as regards inventive step can only be arrived at in the knowledge of the present invention and are thus based on an ex-post facto analysis.

- 6.4 As regards the five remaining documents cited by the appellant in the notice of opposition, the board observed that DE-C-37 03 342 was published well after the filing date of the patent in suit. Therefore DE-A-37 03 342, which was published on 13 August 1987, was taken into consideration by the board. The respondent

did not rely upon these five documents at the appeal stage. The board has checked that they contain no information which, in combination with the teaching of D1, would suggest the claimed glass composition in order to solve the technical problem stated above.

- 6.5 It follows from the above that the thermally crystallisable glass according to claim 1 meets the requirement of inventive step set out in Articles 52(1) and 56 EPC.

Independent claim 5 is directed to a transparent glass-ceramic article having the CTE and distortion stated in claim 1 which is obtained by crystallisation in less than 2 hours of the glass having the composition indicated in claim 1. Therefore, it derives its patentability from that of the glass composition according to claim 1. The same conclusion applies to independent claim 8 since this claim relates to a method for making a glass-ceramic article having the properties stated in claims 1 and 5 which makes use of a glass precursor having the composition defined in claims 1 and 5. Claims 1, 5 and 8 being allowable, the same applies to dependent claims 2 to 4, 6 to 7 and 8 to 14 whose patentability is supported by that of claims 1, 5 and 8.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent with the following documents:
 - claims 1 to 14 according to the main request submitted during the oral proceedings,
 - description: pages 2, 5 to 10 of the patent as granted, pages 3 and 4 submitted during the oral proceedings.

The Registrar:

The Chairman:



G. Rauh



R. Spengenberg

H.E.



