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Datasheet for the decision of 24 November 2015

Case Number: T 0306/13 - 3.3.05

Application Number: 99949332.3

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IPC: H01M2/02, H01M2/08, H01M10/40

Language of the proceedings: EN

Title of invention:
NONAQUEOUS ELECTROLYTE CELL

Applicant:
Sony Corporation

Headword:
Nonaqueous electrolyte cell/SONY

Relevant legal provisions:
EPC Art. 84

Keyword:
Clarity - all requests
Clarity - clarity (no)

Decisions cited:
T 1156/01, T 0307/06

Catchword:

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Case Number: T 0306/13 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 24 November 2015

Appellant: (Applicant)	Sony Corporation 7-35, Kitashinagawa 6-chome Shinagawa-ku Tokyo 141-0001 (JP)
Representative:	Müller Hoffmann & Partner Patentanwälte mbB St.-Martin-Strasse 58 81541 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 30 August 2012 refusing European patent application No. 99949332.3 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	H. Engl
Members:	A. Haderlein
	O. Loizou

Summary of Facts and Submissions

I. The appellant (applicant) lodged an appeal against the decision of the examining division to refuse application No. 99 949 332.

II. The examining division held in particular that the application did not meet the requirement of clarity set forth in Article 84 EPC because, in the absence of any indication of the conditions under which the parameter "R" (water vapour transmission rate) was to be determined, this parameter and the claims which contained it remained vague.

III. The statement of grounds of appeal was accompanied in particular by the following documents:

D6: Translation of Japanese Industrial Standard (JIZ) No. Z 0208

D7: Product Information SUPERNYL®

IV. The appellant was summoned to oral proceedings before the board.

V. In a communication pursuant to Article 15(1) RPBA, the board informed the appellant that, according to its preliminary opinion, in particular the requirement of clarity of the claims was not met, one reason being that the standard disclosed in D7 referred to two distinct temperatures at which the method for determining the water vapour permeability disclosed therein could be carried out.

VI. Under cover of its letter dated 22 October 2015, the appellant filed a new main request and new auxiliary

requests 1 to 5.

VII. Claim 1 of the main request reads as follows.

"1. A nonaqueous-electrolyte battery comprising:

a case constituted by laminated films having a structure formed by bonding two plastic films (21, 23) to a thin metal film (22) sandwiched therebetween wherein the innermost plastic film (23) is a heat-weld resin layer for the purpose of sealing the inside portion thereof into which a unit cell has been encapsulated resulting in two portions of the heat-weld resin layer facing each other followed by heat welding so that the peripheries of said case is sealed with heat forming a heat welded portion, wherein

when an assumption is made that the quantity of water capable of penetrating a heat-weld resin layer which is the innermost layer of said case having a thickness of T (μm) is R (g/(m^2·day), the cross sectional area of resin in a heat-sealed portion is S (cm^2) determined by the distance D between metal foil members and the length L of the metal film in the heat-welded portion of the case, an average width of said heat-sealed portion is W (cm) and the capacity of said unit cell is C (Wh), the following relationship is satisfied:

$(T \times R \times S)/(W \times C) \leq 0.96$ μg/Wh·day

wherein D is 20 μm to 200 μm; and W is 2 mm or longer."

VIII. Claim 1 of auxiliary requests 1 to 5 contains, in addition to the features of claim 1 of the main request, the following features or restrictions:

Auxiliary request 1

"wherein T is 20 µm to 200 µm".

Auxiliary request 2

"wherein T is 15 µm to 100 µm; D is 21 µm to 184 µm; and W is 0.2 to 0.5 cm".

Auxiliary request 3

"wherein T is 15 µm to 100 µm; D is 21 µm to 184 µm; and W is 0.2 to 0.5 cm, wherein the resin constituting said heat-weld resin layer is polyolefine resin".

Auxiliary request 4

"wherein T is 15 µm to 100 µm; D is 21 µm to 184 µm; and W is 0.2 to 0.5 cm, wherein the resin constituting said heat-weld resin layer is at least one type of materials selected from polypropylene, polyethylene, denatured polypropylene and denatured polyethylene".

Auxiliary request 5

"wherein T is 15 µm to 100 µm; D is 21 µm to 184 µm; and W is 0.2 to 0.5 cm, wherein the resin constituting said heat-weld resin is high-density polyethylene".

IX. The appellant's arguments may be summarised as follows:

The skilled person would draw on Japanese industrial standards. D6 disclosed the relevant standard, i.e. relating to testing methods for determining the water vapour transmission rate of moisture-proof packaging materials. The skilled person would thus draw on D6 for determining the parameter R referred to in claim 1 of all requests. The skilled person would determine R at

the higher temperature disclosed in D6, i.e. at 40°C. This was also supported by D7. Also in the light of T 307/06 and T 1156/01 the requirement of clarity was fulfilled.

X. Requests

The appellant requested that the impugned decision be set aside and that a patent be granted on the basis of the main request or, in the alternative, on the basis of any one of auxiliary requests 1 to 5, all filed under cover of its letter dated 22 October 2015.

Reasons for the Decision

Clarity of the claims - Article 84 EPC - all requests

1.1 The board observes that, according to established case law, the claims have to be clear for the sake of legal certainty, as their purpose is to enable the protection conferred by the patent to be determined (see for instance T 1156/01 cited by the appellant, reasons 2.2).

1.2 Claim 1 of all requests refers to "the assumption that... the quantity of water capable of penetrating a heat-weld resin layer... is R ($g/m^2 \cdot day$)...". The question that arises is whether it is clear for the skilled person how this property of the heat-weld resin layer, i.e. its water vapour transmission rate R, is to be determined.

The application documents as originally filed do not disclose a particular method or particular conditions

to be applied in determining R.

1.3 According to the appellant, in view of the Japanese origin of the present application, it was clear that the skilled person would draw on a Japanese industrial standard (D6) in order to determine the water vapour transmission rate of the film forming the heat-weld resin layer.

1.4 The board is not convinced that the skilled person would necessarily consider D6 as the sole industrial standard to be applied in the present case. This question can however remain open because, even assuming that D6 was the sole standard that the skilled person would draw on, the question would still be open as to which of the two temperatures indicated in D6, i.e. either 25°C or 40°C (see sections 2, 3.3 and 8: "Condition A" and "Condition B"), should be used.

1.5 The appellant does not contest the fact that in D6 two temperatures are referred to, but takes the view that the skilled person would choose the higher temperature, i.e. 40°C, for carrying out the test method according to D6. A battery fulfilling the relationship of claim 1 for an R value measured at 40°C would all the more fulfill it if the parameter R was measured at 25°C, since the vapour transmission rate depended directly on the temperature at which it was measured. As evidenced by D7, the skilled person would carry out the method of D6 at a temperature of 40°C.

1.6 For the board, there is no reason why the skilled person would construe claim 1 such that R was to be determined by carrying out the method of D6 at 40°C and not at 25°C.

1.6.1 D6 does not contain any teaching with regard to a preferred temperature. Rather, in D6 both temperatures are said to be equally suitable.

It is true that if R were to be measured at 40°C, a battery fulfilling the relationship set out in claim 1 would all the more fulfill it if R were to be measured at 25° since the R value measured would be lower. Conversely, this also means that, if the R value were to be measured at 25°C, batteries that would be covered by claim 1 would not fall under its scope if R were to be measured at 40°C. For the skilled person, reading claim 1 and adopting 25°C when measuring according to D6 would thus be equally sensible, as this would lead to a potentially broader scope of the claim.

1.6.2 Moreover, in view of the fact that batteries contained in a case as called for in claim 1 are normally stored at room temperature and also considering that the storage test used in the application (see page 14, last paragraph) was carried out at 23°C, the skilled person would seriously consider carrying out the method of D6 at 25°C.

1.6.3 D7 is a data sheet concerning a particular material. D7 does indeed refer to D6 and states a temperature of 40°C. But in view of the above considerations, D7 is not sufficient a proof to show that the skilled person would carry out the method of D6 only at 40°C. Moreover, the board notes that oxygen permeability in D7 appears to be indicated for a temperature of 23°C. In view of this, and considering that a temperature of 25°C is also indicated in D6, the skilled person would assume that the water vapour permeability or transmission rate could also be measured at the latter temperature.

1.7 As it is not clear under which conditions the vapour transmission rate R referred to in claim 1 is to be measured, a lack of clarity of the claims arises.

1.8 This conclusion is in line with the case law cited by the appellant.

According to T 307/06, claims are not rendered unclear by the existence of several methods for measuring a parameter, if (a) the different methods yield essentially the same values, or (b) the skilled person associates with the range of values only one standard method of measurement (see T 307/06, reasons 3.3). In the case at hand, even if the board assumed in the appellant's favour that the skilled person would apply the method of D6, the method disclosed in D6 effectively amounts to two different methods, namely carrying out the method disclosed therein at either 25°C or 40°C. Carrying out these two methods disclosed in D6 uncontestedly yields substantially different results. Thus, neither of the two criteria established in T 307/06 are complied with.

In T 1156/01 (*supra*), the method for measuring an unusual parameter used for the definition of the subject-matter claimed was absent from the claims (see reasons 2.4), leading the then competent board to conclude that the requirement of clarity was not complied with.

1.9 The board thus concludes that the requirement of clarity of the claims set forth in Article 84 EPC is not complied with.

1.10 Claim 1 of each of the auxiliary requests was amended in order to restrict the subject-matter claimed with

respect to features not relating to the vapour transmission rate R. Thus, the auxiliary requests do not comply with Article 84 EPC for the same reasons as the main request.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

C. Vodz H. Engl

Decision electronically authenticated