UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte Andreas Hoffmann et al.

Appeal No. 2006-1958
Application No. 10/268,208

ON BRIEF

Before CAROFF, SCHAFER, AND DELMENDO, Administrative Patent Judges.
CAROFF, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-7, all of the claims pending in appellants' involved application.

The appealed claims are directed to a process for producing a solid polyurethane (PU) molding by a casting technique. Specifically, the process involves reacting a diisocyanate and/or a polyisocyanate with, *inter alia*, a polyether polyol (number-average molecular weight of from 149 to 999 g/mol), and a polyether (number-average molecular weight of from 1,000 to 16,000 g/mol) having at least one group capable of reacting with an isocyanate group.

Appellants argue the patentability of the appealed claims as a group, rather than individually. Accordingly, we consider all the claims as standing or falling together for purposes of this appeal. 37 CFR § 41.37 (c) (vii); compare In re Nielson, 816 F.2d 1567, 1572, 2 USPQ 2d 1525, 1528 (Fed. Cir. 1987). In re Burckel, 592 F.2d 1175, 1179, 201 USPQ 67, 70, (CCPA 1979) . Pursuant to 37 CFR § 41.37 (c) (vii) we shall limit our consideration to claim 1, the sole independent claim 1, which reads as follows:

> Claim 1:
> A process for the production of a solid polyurethane molding having a flexural modulus of elasticity> 1800 N/mm^2 (according to DIN 53 457) by the casting process comprising reacting
>
> (a) a diisocyanate and/or polyisocyanate from the diphenylmethane series with a polyol component comprising
> (b) from 30 to 70 w.%, relative to total weight of components b), c) and d), of a polyether polyol having a number-average molecular weight of from 149 to 999 g/mol, which is initiated with an aliphatic amine,
> (c) from 25 to 50 wt.%, relative to total weight of components b), c) and d), of a polyether having a number-average molecular weight of from 1,000 to 16,000 g/mol, at least one group capable of reacting with an isocyanate group and having a maximum of 80% of primary hydroxyl groups,
> (d) from 0 to 30 wt.%, relative to total weight of components b), c) and d), of a polyether polyol started with a polyhydroxyl compound and having a (number-average) molecular weight of from 62 to 999 g/mol, optionally in the presence of
> (e) a catalyst that accelerates an isocyanate addition reaction, and optionally
> (f) any of the auxiliary substances and additives known to those skilled in the art of polyurethane chemistry,
>
> in which the type and proportions of components b) to d) are selected so an average hydroxyl value of the mixture formed from these components is greater than 300 mg KOH/g.

The examiner relies upon the following single prior art reference:

Neuhaus et al. (Neuhaus) 5,028,684 July 2, 1991

All of the appealed claims stand rejected under 35 USC § 102(b) as being anticipated by Neuhaus and, alternatively, under 35 USC § 103(a) as being obvious from Neuhaus.

We have carefully considered the record in this case in light of the positions taken by the examiner and by the appellants. Having done so, we conclude that the Neuhaus reference is not anticipatory but does support a *prima facie* case of obviousness. Accordingly, the rejection under 35 USC § 102 is reversed, and the rejection under 35 USC § 103 is affirmed.

The basis for our decision is as follows:

The claimed process involves a reaction among six recited components: (a) – (f). Of those components, (d) – (f) are listed as optional. Accordingly, we shall focus on components (a) – (c).

Neuhaus also relates to a process for producing molded PU articles.

There is no dispute that appellants' component (a), a diisocyanate and/or polyisocyanate, is identical to component (a) of the Neuhaus formulation.

Component (b) of the claims is a polyether polyol which corresponds to Neuhaus' component (b). The polyether polyol concentration range disclosed by Neuhaus (at least 10% by weight) encompasses the range set forth in instant claim 1. The molecular weight range set forth in Neuhaus (500-999) for the polyether polyol is embraced by the corresponding molecular weight range set forth in claim 1.

Claim 1 requires that the polyether polyol be "initiated with an aliphatic amine", while Neuhaus lists a broad variety of comparable "starter molecules" (col. 2, l. 56-62), only one of which (ethylene diamine) can be characterized as an aliphatic amine. In our opinion, the disclosure of only one aliphatic amine among a broad variety of starter molecules, coupled with the broader range of amounts for component (b), in Neuhaus precludes a finding of anticipation under 35 USC § 102 in this case. Cf. In re Schaumann, 572 F2d 312, 15-18, 197 USPQ 5, 8-10 (CCPA 1978); In re Petering, 301 F.2d 676, 681, 133 USPQ 275, 279-80 (CCPA 1962). However, we agree with the examiner that it would have been *prima facie* obvious, within the purview of 35 USC § 103, to select an amount of polyether polyol within the ambit of the Neuhaus disclosure which satisfies all the criteria set out in claim 1, absent a showing by the appellants of any new or unexpected results as compared to other polyether polyols encompassed by the Neuhaus disclosure. In re Peterson, 315 F.3d 1325, 1329-30, 65 USPQ 2d 1379, 1382-83 (Fed.Cir. 2003); In re Askley, 455 F.2d 586, 587, 172 USPQ 524, 526 (CCPA 1972).

Similar considerations apply to component (c) of claim 1, which corresponds to component (d) of the Neuhaus formulation. The component in question is a polyether which, according to claim 1, has a concentration range of 25-50 wt.% which overlaps the corresponding range disclosed by Neuhaus (col. 2, l. 5-7). The molecular weight range set forth in Neuhaus for this component (1000-10,000) is embraced by the corresponding molecular weight range set forth in claim 1.

Claim 1 requires that the polyether have a "maximum of 80% of primary hydroxyl groups." We find no express description of this limitation in Neuhaus.

Therefore, this particular limitation is not anticipated by Neuhaus within the context of 35 USC § 102. Nevertheless, the polyether of Neuhaus contains at least two isocyanate reactive groups. Neuhaus further discloses that these functional groups can be primary or secondary hydroxyl groups or aliphatically or aromatically bound primary or secondary amino groups (col. 3, l. 27-36). Accordingly, since Neuhaus contemplates that the polyether component may contain functional groups other than primary hydroxyl groups, we would agree with the examiner that it would have been *prima facie* obvious, within the purview of 35 USC § 103, to select a polyether containing other than primary hydroxyl groups, as described by Neuhaus, so that the polyether has 80% or less of primary hydroxyl groups.

In summary, while some of the limitations recited in claim 1 may not be identically disclosed in Neuhaus so as to be anticipated under 35 USC § 102, selection of components satisfying those limitations from among the components disclosed in Neuhaus is considered to be an obvious matter of routine optimization, within the purview of 35 USC § 103, absent a showing of any new or unexpected result.

For the foregoing reasons, the decision of the examiner in rejecting claims 1-7 under 35 USC § 103 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

MARC L. CAROFF Administrative Patent Judge	))) BOARD OF PATENT) APPEALS AND) INTERFERENCES
ROMULO H. DELMENDO Administrative Patent Judge	))

SCHAFER, Administrative Patent Judge (concurring).

I concur in the result.

RICHARD E. SCHAFER Administrative Patent Judge	)) BOARD OF PATENT) APPEALS AND) INTERFERENCES

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