

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SANTOKH S. BADESHA, GEORGE J. HEEKS,
ROBERT M. FERGUSON, DAVID J. GERVASI
and ARNOLD W. HENRY

Appeal No. 2003-0479
Application No. 09/416,148

ON BRIEF

Before KIMLIN, DELMENDO and POTEATE, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-26, all the claims in the present application. Claims 1 and 14 are illustrative:

1. A fuser member comprising a substrate and at least one outer fusing layer thereover, said outer fusing layer comprising a crosslinked product of a composition which comprises (a) a fluoroelastomer, and (b) an epoxy silane curative.

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14. A fuser member comprising a substrate and at least one layer thereover, said layer comprising a crosslinked product of a composition which comprises (a) a fluoroelastomer, and (b) an epoxy silane curative, wherein the acid acceptor and the fluoroelastomer are present in relative amounts, prior to curing, of no more than about 15 parts by weight acid acceptor per 100 parts by weight fluoroelastomer.¹

The examiner relies upon the following references as evidence of obviousness:

Polmanteer	4,395,462	Jul. 26, 1983
Matsuo	4,989,046	Jan. 29, 1991
Bingham et al. (Bingham)	5,049,444	Sep. 17, 1991
Yu et al. (Yu)	5,153,657	Oct. 06, 1992
Chen et al. (Chen)	6,096,429	Aug. 01, 2000

As is readily apparent from illustrative claim 1, appellants' claimed invention is directed to a fuser member comprising a layer which comprises the crosslinked product of a fluoroelastomer and an epoxy silane curative.

Appealed claim 14 stands rejected under 35 U.S.C. § 112, second paragraph. The appealed claims also stand rejected under 35 U.S.C. § 103 as follows:

¹ Even though claim 14, as amended in Paper No. 7, has not been officially entered in the record, the examiner has indicated on page 1 of Paper No. 7 that the amendment is "okay to enter." Therefore, in the interest of administrative efficiency, we will consider claim 14 on appeal as it appears in Paper No. 7. We trust that the amendment of Paper No. 7 will be entered into the record upon return of this application to the examiner.

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(a) claims 1, 2 and 6-11 over Chen in view of Yu;

(b) claims 1-5, 9-11, 14-18 and 22-24 over Chen in view of Polmanteer;

(c) claims 12 and 13 over Matsuo in view of Chen and Yu;

(d) claims 12, 13, 25 and 26 over Matsuo in view of Chen and Polmanteer;

(e) claims 14-24 over Bingham; and

(f) claims 25 and 26 over Matsuo in view of Bingham.

Appellants, for each ground of rejection, do not set forth an argument that is reasonably specific to any of the claims rejected. Accordingly, the claims involved in each separate ground of rejection stand or fall together.

We have thoroughly reviewed the respective positions advanced by appellants and the examiner. As a result, we agree with appellants that the examiner's § 112 rejection is not sustainable. We are in complete agreement with the examiner, however, that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the examiner's § 103 rejections for essentially those reasons expressed in the Answer.

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We consider first the examiner's § 112, second paragraph, rejection of claim 14. According to the examiner, "[t]he phrase 'no more than about 15' in claim 14 renders the claim indefinite because the metes and bounds of the claim are ill defined" (page 4 of Answer, second paragraph). However, we agree with appellants that the term "about" has been generally considered to be permissible language in patent claims, lending a certain degree of tolerance to the recited value. In re De Vaney, 185 F.2d 679, 683, 88 USPQ 97, 101 (CCPA 1950); In re Ayers, 154 F.2d 182, 185, 69 USPQ 109, 112 (CCPA 1946). The examiner states that "it is not the term 'about' which is believed to render the claim indefinite, but rather the phrase 'no more than about'" (page 11 of Answer, lines 3-4). We do not understand this reasoning. If "about 15" is definite, and includes, for example, 17, "no more than about 15" should be understood as embracing no more than 17.

We now turn to the examiner's § 103 rejection over Chen in view of Yu. There is no dispute that Chen discloses a fuser member comprising a substrate and a fuser layer comprising a crosslinked fluoroelastomer and a filler treated with a silane coupling agent. While Chen does not specifically teach the use of the presently claimed epoxy silane coupling agent, Chen

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exemplifies 3-aminopropyltriethoxysilane, and Yu teaches the equivalency of 3-aminopropyltriethoxysilane and 3-glycidoxypropyltriethoxy silane as coupling agents for pretreating fillers to be added to polymeric systems. Accordingly, based on these teachings, we agree with the examiner that it would have been obvious for one of ordinary skill in the art to substitute the epoxy silane coupling agent of Yu for the 3-aminopropyltriethoxy silane coupling agent of Chen and, consequently, result in a crosslinked product of a fluoroelastomer and an epoxy silane.

Appellants do not challenge the examiner's conclusion that it would have been obvious for one of ordinary skill in the art to substitute the epoxy silane of Yu for the functional silane of Chen. Rather, it is appellants' argument that the references do not teach that the epoxy silane crosslinks the fluoroelastomer. Appellants urge that the references employ other curing agents to perform the crosslinking. However, we concur with the examiner that the burden is properly upon appellants to demonstrate that incorporating an epoxy silane in the fuser member of Chen would not necessarily result in a crosslinked product of fluoroelastomer of epoxy silane. In re Spada, 911 F.2d 705, 708, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990); In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). Moreover, we agree with the

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examiner that Figures 3 and 4 of Yu demonstrate that the epoxy silane-treated silica filler can be reasonably expected to bring about a crosslinking of the fluoroelastomer. While appellants contend in their Reply Brief that the examiner's proposed interpretation of the term crosslinked "is an attempt to stretch the definition of 'crosslink' beyond all reasonable meaning" (page 5, second paragraph), appellants have not offered any definition of crosslinked which would exclude fluoroelastomer chains being bonded by an epoxy silane-treated silica filler.

We are not persuaded by appellants' argument that Chen and Yu are from non-analogous arts and, therefore, not combinable. We agree with the examiner that the references are "both drawn towards solving the same problem, i.e., improving the filler-polymer interaction in reinforced polymer systems by pretreating the filler with coupling agents" (page 13 of Answer, first paragraph).

We next consider the examiner's § 103 rejection over Chen in view of Polmanteer. Appellants do not challenge the examiner's factual determination that Chen exemplifies a fuser member having an outer layer comprising a fluoroelastomer and, inter alia, a magnesium oxide acid acceptor. Polmanteer, on the other hand, discloses a fluoroelastomer composition comprising an epoxy

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silane in lieu of a basic metal oxide which results in an improvement of the physical properties of the fluoroelastomer. Also, appellants do not dispute the examiner's legal conclusion that it would have been obvious for one of ordinary skill in the art to substitute the epoxy silane of Polmanteer for the magnesium oxide of Chen. Appellants' argument is essentially the same as that outlined above, namely, that there is no teaching in Polmanteer that the epoxy silane acts to crosslink the fluoroelastomer. However, as explained above, we are of the opinion that the burden has been properly shifted to appellants to demonstrate that the obvious inclusion of an epoxy silane in the fluoroelastomer composition of Chen would not necessarily result in some degree of crosslinking. Appellants have proffered no objective evidence which establishes otherwise.

Appellants contest the rejections over Matsuo as the primary reference for the same reasons given to rebut the rejection over Chen in view of Yu.

Finally, we consider the examiner's rejection of claims 14-24 over Bingham. Appellants have not contested the examiner's factual finding that Bingham discloses a fuser member having a layer comprising a fluoroelastomer and an epoxy silane. For reasons already stated, we are not persuaded by appellants'

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argument that there is nothing in Bingham which teaches that the epoxy silane cures the fluoroelastomer. As for the claim 14 recitation of "no more than about 15 parts by weight curative per 100 parts by weight fluoroelastomer," inasmuch as the language "about 15 parts" includes some latitude, and appellants have not questioned the examiner's finding that Bingham "explicitly teaches a lower limit of the concentration of the organosilane plus activator of about 20%" (page 16 of Answer, second paragraph), meaning that the amount of the epoxy silane is even lower than about 20%, we find no meaningful distinction between amounts of epoxy silane within the scope of claim 14 and the amounts of epoxy silane fairly taught by Bingham. We direct attention to the discussion at page 16 of the Answer, second paragraph.

As a final point, we note that appellants base no argument upon objective evidence of nonobviousness, such as unexpected results.

In conclusion, based on the foregoing, the examiner's decision rejecting the appealed claims is affirmed.

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

AFFIRMED

EDWARD C. KIMLIN)	
Administrative Patent Judge)	
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ROMULO H. DELMENDO)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
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LINDA R. POTEATE)	
Administrative Patent Judge)	

ECK:clm

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