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Datasheet for the decision of 23 April 2021

Case Number: T 0459/17 - 3.3.03

Application Number: 11161485.5

Publication Number: 2508566

IPC: C08L43/04, H01B3/44, C08L23/08

Language of the proceedings: EN

Title of invention:
Silane crosslinkable polymer composition

Patent Proprietor:
Borealis AG

Opponent:
The Dow Chemical Company

Relevant legal provisions:
RPBA Art. 12(2), 12(4)
EPC Art. 56

Keyword:
Requests submitted with the statement of grounds of appeal - Not hold inadmissible
Inventive step (no) - obvious combination of known features

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It can be changed at any time and without notic

Decisions cited:
G 0004/95, T 0273/11, T 1162/11

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Case Number: T 0459/17 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 23 April 2021

Appellant: (Opponent)	The Dow Chemical Company 2030 Dow Center Midland, MI 48674 (US)
Representative:	Boult Wade Tennant LLP Salisbury Square House 8 Salisbury Square London EC4Y 8AP (GB)
Respondent: (Patent Proprietor)	Borealis AG Wagramerstrasse 17-19 1220 Vienna (AT)
Representative:	Dehns St. Bride's House 10 Salisbury Square London EC4Y 8JD (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 9 December 2016 concerning maintenance of the European Patent No. 2508566 in amended form.**

Composition of the Board:

Chairman	D. Semino
Members:	F. Rousseau
	W. Ungler

Summary of Facts and Submissions

I. The appeal lies against the interlocutory decision of the opposition division posted on 9 December 2016 according to which European patent No. 2 508 566 as amended according to the main request filed at the oral proceedings on 28 November 2016 met the requirements of the EPC, whereby the claims of that request were apart from a formal amendment in dependent claim 9 identical to those of Auxiliary Request (III) submitted in response to the notice of opposition with letter of 19 October 2015.

II. Claim 1 of that main request whose wording can be inferred from section VII below concerned a crosslinkable polymer composition comprising a polyolefin (a) bearing hydrolysable silane group(s) containing units. That composition was defined inter alia by a minimum value of the hot set elongation obtained after its reticulation.

III. The following evidence was submitted *inter alia* before the opposition division:

D8: US 6,232,376 B1
D11: US 4,297,310
D12: WO 00/68314 A1
D14: Japanese Industrial Standard K 6760-1981.

IV. According to the contested decision:

(a) D11 and D12 were admitted to the procedure.

(b) The subject-matter of claim 1 was found to have a basis in claims 1, 4 and 7 as filed. The requirements of Article 123(2) EPC were therefore met.

(c) The requirements of sufficiency of disclosure were also met. In this connection it was held that the skilled person would have no difficulty in choosing an appropriate catalyst to meet the hot set elongation minimum value defined in claim 1. It was considered that a practically complete crosslinking could be assumed under the test conditions specified in claim 1 for measuring said parameter.

(d) Regarding the alleged lack novelty over D11 the burden of proof lay with the opponent to demonstrate that the disclosure of D11 would inevitably lead the skilled person to subject-matter falling within the ambit of claim 1. The opponent could have reproduced the teaching of the examples of D11 and then performed hot set elongation measurements in accordance with the method described in the patent in suit, but did not do so. It was therefore concluded that a lack of novelty over Examples 1 to 4 of D11 had not been established.

(e) With respect to inventive step, either of Dll or D12 could be considered as the closest prior art, notwithstanding that neither directly addressed the subjective problem of provision of polymers with improved storage stability. The subject-matter of claim 1 differed from Dll by a different hot set elongation and from D12 by the MFR_2 of the polyolefin (a). An inventive step was acknowledged starting from either of those documents.

V. The opponent (appellant) lodged an appeal against the above decision. The appellant submitted with the statement setting out the grounds of appeal *inter alia* the following document:

D18: US 4,983,675.

VI. The patent proprietor (respondent) replied to the appeal with letter of 1 September 2017 to which were attached Auxiliary Requests I to IX.

VII. The appellant submitted with further written submissions dated 12 April 2018 the following documents:

D21: JIS K7210-1976
D22: ISO 1133-1997.

VIII. Oral proceedings were summoned with letter of 2 July 2019 and a Board's communication sent in preparation for oral proceedings was issued with letter of 17 December 2019.

IX. Additional Auxiliary Request IIIa, Va and VIIa were filed by the respondent with letter of 13 February 2020.

X. As the consequence of the COVID-19 pandemic situation oral proceedings before the Board were postponed and held with the parties' consent by videoconference on 23 April 2021. In the course of the oral proceedings the respondent withdrew all claims requests to the exception of Auxiliary Requests III and VII.

XI. Claim 1 of Auxiliary Request III submitted with letter of 1 September 2017 differed from claim 1 of the Main Request underlying the contested decision by an additional feature at the end of the claim defining the use of a scorch retarding compound. It read as follows:

"1. A polymer composition which comprises a polyolefin (a) bearing hydrolysable silane group(s) containing units, wherein
- the amount of the hydrolysable silane group(s) containing units is from 0.010 to 0.081 mol/kg polyolefin (a), when measured according to "The amount of hydrolysable silane group(s)" as described below under "Determination methods",
- the polymer composition has a hot set elongation exceeding 30%, when measured according to "Hot set elongation test" using a crosslinked cable sample as described under "Determination methods" after crosslinking the sample in water at 90°C for 20 hours, wherein
- polyolefin (a) is an LDPE copolymer with a hydrolysable silane group(s) bearing comonomer and, optionally, one or more other comonomer(s), and wherein
- the polyolefin (a) bearing hydrolysable silane group(s) containing units has an MFR_2 of from 0.30 to 2.0 g/10 min, when measured according to ISO 1133 at 190 °C and at a load of 2.16 kg; and a scorch retarding compound."

XII. Claim 1 of Auxiliary Request VII, directed to a cable obtained with the composition of claim 1 of Auxiliary Request III, read as follows:

"1. A cable comprising a conductor surrounded by an inner semiconductive layer, an insulating layer and an outer semiconductive layer, in that order, wherein at

least the insulation layer consists of [.....]", whereby [.....] designates the wording of claim 1 of Auxiliary Request III to the exception that the term "wherein" has been inserted right before the wording "- the polymer composition has a hot set elongation exceeding 30%".

XIII. The appellant's submissions, insofar as they are pertinent, may be derived from the reasons for the decision below. They are essentially as follows:

(a) Auxiliary Requests III and VII should not be admitted into the proceedings.

(b) The subject-matter of both Auxiliary Requests III and VII lacked an inventive step having regard to the combined teaching of D11 and D18, the closest prior art being represented by the disclosure of Examples 1 to 4 of D11.

XIV. The respondent's submissions, in so far as they are pertinent, may be derived from the reasons for the decision below. They are essentially as follows:

(a) Auxiliary Requests III and VII were to be admitted into the proceedings.

(b) The subject-matter of Auxiliary Request III and that of Auxiliary Request VII involved an inventive step over the combined teaching of D11 and D18, the closest prior art being represented by the disclosure of Examples 1 to 4 of D11.

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

XVI. The respondent requested that the patent be maintained on the basis of one of the sets of claims of Auxiliary Request III (new main request) or Auxiliary Request VII, both filed with the rejoinder to the statement of grounds of appeal (letter of 1 September 2017).

Reasons for the Decision

1. In the present appeal case the statement of grounds of appeal was filed before the date of the entry into force of the RPBA 2020 and the summons to oral proceedings were notified before that date. The present proceedings are accordingly governed by the revised version of the RPBA which came into force on 1 January 2020 (Articles 24 and 25(1) RPBA 2020), except for Articles 12(4) to (6) and 13(2) RPBA 2020 instead of which Articles 12(4) and 13 RPBA 2007 remain applicable (Article 25(2) and (3) RPBA 2020).

Admittance of Auxiliary Requests III and VII

2. Auxiliary Requests III and VII were submitted with the rejoinder to the statement of grounds of appeal. Their admittance is therefore to be decided on the basis of Article 12(4) RPBA 2007. Article 12(4) RPBA 2007 requires the Board to take into account everything presented by the parties under Article 12(1) RPBA 2007 if and to the extent that it relates to the case under appeal and meets the requirements in Article 12(2) RPBA 2007 without prejudice to the power of the Board to hold inadmissible facts, evidence or requests which could have been presented or were not admitted in first instance proceedings.

2.1 Auxiliary Request III differs from the Main Request underlying the contested decision in that the subject-matter claimed has been limited by requiring the presence of a scorch retarding compound. The subject matter of Auxiliary Request VII was further limited to a specific cable structure comprising a layer obtained with the composition defined in Auxiliary Request III. It is undisputed that Auxiliary Requests III and VII submitted with the reply of the respondent to the statement of grounds of appeal, as well as the submissions in its respect, relate to the case under appeal and meet the requirements of Article 12(2) RPBA 2007, as these additional limitations without doubt aim at overcoming novelty and inventive step objections over D11 which were raised by the appellant in the statement setting out the grounds of appeal. The appellant, however, is of the opinion that the Board should exercise its discretionary power conferred to it by Article 12(4) RPBA 2007 to hold inadmissible Auxiliary Requests III and VII, as they could have been presented in the first instance proceedings. In this context, the question to be answered is not whether these auxiliary requests could have been presented before the department of first instance, but rather whether the situation was such that their filing should have taken place already at this stage (see for example T 1162/11 of 20 October 2015, point 2.2 of the reasons for the decision and T 0273/11 of 28 January 2015, point 1.1 of the reasons for the decision).

2.2 D11 which was at the core of the contested decision, as it was held to represent a suitable starting point for assessing inventive step was submitted only one month and two days before the oral proceedings, i.e. more than one year after the filing of the auxiliary requests submitted in reply to the notice of opposition

with letter of 19 October 2015. Even if the submission of D11, having regard to its late filing, were considered to be a legitimate response to these auxiliary requests, it is immediate that the timing for the filing of D11 made it difficult for the patent proprietor to react in an appropriate manner to this new development of the opposition proceedings.

2.3 In the context of *inter partes* proceedings it is a generally recognised principle of procedural law that each party to such proceedings should have a proper opportunity to reply to the case which is presented by an opposing party (G 4/95, OJ EPO, 1996, 412, point 10 of the Reasons). This principle reflected in Article 113(1) EPC requires that each party should have a proper opportunity to reply to the case presented by an opposing party, which opportunity entails the possibility for the patent proprietor to submit new claim requests.

2.4 The fact that the patent proprietor could find before the opposition division a suitable fall back position among the auxiliary requests previously submitted by promoting during the opposition proceedings former auxiliary request III to the rank of then main request should not go at the patent proprietor's disadvantage. If the main request before the opposition division had not be found to be allowable in view of the objections based on the newly submitted prior art D11, it would have been justified in the Board's opinion to allow more time for the patent proprietor to reconsider the new situation arising from the filing of D11 and to file, if deemed necessary, additional claim requests, which the respondent did in reply to the statement of grounds of appeal by submitting *inter alia* Auxiliary Requests III and VII.

It is therefore irrelevant in the circumstances of the present case whether, as argued by the appellant, no argument had been submitted on appeal which had not been put forward before the opposition division in respect of the request underlying the contested decision or that the appellant had submitted in writing two day after the submission of D11, counter arguments dealing with that new prior art, as well as two additional auxiliary requests also incorporating the use of a scorch retarding agent.

2.5 The arguments that the auxiliary requests submitted with the reply to the statement of grounds of appeal lacked convergence so that they should not be admitted was not pursued in relation to Auxiliary Requests III and VII. There is therefore no need for the Board to address this point.

2.6 Consequently, present Auxiliary Requests III and VII are considered to represent a justified reaction to the contested decision and to the course of events having taken place before the opposition division. On this basis, the Board does not see any reason to exercise the discretionary power conferred to it by Article 12(4) RPBA 2007 to hold Auxiliary Requests III and VII inadmissible with the consequence that these claim requests are in the proceedings.

Admittance of D18, D21 and D22

3. D18 which deals with the use of hydrolyzable organosilane as scorch retarding agents in the same field as the patent in suit was preventively submitted by the appellant in case the patent proprietor would introduce such limitation (statement of grounds of

appeal, paragraph bridging pages 15 and 16). The respondent declared during the oral proceedings that no objection against the admittance of D18 was raised. Under these circumstances and considering that Auxiliary Request III differs from the Main Request underlying the contested decision by the feature defining the mere additional presence of a scorch retarding compound the Board has no reason to make use of its discretionary power under Article 12(4) RPBA 2007 (in conjunction with Article 25(2) RPBA 2020) to disregard D18.

Documents D21 and D22 are two documents concerning international standard for determining the melt flow rate (MFR) of thermoplastics. These documents have been submitted to assess whether the measurement methods used in the patent in suit and in D11 for measuring MFR were quantitatively equivalent. The respondent explicitly stated that they had no objection against their admittance.

Documents D18, D20 and D21 are therefore in the proceedings.

Inventive step

4. As indicated for example in its paragraphs [0001], [0003], [0026], [0076], [0122], [0141] and [0145] the patent in suit concerns the technical field of polymer compositions comprising a silane crosslinkable polyolefin with hydrolysable silane groups which are used for producing, in particular by extrusion, wires and cables comprising a conductor surrounded by an insulation layer obtained from said material. After extrusion the layer of the polymer compositions comprising the silane crosslinkable polyolefin with

hydrolysable silane groups is moisture cured via hydrolysis of the hydrolysable silane groups and condensation of the obtained silanol groups resulting in said polyolefin layer being crosslinked.

Closest prior art

5. It was at the oral proceedings before the Board a matter of consensus between the parties that Examples 1 to 4 of D11 which concern the same application as in the patent in suit, i.e. the production of wires by extrusion on a conductor of an insulation layer comprising a silane crosslinkable polyolefin with hydrolysable silane groups and crosslinking in water of the extruded wire (claim 1; column 1, lines 7-17; column 5, lines 25-29; column 6, lines 15-48; column 7, table 1) represent a suitable starting point for judging inventive step. The Board has no reason to have a different view, as in addition to the same application, the compositions to be extruded are for the reasons indicated below also structurally close to those defined in operative claim 1.

5.1 It is undisputed having regard to the reaction conditions that the polyolefins prepared in Examples 1 to 4 of D11 are crosslinkable LDPE prepared by copolymerisation of ethylene and vinyltrimethoxysilane (VTMS). The copolymers produced with Examples 1 to 4 comprise 0.24, 0.34, 0.57 and 0.72 wt.% of the above mentioned hydrolysable silane units (table 1), respectively. Having regard to the indication provided in paragraph [0016] of the patent in suit, those amounts correspond to 0.016, 0.023, 0.039 and 0.049 mol VTMS/kg of polyolefin (a), respectively, i.e. amounts which are within the range defined in operative claim 1.

5.2 On the basis of documents D14 (page 3, point 4.1), D21 (section 3.1.1, Figure 1, Table 1) and D22 (page 2, section 3.1.2, page 4, section 3.1.5) it can be concluded as submitted by the appellant that a melt index measured according to JIS K 6760 expresses a MFR_2 measured according to ISO 1133 at 190°C and at a load of 2.16 Kg. Accordingly, the copolymers of Examples 1 to 4 which are described to exhibit a melt index measured according to JIS K 6760 of 1.0 g/10 min (column 7, table 1) exhibit a MFR_2 of 1.0 g/10 min, in accordance with the requirement for the MFR_2 defined in operative claim 1.

5.3 It is also undisputed that the parameter Hot Set Elongation (HSE) defined in operative claim 1 expresses for a composition of the type described with Examples 1 to 4 of D11 the degree of cross-linking which would be obtained by crosslinking said composition under the conditions defined in operative claim 1, i.e. after crosslinking the sample in water at 90°C for 20 hours. It is also undisputed that under such curing conditions the crosslinking reaction taking place in Examples 1 to 4 of D11 with the help of a silanol condensation catalyst (dibutyltin dilaurate) which is also recommended in the patent in suit (paragraphs [0028], DBTL) would be complete. This means that for a LDPE having a given MFR_2 the HSE as measured in accordance with operative claim 1 decreases with increasing amount of hydrolysable silane groups.

5.4 Finally, the LDPE prepared in Examples 3 and 4 of the patent in suit, i.e. polymers E and F with a MFR_2 of 1.0 g/10 comprising 0.055 and 0.047 mol VTMS/kg LDPE, respectively lead when tested under the conditions defined in operative claim 1 to HSE value of 79% and

121%, respectively (Table 4). This means that the LDPE of Example 4 of D11 with a MFR_2 of also of 1.0 g/10 min and a VTMS amount of 0.049 mol VTMS/kg which lies between those of Examples 3 and 4 of the patent in suit must have a HSE value between those obtained for Examples 3 and 4 of the patent in suit, i.e. between 79 and 121. For the LDPE prepared in Examples 1 to 3 of D11 which comprise lower amounts of 0.016, 0.023 and 0.039 mol VTMS/kg LDPE, it follows from above point 5.3 that their HSE values must be higher than that obtained with the LDPE prepared in Example 4, i.e. above 121 %.

5.5 Consequently, the HSE requirement defined in operative claim 1 does not provide a distinguishing feature over the disclosure of Examples 1 to 4 of D11. This was acknowledged by the respondent at the oral proceeding before the Board who conceded that the compositions in accordance with operative claim 1 differed from those disclosed with Examples 1 to 4 of D11 solely in that they comprise a scorch retarding compound.

Problem successfully solved

6. Having regard to the disclosure of Examples 1 to 4 of D11, the respondent submitted that the problem solved by the subject-matter of claim 1 resided in the provision of a polymer composition with improved storage stability in the presence of a scorch retardant. This was disputed by the appellant who submitted that the technical problem solved by the subject-matter of operative claim 1 would reside in the provision of a composition as in D11, but exhibiting scorch resistance or in the provision of a further polymer composition, since no evidence was provided that scorch resistance was actually achieved.

6.1 As shown by paragraph [0017] of the specification the improvement in storage stability addressed by the respondent is not one which is achieved over the closest prior art, i.e. which comprises the same silane crosslinkable polyolefin and no scorch retarding agent, but which is allegedly obtained vis-à-vis a more remote state of the art, i.e. vis-à-vis a silane crosslinkable polyolefin having a higher amount of hydrolysable silane groups.

6.2 Moreover, the patent in suit does not describe any function of the scorch retarding agent going beyond that of preventing the premature crosslinking (scorch) to occur before the cable is formed (see paragraph [0080] of the specification). This is also implicit from the "Scorch Tape Test" described in paragraph [0120] of the specification in which the surface quality of crosslinked samples is rated, the skilled person being aware as illustrated by D18 (column 1, lines 49-55) that a condensation reaction occurring at the initial stage in an extruder during moulding of silane crosslinkable polyolefins (i.e. premature crosslinking) tends to creates defects on the surface of the articles produced.

6.3 An additional function of the scorching agent is also not implied by the sole experimental evidence on file, i.e. the tests presented in the specification, since all compositions in accordance with the examples and the comparative examples contain the same scorch retarding agent, used in the same amount.

6.4 Concerning the appellant's argument that no evidence has been provided that an improved scorch resistance is actually achieved by the compositions of operative claim 1, the Board is satisfied that the mere

definition in operative claim 1 that a scorch retarding compound is present necessarily implies that said compound is one which is effective for the type of crosslinkable polymer defined in operative claim 1, i.e. which is able to achieve a scorch retarding effect. This, however, does not imply any specific degree in achieving said retarding effect, but only that said effect can be established.

6.5 Accordingly, in the absence of any indication in the specification that the presence of a scorch retarding compound would provide any benefit beyond that indicated by the function of the compound itself, let alone any evidence in that respect, the alleged improved storage stability cannot be retained for the formulation of the problem solved over the closest prior art, which can only be formulated as the provision of a composition having improved scorch retarding properties.

Obviousness of the solution

7. It remains to be decided whether the skilled person seeking to solve the problem identified above would, in view of the disclosure of D11, possibly in combination with other prior art documents or with common general knowledge, have modified the compositions of Examples 1 to 4 of D11 in such a way as to arrive at the subject matter of operative claim 1. The appellant referred in this respect to the teaching of document D18.

7.1 D18 is also a document dealing with the production of crosslinked electric cables by extrusion moulding of silane-crosslinkable ethylene copolymers (column 1, lines 32-41). It is concerned as already indicated in above point 6.2 with the premature crosslinking of

silane crosslinkable polyolefins occurring at the initial stage of of the extrusion moulding of said compositions (column 1, lines 49-56). That problem is overcome in D18 without decreasing the rate of crosslinking in its initial stage if a specified amount of a silane compound having an organic group which is hydrolyzable during extrusion is added to a silane-crosslinkable ethylene copolymer to which a silanol condensation catalyst has been added (column 1, lines 59-66 and column 4, lines 10-38).

Suitable silane compounds are indicated in column 4, lines 22 to 24 of D18, the most preferred silane compounds being vinyltrimethoxysilane, vinyltriethoxysilane and γ-methacryloxypropyl-trimethoxysilane, which all belong to the preferred group of scorch retarding compounds of formula (IIIa) taught in paragraphs [0083] and [0084] of the patent in suit.

The silanol condensation catalyst used in D18 is selected from compounds which are conventionally used as catalyst for accelerating condensation between silanol groups. The list of silanol condensation catalysts recommended in D18 (column 3, lines 55 to 65; Examples 2 to 12, column 6, line 1) comprises the same silanol catalyst as used in Examples 1 to 4 of D11, i.e. dibutyltin dilaurate.

7.2 In view of the above, faced with the problem identified in above point 6.5 and considering the chemical similarities between the silane crosslinkable polyolefin compositions of the closest prior art and those of D18 the skilled person would find obvious to add any of the scorch retarding compounds recommended in D18 to the compositions of Examples 1 to 4 of D11,

arriving thereby in an obvious manner at compositions falling within the ambit of claim 1 of Auxiliary Request III.

7.3 The respondent's argument that D11 would teach away from the use of a scorch retarding compound, as D11 also teaches that the coated wire could be extruded first and then brought into contact with a silanol condensation catalyst does not convince. Faced with the problem identified in above point 6.5, i.e. to provide a composition having improved scorch retarding properties, applying one of the possible solutions which were available to the skilled person requires no particular skills and hence does not involve an inventive step. The fact that other solutions would have been obvious in the light of D11 as alleged by the respondent does not render the other above mentioned solution taught by D18 not obvious.

7.4 As a result, Auxiliary Request III is not allowable for lack of an inventive step pursuant to Article 56 EPC.

Auxiliary Request VII

8. The subject-matter of Auxiliary Request VII concerns a specific cable structure, i.e. a cable comprising a conductor surrounded by an inner semiconductive layer, an insulating layer and an outer semiconductive layer, in that order, wherein at least the insulation layer consists of the composition defined in Auxiliary Request III.

Closest prior art and distinguishing features

8.1 The parties agree that the closest prior art taken for Auxiliary Request III should also be used as starting point for assessing inventive step of the subject-matter of Auxiliary Request VII. The Board has no reason to have a different opinion, since the compositions of Examples 1 to 4 of D11 are used to provide an insulation layer on a wire (column 6, lines 26-38).

8.2 It is also a matter of consensus that the specific cable structure defined in operative claim 1 constitutes in addition to the use of a scorch retarding compound the only additional distinguishing feature over the closest prior art.

Problem successfully solved

8.3 The respondent formulated the problem solved by the cable of operative claim 1 over the closest prior art, as the provision of a further cable in which the insulation layer thereof is obtained with a polymer composition having improved storage stability in the presence of a scorch retarding compound. For the same reasons as explained in above points 6.1 to 6.5 the improvement of storage stability cannot be retained for formulating the problem solved over the closest prior art. Accordingly, the problem successfully solved over the closest prior art can be only formulated in the provision of a further cable in which the insulation layer is obtained with a polymer composition having improved scorch retarding properties.

Obviousness of the solution

8.4 The above identified distinguishing features being not functionally interdependent, their obviousness in the light of the prior art has to be established separately.

8.5 For the reasons already explained in above points 7.1 to 7.3 the use of a scorch retarding agent is obvious in the light of D18.

8.6 It is also not disputed that the cable architecture defined in operative claim 1, i.e. a conductor surrounded by an inner semiconductive layer, an insulating layer and an outer semiconductive layer, in that order, was conventional in the art. That type of structure is for exampled described in D8 (column 9, lines 14-21) as pointed out by the appellant.

The respondent, however, submitted that D11 does not teach that the compositions described in its Examples 1 to 4 are to form an insulation layer on a semiconductive layer, because according to the paragraph bridging columns 1 and 2 of that document, the insulating layer is not made of the composition described in Examples 1 to 4, but is one which is applied over the crosslinked coating layer.

However, as indicated by the appellant the paragraph bridging columns 4 and 5 of D11 teaches that the use of the silane-crosslinkable ethylene copolymer should not be limited to the production of coating layer adjacent and below that of the insulation layer. This passage teaches that "*the "coating layer" according to this invention is intended to mean any of various coating layers such as, for example, electrically insulating*

layers, semiconductive layers, and protective coating layers for conductors". The composition is taught to be extrusion-coated as a single layer or in a laminated state with one or more other materials on a conductor through the use of an ordinary wire coating apparatus. The term "conductor" in explicitly defined in that paragraph to refer not only to a bare wire but also to a metal wire already having thereon a coating layer, in line with the above first cited passage of that paragraph. Accordingly, the broad disclosure of cables and wires in D11 encompasses cables having the architecture defined in operative claim 1 which was conventional in the art.

As further outlined by the appellant, the disclosure in the paragraph bridging columns 4 and 5 is also coherent with the introductory paragraph of D11 (column 1, lines 7 to 12), according to which the invention of D11 relates generally to processes for producing electric wires and cables or conductors coated with a crosslinked polyethylene resin.

Additionally, the passage bridging columns 1 and 2 cited by the respondent which is to be found in the part dealing with the background of the invention reads "*This problem of poor surface characteristics is serious, not only on the point merely of commodity value of the product, but also on the point, for example, of the insulation characteristic of an insulated wire which is the product in the case where, over the crosslinked coating layer, a further coating layer is applied to form an insulating layer, the surface of which must be smooth for good insulation characteristic*". That passage must therefore be understood as providing an example of a situation in which poor surface quality of the extruded resin is

problematic in the art prior to D11. It is not understood to limit the use of the resins in accordance with the invention of D11 to a layer above the insulation layer of a cable, as confirmed by the paragraph bridging columns 4 and 5 of D11.

Consequently, faced with the problem defined in above point 8.3 the skilled person starting from the coated wires described in Examples 1 to 4 of D11, would have found obvious not only to add a scorch retarding compound to the the silane crosslinkable polyolefin compositions used in said Examples (in view of D18), but also to use the resulting composition as insulation layer in a cable of the type defined in operative claim 1.

8.7 On that basis the cable defined in claim 1 of Auxiliary Request VII does not involve an inventive step and Auxiliary Request VII is not allowable.

9. As all the requests on file are found not to meet the requirements of Article 56 EPC, there is no need for the Board to decide on any other issue and the patent is to be revoked.

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:

B. ter Heijden D. Semino

Decision electronically authenticated