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**Datasheet for the decision
of 23 May 2019**

Case Number: T 1553/16 - 3.3.03

Application Number: 04813076.9

Publication Number: 1692222

IPC: C08K5/00

Language of the proceedings: EN

Title of invention:

STABILIZED POLYETHYLENE MATERIAL

Patent Proprietor:

Dow Global Technologies LLC

Opponents:

Borealis AG

BASF SE

Total Research & Technology Feluy

Relevant legal provisions:

EPC Art. 100(b)

RPBA Art. 13(1), 13(3)

Keyword:

Late-filed document - admitted (no)

Grounds for opposition - insufficiency of disclosure (yes)

Late-filed auxiliary request - admitted (no)



Beschwerdekammern

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Case Number: T 1553/16 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 23 May 2019

Appellant: Dow Global Technologies LLC
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 4 May 2016**

revoking European patent No. 1692222 pursuant to
Article 101(3) (b) EPC.

Composition of the Board:

Chairman D. Semino

Members: O. Dury

 W. Ungler

Summary of Facts and Submissions

I. The appeal by the patent proprietor lies against the decision of the opposition division posted on 4 May 2016 revoking European patent No. 1 692 222.

II. A notice of opposition to the patent was filed requesting revocation of the patent in its entirety.

III. The following documents were *inter alia* cited in the opposition division's decision:

C9: Extract from Jana Laboratories homepage - Test Methods (4 pages)

D10: Letter from Dr. K. Oliphant, Jana Corporation, dated 4 February 2016 (1 page)

IV. The contested decision was based, *inter alia*, on the main request and first to third auxiliary requests, all filed with letter of 1 April 2016, and on the fourth to sixth auxiliary requests filed with letter of 8 February 2016.

Claim 1 of **said main request** read as follows:

"1. A pipe comprising:

a polyethylene resin, wherein said polyethylene resin has a density of at least 0.925 g/cc and a maximum density of 0.965 g/cc, a melt index (I₂) in the range of 0.05 to 5 g/10 minutes; and

an antioxidant system, wherein said antioxidant system comprises:

at least one antioxidant from a first class of antioxidants which is 3,3',3",5,5',5"-hexa-tert-butyl-.alpha.,.alpha.',.alpha."-(mesitylene-2,4,6-triyl)tri-p-cresol;

and at least one antioxidant from a second class of antioxidants which is pentaerythritol tetrakis(3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate) or octadecyl-3-(3,5-di-tert.butyl-4-hydroxyphenyl)-propionate;

wherein said pipe is capable of obtaining an F time in Jana Laboratories Procedure APTF-2 of at least 1000 hours, under the following conditions: pH 6.8 (± 0.1); chlorine 4.1 mg/l (± 0.1); Nominal ORP 830mV; fluid temperature 110 °C (± 1); air temperature 110 °C (± 1); pressure 70 psig (± 1); flow rate 0.1 US gallons/min (± 10 percent)."

Claim 1 of **said first auxiliary request** differed from claim 1 of the main request in that the following sentence was added at the end of the claim:

"wherein one of the antioxidants provides extraction resistance and another provides oxidation resistance"

Claim 1 of **said second auxiliary request** differed from claim 1 of the first auxiliary request in that the feature related to the second class of antioxidants was amended as follows (additions in **bold**, deletions in ~~strikethrough~~):

~~and at least one antioxidant from~~ a second class of antioxidants which is pentaerythritol tetrakis(3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate) ~~or~~ **and** octadecyl-3-(3,5-di-tert.butyl-4-hydroxyphenyl)-

propionate;

Claim 1 of **said third auxiliary request** differed from claim 1 of the second auxiliary request in that the following feature was added at the end of the claim:

"wherein the resin contains from at least 300 ppm up to 5,000 ppm of each class of antioxidant"

Claim 1 of **said fourth auxiliary request** differed from claim 1 of the above third auxiliary request in that the lower end of the range of antioxidant was amended to "500 ppm" (instead of "300 ppm").

Claim 1 of **said fifth auxiliary request** differed from claim 1 of the above fourth auxiliary request in that the higher end of the range of melt index was amended to "1 g/10 minutes" (instead of "5 g/10 minutes").

Claim 1 of **said sixth auxiliary request** differed from claim 1 of the above fifth auxiliary request in that the following features were added at the end of the claim:

"wherein the polyethylene resin further comprises one or more metal deactivators, the one or more metal deactivators being selected from 2',3-bis[[3-[3,5-di-tert-butyl-4-hydroxyphenyl]propionyl]]propionohydrazide and 2,2'-oxalyldiamidobis[ethyl 3-(3,5-di-t-butyl-4-hydroxyphenyl)propionate]".

- V. In the contested decision the opposition division held *inter alia* that the operative main request satisfied the requirements of Article 123(2) EPC but not those of sufficiency of disclosure. Regarding the latter, the opposition division in particular considered that,

although the patent in suit provided at least one way to carry out the invention, it failed to provide sufficient guidance how to select appropriately the antioxidant system in order to satisfy, with a good chance of success, the functional feature indicated as F time in claim 1 of the main request. Considering that the prior art documents did not provide any indication on the possible impact of the structural requirements of claim 1 on the F time value and that the teaching of the patent in suit in that respect, in particular its examples, was not straightforward, the opposition division considered that the skilled person could only find out how to select a suitable combination of additives by trial and error or by performing a complete research program. The opposition division further noted that that conclusion was reached accepting the patent proprietor's argument that the patent in suit provided enough information how to set-up the procedure for evaluating the F time feature (page 11 of the decision: fourth full paragraph).

VI. The patent proprietor (appellant) appealed the above decision. With the statement setting out the grounds for the appeal, the appellant requested that the decision under appeal be set aside and that the case be remitted to the department of first instance on the basis of one of the following requests, in that order:

- the main request, the first, second and third auxiliary requests, all requests filed with letter of 1 April 2016;
- the fourth, fifth and sixth auxiliary requests filed with letter of 8 February 2016;

- the sixth and seventh auxiliary requests, both filed with the statement of grounds of appeal dated 12 September 2016.

Claim 1 of the **sixth auxiliary request** filed with letter of 12 September 2016 differed from claim 1 of the second auxiliary request in that the following feature was added at the end of the claim:

"wherein the antioxidant system further comprises Tris(2,4-ditert-butylphenyl)phosphate".

Claim 1 of the **seventh auxiliary request** differed from claim 1 of the sixth auxiliary request filed with letter of 12 September 2016 in that the following feature was added at the end of the claim:

"wherein the polyethylene resin further comprises one or more metal deactivators"

- VII. With their rejoinders to the statement of grounds of appeal, opponents 1, 2 and 3 (respondents 1, 2 and 3, respectively) all requested that the appeal be dismissed. Respondents 1 and 3 further requested that, if necessary, the case be remitted to the department of first instance, in particular to deal with novelty and inventive step.

Documents D11a, D15 and D16 (which are not relevant for the present decision) were filed together with respondent 1's rejoinder to the statement of grounds of appeal.

- VIII. With letter dated 12 September 2017 the appellant submitted a **corrected version of the sixth and seventh auxiliary requests filed with letter of**

12 September 2016, claim 1 of which differed from claim 1 of each of the sixth and seventh auxiliary requests filed with letter of 12 September 2016 in that the component "Tris(2,4-ditert-butylphenyl)phosphate" was replaced by "Tris(2,4-ditert-butylphenyl)phosphite" (emphasis by the Board).

Also, the appellant requested that D11a, D15 and D16 be not admitted into the proceedings.

- IX. With letter dated 5 October 2018 respondent 2 requested that the sixth and seventh auxiliary requests filed with letter of 12 September 2017 be not admitted into the proceedings.
- X. Issues to be discussed at the oral proceedings were specified by the Board in a communication.
- XI. With letter dated 22 March 2019 the appellant filed a further set of claims as eighth auxiliary request and submitted the following document:

D22: ASTM F2263-03

Claim 1 of the **eighth auxiliary request** differed from claim 1 of the second auxiliary request in that the F time feature was amended as follows (additions in **bold**):

"wherein said pipe is capable of obtaining an F time in Jana Laboratories Procedure APTF-2 of at least 1000 hours, under the following conditions: pH 6.8 (± 0.1); chlorine 4.1 mg/l (± 0.1); Nominal ORP 830mV; fluid temperature 110 °C (± 1); air temperature 110 °C (± 1); pressure 70 psig (± 1); flow rate 0.1 US gallons/min (± 10 percent); **pipe outer diameter 16 to 17 mm, pipe**

thickness 2 mm".

- XII. With letters of 23 April 2019, 8 May 2019 and 30 April 2019 each of respondents 1, 2 and 3, respectively, requested that D22 and the eighth auxiliary request be not admitted into the proceedings.
- XIII. Oral proceedings before the Board were held on 23 May 2019 in the presence of all parties.
- XIV. The appellant's arguments, insofar as relevant to the present decision, may be summarised as follows:

Admittance of D22

- (a) D22 had been filed in reply to the Board's communication, in particular section 6.3 thereof, in which the definition of the criterion to be used to determine the failure time was highlighted for the first time. D22 had been submitted in support of previous submissions made in relation to sufficiency of disclosure and it contained useful background information, which would help all parties to discuss the issues related to the determination of the F time specified in claim 1 of the main request. D22, which was an ASTM standard, belonged to common general knowledge in the technical field of the patent in suit and could therefore be used to complement the information provided in the patent in suit in order to assess sufficiency of disclosure. Although D22 did not exactly correspond to the procedure used to determine the F time as in the patent in suit (the latter being carried out at a higher temperature than the one taught in D22), it was related to the same kind of measurement, as could be seen already

from its title. In that respect, it was to be noted that all the essential features required to determine the F time, which could indeed be different from those disclosed in D22, were explicitly indicated in claim 1 of the main request.

Since D22 had been filed two months in advance of the oral proceedings and was not difficult to understand, the respondents and the Board had sufficient time to deal with it.

For these reasons, D22 should be admitted into the proceedings.

Main request - Article 100(b) EPC

- (b) The "Jana Laboratories Procedure APTF-2" mentioned in operative claim 1 was a test run by Jana Laboratories, the details of which were clearly set out in the examples and claims of the patent in suit. That procedure was well established, known in the art, and offered to the general public as a service by Jana Laboratories, as shown in C9. D10 further showed that that laboratory procedure was available to the public at the priority date of the patent in suit. Therefore, the skilled person would be able to carry out the F time test based on the information provided.

- (c) It was derivable from the indications in the patent in suit that the F time test was a simple test in which a pipe sample was provided, a fluid was flowed through the pipe and the number of hours it took for the pipe to fail, i.e. when a leak was detected, was recorded. As indicated in operative

claim 1, the fluid was water having a specified pH, chlorine concentration and oxidative reduction potential (ORP), which was a function of pH and chlorine. This fluid was circulated inside the pipe at the flow rate, fluid temperature and pressure specified in operative claim 1. The air temperature outside of the pipe was also indicated in operative claim 1. Therefore, the skilled person was provided with full details how to carry out the F time test.

(d) In addition, at the priority date of the patent in suit, a number of standards existed by which polyethylene pipe formulations could be assessed for chlorine resistance, e.g. D22, which would form part of the skilled person's common general knowledge working in the field of polyethylene pipes used for chlorinated water. On the basis of these informations, the skilled person would immediately recognise that the test method according to operative claim 1 was simply a modified version of D22, run at a slightly higher temperature. In that respect, the time until failure was, as indicated in paragraph 8 of the patent in suit, the time taken until a leak was detected, i.e. the time at which the pipe did not hold pressure any more. Although said paragraph 8 was related to prior art, there was no reason to consider that a different criterion was used in the patent in suit to determine failure time.

(e) Also, the patent in suit provided guidance in respect of the pipe dimensions to be used to carry out the F time test, in particular in view of the examples, in which specific diameters and thickness were indicated. In any case, these dimensions were part of common general knowledge since the skilled

person was aware of the pipe dimensions to be used to transport chlorinated water, which was the aim of the patent in suit as indicated throughout the patent specification. In addition, from the flow rate and pressure indications mentioned in claim 1 of the main request, the skilled person would derive concrete information regarding the pipe dimensions.

- (f) The respondents' objection regarding the alleged lack of information in respect of the pipe dimensions, type of failure, nature of the fluid and/or of the chlorine source were rather a matter of clarity, not sufficiency. In that respect, the source of chlorine was not relevant, but the chlorine concentration as specified in claim 1 was sufficient. Regarding the length of the pipe, it was defined according to practical limitations. Also, no evidence was on file showing that the respondents were not able to make a pipe according to operative claim 1. In particular, no evidence was on file showing that different F time values would be obtained if different criteria for defining the time of failure were used.

- (g) For those reasons, the skilled person would understand how to determine the F time specified in operative claim 1 on the basis of the information provided in the patent in suit in combination with common general knowledge. Therefore, the requirements of sufficiency of disclosure were satisfied in respect of the determination of the F time feature mentioned in operative claim 1.

Auxiliary requests (apart from the eighth auxiliary request)

- (h) No further arguments regarding sufficiency of disclosure in respect of the method of determination of the F time feature were submitted by the appellant for any of the first to the third auxiliary requests filed with letter of 1 April 2016, the fourth to the sixth auxiliary requests filed with letter of 8 February 2016, and the sixth and seventh auxiliary requests filed with letter of 12 September 2017.

Eighth auxiliary request - Admittance

- (i) The eighth auxiliary request had been submitted in reply to the Board's communication, in particular in view of the concerns related to the pipe dimensions indicated in section 6.3.4 thereof. Also, it had been filed two months in advance of the oral proceedings, which left sufficient time for the respondents and the Board to deal with it.

The eighth auxiliary request was based on the second auxiliary request filed with letter of 1 April 2016, whereby the amendments made were easy to understand and based on the examples of the patent in suit. These amendments constituted a limitation of the subject-matter of said second auxiliary request and should not take the respondents by surprise.

During the oral proceedings before the Board, it was indicated that the amendments made were intended to limit the pipes being claimed to those having said specific dimensions.

For those reasons, the eighth auxiliary request should be admitted into the proceedings.

XV. The respondents' arguments, insofar as relevant to the present decision, may be summarised as follows:

Admittance of D22

- (a) D22 had been filed in support of the appellant's arguments regarding sufficiency of disclosure in relation to the determination method of the F time feature specified in claim 1 of the main request. However, that objection was already raised at the outset of the opposition proceedings and had been continuously put forward by the respondents throughout the proceedings. Also, the issue of the criteria to be considered to determine the failure time had been raised already during the opposition proceedings. Therefore, there was no justification for filing D22 so shortly before the oral proceedings before the Board.
- (b) D22, which was an ASTM standard, did not belong to common general knowledge and it could not be used to complement the information of the patent in suit to assess sufficiency of disclosure.
- (c) D22 was not cited among the list of other standards indicated in paragraphs 4 and 5 of the patent in suit, in which many other references to recognised standards for assessing the acceptance of plastic pipes for water distribution were indicated. Also, no reference to D22 was made in either C9 or D10. Further considering that D22 had been published one month before the priority date of the patent in

suit, D22 could not have been considered by the appellant since the determination of the F time in some of the examples of the patent in suit took more than 2 months. Finally, since it was acknowledged by the appellant that at least the temperature indicated in claim 1 of the main request was incompatible with the teaching of D22, D22 was, in the absence of any reference thereto in the patent in suit, not relevant for the assessment of sufficiency of disclosure.

- (d) In view of the above, admitting D22 into the proceedings would increase the complexity of the case and run counter to procedural efficiency. Besides, it would be unfair to the respondents since they would not be in a position to verify the appellant's assertion according to which the examples of the patent in suit were carried out according to the teaching of D22 at a different temperature.
- (e) Also, the argument of the appellant that the F time was determined according to D22 carried out at a higher temperature was a complete new line of argumentation, although the question as to how the F time was to be effectively determined was at stake from the outset of the opposition proceedings.
- (f) For those reasons, D22 should not be admitted into the proceedings.

Main request - Article 100(b) EPC

- (g) Operative claim 1 was directed to a pipe which had to comply with a certain stability defined in terms

of the F time feature, which should be measured according to a specific procedure "Jana Laboratories Procedure APTF-2", whereby some of the conditions to be used for said procedure were mentioned in said claim 1. Further considering that claim 1 was neither limited to a specific kind of pipe nor any intended use and was rather unspecific regarding the components used to prepare it, the pipe according to operative claim 1 was mostly defined by the functional feature F time and not by the structural properties of the pipe. Therefore, all relevant information how it should be determined should either be provided in the patent in suit or belong to common general knowledge.

- (h) However, the patent in suit contained no further information, apart from those mentioned in operative claim 1, regarding said F time, either regarding its determination method or what actually influenced that feature. In particular, no information was given regarding the installation in which said test should be performed.
- (i) In addition, it had not been shown that the F time feature was a usual parameter and that its determination method by the Jana Laboratories procedure APTF-2 made part of common general knowledge. In particular, there was no indication in C9 and D10 how said procedure should be carried out or how the installation required looked like. To the contrary, it was derivable from these documents that the procedure was kept secret. Under such circumstances, should the Jana Laboratories not exist anymore or not be willing for any reason to evaluate the failure time under Procedure APTF-2 for a given pipe, nobody would be in a position to

determine the F time according to claim 1, which should not be permitted. Also, it should be taken into account that during the opposition proceedings, novelty and inventive step were argued by the appellant to be given in view of the lack of evidence by the respondents in respect of the F time feature.

- (j) In addition, the dimensions of the pipe, in particular its diameter and thickness, which both influenced the F time, were not indicated in operative claim 1. Although the examples of the patent in suit contained some information regarding the diameter and/or thickness used therein, they were at most related to two pipes of very similar dimensions. Therefore, the skilled person had no information what measures had to be undertaken to achieve the desired F time with a pipe having other dimensions. It was to be noted that the pipes according to operative claim 1 were not limited in terms of their dimensions neither explicitly, nor implicitly, in particular because no specific use (e.g. for transporting chlorinated water) was indicated in the claims.
- (k) During the oral proceedings before the Board, it was further submitted that also the length of the pipe influenced the F time feature, for which no indication at all was given in the patent in suit.
- (l) It was further unclear what was actually detected by the F time feature since the type of failure to be taken into account was neither defined in the patent in suit, nor indicated in C9 and D10. In particular, in the field of pipes for chlorinated water, the failure could be a leak, as indicated in

the patent in suit in relation to the prior art (although even the kind of leak was not mentioned there). However, various other types of failures could be considered such as the appearance of cracks, the first leakage of water, the inability of the pipe to maintain the pressure inside it or the bursting of the pipe. Also, the number of leaks and how many times the test was to be run for a given test were not indicated.

- (m) In view of the above, the patent in suit lacked sufficient guidance how to measure the F time feature specified in operative claim 1. Therefore, the operative main request did not satisfy the requirements of sufficiency of disclosure.

Auxiliary requests (apart from the eighth auxiliary request)

- (n) The objection of lack of sufficiency of disclosure in respect of the determination method of the F time feature equally applied to any of the first to the third auxiliary requests filed with letter of 1 April 2016, the fourth to the sixth auxiliary requests filed with letter of 8 February 2016, and the sixth and seventh auxiliary requests filed with letter of 12 September 2017.

Eighth auxiliary request - Admittance

- (o) Not only there was no reason justifying the late filing of the eighth auxiliary request, but also the eighth auxiliary request did not overcome the objection of lack of sufficiency retained against the main request.

In addition, the eighth auxiliary request was not allowable pursuant to Article 123(2) EPC since it amounted to an unallowable intermediate generalisation on the basis of the pipe dimensions taken out of the examples of the application as filed.

The eighth auxiliary request further did not satisfy the requirements of Article 84 EPC because it was not clear whether the amendments made in terms of the pipe dimensions applied to the pipes being claimed *per se* (as argued by the appellant) or only to the pipes to be tested for the F time, in which case the F time characterised the composition used to make the pipe being claimed but not the pipe itself.

Finally, the eighth auxiliary request amounted to the appellant defending a completely new case because operative claim 1 now encompassed pipes of other shape and dimensions than the one indicated in the F time feature but which did not need to comply with said F time feature. Therefore, the eighth auxiliary request was also objectionable pursuant to Article 123(3) EPC.

(p) For these reasons, the eighth auxiliary request was late-filed and not clearly allowable and should not be admitted into the proceedings.

XVI. The appellant requested that the decision under appeal be set aside and the case be remitted to the department of first instance for dealing with novelty and inventive step on the basis of any of the following requests, in that order:

- either the main request or any of the first, second and third auxiliary requests filed with letter of 1 April 2016;
- any of the fourth, fifth and sixth auxiliary requests filed with letter of 8 February 2016;
- any of the sixth or seventh auxiliary requests filed with letter of 12 September 2017;
- the eighth auxiliary request filed with letter of 22 March 2019.

Furthermore, the appellant requested that D11a, D15 and D16 be not admitted into the proceedings.

Respondents 1 to 3 requested that the appeal be dismissed and that the eighth auxiliary request as well as document D22, both filed with letter of 22 March 2019, be not admitted into the proceedings.

Furthermore, respondents 1 and 3 requested that, if necessary, the case be remitted to the first instance for further prosecution, in particular for dealing with novelty and inventive step.

Moreover, respondent 2 requested that the sixth and seventh auxiliary requests filed with letter of 12 September 2017 be not admitted into the proceedings.

Reasons for the Decision

Main request

1. Admittance of D22
 - 1.1 Considering that D22 was filed with the appellant's latest submission, i.e. after the parties had been summoned to oral proceedings, its admission into the proceedings undergoes the stipulations of Article 13(1) and (3) RPBA.
 - 1.2 The appellant argued that D22 was filed in reaction to the Board's communication, in particular in reply to the issue related to the definition of the criterion which had to be fulfilled in order to determine the F time feature according to claim 1 of the operative main request (section 6.3.4 of the communication: paragraph bridging pages 5 and 6).

However, as already indicated in the passage of the Board's communication relied upon by the appellant, said preliminary opinion of the Board was based on an issue which had been raised by respondents 1 and 3 in their rejoinder to the statement of grounds of appeal and on their arguments. Therefore, said communication cannot justify the submission of D22 at such a late stage of the proceedings (Case Law of the Boards of Appeal of the EPO: IV.E.4.4.12).

- 1.3 Apart from the Board's communication, no other justification was provided by the appellant why D22 was filed at such a late stage of the proceedings. Further considering that the issue of sufficiency of disclosure related to the question whether or not the skilled

person was in a position to determine reliably the F time feature according to granted claim 1 was at stake from the outset of the opposition proceedings (see e.g. opponent 1's letter of 23 April 2019: section 11), there are no compelling reasons why D22 was not submitted earlier. In that respect, it may further be noted that since D22 is explicitly cited on page 1 of C9 (second standard mentioned in the section "Test Methods"), which was already cited in the contested decision and in the statement of grounds of appeal, the appellant could and should have submitted that document earlier if he had contemplated relying on it.

- 1.4 In addition, admitting D22 into the proceedings would raise new issues, e.g. regarding the dimensions of the pipe and the nature of the fluid and/or chlorine source for determining the F time according to either D22 or the patent in suit (respondent 3's letter of 30 April 2019: page 2, paragraphs 4-9), which would run against the need for procedural economy.
- 1.5 Finally, the argumentation of the appellant that the APTF-2 procedure used to determine the F time in the examples of the patent in suit corresponded to the procedure according to D22 only adapted in terms of the temperature of determination could not have been verified by the respondents before the date scheduled for the oral proceedings before the Board in view of the duration of that test, which lasts longer than the time available between the filing of D22 and the date at which the oral proceedings were scheduled (see respondent 1's letter of 23 April 2019: section 14 and the table in paragraph 40 of the patent in suit). Therefore, admitting D22 into the proceedings would have raised an issue which the respondents could not have dealt with without adjournment of the oral

proceedings, which is contrary to the stipulations of Article 13(3) RPBA.

1.6 In view of the above, the Board finds it appropriate to make use of its discretion pursuant to Article 13(1) RPBA and of its power pursuant to Article 13(3) RPBA by not admitting D22 into the proceedings.

1.7 As a consequence of the above decision, the appellant's arguments related to sufficiency of disclosure put forward in writing and based on D22 cannot be taken into account by the Board.

2. Sufficiency of disclosure

2.1 In order to meet the requirements of sufficient disclosure, an invention has to be disclosed in a manner sufficiently clear and complete for it to be carried out by the skilled person, without undue burden, on the basis of the information provided in the patent specification, if needed in combination with the skilled person's common general knowledge. This means in the present case that the skilled person should in particular be able to prepare a pipe according to claim 1, which is disputed by the respondents.

2.2 The pipe according to claim 1 is characterised by a combination of structural features related to the definition of a polyethylene resin and of antioxidants which have to be mandatorily present, with the additional functional feature "an F time in Jana Laboratories Procedure APTF-2 of at least 1000 hours, under the following conditions: ... (\pm 10 percent)".

- 2.3 The respondents argued that the patent failed to provide fundamental technical information on how to measure said feature "F time".
- 2.3.1 In that respect, it is noted that that issue was already addressed by the parties in the first instance proceedings, but that the opposition division reached its decision under the assumption that the patent proprietor's arguments could be adhered to (see section V above: last sentence).
- 2.3.2 In addition, the opposition division's conclusion according to which said functional feature was not mandatorily implicitly satisfied by all the pipes falling under the structural definition of claim 1 (reasons of the decision: page 9, second and third paragraphs), which was further adhered to by the respondents, was not contested by the appellant, in particular during the oral proceedings before the Board.
- 2.3.3 Furthermore, it was undisputed that the sole information provided by the patent in suit in relation to said F time feature and to the Jana Laboratories Procedure APTF-2 is the one which is indicated in operative claim 1.
- 2.3.4 The appellant argued that the determination of the F time according to said procedure APTF-2 was a simple test, which could be carried out on the basis of the information indicated in operative claim 1.

However, in the absence of any information in the patent in suit on how to determine the F time feature, the skilled person has no idea which kind of installation should be used in order to carry out said

test according to said procedure APTF-2, nor any knowledge of how the test is carried out and how a failure is identified. The mere indication of some parameters to be fulfilled (as indeed specified in claim 1 of the main request) is of no help if the skilled person does not know on which installation said parameters are to be set and how a failure is identified.

In addition, it cannot be excluded that said procedure APTF-2 does not impose further limitations, in addition to the requirements indeed indicated in claim 1 of the main request, on the conduction of the experimental procedure, which would have to be respected in order to determine reliably the F time feature.

2.3.5 The appellant further argued that it was shown in C9 and D10 that the Jana Laboratories Procedure APTF-2 was an established procedure, which was publicly offered as a service by Jana Laboratories.

However, it is derivable from the fourth paragraph on page 1 of C9 that the testing methodology APTF-2 was kept secret (see wording "**proprietary** testing methodologies" and "**proprietary** analysis methodologies", whereby the emphasis is made by the Board), i.e. it was not available to the public. In that respect, no further information on the methodology is given on page 3 of C9 (see section "Oxidative Resistance: Advanced Pipe Testing Facility II APTF II)").

In addition, D10 contains no information regarding the methodology used to carry out the APTF-2 procedure and to determine the F time feature according to claim 1 of the main request. The fact that it is mentioned in D10

by an employee of Jana that "I can confirm that the public could request a chlorine resistance evaluation, including a failure time (F-time) evaluation, of pipes under Jana Laboratories Procedure APTF-2, prior to 4 December 2003" is merely a confirmation that the Jana Laboratories were prepared to conduct such a test on request before the priority date of the patent in suit, but does not constitute evidence that said test was publically available. It constitutes no evidence either that said procedure belonged to common general knowledge.

- 2.3.6 In the Board's view, the skilled person is also not provided with enough guidance in order to determine which criterion is to be used to determine the failure time when applying the Jana Laboratories Procedure APTF-2. Although it is indicated in paragraph 8 of the patent in suit, in respect of some prior art documents, that the failure time was the time needed until a leak was detected, there is no similar indication in the patent in suit that the same criterion is to be applied when determining the F time feature according to operative claim 1. In that respect, no evidence was provided by the appellant to show that this was the only sensible meaning for that feature, in particular in case of the "proprietary" method of the Jana Laboratories (see above section 2.3.5). To the contrary, the respondents explained that other types of failures could be considered in the present technical field, e.g. appearance of cracks, first leakage of water, inability of the pipe to maintain the pressure inside it or bursting of the pipe, which appears plausible and, for that reason, cannot be excluded by the Board. In that respect, the Board is convinced that using criteria as different as "first appearance of cracks" and "bursting of the pipe" can only lead to

significantly different results in terms of F time and which do not allow the skilled person to know when the test is to be stopped.

2.3.7 Under those circumstances, it was not shown by the appellant that the Jana Laboratories Procedure APTF-2 required to determine the F time feature specified in operative claim 1 was a common procedure and/or that the skilled person could rely on common general knowledge in order to determine said parameter or to compensate the apparent lack of information of the patent in suit in that respect. In other words, essential technical information is missing in order for the skilled person to be able to determine reliably the F time feature indicated in operative claim 1. Further considering that the appellant has deliberately defined the subject-matter of operative claim 1 by the way of an - apparently - unusual parameter and using a method which was not shown to be commonly used in the art, it would have been its duty to provide full information how said method should be carried out. Since, as explained above, that requirement is in the present case not satisfied, there is a fundamental lack of technical information concerning the determination method of the F time feature according to the Jana Laboratories Procedure APTF-2 mentioned in operative claim 1, so that it is not possible to know what measures have to be taken to produce a pipe according to claim 1 as it is not possible to verify whether a product having the property as claimed is obtained. This amounts to a lack of sufficient disclosure.

2.3.8 During the oral proceedings before the Board, the appellant argued that the respondents' objections were related to an alleged ambiguity in the determination of the F time, which was rather a matter of clarity than

sufficiency of disclosure.

However, it may be derived from the analysis according to sections 2.3.2 to 2.3.7 above that, in the present case, the issue at stake is not related to an alleged ambiguity in the determination of a parameter, which could indeed in some cases be a matter of clarity, but rather to a lack of essential information in order to run a specific procedure (namely the APTF-2 procedure), which was not shown to be usual in the art and which is necessary to determine an unusual feature (F time) mentioned in the operative claims. In other words the lack of information does not result in the claim being unduly broad or with unclear edges, but derives from the presence of a parameter which is in itself very specific, but whose method of measurement is kept secret. Therefore, the appellant's argument is rejected.

- 2.3.9 In view of the above, the ground of opposition under Article 100(b) EPC prejudices maintenance of the patent according to the main request.

Auxiliary requests (apart from the eighth auxiliary request)

3. No additional arguments were provided by the appellant in respect of Article 100(b) EPC concerning the determination of the F time feature according to the Jana Laboratories Procedure APTF-2 for any of the operative first to third auxiliary requests filed with letter of 1 April 2016, fourth to sixth auxiliary requests filed with letter of 8 February 2016, and sixth and seventh auxiliary requests filed with letter of 12 September 2017.

Therefore, the Board is bound to reach the same conclusion for each of these auxiliary requests (which all contain said F time feature), which can therefore only share the same fate as the main request. Under those circumstances, none of these auxiliary requests is allowable as a consequence of the grounds under Article 100(b) EPC.

4. In view of that conclusion regarding sufficiency of disclosure, there is no need for the Board to deal with any other issues in respect of these auxiliary requests, in particular regarding the admittance into the proceedings of the sixth and seventh auxiliary requests filed with letter of 12 September 2017, which was in dispute between the parties.

Eighth auxiliary request

5. Admittance
 - 5.1 Considering that the eighth auxiliary request was filed with the appellant's latest submission, i.e. after the parties were summoned to oral proceedings, its admission into the proceedings undergoes the stipulations of Article 13(1) and (3) RPBA.
 - 5.2 The appellant argued that the eighth auxiliary request was filed in reaction to the Board's communication in order to overcome the concerns identified therein in respect of the grounds under Article 100(b) EPC, in particular regarding the lack of information in respect of the dimensions of the pipe used to carry out the determination method of the F time feature (see section 6.3.4 of said communication).

- 5.2.1 However, it was not contested by the appellant, in particular at the oral proceedings before the Board, that, as already indicated in said passage of the Board's communication, the preliminary opinion of the Board was based on issues raised by the parties and their arguments. Therefore, said communication cannot justify the submission of the eighth auxiliary request at such a late stage of the proceedings (Case Law, *supra*, IV.E.4.4.12).
- 5.3 In addition, the filing of a new request at such a late stage in a case where a relevant objection (here pursuant to sufficiency of disclosure) was known from the beginning of the appeal proceedings does not satisfy the requirements of due process and the need for procedural economy. In that respect, it makes no doubt that the appellant could have filed a request in reply to that objection earlier, e.g. in direct reply to the respondents' rejoinders to the statement of grounds of appeal.
- 5.4 Considering that the dimensions of the pipe *per se* do not contribute to the conclusion on sufficiency of disclosure reached above for the main request, it further appears questionable that the amendments made may be suitable to overcome the objection of lack of sufficiency of disclosure retained against the main request.
- 5.5 Also, the Board agrees with the respondents that, should the eighth auxiliary request be admitted into the proceedings, new and possibly complicated issues in terms of Article 123(2) EPC, Article 84 EPC and/or Article 123(3) EPC (see section XV (o) above: second to fourth paragraphs) would have had to be dealt with at a very late stage of the proceedings, which would run

against the efficiency of the proceedings.

- 5.6 In view of the above, the Board finds it appropriate, in the circumstances of the present case, to make use of its discretion pursuant to Article 13(1) RPBA by not admitting into the proceedings the eighth auxiliary request.
6. Since none of the appellant's requests is either allowable pursuant to grounds under Article 100(b) EPC or admitted into the proceedings, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



B. ter Heijden

D. Semino

Decision electronically authenticated