Candidate's answer

MEMO TO CLIENT

In answer to your questions:

1. Art 24(3) EPC allows parties to object to the composition of a board of appeal on the grounds of suspected partiality, but Decision G 5/91 held that the same principles should also apply to departments of first instance e.g. opposition divisions. However, to successfully object to the composition of the division, you must have a reasonable ground to suspect you would not get a fair hearing (T 433/93) – on the grounds that the division is biased towards the proprietor. The mere fact that the division decided in the proprietor's favour on a different case is unlikely to carry much weight. However, if you can prove that a member of the division is, for example, a former employee of the proprietor, this may suffice (G 5/91). The objection must be raised immediately after you become aware of the reason for objection (G 5/91) – thus, there is no point objecting yet whilst the composition is unknown.

2. D-VII, 1.2 sets out the criteria for accelerating the opposition proceedings. Whilst you can request acceleration if you are being sued for the patent being opposed (D-VII, 1.2(iii)), there is no express provision for acceleration in the case of infringement proceedings on a different patent. Nevertheless, it might be argued under point (vi) of D-VII,1.2 that other matters hinge on the present opposition i.e. how to handle the infringement proceedings on the parent patent. To accelerate proceedings, you must submit a reasoned request, preferably as soon as possible.

3. It is allowable for the divisional to be broader than the granted patent. Art 123(2) and (3) EPC – which govern extension of subject-matter – do not prohibit this. Furthermore, Art 76(1) EPC merely states that the divisional may not extend beyond the content of the parent as filed, rather than beyond the scope of the parent as granted. In principle, the parent and divisional are independent of each other, so this situation is allowable. Furthermore, this situation is not one of the grounds of opposition mentioned in Art 100(c) EPC.

4. Yes, Annex 3 can be used. Annex 3 is a fax to the EPO in relation to an application that was published on 12.04.1998. Thus, the file of this application would have been open to public inspection at the time the fax was filed (Art 128(4) EPC). The fax will be deemed to be made available to the public (in the sense of Art 54(2) EPC) on the date of its receipt at the EPO (30.10.2000) (analogous reasoning to T 381/87), and is therefore prior art in the sense of Art 54(2) EPC against those claims that are not entitled to the priority date.

STATEMENT OF GROUNDS

The patent is opposed in its English text and is referred to as A1.

1. EFFECTIVE DATES OF CLAIMS

1.1 The subject-matter of claims 1 to 4 finds basis in the priority application filed on 14.12.1999. Thus, these claims have an effective date of 14.12.1999 (C-V, 2.2 and Arts 88(3) and 89 EPC).

1.2 The subject-matter of claims 5 to 7 was not present in the priority application. Thus, these claims are entitled only to the filing date of the application (C-V, 2.3). The effective date of these claims is therefore 11.12.2000.

2. PRIOR ART

2.1 Annex 2 (English version, referred to as A2),
Annex 4 (English version, referred to as A4),
Annex 5 (English version, referred to as A5) and
Annex 6 (English version, referred to as A6)
were all published before the earliest effective date of 14.12.1999. These documents are prior art under Art 54(2) EPC for all claims, and are relevant to the consideration of both novelty and inventive step.

2.2 Annex 3 (French version, referred to as A3) is a fax submitted to the EPO in connection with the patent application of A2. A2 was published before the fax was received at the EPO, and hence the file of A2 was open to public inspection at the date on which the EPO received A3. Thus, A3 was made available to the public on 30.10.2000. A3 is therefore prior art under Art 54(2) EPC for claims 5 to 7 (which have a later effective date), and is relevant to the consideration of both novelty and inventive step.
As well as being directly citeable against claims 5 to 7, certain passages of A3 are relevant to all claims since these passages give evidence of the common general knowledge in the art in the period of time before the earliest effective date and explain the meaning of certain terms of art that were known to the skilled person before the earliest effective date.

3. ADDED SUBJECT-MATTER (Art 100(c) EPC)

The feature that the metallic coating is made of nickel, which is present in paragraph [011] of the description and claim 5, was introduced by an amendment made during prosecution of A1. It is noted that this feature was present in the abstract of A1 as filed, but T 246/86 held that the abstract does not form part of the disclosure of the invention and can not be used to interpret the content of the application for the purposes of Art 123(2). This is emphasised by Art 85 EPC which states that “the abstract shall merely serve for use as technical information;

it may not be taken into account for any other purpose." Thus, the disclosure of this feature in the abstract cannot be considered to be a disclosure in the "application as filed" for the purposes of Arts 100(c) and 123(2) EPC.

The application as filed disclosed only that a metallic layer can be used (see, for example, page 3, lines 8 to 10 and 18 to 23 and claim 4) but does not give any examples of metals that might be used. In particular, the application as filed does not contain any mention of nickel.

Thus, this amendment fails to satisfy the disclosure test set out in T 194/84, because the new feature of a nickel layer cannot be directly and unambiguously derived from the application as filed. In other words, it is not possible to derive this particular species (nickel) from the generic disclosure of "metal".

Paragraph [011] and claim 5 introduce matter that extends beyond the content of the application as filed and the patent is opposed pursuant to Art 100(c) EPC.

4. CLAIM 1

4.1 Novelty

Claim 1 lacks novelty in the sense of Art 54(2) EPC having regard to A2. A2 discloses all features of claim 1, specifically:

"An electrorheological fluid" – see, for example: p1, line 20; p1, line 26; and p2, line 1.

"comprising … a base oil" – page 2, line 1 discloses that crude oil is converted to an ERF. According to p2, l 7 of A1, a base oil is "an electric insulating oily medium" and p3, l 2 of A1 states that "the preferred base oil is crude oil".

Thus, the crude oil disclosed in A2 is a base oil in the meaning of claim 1, since it is known from A1 that crude oil has the characteristics of a so-called “base oil”.

“dispersed particles” – page 2, lines 1-2 state that particles are added to crude oil, and it is clear from page 2, lines 23-27 that such particles are dispersed within the crude oil. A further example of suitable particles is given at page 2, line 23.

“major amount of base oil and a minor amount of dispersed particles” – page 2, lines 23 to 25 teaches that stable dispersions occur when the particles are present in very low concentrations in the oil. At a low concentration, the oil and particles will be present in major and minor amounts respectively.

“each particle consisting of a first natural polymer mixed with a second, different, natural polymer” – page 2, line 23 discloses particles made of a mixture of starch and a gum. The term “mixture” means that the components are mixed. It is clear from page 2, line 26 of A1 that starch is a type of natural polymer. Furthermore, it is clear from A3, paragraph 2, line 3 (“polymérique naturel”) that each of the 3 gums disclosed in A2 are inherently natural polymers. This is supported by page 2, line 27 of A1 which states that the second natural polymer is acacia gum: A2 discloses arabic gum, which is simply another name for acacia gum (see A3, lines 2-3), hence the arabic gum of A2 is a natural polymer in the sense of claim 1. Thus, the particles of A2 have first and second natural polymers.

Thus, claim 1 lacks novelty over A2 and is opposed pursuant to Art 100(a) EPC.

5. CLAIM 2

5.1 Novelty

Claim 2 lacks novelty in the sense of Art 54(2) EPC having regard to A2. As noted in 4.1, all features of claim 1 (from which claim 2 depends) are disclosed in A2. Furthermore, A2 discloses all of the further features of claim 2:

"base oil is crude oil" – page 2, line 1 discloses crude oil. Crude oil is a base oil for the reasons given in 4.1.

"mixed natural polymers are starch" – page 2, line 23 discloses a mixture comprising starch.

"… and acacia gum" – page 2, line 23 discloses a mixture comprising a gum. The types of gum disclosed in A2 include arabic gum, which is the same as acacia gum for the reasons given in 4.1. The presence of "acacia gum" in claim 2 cannot be considered to be a novel selection from the list of gums given in A2, because C-IV, 7.7 states that "a selection from a single list of specifically disclosed elements does not confer novelty" and A2 discloses a single list in which acacia/arabic gum is specifically disclosed.

Thus, claim 2 lacks novelty over A2 and is opposed pursuant to Art 100(a) EPC.

6. CLAIM 3

6.1 Inventive Step

Claim 3 lacks an inventive step in the sense of Art 56 EPC having regard to A2.

A2 is determined to be the closest prior art, since it discloses all of the features of claims 1 and 2 (upon which claim 3 is dependent) for the reasons given in 4.1 and 5.1. The difference between claim 3 and A2 is that claim 3 calls for the starch to be obtainable from corn, whereas A2 discloses the use of starch obtained from potato (see page 2, line 8). However, this difference does not lead to any technical effect. Whilst A2 notes that starches of different origins will have small structural difference, A2 also notes that starches of various origins can be used. Indeed, A1 itself acknowledges that starch is well-known for use in ERF materials, that starch is commonly produced from potatoes or corn (both types being widely available) and that both can be used with equal effect. Thus, no technical problem is solved by replacing the potato starch disclosed in A2 with the corn starch called for by claim 3, and hence claim 3 is devoid of an inventive step.

Should the opposition division still not be convinced, it is noted in passing that A3 (3rd paragraph) mentions that the similar structural an chemical properties of corn starch and potato starch have been parts of the common general knowledge of the person skilled in the art since the 1920s. Thus, even if it were possible to derive an objective technical problem, the person skilled in the art would – based upon common general knowledge alone – require no incentive to replace the potato starch disclosed in A2 with corn starch in the reasonable expectation of achieving a successful result.

Thus, claim 3 lacks an inventive step having regard to A2.

7. CLAIM 4

7.1 Inventive Step

Claim 4 lacks an inventive step in the sense of Art 56 EPC having regard to the combination of A4 and A5.

A4 is considered to be the closest prior art because it is directed to a similar purpose to claim 4 (that of transporting ERFs in pipelines) and is directed to the similar technical effect of improving the ERF's properties by using a metal layer on a core material. Furthermore, A4 also discloses the greatest number of features of claim 4, specifically:

"An ERF for use in pipelines" – see p 2, l 1-5 which discloses that particles can be dispersed in fluids (such a fluid being an ERF – see page 1, line 27) and that such fluids can be transported through a pipeline. Thus, the ERF of A4 is clearly suitable for the claimed purpose (C-III, 4.8).

"a major amount of crude oil" – page 2, line 2 discloses that crude oil is a suitable fluid, and from the term "small amounts of … particles" at page 1, line 27 it is apparent that the crude oil is meant to be present in a major amount with respect to the particles.

"a minor amount of dispersed particles" – page 1, line 27 discloses dispersing a small amount of particles.

"a core coated with a metallic layer" – see page 2, line 21.

"an additive useful for the protection of the pipeline" – see page 2, lines 4 to 5 – the pipeline additive protects the pipeline from interaction with fluid components.

The difference between claim 4 and A4 is that claim 4 calls for the particle to have a core that comprises a mixture of starch and a second natural polymer, whereas the core of A4 is made from just one type of material such as synthetic resin. The effect of using a mixture of starch and a second natural polymer in the context of a metal coated particle is stated to be to allow the ERF to perform within a broader temperature range (see A1, page 3, line 9 to 11). Thus, the objective technical problem is to allow the ERF disclosed in A4 to perform within a broader temperature range.

A5 discloses a solution to this problem: lines 6 to 9 state that the ERF can perform within a broader temperature range by using particles that consist of a core of starch and guar gum that is covered by an aluminium coating.

The person skilled in the art would seek to combine A4 and A5 because both are in the same technical field and because A5 discloses a solution to the technical problem. He would combine the documents by using particles of the type disclosed in A5 in the arrangement of A4 - this would be readily achievable because aluminium is disclosed as a suitable metal in both A4 (page 2, line 23) and A5. This combination would solve the technical problem and would anticipate claim 4 because guar gum (as called for by A5) is a type of natural polymer (see A3 which discloses that “gomme guar” is a “polymérique naturel”) and aluminium is well known to be a type of metal. Thus, claim 4 lacks an inventive step.

8. CLAIM 5

8.1 Inventive Step

A4 is considered to be the closest prior art for the reasons given in 7.1. The difference between claim 5 and A4 is the same as that stated in 7.1, because A4 discloses the use of a nickel layer (see page 2, lines 23 and 25).

However, as noted in 7.1, claim 4 (upon which claim 5 is dependent) is obvious because the person skilled in the art would simply substitute the particles of A4 with those of A5 - but, the particles of A5 have an aluminium, rather than a nickel, layer. As noted in 7.1, the technical effect of the particles of A4 is to enable the ERF to perform in a broader temperature range. In contrast, the technical effect of the mechanical layer is that it shows a particular mechanical strength (see A4, line 25). These two technical effects are unrelated, hence claim 5 solves partial problems (see C-IV, 9.5 and 9.9) and each of these features can be considered without regard to the other.

Thus, the use of a particle made of starch and a second natural polymer remains obvious for the reasons given in 7.1.

The technical effect of the nickel layer is to provide a particular mechanical strength and hence the technical problem is to optimise the mechanical strength of the particles of A5. The person skilled in the art would readily do this by simply replacing the aluminium layer of A5 with a nickel layer, since A4 page 2, lines 25 to 26 gives him an incentive to replace the metallic layer in this manner and A4, page 2, lines 22 to 23 point towards there being no incompatibility arising from the use of nickel, rather than aluminium. The teachings of A4 and A5 would be combined because both are in the same field of ERFs.

Thus, the person skilled in the art would replace the aluminium layer of A5 with one of nickel, and would then incorporate the modified particle into the arrangement of A4 to solve the partial problems, and in doing so would arrive at the subject-matter of claim 5.

Claim 5 is therefore obvious having regard to the combination of A4 and A5.

9. CLAIM 6

9.1 Claim 6 as dependent on claim 1 – Inventive Step

Claim 6 is obvious having regard to A3. A3 is considered to be the closest prior art because its teaching essentially corresponds to that of A2, which was novelty destroying for claim 1 (upon which claim 6 is dependent), and because A3 mentions the size of particles whereas A2 is silent on this matter.

A3 discloses the following features of claim 6:

"An ERF" – this is implicit, particularly when A3 is read in the context of A2 (which is cross-referenced in A3 – C-IV, 7.1)

"A major amount of base oil" – page 1, final para, final sentence discloses 1 litre of crude oil having a density of 0.89 g/ml i.e. 890 g of crude oil. Crude oil is a base oil for the reasons given in 4.1.

"A minor amount of dispersed particles" – p1, final para, final sentence discloses 5 g of dispersed particles.

"Each particle comprising a first natural polymer mixed with a second natural polymer" – page 2, lines 1 to 3 discloses a mixture of starch and arabic gum, both of which are natural polymers for the reasons given in 4.1.

The difference between A3 and claim 6 is that claim 6 calls for the average particle diameter to be about 20 to 30 micrometres, whereas A3 specifies an average diameter of about 32 micrometres. A1 does not state that any particular technical effect is provided by this particular diameter, but merely states (at paragraph [008]) that this is "most appropriate".

Moreover, paragraph [008] of A1 hints that the same technical effect would be achieved by any particle diameter between 10 and 100 micrometres. Thus, the difference between the "about 32 micrometres" disclosed in A3 and the "about 20 to 30 micrometres" called for by claim 6 does not give rise to any technical effect or solve any technical problem. The subject-matter of claim 6 can therefore be considered to be an arbitrary non-functional modification of A3, such that claim 6 lacks an inventive step in the sense of Art 56 EPC (see C-IV, 9.10.1).

9.2 Claim 6 as dependent on claim 4 – Inventive Step

A4 is the closest prior art for the same reasons given in 7.1. The common features of A4 and claim 4 (upon which claim 6 is dependent) were discussed in 7.1. The further feature introduced by claim 6 is that the particle diameter is of about 20 to 30 micrometres. However, this range of particle diameters is not novel over the range of particle diameters disclosed in A4. A4 states (at p 2, l 28) that the usual particle size is less than 100 micrometres, but this should be read in the light of p 2, l 30-32 which states that there is no reliable preparation method for particles with a size less than 15 micrometres. Thus, A4 only provides an enabling disclosure of the range of 15 to 100 micrometres. The sub-range recited by claim 6 is not novel over this range since it fails to satisfy the criteria set out in C-IV, 7.7(ii) because:

(i) The selected range is not narrow – the selected range occupies approximately 15% of the range known from A4.

(ii) The selected range is not far removed from the end points of the known range - the end point of 15 micrometres disclosed in A4 is very close to the lowest point of the range of claim 6 (20 micrometres).

(iii) The selected range involves no purposive selection. A1 does not specify any reason why this particular range is chosen, merely that it is "most appropriate". In view of the teaching at page 2, lines 29 to 30 that "the smaller the particles the less time required for solidification" it is apparent

that the range of claim 6 is merely a preferred embodiment of the range disclosed in A4.

Thus, the further feature of claim 6 is known from A4. The difference between claim 6 and A4 is the same as that described at 7.1, and claim 6 is obvious having regard to A4 for the same reasons given at 7.1. Claim 6 lacks an inventive step in the sense of Art 56 EPC.

10. CLAIM 7

10.1 Inventive Step

A6 is the closest prior art because it is the only document directed to the same purpose of repairing leaks in crude oil pipelines.

A6 discloses a method of solidifying oil in a pipeline to allow the pipeline to be repaired, in which cooling chambers are used to freeze the crude oil in a particular pipe section (see p 1, l 22-25), such that the oil is solidified by freezing at a point upstream of the leak.

The difference between claim 7 and A6 is that claim 7 uses the ERF effect to solidify the crude oil, whereas A6 uses freezing to solidify the crude oil. The effect of this difference is that solidifying by means of the ERF effect is rapid (see p 3, l 1-3 of A1), whereas the freezing process is much slower and thawing alone can take a couple of hours (see line 28 of A6). Thus, the technical problem to be solved is how to speed up the reversible solidification process of A6.

A4 discloses the solution to this problem. A4 acknowledges that the ERF effect can be used to solidify and fluidize fluids in a manner that is swifter than known solidification/fluidization techniques (see page 1, lines 14 to 17).

Thus, given this clear statement of the solution of the problem, the skilled person would have turned to A4. He would have realised that A4 and A6 are readily combinable since p 2, l 2 of A4 discloses crude oil, and p 2, l 4 discloses pipelines. He would have combined A4 and A6 by dispersing the metal coated particles (see p 2, l 21 of A4) into the crude oil and applying an electric field to cause solidifying, in the manner taught by p1, l 15-16 of A4. It would have been obvious to disperse the particles upstream of the leak, since this is the only way to prevent leakage. Thus, the skilled person would have combined A6 with A4 to arrive at the invention of claim 7. Claim 7 therefore lacks an inventive step in the sense of Art 56 EPC.

Notice of Opposition to a European Patent

E… t Office

Tabulation marks

for EP…

I. Patent opposed

Opp. No. OPPO (1)

Patent No.	EP 1200300
Application No.	03123456.7
Date of mention of the grant in the European Patent Bulletin (Art. 97(4), 99(1) EPC)	13.07.2005

Title of the invention:

Electrorheological Fluids

II. Proprietor of the Patent

first named in the patent specification

Stelam Factories

Opponent's or representative's reference (max. 15 spaces) OREF

III. Opponent

OPPO (2)

Name

Address

Livenbroy Enterprise
Beierenstraat 59
9000 Ghent
BELGIUM

State of residence or of principal place of business

BE

Telephone/Telex/Fax

Multiple opponents

☐ further opponents see additional sheet

IV. Authorisation

1. **Representative**
(Name only one representative to whom notification is to be made)

OPPO (9)

Name

Address of place of business

Heine, Ken
Herrenstrasse 55
80539 München
GERMANY

Telephone/Telex/Fax

Additional representative(s)

☐ (on additional sheet/see authorisation) OPPO (5)

2. **Employee(s)** of the opponent authorised for these opposition proceedings under Art. 133(3) EPC

Name(s):

Authorisation(s)

☐ not considered necessary

EPO use only

V. Opposition is filed against

— the patent as a whole ☑

— claim(s) No(s).

VI. Grounds for opposition:

Opposition is based on the following grounds:

(a) the subject-matter of the European patent opposed is not patentable (Art. 100(a) EPC) because:

— it is not new (Art. 52(1); 54 EPC) ☑

— it does not involve an inventive step (Art. 52(1); 56 EPC) ☑

— patentability is excluded on other grounds, i. e. Art. ☐

(b) the patent opposed does not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Art. 100(b) EPC; see Art. 83 EPC). ☐

(c) the subject-matter of the patent opposed extends beyond the content of the application/ of the earlier application as filed (Art. 100(c) EPC, see Art. 123(2) EPC). ☑

VII. Facts and arguments

(Rule 55(c) EPC)
presented in support of the opposition are submitted herewith on a separate sheet (annex 1) ☒

VIII. Other requests:

Oral proceedings ars requested in the event that the opposition division is minded not to revoke the patent completely.

IX. Evidence presented

EPO use only

Enclosed = ☐

will be filed at a later date = ☐

A. **Publications:**

Publication date

1

Particular relevance (page, column, line, fig.):

2

Particular relevance (page, column, line, fig.):

3

Particular relevance (page, column, line, fig.):

4

Particular relevance (page, column, line, fig.):

5

Particular relevance (page, column, line, fig.):

6

Particular relevance (page, column, line, fig.):

7

Particular relevance (page, column, line, fig.):

Continued on additional sheet ☐

B. **Other evidence**

EPO use only

X. Payment of the opposition fee is made

☑ as indicated in the enclosed voucher for payment of fees and costs (EPO Form 1010)

☐

XI. List of documents

Enclosure No.			No. of copies		
0	☒	Form for notice of opposition	2	(min. 2)	
1	☒	Facts and arguments (see VII.)	2	(min. 2)	
2		Copies of documents presented as evidence (see IX.)			
2a	☑	— Publications	2	(min. 2 of each)	
2b	☑	— Other documents	2	(min. 2 of each)	
3	☐	Signed authorisation(s) (see IV.)			
4	☑	Voucher for payment of fees and costs (see X.)	1		
5	☐	Cheque			
6	☐	Additional sheet(s)		(min. 2 of each)	
7	☐	Other (please specify here):			

XII. Signature of opponent or representative

Place Munich, Germany

Date 9 March 2006

Ken Heine