

**FD2 (P3) – Preparation of Specifications for United Kingdom Patents
Mark Scheme 2015**

Assessment Task

Your client sends you the correspondence listed on the Instructions to Candidates sheet regarding a new idea.

Your task is to prepare a complete patent specification that is ready for filing at the UK Intellectual Property Office. The specification should be drafted with a view to obtaining a UK patent.

Note the following:

- a) You should assume that the client's description of the prior art in the field is complete.
- b) You should not make use of any other prior art or special knowledge that you may have of the subject matter concerned.
- c) You should also assume that the client's description of the device and its operation is accurate, i.e. that the device works as described.

Allocation of marks

Introduction and Description: 35 marks

Claims: 60 marks

Abstract: 5 marks

Total: 100 marks

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Answer

Introduction and Description

Title	1 mark
Statement of field	1 mark
Prior Art	2 mark
Statement of invention and general description - mark cumulatively awarding ½ mark for what the feature does and ½ for why the feature is beneficial/advantageous, up to a maximum of 15 marks.	15 marks

Figures:

i) Page numbering	1 mark
ii) Feature numbering	1 mark
iii) Figure description	2 marks

Specific description:

- i) Description of what it looks like. The following features must be described:
 - the vessel including an electrically conductive coating through which an electrical current can be passed to heat the material, vessel and any content
 - Coating on [only] exterior surface of vessel; coating is continuous
 - Vessel includes reaction chamber in which coating substantially overlays reaction chamber
 - Vessel is a microtitre vessel; has a volume of about one to three cubic millimetres; specific dimensions
 - vessel formed by injection moulding, rolling or stamping
 - Coating includes carbon; specific ink disclosed
 - Plurality of coatings
 - Vessel has first and second electrical contact points in which the coating extends between the contact points, where first contact region in base and second contact region remote from the base

- ii) Description of how it works. The following features must be described:
 - Method of producing/manufacturing a [reaction] vessel where an electrically conductive coating is applied to (an external) surface of a [reaction] vessel
 - coating applied as an ink
 - cleaning vessel before application of coating; cleaned with corona discharge
 - vessel is dipped into coating fluid; description of mandrel and rotation; vessel is rotated while dipping; vessel also rotated after dipping
 - vessel dipped to a constant depth by way of weir arrangement
 - coating is cured/dried after application

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- repeated application of method/coating

iii) Alternatives

- Coating may include a metal, copper, boron, boron nitride
- coating applied by spraying, painting, vacuum deposition
- coating applied as a paste, gel, fluid

12 marks

TOTAL: 35 marks

Claims

[If claims directed to a method or vessel are missing, a maximum of 30 marks only is available for the claims]

Independent apparatus claim

15 marks

Independent method claim

15 marks

Dependent claims

30 marks

TOTAL: 60 marks

Abstract

Title

1 mark

Figure

1 mark

Text

3 marks

TOTAL: 5 marks

GRAND TOTAL: 100 marks

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Suggested claims:

Independent Claims

1. A [reaction] vessel **[3 marks]**

suitable for [containing a chemical, biological or biochemical reaction], wherein **[2 marks]**
the vessel includes/having/comprising **[2 marks]**
an electrically conductive coating/layer/material **[5 marks]**
(through which an electrical current can be passed to heat the material, vessel and any
contents). **[remaining 3 marks for form and language]**

Up to 15 marks in total

OR A vessel suitable for containing a chemical, biological or biochemical reaction having a coating/layer/material through which coating electrical current may be passed to provide heating of the material, vessel and any contents.

OR A vessel for containing a chemical, biological and/or biochemical reaction mixture, the vessel including an electrically conductive coating/layer through which an electrical current may be passed to heat the reaction mixture.

Reasons for not giving full marks:

Max 5 marks for claim if one of these included (zero marks if more than one included):

- Any features set out below for dependent claims except for a-d
- Forming the vessel
- Consisting of
- Lid

Deduct 2 marks for each or any of the following:

- No '(suitable) for' clause
- Use for PCR/thermocycler/any specific reaction type
- 'microtitre' vessel
- Vessel being made of a polymer

2. Method of producing/manufacturing a [reaction] vessel, the method comprising: **[5 marks]**
applying an electrically conductive coating **[5 marks]**
to (an external) surface of a [reaction] vessel / a vessel suitable for containing a
biological, chemical or biochemical process **[5 marks]**

Up to 15 marks in total

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Reasons for not giving full marks:

Max 5 marks for claim if one of these included (zero marks if more than one included):

- Any of dependent features except e)
- Reference to using vessel after making it
- Forming the vessel

Deduct 2 marks for each or any of the following:

- wording doesn't marry with vessel claim wording
- includes reference to vessel claims

Dependent claims - 2 marks per claim

up to 30 marks

Apparatus:

- a) Coating/layer on exterior surface
 - b) Coating only on exterior surface
 - c) Continuous coating
- d) Vessel includes reaction chamber in which coating substantially overlays reaction chamber
 - Coating is selected from the group consisting of one or more of: a metal, copper, carbon, boron, boron nitride
 - Plurality of coatings
 - Vessel is a microtitre vessel/ has a volume of about one to three cubic millimetres
 - Vessel is formed by injection moulding
 - Vessel includes a thermally conductive additive
 - Vessel includes an electrical contact [vessel defines first and second electrical contact points/regions in which the coating extends between the contact points/region, wherein first contact region in base and second contact region remote from the base]

Method:

- e) surface is an external surface
 - vessel is a microtitre vessel/vessel has a volume of about one to three cubic millimetres
 - coating applied by spraying, painting, vacuum deposition
 - coating applied as a paste, gel, fluid, ink
 - cleaning vessel before application of coating
 - cleaning with corona discharge
 - coating is cured/dried
 - repeated application of method/coating
 - dipping into coating fluid
 - method further includes rotating the vessel to apply the coating
 - while dipping
 - after dipping
 - dipped to a constant depth
 - wherein coating is selected from the group consisting of one or more of: a metal, copper, carbon, boron, boron nitride

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- wherein vessel is (as claimed in)
- vessel formed by injection moulding, rolling or stamping

Additional Marks available:

- Vessel substantially as described herein with reference to figures 1 to 3
- Method substantially as described herein with reference to figure 3
- Use of a vessel according to any one of claims for providing heat to a biological, biochemical or chemical process
 - OR** Use of vessel with the known system
 - OR** method of heating a chemical, biochemical or biochemical reaction using the vessel as claimed in any one of claims
- Apparatus for making the vessel