

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)	11.08.2015
-------------------------------------	-------------------

Applicant's or agent's file reference FM230-PCTASC	FOR FURTHER ACTION See paragraph 2 below
--	--

International application No. PCT/JP2015/002456	International filing date (day/month/year) 15.05.2015	Priority date (day/month/year) 15.05.2014
---	---	---

International Patent Classification (IPC) or both national classification and IPC
C25D3/58 (2006.01) i, C25D5/26 (2006.01) i, C25D7/00 (2006.01) i, F16L15/04 (2006.01) i

Applicant
NIPPON STEEL & SUMITOMO METAL CORPORATION

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/JP	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2015/002456

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed
 - a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:
 - a. (means)
 - on paper
 - in electronic form
 - b. (time)
 - in the international application as filed
 - together with the international application in electronic form
 - subsequently to this Authority for the purposes of search
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No. PCT/JP2015/002456
--

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement	Novelty (N)	Claims <u>1, 2</u>	YES
		Claims _____	NO
	Inventive step (IS)	Claims <u>2</u>	YES
		Claims <u>1</u>	NO
	Industrial applicability (IA)	Claims <u>1, 2</u>	YES
		Claims _____	NO

2. Citations and explanations:

Document 1: JP 2011-527381 A (UMICORE GALVANOTECHNIK GMBH) 27 October 2011

Document 2: JP 2010-270374 A (BRIDGESTONE CORP.) 02 December 2010

The invention as in claim 1 is novel in relation to documents 1 and 2 and any of the documents cited in the ISR, but does not involve an inventive step in the light of documents 1 and 2.

The invention as in claim 2 is novel and involves an inventive step in relation to documents 1 and 2 and any of the documents cited in the ISR. In particular, the documents do not disclose or suggest performing electroplating on the pin or box of a threaded joint for a pipe by using a predetermined plating solution.

(Comments)

· Claim 1: Documents 1 and 2

Document 1 (see, in particular, claims 1-3, paragraphs [0001] and [0014]-[0022], and examples) discloses a cyanide-free decorative plating solution

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2015/002456

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

containing: the pyrophosphates of copper, tin and zinc; a predetermined metal complexing agent; other arbitrary complexing ligand; and a disulfide compound, such as bis(3-sodium sulfopropyl) disulfide. In addition, document 2 (see, in particular, claim 1, paragraphs [0002] and [0014]-[0019], and examples) discloses a copper-tin-zinc plating bath for decorative plating, the plating bath having: a copper salt, a tin salt, a zinc salt, an alkali metal salt of a pyrophosphoric acid, and an amino acid.

Here, a person skilled in the art could have employed a pyrophosphate, which is a publicly-known complexing agent, as the complexing ligand of document 1, and employed methionine, which is a publicly-known amino acid, as the amino acid of document 2, as appropriate. In addition, the decorative plating solutions of documents 1 and 2 could have been used on the portion requiring decoration, such as the exposed surface, of a threaded joint for a pipe, as required.

Moreover, no particularly significant effect can be found in employing the configuration (it is only in the case where electroplating is performed on the pin or box of a threaded joint for a pipe that an advantageous effect is confirmed in the examples and comparative examples of the present application).