

★★★ <第29回知的財産翻訳検定試験【第14回英文和訳】> ★★★

≪ 1 級課題 -化学- ≫

【解答にあたっての注意】

1. 問題の指示により和訳してください。
2. 解答語数に特に制限はありません。適切な箇所で行ってください。
3. 課題文に段落番号がある場合、これを訳文に記載してください。
4. 課題は4題あります。それぞれの課題の指示に従い、4題すべて解答してください。

問1. 次の記述はある英語明細書からの抜粋です。この記述のうち、*****START*****と*****END*****との間の部分（1か所）を和訳してください。

*****START*****

BACKGROUND OF THE INVENTION

Door assemblies having outer panels or skins formed of a fiber reinforced plastic are well known. Such door assemblies typically include a wood frame and an insulative core sandwiched between the outer skins. Further, the skins are typically molded with the outer surface having a wood grain appearance such that the skins can be stained to simulate the appearance of a solid wood door. A number of patents disclose door assemblies using reinforced polymer door skins, including U.S. Pat. Nos. 3,950,894; 4,550,540; 4,864,789; 4,720,951; 4,850,168; 4,860,512; 4,901,493; 4,922,674; and 5,142,835.

A number of companies, including the assignee of the present invention, offer commercially a fiber reinforced thermoset plastic door in which the skins are formed by compression molding a sheet molding compound (SMC). SMC typically includes a molding resin of unsaturated polyester polymer blended with a vinyl monomer such as styrene. The SMC includes on the order of 20 to 25 percent by weight glass fiber reinforcement and 10 to 40 percent by weight of inert filler material, typically calcium carbonate. The molded door skins have a relatively large surface area, approximately 18 square feet but are relatively thin on the order of 0.070 inch to 0.120 inch.

*****END*****

The SMC is formed by blending resin and filler to form a resin paste. The resin paste is deposited on a moving plastic carrier film passing directly beneath. Simultaneously, glass fiber rovings are fed into a rotary chopper above the resin coated carrier film. The fibers are cut to length, e.g., 1 inch, and are randomly deposited on the underlying layer of resin. Downstream from the chopping operation, a second carrier film is coated with resin paste and is laid, resin side down, on top of the chopped fibers.

問 2. 以下の英文を和訳してください。

As used herein, the term “roughened surface” includes both the surface of a three-dimensionally porous material as well as a solid surface having certain topographies, whether they have regular, quasi-regular, or random network of patterns.

In certain embodiments, the roughened surface may be a porous surface layer comprising randomly, regularly, or quasi-regularly arranged three-dimensionally interconnected network of pores.

In other embodiments, the roughened surface may be a patterned surface layer comprising randomly, regularly, or quasi-regularly arranged two-dimensionally network of patterns.

The two-dimensionally network of patterns can include “blind patterns” (or blind pores) and/or interconnected patterns.

The porous or patterned designs may be independent of one another, or may be partly in contact with one another. Examples of the porous designs include circles, ellipses, and polygons, e.g., triangles or hexagons. Examples of patterns include a checker pattern, honeycomb pattern, chain pattern, and various geometrical patterns each made up of rectangles closely arranged so as to be partly in contact with one another, and further include linear patterns.

問3. 次の記述はある英語明細書からの抜粋です。この記述のうち、
STARTと***END***との間の部分（2か所）を和訳してください。

START

EXAMPLES

[0119] Steel substrates used in the following examples were mild steel, 4130 steel, or 4340 steel specimens.

Example 1

[0120] The first four components of Example 1 were mixed together and dissolved in water followed by the last two components. The pH of Example 1 was 5.

END

(省略)

START

[0122] Using the electrolyte solutions of Example 1, CMMA zinc-manganese alloy coatings were deposited by a pulse current method by alternating pulses at two different current densities, 20 mA/cm² and 80 mA/cm². The pulse duration of each pulse was performed such that substantially equal layer thicknesses at each current density were achieved and 50 layers at each current density were deposited alternatively using a Dynatronix Pulse rectifier. A total of 100 layers having a total thickness of about 20 microns was achieved. The deposition was performed in a single bath vessel.

[0123] For the electrolyte solution of Example 1, the zinc-manganese alloy layers deposited at 20 mA/cm² had a manganese content of about 0.8 wt %, while the zinc-manganese alloy layers deposited at 80 mA/cm² had a manganese content of about 2.7 wt %.

END

備考) CMMA : composition modulated multilayered alloy

問4. 以下の英文を、特許庁の【特許請求の範囲】の形式で和訳してください。

CLAIMS

1. A method for preparing a fibrous material of crosslinked microfibrillated cellulose, said method comprising the steps of:
 - i. spinning a cellulose composition comprising or consisting of dialdehyde microfibrillated cellulose (DA-MFC) into a fibrous material;
 - ii. reducing the pH of said fibrous material to pH 7 or below, to provide cross-linking of the dialdehyde microfibrillated cellulose.
2. The method according to claim 1, additionally comprising the step of heat-treatment of said fibrous material, suitably concurrently or subsequently with the step of pH reduction.
3. The method according to any one of the preceding claims, wherein the pH is reduced to below pH 6.5, suitably below pH 5, preferably below pH 4.
4. The method according to any one of the preceding claims, wherein the crosslinking takes place in the absence of any additional crosslinking agents.
5. The method according to any one of the preceding claims, wherein said dialdehyde microfibrillated cellulose (DA-MFC) is obtained by reacting cellulose pulp fibres with periodate, so as to introduce aldehyde moieties to the cellulose pulp fibres, and subsequently fibrillating said modified cellulose pulp fibres.