

★★★<第14回知的財産翻訳検定試験【第8回和文英訳】>★★★

<<2級>>

問1

1. A liquid crystal display device for displaying an image, comprising:

a first substrate;

a second substrate;

a liquid crystal layer disposed between the first substrate and the second substrate;

a first alignment layer disposed between the first substrate and the second substrate, the first alignment layer being highly oriented; and

a second alignment layer disposed between the first substrate and the second substrate, the second alignment layer being made of polytetrafluoroethylene,

wherein surfaces of both of the alignment layers are treated by an electron beam using a voltage not less than 200 V and not more than 300 V to confer the surfaces of the alignment layers with an effect equivalent to buffing.

2. The liquid crystal display device of claim 1, wherein the first and second alignment layers each comprise polymer films that are coated on the first and second substrates, respectively.

3. The liquid crystal display device of claim 1, wherein the electron beam is directed at an adjustable angle with respect to the surface of at least one of the alignment layers.

問2

[0001]

In nuclear facilities, in order to reduce, as much as possible, the airborne emission levels of radioactive iodine contained in gases

by using iodine filters, not only in the event of accidents etc. but also during steady operation, ventilating and air-conditioning systems, such as those in nuclear reactor buildings and auxiliary buildings, are equipped with radioactive-iodine removing devices containing iodine absorbents for removing radioactive iodine. The hygroscopic moisture of the exhaust gases from these ventilation and air-conditioning systems is dependent on the external climate conditions. When the humidity of the outside air is high, such as in rainy weather, the relative humidity of these exhaust gases may be as high as approximately 90%. When the outside air is dry, the relative humidity drops to a very low value.

[0002]

In ventilation and air-conditioning systems, with a system having an air conditioner, since the exhaust gas is cooled by the air conditioner, the relative humidity of the exhaust gas at the outlet of the air conditioner becomes higher. Also, when the exhaust gas from the ventilation and air-conditioning systems is used for heating, conversely, the temperature of the exhaust gas from the ventilating and air-conditioning systems rises, and therefore, the relative humidity drops. The outside air may sometimes be supplied directly, without air conditioning.

[0003]

Accordingly, radioactive-iodine removing devices provided in the ventilation and air-conditioning systems must treat the exhaust gas under a wide range of humidity conditions, with a relative humidity from 0% to 100%. Conventional iodine adsorbents are easily affected by the humidity in exhaust gases, and when the humidity in the exhaust gas is high, the iodine removing performance of the iodine adsorbents deteriorates; as a result, the conventional iodine adsorbents cannot achieve efficient and stable removal of radioactive iodine.

問 3

FIG. 1 is a longitudinal sectional view of a wind power generator according to an embodiment of the present invention. The wind power generator generally denoted by 1 has a horizontally swivelable nacelle 12 mounted on the upper end of a pole 10. A windmill 13 mounted on an

end of the nacelle 12 has blades 15 arranged on a shaft 14 at intervals of 120° . As can be seen from FIG. 2 which is a sectional view taken along the line II-II of FIG. 1, each blade 15 has an aerofoil-shaped section and is attached to the shaft through a bracket 18 at a predetermined angle to the axis of the shaft. The shaft 14 drives, through bevel gears 22 provided in the nacelle 12, a vertical main shaft 20 extending downward into a base 100 which supports the lower end of the post 10. An overdrive device 30 provided in the base 100 has an input end connected to the lower end of the vertical main shaft 20, while an output end of the overdrive device 30 in the form of a horizontal output shaft 31 is coupled to an input shaft of a generator G. The overdrive device 30, which in the illustrated embodiment is constituted by a gear train comprising a plurality of wheels and pinions, may be substituted by another arrangement such as a planetary gear.