Embodiments of the present disclosure seek to provide a refrigeration cycle device which is advantageous in improving durability under an environment where sulfidizing gas is present.

Solution to Problem

[0006]

A refrigeration cycle system according to an aspect of the present disclosure includes: a first refrigerant pipe; a second refrigerant pipe; a brazing filler metal joining an end portion of the first refrigerant pipe to an end portion of the second refrigerant pipe; a first film covering an exposed portion of the brazing filler metal, the first film being made of a corrosion inhibitor; and a first paint layer covering an outer surface of the first film, wherein the first film is a molecule film which is formed of molecules resulting from chemical combination of metal and the corrosion inhibitor, the metal forming the first refrigerant pipe, the second refrigerant pipe, or the brazing filler metal.

Advantageous Effects of Invention

[0007]

In the present disclosure, it is possible to provide a refrigeration cycle device which may be advantageous in improving durability under an environment where sulfidizing gas is present.

[0008]

Fig. 1 is a diagram illustrating a refrigeration cycle device according to a first embodiment.

Fig. 2 is a vertical cross-sectional diagram schematically illustrating a part of a refrigerant flow path of a refrigerant circuit provided to the refrigeration cycle device according to the first embodiment.

Fig. 3 shows 1,2,3-benzotriazole.

Fig. 4 shows N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methanamine.

Claims

[Claim 1]

A refrigeration cycle device comprising:

a first refrigerant pipe;

a second refrigerant pipe;

a brazing filler metal joining an end portion of the first refrigerant pipe to an end portion of the second refrigerant pipe;

a first film covering an exposed portion of the brazing filler metal, the first film being made of a corrosion inhibitor; and

a first paint layer covering an outer surface of the first film,

wherein the first film is a molecule film which is formed of molecules resulting from chemical combination of metal and the corrosion inhibitor, the metal forming the first refrigerant pipe, the second refrigerant pipe, or the brazing filler metal.

[Claim 2]

The refrigeration cycle device according to claim 1, wherein the first paint layer is made of paint to which a corrosion inhibitor is added.

[Claim 3]

The refrigeration cycle device according to claim 2, wherein the corrosion inhibitor of the first paint layer is the same substance as the corrosion inhibitor of the first film.

[Claim 4]

The refrigeration cycle device according to any one of claims 1 to 3, further comprising a second film covering an outer surface of the first refrigerant pipe and an outer surface of the second refrigerant pipe, the second film being made of a corrosion inhibitor.

[Claim 5]

The refrigeration cycle device according to claim 4, further comprising a second paint layer covering a partial range of an outer surface of the second film.

[Claim 6]

The refrigeration cycle device according to claim 5, wherein the second paint layer is made of paint to which a corrosion inhibitor is added.

[Claim 7]

The refrigeration cycle device according to claim 5 or 6, further comprising

an overlapping portion in which the end portion of the first refrigerant pipe is positioned on an inside of the end portion of the second refrigerant pipe, wherein

the second paint layer covers the second film on the outer surface of the second refrigerant pipe in the overlapping portion, and

the second film on the outer surface of the first refrigerant pipe is not covered by a paint layer.

[Claim 8]

The refrigeration cycle device according to claim 7, wherein the second film in a range except the overlapping portion in the second film on the outer surface of the second refrigerant pipe is not covered by a paint layer.

[Claim 9]

The refrigeration cycle device according to any one of claims 1 to 4, wherein an outer surface of the first refrigerant pipe and an outer surface of the second refrigerant pipe are not covered by a paint layer.