Claims

[Claim 1] A method for testing the seal of a sealing membrane (2), the sealing membrane (2) being fixed to a thermally insulating barrier (1), the thermally insulating barrier (1) resting on a sealed supporting surface (13), the method comprising:

- applying a first strip of sealing mastic (17) to the sealing membrane (2);
- applying a second strip of sealing mastic (18) to the supporting surface (13) around the sealing membrane (2),

- disposing a sealed cover (12) on the first strip of sealing mastic (17) and on the second strip of sealing mastic (18) so that on the one hand the sealed cover (12) is connected in sealed manner to the sealing membrane (2) by the first strip of sealing mastic (17) and, on the other hand, the sealed cover (12) is connected in sealed manner to the supporting surface (13) by the second strip of sealing mastic (18), the sealed cover (12), the supporting surface (13), the first strip of sealing mastic (17), the second strip of sealing mastic (18) and the sealing membrane (2) together defining an enclosed space (19), the sealed cover including a polymer film tarpaulin;

- depressurizing the enclosed space (19) with respect to an environment outside said enclosed space (19); and
- measuring a parameter representing the variation of the pressure inside the enclosed space (19) after said enclosed space (19) has been depressurized.

[Claim 2] The seal test method as claimed in claim 1, in which the sealing membrane (2) includes at least one composite sealed film portion (11), the method further including a step of application of an adhesive layer (21) to a face of said at least one composite sealed film portion (11) in such a manner that said adhesive layer (21) is impregnated in the composite sealed film portion (11), the first strip of sealing mastic (17) being applied to said face of said at least one composite sealed film portion (11).

[Claim 3] The seal test method as claimed in claim 2, in which the adhesive layer (21) is a layer of polyurethane glue.

[Claim 4] The seal test method as claimed in any one of claims 1 to 3, in which the first strip of sealing mastic (17) is adhesive and in which the second strip of sealing mastic (18) is adhesive.

[Claim 5] The seal test method as claimed in any one of claims 1 to 4, in which the first strip of sealing mastic (17) is made of synthetic rubber and in which the second strip of sealing mastic (18) is made of synthetic rubber.

[Claim 6] The seal test method as claimed in any one of claims 1 to 5, in which the polymer film tarpaulin is made of a material chosen from vinyl, nylon and polyethylene.

[Claim 7] The seal test method as claimed in any one of claims 1 to 6, further including a step of positioning a screen (22, 34) covering an interstice between the thermally insulating barrier (1) and the supporting surface (13) in order to prevent the polymer film tarpaulin from being positioned in said interstice during the depressurization of the enclosed space (19).

[Claim 8] The seal test method as claimed in any one of claims 1 to 7, further including a step of positioning a protection angle-iron (35) including a first plane flange and a second plane flange so that the first plane flange is disposed against the sealing membrane (2) and the second plane flange extends along an edge of the thermally insulating barrier (1) and projects in the direction of the supporting surface (13).

[Claim 9] The seal test method as claimed in any one of claims 1 to 8, in which a reinforcing fabric (23) is fixed to the polymer film tarpaulin, the tarpaulin being fixed in such a manner that the reinforcing fabric (23) is positioned in the enclosed space (19) at the level of a corner formed by the thermally insulating barrier (1).

[Claim 10] The seal test method as claimed in any one of claims 1 to 9 further including a step of application of a bearing force in the direction of the supporting surface (13) to the sealed cover (12) in line with the first strip of sealing mastic (17) and in line with the second strip of sealing mastic (18).

[Claim 11] The seal test method as claimed in any one of claims 1 to 10, further including a step of fixing a caul sheet (33) at the level of a corner of the thermally insulating barrier (1) so that said caul sheet (33) covers said corner, the caul sheet (33) being connected in sealed manner on the one hand to the supporting surface (13) and, on the other hand, to the sealing membrane (2).

[Claim 12] The seal test method as claimed in claim 11, in which the caul sheet (33) is made by molding in situ in the corner of the thermally insulating barrier (1).

[Claim 13] The seal test method as claimed in any one of claims 1 to 12, including a step of positioning a connecting device including a connecting angle-iron (36) and a connecting flange (37) disposed facing an orifice formed in said connecting angle-iron (36), said connecting angle-iron (36) being connected in sealed manner to the supporting surface (13), to the sealing membrane (2) and to the sealed cover (2) and the connecting flange (37) being connected in sealed manner to a means (31) for depressurizing the enclosed space (19).

[Claim 14] The seal test method as claimed in claim 13, in which the connecting angle-iron (36) is made by molding it in situ on the thermally insulating barrier (1), the connecting flange (37) being embedded in the mass of the connecting angle-iron (36) during molding thereof.

[Claim 15] A sealing device for closing an enclosed space (19) defined between a sealing membrane (2) fixed to a thermally insulating barrier (1) anchored to a supporting surface (13) and said supporting surface (13); the sealing device including

- a sealed cover (12) connected in sealed manner too, on the one hand, the sealing membrane (2) by means of a first strip of sealing mastic (17) and, on the other hand, to the supporting surface (13) by means of a second strip of sealing mastic (18),

the sealed cover includes a polymer film tarpaulin (12);

and

- a vacuum pump connected to the enclosed space (19) and able to depressurize said enclosed space (19).

[Claim 16] The sealing device as claimed in claim 15, in which the sealing device further including a screen (22) covering an interstice between the thermally insulating barrier (1) and the supporting surface (13) in such a manner as to block said interstice and to prevent the insertion of the polymer film tarpaulin (12) in said interstice in the presence of depressurization of the enclosed space (19).

[Claim 17] The sealing device as claimed in claim 15 or 16, further including a clamping device (25) adapted to exert a bearing force in the direction of the supporting surface (13) on the sealed cover (12) in line with the first and second strips of sealing mastic (17, 18).