

The penetrator assembly may advantageously comprise a spacer which is positioned between said at least one sealing member and a stop surface of the sleeve assembly.

Description of the drawings

In the following, the invention will be disclosed in more detail with reference to the appended drawings.

Fig. 1 is a schematic drawing of an electrical penetrator assembly according to a first embodiment of the invention.

Fig. 2 is a schematic drawing of a ceramic sleeve assembly according to Fig. 1.

Fig. 3 is a schematic drawing of the ceramic sleeve assembly according to Fig. 1 having sealing members sealingly attached to its mantle surfaces.

Fig. 4 is a schematic drawing of a penetrator housing according to Fig. 1.

Fig. 5 is a schematic drawing of a penetrator housing according to Fig. 1 and the ceramic sleeve assembly inserted into a through-bore of the penetrator housing.

Fig. 6 is a schematic drawing of a compression member applying a pressure onto the ceramic sleeve assembly according to Fig. 1.

Fig. 7 is a schematic drawing of an electrical penetrator assembly according to a second embodiment of the invention.

Fig. 8 is a schematic drawing of an electrical penetrator assembly according to a third embodiment of the invention.

Detailed description of the invention

Fig. 1 discloses an electrical penetrator assembly 1 according to a first embodiment of the invention. The penetrator assembly 1 comprises an elongated and generally rotational symmetric ceramic sleeve assembly 2 which provides a feed-trough for an electrical conductor 29 in a manner which is, as such, known in the art. The penetrator assembly 1 further comprises a metal penetrator housing 3 in which the sleeve assembly 2 is sealingly arranged. The penetrator assembly 1 also comprises first and second metal, annular sealing members 4, 5, e.g. in the form of metal membranes, which are sealingly attached to the surface of the sleeve assembly 2. The penetrator assembly 1 also comprises an annular compression member 6 which is attached to the penetrator housing 3 and imparts a pre-determined compressive force upon the sleeve assembly 2. In the disclosed embodiment, the compression member 6 comprises a metal annular bolt or nut having external threads which form a threaded joint with corresponding internal threads of the penetrator housing

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In an aspect, there is provided a method of manufacturing an electrical penetrator assembly comprising:

- a penetrator housing comprising a through-bore and an internal support surface;
- a ceramic sleeve assembly sealingly providing a feed-through for an electrical conductor, which sleeve assembly comprises a first section displaying a first mantle surface, a second section displaying a second mantle surface, and a central section positioned between the first section and the second section, which central section comprises a first, outer support surface and second, outer support surface, and a third, central mantle surface, which is positioned between the outer support surfaces and displays a diameter which is larger than the diameters of the first and second mantle surfaces; and

- a compression member comprising a compressions surface;

said method comprising the steps of:

- sealingly attaching a metal, annular sealing member to the second section of the sleeve assembly;
- positioning the sleeve assembly in the through-bore of the penetrator housing such that the first, outer support surface is brought into contact with the internal support surface;
- attaching the compression member to the penetrator housing such that the compression surface is brought into contact with the second, outer support surface;
- by means of the compression member, directly or indirectly preloading the sleeve assembly by applying a force onto the sleeve assembly such that a predetermined contact pressure is obtained between the first, outer support surface and the internal support surface; and
- sealingly connecting the sealing member to the penetrator housing indirectly via the compression member after said step of preloading the sleeve assembly.

In another aspect, there is provided an electrical penetrator assembly comprising:

- a penetrator housing comprising a through-bore and an internal support surface;
- a compression member which is attached to the penetrator housing and comprises a compression surface; and
- a ceramic sleeve assembly sealingly providing a feed-through for an electrical conductor, which sleeve assembly is positioned in the through-bore of the penetrator housing and comprises a first section displaying a first mantle surface, a second section displaying a second mantle surface, and a central section positioned between the first section and the second section, which central section comprises a first, outer support surface interacting with the internal support surface, and a second, outer support surface interacting with the compression surface, and a third, central mantle surface which is positioned between the outer support surfaces and displays a diameter which is larger than the diameters of the first and second mantle surfaces;

wherein the penetrator assembly comprises:

- an annular sealing member which is sealingly attached to the second section of the sleeve assembly; wherein the compression member is configured to apply a preloading force onto the sleeve assembly such that a predetermined contact pressure is obtained between the first, outer support surface and the internal support surface, and wherein the sealing member is sealingly connected to the penetrator housing indirectly via the compression member.

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