What is claimed is:

1. A flameproof feed-through (200) adapted for use with an aperture, with the flameproof feed-through (200) comprising:

a feed-through element (210) comprising a substantially planar shape, a first interface region (211), and a second interface region (212), wherein one or more conductors (217) extend between the first interface region (211) and the second interface region (212); and

one or more body portions (220) assembled to the feed-through element (210), with the one or more body portions (220) holding the feed-through element (210) in position with respect to the aperture;

wherein the first interface region (211) of the feed-through element (210) extends at least partially to a first side (201) of the flameproof feed-through (200) and wherein the second interface region (212) of the feed-through element (210) extends at least partially to a second side (202) of the flameproof feed-through (200).

2. The flameproof feed-through (200) of claim 1, with the feed-through element (210) comprising a printed circuit board (PCB) (210).

3. The flameproof feed-through (200) of claim 1, with the one or more conductors (217) comprising one or more internal or external conductors (217).

4. The flameproof feed-through (200) of claim 1, with the feed-through element (210) providing a predetermined impedance characteristic for the one or more conductors (217).

5. The flameproof feed-through (200) of claim 1, with the feed-through element (210) being machined to a predetermined profile tolerance.

6. The flameproof feed-through (200) of claim 1, with the one or more body portions (220) comprising two or more body portions (22A, 220B) and with feed-through edges (216) of the feed-through element (210) being machined to be substantially flush with circumferential surfaces (232A, 232B) of the two or more body portions (220A, 220B).

7. The flameproof feed-through (200) of claim 1, with the one or more body portions (220) comprising two or more body portions (220A, 220B) clamping against the feed-through element (210) to form a spigot-type joint, with circumferential surfaces (232A, 232B) of the two or more body portions (220A, 220B) and with feed-through edges (216) of the feed-through element (210) being machined to a predetermined perimeter size and shape to create a substantially flameproof interface between the flameproof feed-through (200) and the aperture.

8. The flameproof feed-through (200) of claim 1, with the one or more body portions (220) comprising two or more body portions (220A, 220B) clamping against the feed-through element (210) to form a spigot-type joint, with circumferential surfaces (232A, 232B) of the two or more body portions (220A, 220B) and with feed-through edges (216) of the feed-through element (210) being machined to a predetermined perimeter size and shape to create a substantially flameproof interface between the flameproof feed-through (200) and the aperture, and with the feed-through element (210) being machined to a predetermined profile tolerance to create a substantially flameproof interface between the feed-through element (210) and the two or more body portions (220A, 220B).

9. The flameproof feed-through (200) of claim 1, with the one or more body portions (220) comprising a single body portion (220) and with the feed-through element (210) being machined to a predetermined profile tolerance, wherein a substantially flameproof flange-type interface is created between the single body portion (220), the feed-through element (210), and a surface surrounding the aperture.

10. A method of forming a flameproof feed-through adapted for use with an aperture, with the method comprising:

providing a feed-through element comprising a substantially planar shape, a first interface region, and a second interface region, wherein one or more conductors extend between the first interface region and the second interface region; and

assembling one or more body portions to the feed-through element, with the one or more body portions holding the feed-through element in position with respect to the aperture;

wherein the first interface region of the feed-through element extends at least partially to a first side of the flameproof feed-through and wherein the second interface region of the feed-through element extends at least partially to a second side of the flameproof feed-through.

11. The method of claim 10, with the feed-through element comprising a printed circuit board (PCB).

12. The method of claim 10, with the one or more conductors comprising one or more internal or external conductors.

13. The method of claim 10, with the feed-through element providing a predetermined impedance characteristic for the one or more conductors.

14. The method of claim 10, further comprising machining the feed-through element to a predetermined profile tolerance.

15. The method of claim 10, with the one or more body portions comprising two or more body portions and further comprising machining feed-through edges of the feed-through element to be substantially flush with circumferential surfaces of the two or more body portions.

16. The method of claim 10, with the one or more body portions comprising two or more body portions and with the assembling further comprising:

clamping the two or more body portions against the feed-through element to form a spigot-type joint, and

machining circumferential surfaces of the two or more body portions and feed-through edges of the feed-through element to a predetermined perimeter size and shape to create a substantially flameproof interface between the flameproof feed-through and the aperture.

17. The method of claim 10, with the one or more body portions comprising two or more body portions and with the assembling further comprising:

machining the feed-through element to a predetermined profile tolerance to create a substantially flameproof interface between the feed-through element and the two or more body portions.

clamping the two or more body portions against the feed-through element to form a spigot-type joint; and

machining circumferential surfaces of the two or more body portions and feed-through edges of the feed-through element to a predetermined perimeter size and shape to create a substantially flameproof interface between the flameproof feed-through and the aperture.

18. The method of claim 10, with the one or more body portions comprising a single body portion and with the method further comprising machining the feed-through element to a predetermined profile tolerance, wherein a substantially flameproof flange-type interface is created between the single body portion, the feed-through element, and a surface surrounding the aperture.

What is claimed is:

1. A flameproof feed-through (200) adapted for use with an aperture, with the flameproof feed-through (200) comprising:

a feed-through element (210) comprising a substantially planar shape, a first interface region (211), and a second interface region (212), wherein one or more conductors (217) extend between the first interface region (211) and the second interface region (212); and

one or more body portions (220) assembled to the feed-through element (210), with the one or more body portions (220) holding the feed-through element (210) in position with respect to the aperture, wherein the one or more body portions (220) comprise two or more body portions configured to (220A, 220B) clamp against the feed-through element (210) to form a spigot-type joint;

wherein the first interface region (211) of the feed-through element (210) extends at least partially to a first side (201) of the flameproof feed-through (200) and wherein the second interface region (212) of the feed-through element (210) extends at least partially to a second side (202) of the flameproof feed-through (200).

2. The flameproof feed-through (200) of claim 1, with the feed-through element (210) comprising a printed circuit board (PCB) (210).

3. The flameproof feed-through (200) of claim 1, with the one or more conductors (217) comprising one or more internal or external conductors (217).

4. The flameproof feed-through (200) of claim 1, with the feed-through element (210) providing a predetermined impedance characteristic for the one or more conductors (217).

5. The flameproof feed-through (200) of claim 1, with the feed-through element (210) being machined to a predetermined profile tolerance.

6. The flameproof feed-through (200) of claim 1, with the one or more body portions (220) comprising two or more body portions (22A, 220B) and with feed-through edges (216) of the feed-through element (210) being machined to be substantially flush with circumferential surfaces (232A, 232B) of the two or more body portions (220A, 220B).

7. The flameproof feed-through (200) of claim 1, wherein the circumferential surfaces (232A, 232B) of the two or more body portions (220A, 220B) and with feed-through edges (216) of the feed-through element (210) are machined to a predetermined perimeter size and shape to create a substantially flameproof interface between the flameproof feed-through (200) and the aperture.

8. The flameproof feed-through (200) of claim 1, with the one or more body portions (220) wherein the feed-through element (210) is machined to a predetermined profile tolerance to create a substantially flameproof interface between the feed-through element (210) and the two or more body portions (220A, 220B).

9. The flameproof feed-through (200) of claim 1, with the one or more body portions (220) comprising a single body portion (220) and with the feed-through element (210) being machined to a predetermined profile tolerance, wherein a substantially flameproof flange-type interface is created between the single body portion (220), the feed-through element (210), and a surface surrounding the aperture.

10. A method of forming a flameproof feed-through adapted for use with an aperture, with the method comprising:

providing a feed-through element comprising a substantially planar shape, a first interface region, and a second interface region, wherein one or more conductors extend between the first interface region and the second interface region; and

assembling one or more body portions to the feed-through element, with the one or more body portions holding the feed-through element in position with respect to the aperture;

wherein the first interface region of the feed-through element extends at least partially to a first side of the flameproof feed-through and wherein the second interface region of the feed-through element extends at least partially to a second side of the flameproof feed-through; and

clamping the two or more body portions against the feed-through element to form a spigot-type joint.

11. The method of claim 10, with the feed-through element comprising a printed circuit board (PCB).

12. The method of claim 10, with the one or more conductors comprising one or more internal or external conductors.

13. The method of claim 10, with the feed-through element providing a predetermined impedance characteristic for the one or more conductors.

14. The method of claim 10, further comprising machining the feed-through element to a predetermined profile tolerance.

15. The method of claim 10, with the one or more body portions comprising two or more body portions and further comprising machining feed-through edges of the feed-through element to be substantially flush with circumferential surfaces of the two or more body portions.

16. The method of claim 10, with the one or more body portions comprising two or more body portions and with the assembling further comprising:

machining circumferential surfaces of the two or more body portions and feed-through edges of the feed-through element to a predetermined perimeter size and shape to create a substantially flameproof interface between the flameproof feed-through and the aperture.

17. The method of claim 10, with the one or more body portions comprising two or more body portions and with the assembling further comprising:

machining the feed-through element to a predetermined profile tolerance to create a substantially flameproof interface between the feed-through element and the two or more body portions.

18. The method of claim 10, with the one or more body portions comprising a single body portion and with the method further comprising machining the feed-through element to a predetermined profile tolerance, wherein a substantially flameproof flange-type interface is created between the single body portion, the feed-through element, and a surface surrounding the aperture.