of the round gasket or a portion of the cable may get pinched in the seam between the two shells, thereby opening a gap in the seam that allows EMI to escape the housing. In addition, the cost of installing round gaskets around the cable may be prohibitive. A need remains for a connector module that can provide better and more economical containment of EMI than prior art devices.

[0005] Embodiments of the present invention seek to solve this problem by providing a connector module according to claim 1.

[0006] According to an aspect of the invention, a connector module comprises a housing defined by a first shell and a second shell that mate at a seam and form an interior chamber therebetween. The housing includes a cable exit region extending along a cable axis between the interior chamber and a cable opening of the housing, the cable exit region including a curved inner surface that defines a passage from a cable opening to the interior chamber. The passage has an elliptical cross-section along a plane perpendicular to the cable axis. A gasket is disposed within the passage of the cable exit region. The gasket includes a conductive material such that the gasket is electrically conductive, and extends along the cable axis between a front and a rear. An outer perimeter of the gasket in an uncompressed state has a non-elliptical cross-section along the plane perpendicular to the cable axis. The gasket has an outer side engaging the curved inner surface of the cable exit region and an inner side configured to engage at least one cable received within the cable exit region. The gasket has a compressive layer that is surrounded by a conductive layer, the conductive layer being composed of the conductive material of the gasket. The conductive layer has a tubular shape and extends between first and second ends, the conductive layer defining the inner side and the outer side of the gasket. As the first and second shells are mated, the gasket is sandwiched in a compressed state between the at least one cable and the cable exit region, and the outer side of the gasket in the compressed state is configured to at least partially conform to the curved inner surface of the cable exit region to at least partially seal the passage between the at least one cable and the cable exit region.

[0007] The invention will now be described by way of example with reference to the accompanying drawings wherein:

[0008] Figure 1 is a side cross-sectional view of an electrical system in accordance with an embodiment.

[0009] Figure 2 is an exploded perspective view of a connector module of the electrical system according to an exemplary embodiment.

[0010] Figure 3 is a rear view of a lower shell of the connector module according to an exemplary embodiment.

WHAT IS CLAIMED IS:

1. A connector module comprising a housing defined by a first shell and a second shell that mate at a seam and form an interior chamber therebetween, the housing including a cable exit region extending along a cable axis between the interior chamber and a cable opening of the housing, the cable exit region including a curved inner surface that defines a passage from the cable opening to the interior chamber, the passage having an elliptical cross-section along a plane perpendicular to the cable axis; and

a gasket within the passage of the cable exit region, the gasket including a conductive material such that the gasket is electrically conductive, the gasket extending along the cable axis between a front and a rear, an outer perimeter of the gasket in an uncompressed state having a non-elliptical cross-section along the plane perpendicular to the cable axis, the gasket having an outer side engaging the curved inner surface of the cable exit region and an inner side configured to engage at least one cable received within the cable exit region;

wherein the gasket has a compressive layer that is surrounded by a conductive layer, the conductive layer being composed of the conductive material of the gasket, the conductive layer having a tubular shape and extending between first and second ends, the conductive layer defining the inner side and the outer side of the gasket;

wherein, as the first and second shells are mated, the gasket is sandwiched in a compressed state between the at least one cable and the cable exit region, the outer side of the gasket in the compressed state configured to at least partially conform to the curved inner surface of the cable exit region to at least partially seal the passage between the at least one cable and the cable exit region.

2. The connector module of claim 1, wherein the gasket has a rectangular cross-section in the uncompressed state along the plane perpendicular to the cable axis.

3. The connector module of claim 1, wherein the gasket includes a crease on the inner side of the gasket in a creased state of the gasket, the crease extending along the cable axis between the front and rear of the gasket, the at least one cable being received over the crease, the gasket bending at the crease as the first and second shells are mated.

4. The connector module of claim 3, wherein the outer side of the gasket includes a slit opposite the crease, the slit extending radially partially through the gasket.

5. The connector module of claim 1, wherein the gasket in the uncompressed state extends along a gasket axis between the first and second ends, the gasket axis being transverse to the cable axis.

6. The connector module of claim 1, wherein the compressive layer is a non-conductive foam and the conductive layer is composed of a conductive fabric.

7. The connector module of claim 1, wherein the gasket defines a channel extending through the gasket from the front to the rear along the cable axis, the channel configured to receive the at least one cable therein.

8. The connector module of claim 7, wherein the gasket includes at least one side groove that extends between the front and rear, the side groove aligned proximate to the seam of the housing, each side groove having an uncompressed height defined by an upper ledge and a lower ledge, wherein as the first and second shells are mated, the upper and lower ledges are moved relatively towards each other such that the side groove has a compressed height that is less than the uncompressed height.

9. The connector module of claim 1, wherein the inner and outer sides of the gasket extend laterally between first and second ends of the gasket, the outer side of the gasket in the uncompressed state engaging the curved inner surface of the cable exit region at edges of the gasket proximate to the first and second ends such that a space is defined between the outer side of the gasket and the curved inner surface of the cable exit region laterally between the edges of the gasket, wherein, in the compressed state, the outer side or the gasket conforms to the curved inner surface such that a volume of the space between the outer side and the curved inner surface is reduced relative to the volume of the space in the uncompressed state.