CLAIMS

1. A casing flange coupling assembly comprising:

a first casing comprising a first flange, said first flange including at least one circular bolt hole;

a second casing coupled to said first casing, said second casing comprising a second flange, said second flange including at least one circular bolt hole aligned with said first flange bolt hole, wherein said second flange at least one bolt hole has a diameter larger than said first flange at least one circular bolt hole diameter;

a bushing coupled to said second flange, said bushing comprising a body portion including a cylinder portion having a circular bore configured to receive a circular bolt, said cylinder portion having an outer diameter configured to insert into and abut the second flange at least one bolt hole; a flange portion orthogonal and integral to said cylinder portion, said flange portion configured to couple with a load bearing surface of said second flange; a lip portion integral to said flange portion proximate said cylinder portion, wherein said lip portion redistributes a flange load; and

said circular bolt inserted through said circular bore and said first flange at least one circular bolt hole;

wherein said lip portion comprises a curvilinear shape that matches a radius of a fillet of said second flange.

2. The casing flange coupling assembly according to claim 1, wherein said lip portion extends from said cylinder portion to a lip end face, said lip end face being adjacent to and orthogonal to a portion of said load bearing surface.

3. The casing flange coupling assembly according to claim 2, wherein said lip portion comprises a varying thickness extending distally from said cylinder portion to the lip end face.

4. The casing flange coupling assembly according to claim 1, wherein said lip portion is configured to bear a portion of the flange load along the fillet and parts of the second casing proximate a fillet region.

5. The casing flange coupling assembly according to claim 1, wherein said bushing body portion comprises a reduced portion located in a bushing outer face proximate said bore opposite said cylinder portion.