WHAT IS CLAIMED IS:

1. A tubular connection comprising:

a tubular box having an internal threaded section extending from a rim, and a nose receptacle area joining the threaded section;

a box seal surface formed on the nose receptacle area;

a tubular pin having a nose area extending from a pin end, and an external threaded section joining the nose area, the external threaded section mating with the internal threaded section;

an annular groove on the nose area between the pin end and the external threaded section; and

a pin seal surface having a recessed portion located in the groove that engages the box seal surface to form a metal to metal sealing engagement.

2. The tubular connection of claim 1, wherein prior to engagement of the pin with the box, a maximum outer diameter of the pin seal surface is greater than a minimum inner diameter of the box seal surface, causing deformation of the pin seal surface and the box seal surface when in engagement with each other.

3. The tubular connection of claim 1, wherein the pin seal surface has an exposed portion located on the nose area, the recessed and exposed portions joining each other to define a rounded convex surface.

4. The tubular connection of claim 1, wherein:

the groove defines for the nose area a first nose section extending from the pin end to the groove, and a second nose section extending from the groove to the pin threaded section; and

the pin seal surface is located at a junction of the groove with the first nose section.

5. The tubular connection of claim 4, wherein the first nose section is conical at the junction.

6. The tubular connection of claim 6, wherein:

the second nose section is conical.

7. The tubular connection of claim 6, wherein an angle of the second nose section relative to an axis of the pin is the same as an angle of the first nose section to the axis at the junction.

8. The tubular connection of claim 1, wherein at least a portion of the box seal surface is cylindrical.

9. The tubular connection of claim 1, wherein the first nose section from the pin end to the pin seal surface is spaced radially apart from the nose receptacle when the pin is made up with the box.

10. A tubular connection comprising:

a tubular box having an internal threaded section extending downward from a rim, and a nose receptacle area joining a lower end of the threaded section;

a box seal surface formed on the nose receptacle area, defining an upper nose receptacle section above the box seal surface and a lower nose receptacle section below the box seal surface, at least a portion of the box seal surface being cylindrical and having an inner diameter less than any portion of the upper nose receptacle;

a tubular pin having a nose area extending upward from a pin end, and an external threaded section joining and extending upward from the nose area, the external threaded section mating with the internal threaded section;

an annular groove on the nose area between the pin end and the external threaded section, defining an upper nose section between the groove and the external threaded section and a lower nose section between the pin end and the groove; and

a pin seal surface having an upper margin within the groove and a lower margin on the lower nose section, the portion of the pin seal surface within the groove engaging the cylindrical portion of the box seal surface to form a metal to metal sealing engagement.

11. The tubular connection of claim 10, wherein prior to engagement of the pin with the box, a maximum outer diameter of the pin seal surface is greater than the inner diameter of the cylindrical portion of the box seal surface, causing deformation of the pin seal surface and the box seal surface when in engagement with each other.

12. The tubular connection of claim 10, wherein the pin seal surface is rounded and convex.

13. The tubular connection of claim 10, wherein:

the portion of the pin seal surface located on the lower nose section is conical.

14. The tubular connection of claim 10, wherein the upper and lower nose sections are conical and formed at a same angle relative to an axis of the pin.

15. The tubular connection of claim 10, wherein the portion of the lower nose section from the pin seal surface to the pin end is spaced radially apart from the nose receptacle when the pin is made up with the box.

16. The tubular connection of claim 10, further comprising:

a conical lead-in surface formed in the nose receptacle of the box at an upper end of the cylindrical portion of the box seal surface.

17. The tubular connection of claim 10, wherein:

the portion of the pin seal surface located within the groove is isolated from contact with any portion of the box during stabbing of the pin into the box prior to rotation of the box regardless of any misalignment of an axis of the pin with an axis of the box.

18. A method for joining tubular members, the method comprising:

(a) providing a tubular box with an internal threaded section, a nose receptacle area joining the threaded section, and a box seal surface formed on the nose receptacle area;

(b) providing a tubular pin having a nose area extending from a pin end, an external threaded section joining the nose area, an annular groove on the nose area between the pin end and the external threaded section, and a pin seal surface having at least a portion located within the groove; and

(c) inserting the box and the pin into engagement with each other and rotating the box and the pin relative to each other, causing the internal and external threaded sections to make up, and causing the portion of the pin seal surface within the groove to engage the box seal surface to form a metal to metal sealing engagement.

19. The method according to claim 18, wherein causing the portion of the pin seal surface to engage the box seal surface in step (c) comprises radially deforming the pin seal surface and the box seal surface relative to a common axis of the pin seal surface and the box seal surface.

20. The method of claim 18, wherein step (b) comprises positioning the portion of the pin seal surface within the groove such that said portion is isolated from contact with any portion of the

box during stabbing of the pin into the box prior to rotation of the box regardless of any misalignment of an axis of the pin with an axis of the box.

CLAIMS

1. A tubular connection comprising:

a tubular box having an internal threaded section extending from a rim, and a nose receptacle area joining the threaded section;

a box seal surface formed on the nose receptacle area;

a tubular pin having a nose area extending from a pin end, and an external threaded section joining the nose area, the external threaded section mating with the internal threaded section;

an alignment surface defined on the nose area, the alignment surface tapered to decrease in a direction toward the pin end from the external threaded section such that the alignment surface is operable to engage the internal threaded section of the tubular box to concentrically align the tubular pin with the tubular box when the tubular pin is stabbed into the tubular box;

an annular groove on the alignment surface between the pin end and the external threaded section; and

a pin seal surface having a recessed portion located in the groove that engages the box seal surface to form a metal to metal sealing engagement;

wherein the first nose section from the pin end to the pin seal surface is spaced radially apart from the nose receptacle when the pin is made up with the box.

2. The tubular connection of claim 1, wherein prior to engagement of the pin with the box, a maximum outer diameter of the pin seal surface is greater than a minimum inner diameter of the box seal surface, causing deformation of the pin seal surface and the box seal surface when in engagement with each other.

3. The tubular connection of claim 1, wherein the pin seal surface has an exposed portion located on the nose area, the recessed and exposed portions joining each other to define a rounded convex surface.

4. The tubular connection of claim 1, wherein:

the groove defines for the nose area a first nose section extending from the pin end to the groove, and a second nose section extending from the groove to the pin threaded section; and

the pin seal surface is located at a junction of the groove with the first nose section.

5. The tubular connection of claim 4, wherein the first nose section is conical at the junction.

6. The tubular connection of claim 5, wherein:

the second nose section is conical.

7. The tubular connection of claim 6, wherein an angle of the second nose section relative to an axis of the pin is the same as an angle of the first nose section to the axis at the junction.

8. The tubular connection of claim 1, wherein at least a portion of the box seal surface is cylindrical.

9. A tubular connection comprising:

a tubular box having an internal threaded section extending downward from a rim, and a nose receptacle area joining a lower end of the threaded section;

a box seal surface formed on the nose receptacle area, defining an upper nose receptacle section above the box seal surface and a lower nose receptacle section below the box seal surface, at least a portion of the box seal surface being cylindrical and having an inner diameter less than any portion of the upper nose receptacle;

a tubular pin having a nose area extending upward from a pin end, and an external threaded section joining and extending upward from the nose area, the external threaded section mating with the internal threaded section;

an alignment surface defined on the nose area, the alignment surface tapered to decrease in a direction toward the pin end from the external threaded section such that the alignment surface is operable to engage the internal threaded section of the tubular box to concentrically align the tubular pin with the tubular box when the tubular pin is stabbed into the tubular box;

an annular groove on the alignment surface between the pin end and the external threaded section, defining an upper nose section between the groove and the

external threaded section and a lower nose section between the pin end and the groove; and

a pin seal surface having an upper margin within the groove and a lower margin on the lower nose section, the portion of the pin seal surface within the groove engaging the cylindrical portion of the box seal surface to form a metal to metal sealing engagement.

10. The tubular connection of claim 9, wherein prior to engagement of the pin with the box, a maximum outer diameter of the pin seal surface is greater than the inner diameter of the cylindrical portion of the box seal surface, causing deformation of the pin seal surface and the box seal surface when in engagement with each other.

11. The tubular connection of claim 9, wherein the pin seal surface is rounded and convex.

12. The tubular connection of claim 9, wherein:

the portion of the pin seal surface located on the lower nose section is conical.

13. The tubular connection of claim 9, wherein the upper and lower nose sections are conical and formed at a same angle relative to an axis of the pin.

14. The tubular connection of claim 9, wherein the portion of the lower nose section from the pin seal surface to the pin end is spaced radially apart from the nose receptacle when the pin is made up with the box.

15. The tubular connection of claim 9, further comprising:

a conical lead-in surface formed in the nose receptacle of the box at an upper end of the cylindrical portion of the box seal surface.

16. The tubular connection of claim 9, wherein:

the portion of the pin seal surface located within the groove is isolated from contact with any portion of the box during stabbing of the pin into the box prior to rotation of the box regardless of any misalignment of an axis of the pin with an axis of the box.

17. A tubular connection comprising:

a tubular box having an internal threaded section extending from a rim, and a nose receptacle area joining the threaded section;

a box seal surface formed on the nose receptacle area;

a tubular pin having a nose area extending from a pin end, and an external threaded section joining the nose area, the external threaded section mating with the internal threaded section;

an alignment surface defined on the nose area, the alignment surface tapered to decrease in a direction toward the pin end from the external threaded section such that the alignment surface is operable to engage the internal threaded section of the tubular box to concentrically align the tubular pin with the tubular box when the tubular pin is stabbed into the tubular box;

an annular groove on the alignment surface between the pin end and the external threaded section, the annular groove defining for the nose area a first nose section extending from the pin end to the annular groove, and a second nose section extending from the annular groove to the pin threaded section; and

a pin seal surface having a recessed portion located in the annular groove that engages the box seal surface to form a metal to metal sealing engagement, the pin seal surface is located at a junction of the annular groove with the first nose section;

wherein the first the first nose section is conical at the junction and the second nose section is conical, and wherein an angle of the second nose section relative to an axis of the pin is the same as an angle of the first nose section to the axis at the junction.