CLAIMS

What is claimed is.

1. A riser string comprising:

a first tubular having a box end, grooves on an outer surface proximate the box end, a metal cladding on the grooves, and threads on an inner surface of the box end; and

a second tubular having a pin end inserted into the box end, grooves on an outer surface proximate the pin end, a metal cladding on the grooves, and threads on the outer surface of the pin end engaged with the threads on the inner surface of the box end.

2. The riser string of claim 1, wherein the grooves on the first tubular each have a height that decreases with distance from a terminal end of the box end and a width that increases with distance from a terminal end of the box end.

3. The riser string of claim 1, wherein the grooves on the second tubular each have a height that decreases with distance from a terminal end of the pin end and a width that increases with distance from a terminal end of the pin end.

4. The riser string of claim 1, wherein the grooves on the first tubular comprise a trapezoid with a bottom end distal from the outer surface of the box end, an opening at the outer surface of the box end having a length greater than the bottom end, and converging sides that extend from the opening to the bottom end.

5. The riser string of claim 1, wherein the grooves on the second tubular comprise a trapezoid with a bottom end distal from the outer surface of the pin end, an opening at the outer

surface of the pin end having a length greater than the bottom end, and converging sides that extend from the opening to the bottom end.

6. The riser string of claim 1, wherein adjacent grooves on the first tubular are separated by a space that increases with distance from a terminal end of the box end.

7. The riser string of claim 1, wherein adjacent grooves on the first tubular are separated by a space that decreases with distance from a terminal end of the box end.

8. A method of forming a riser string comprising:

a. forming grooves onto end portions of tubulars;

b. depositing a layer of metal cladding onto the end portions of the tubulars and over the grooves;

c. providing threads on an inner surface of an end of a tubular to form a box end;

d. providing threads on an outer surface of an end of a tubular to form a pin end; and

e. engaging threads on the pin end with threads on the box end to define a connection.

9. The method of claim 8, further comprising repeating steps (c) – (e).

10. The method of claim 8, wherein the step of forming the grooves comprises forming a helical groove proximate an end of the tubular, the groove having a triangular shaped cross section.

11. The method of claim 8, wherein the step of forming the grooves comprises forming a helical groove proximate an end of the tubular, the groove having a castellated shaped cross section.

12. The method of claim 8, wherein the step of forming the grooves comprises forming a series of trapezoidal shaped grooves that have a successively decreasing depth with distance from a terminal end of the tubular.

13. The method of claim 8, wherein the step of depositing a layer of metal cladding onto the end portions of the tubulars and over the grooves uses cuttings taken from one of the tubulars.

14. The method of claim 8, wherein the shape of the grooves are set at an obtuse angle to improve density and adhesion of the metal cladding, and also so that the metal cladding contacts as much surface area as possible to prevent shadowing.

CLAIMS

What is claimed is:

1. A riser string comprising:

a first tubular having a length, substantially constant inner and outer diameters along the length, a box end, grooves on an outer surface proximate the box end, a metal cladding on the outer surface of the first tubular and that extends into the grooves, and threads on an inner surface of the box end; and

a second tubular having a pin end inserted into the box end, grooves on an outer surface proximate the pin end, a metal cladding on the outer surface of the second tubular and that extends into the grooves, and threads on an outer surface of the metal cladding engaged with the threads on the inner surface of the box end.

2. The riser string of claim 1, wherein the grooves on the first tubular each have a height that decreases with distance from a terminal end of the box end and a width that increases with distance from a terminal end of the box end.

3. The riser string of claim 1, wherein the grooves on the second tubular each have a height that decreases with distance from a terminal end of the pin end and a width that increases with distance from a terminal end of the pin end.

4. The riser string of claim 1, wherein the grooves on the first tubular comprise a trapezoid with a bottom end distal from the outer surface of the box end, an opening at the outer surface of the box end having a length greater than the bottom end, and converging sides that extend from the opening to the bottom end.

5. The riser string of claim 1, wherein the grooves on the second tubular comprise a trapezoid with a bottom end distal from the outer surface of the pin end, an opening at the outer surface of the pin end having a length greater than the bottom end, and converging sides that extend from the opening to the bottom end.

6. The riser string of claim 1, wherein adjacent grooves on the first tubular are separated by a space that increases with distance from a terminal end of the box end.

7. The riser string of claim 1, wherein adjacent grooves on the first tubular are separated by a space that decreases with distance from a terminal end of the box end.

8. A method of forming a riser string comprising:

a. forming grooves onto end portions of tubulars;

b. depositing a layer of metal cladding onto the end portions of the tubulars and over the grooves;

c. providing threads on an inner surface of an end of a one of the tubulars that cut through the layer of metal cladding into material making up the tubular and to form a box end;

d. providing threads on an outer surface of an end of another one of the tubulars that cut through the layer of metal cladding into material making up the tubular and to form a pin end; and

e. engaging threads on the pin end with threads on the box end to define a connection.

9. The method of claim 8, further comprising repeating steps (c)-(e).

10. The method of claim 8, wherein the step of forming the grooves comprises forming a helical groove proximate an end of the tubular, the groove having a triangular shaped cross section.

11. The method of claim 8, wherein the step of forming the grooves comprises forming a helical groove proximate an end of the tubular, the groove having a castellated shaped cross section.

12. The method of claim 8, wherein the step of forming the grooves comprises forming a series of trapezoidal shaped grooves that have a successively decreasing depth with distance from a terminal end of the tubular.

13. The method of claim 8, wherein the step of depositing a layer of metal cladding onto the end portions of the tubulars and over the grooves uses cuttings taken from one of the tubulars.

14. The method of claim 8, wherein the shape of the grooves are set at an obtuse angle to improve density and adhesion of the metal cladding, and also so that the metal cladding contacts as much surface area as possible to prevent shadowing.