

Claims:

What is claimed is:

1. In a method of completing a well, having a cased wellbore section, the method comprising:

placing a first metallic tubing in the wellbore, hanging the first tubular member in the cased wellbore at a subterranean location; thereafter placing a second metallic tubular member in the wellbore with a portion of the second tubular member telescoped into the first tubular member with a portion of the outer surface of the second tubular member adjacent to a portion of the inner surface of the first tubular member;

wherein the improvement comprises forming a plurality of metallic annular protrusions on one of the adjacent surfaces prior to insertion of the tubular members into the wellbore and expanding the second tubular member until the protrusions are at least in contact with the adjacent surface of the other tubular member, the plurality of protrusions comprises opposed annular side walls inclined toward each other at angles of about 30 to 60 degrees, wherein the outer apexes of each of the protrusions are flattened to form annular outer walls for contacting the inner surface of the other tubular member.

2. The method according to claim 1, wherein the forming step comprises integrally forming the annular protrusions on the one surface.

3. The method according to claim 1, wherein the annular protrusions have a tapered cross section.

4. The method according to claim 1, wherein the annular protrusions are axially spaced on the one tubular member.

5. The method according to claim 1, wherein the step of expanding the protrusions into contact comprises forming metallic annular seals between the adjacent surfaces of the tubular members.

6. The method according to claim 1, wherein the plurality of protrusions each extend continuously around the outside surface of the one tubular member.

7. The method according to claim 6, wherein the expansion step comprises forming contact-areas between the protrusions and the other tubing member and, wherein the contact areas are endless.

8. The method according to claim 1, wherein the plurality of protrusions have a tapered cross section.

9. The method according to claim 1 wherein the plurality of protrusions comprise generally triangular cross-section shape.

10. The method according to claim 1, wherein a plurality of metallic protrusions are integrally formed on the adjacent surfaces of both the first and second tubular members.

11. A wellbore tubing connection for use in connecting tubing at a subterranean location, comprising:

first and second metallic tubular members;

an end portion of the second tubular member telescoped into an end portion of the first tubular member to form an overlapping area with the inner surface of the first tubular member adjacent to the outer surface of the second tubular member; and

a plurality of annular-shaped, radially extending metallic protrusions formed on one of adjacent surfaces of one of the tubular members with the protrusions in contact with the adjacent surface of the other tubular member;

wherein the plurality of protrusions comprise opposed annular side walls inclined toward each other at angles of about 30 to 60 degrees, wherein the outer apexes of each of the protrusions are flattened to form annular outer walls for contacting the inner surface of the other tubular member.

12. The connection according to claim 13, wherein the protrusions are integrally formed on the second tubular member.

13. The connection according to claim 13, wherein, the protrusions are integrally formed on the first tubular member.

14. The connection according to claim 13, wherein the protrusions are integrally formed both the first and second tubular members.

15. The connection, according to claim 13, wherein the annular protrusions have a tapered cross section.
16. The connection according to claim 13, wherein the annular protrusions are axially spaced on the surface of the one tubular member.
17. The connection according to claim 13, wherein step of expanding the protrusions into contact comprises forming metallic annular seals between the adjacent surfaces of the tubular members.
18. The connection according to claim 13, wherein the plurality of protrusions each extend continuously around the outside surface of the one tubular member.
19. The connection according to claim 13, wherein contact areas are formed between the protrusions and the other tubular member and wherein the contact areas are endless.
20. The connection according to claim 13, wherein the plurality of protrusions have a tapered cross section.
21. The connection according to claim 13, wherein the plurality of protrusions comprise generally triangular cross-section shape.

CLAIMS:

1. A method of completing a well, having a cased wellbore section, the method comprising:

placing a first metallic tubing member (6) in the wellbore, hanging the first metallic tubing member in the cased wellbore at a subterranean location; thereafter placing a second metallic tubing member (5) in the wellbore with a portion (2) of the second metallic tubing member telescoped into the first metallic tubing member with a portion of the outer surface of the second metallic tubing member adjacent to a portion (1) of the inner surface of the first metallic tubing member;

forming a plurality of metallic annular protrusions (4) on one of the adjacent surfaces prior to insertion of the metallic tubing members into the wellbore; and

expanding the second metallic tubing member until the protrusions are at least in contact with the adjacent surface of the other metallic tubing member,

wherein the step of expanding the protrusions into contact comprises forming metallic annular seals between the adjacent surfaces of the metallic tubing members, and a gap (G) is formed between the internal surface of the first metallic tubing member and the external surface of the second metallic tubing member.

2. The method according to claim 1, wherein the forming step comprises integrally forming the annular protrusions on the one surface.

3. The method according to claim 1 or 2, wherein the annular protrusions have a tapered cross section, and/or,

wherein the annular protrusions are axially spaced on the one metallic tubing member.

4. The method according to any preceding claim, wherein the plurality of protrusions each extend continuously around the outside surface of the one metallic tubing member, optionally,

wherein the expansion step comprises forming contact areas between the protrusions and the other metallic tubing member and, wherein the contact areas are endless.

5. The method according to any preceding claim, wherein the plurality of protrusions have a tapered cross section, and/or

wherein the plurality of protrusions comprise generally triangular cross-section shape.

6. The method according to any preceding claim, wherein the plurality of protrusions comprise opposed annular side walls inclined toward each other at angles of about 30 to 60 degrees, and/or

wherein the plurality of protrusions each have an outer annular wall for contacting the inner surface of the other tubular member, and/or,

wherein a plurality of metallic protrusions are integrally formed on the adjacent surfaces of both the first and second metallic tubing members.

7. A wellbore tubing connection for use in connecting tubing at a subterranean location, comprising:

first (6) and second (5) metallic tubular members;

an end portion (2) of the second tubular member telescoped into an end portion (1) of the first tubular member to form an overlapping area with the inner surface of the first tubular member adjacent to the outer surface of the second tubular member; and

a plurality of annular-shaped, radially extending metallic protrusions (4) formed on one of adjacent surfaces of one of the tubular members with the protrusions in contact with the adjacent surface of the other tubular member,

wherein a step of expanding the protrusions into contact comprises forming metallic annular seals between the adjacent surfaces of the tubular members, and a gap (G) is formed between the internal surface of the first tubular member and the external surface of the second tubular member.

8. The connection according to claim 7, wherein the protrusions are integrally formed on the second tubular member, and/or,

wherein the protrusions are integrally formed on the first tubular member.

9. The connection according to claim 7 or 8, wherein the protrusions are integrally formed both the first and second tubular members.

10. The connection according to claim 7, 8 or 9, wherein the annular protrusions have a tapered cross section, and/or,

wherein the annular protrusions are axially spaced on the surface of the one tubular member.

11. The connection according to any one of claims 7 to 10, wherein the plurality of protrusions each extend continuously around the outside surface of the one tubular member, and/or,

wherein contact areas are formed between the protrusions and the other tubular member and wherein the contact areas are endless.

12. The connection according to any one of claims 7 to 11, wherein the plurality of protrusions have a tapered cross section, and/or,

wherein the plurality of protrusions comprise generally triangular cross-section shape.

13. The connection according to any one of claims 7 to 12, wherein the plurality of protrusions comprise opposed annular side walls inclined toward each other at angles of about 30 to 60 degrees, and/or,

wherein the plurality of protrusions each have an outer annular wall for contacting the inner surface of the other tubular member.