CLAIMS

1. A tubing component, comprising an outer tube and an inner tube within the outer tube, <u>said outer tube and said inner tube being made of steel,</u> said tubes being so configured to create a space between each other over a specified length, wherein
   a. ~~E~~<u>e</u>ach end of the inner tube is secured to the internal surface of the outer tube by a frustoconical fillet weld so that said space is leak-tight,
   b. ~~T~~<u>t</u>he inner tube has
      i. a first internal diameter ID along a first length starting from each end of said tube,
      ii. a second, smaller internal diameter ID' along a second length beyond the first length,
   c. ~~T~~<u>t</u>he tubing component further includes a protective metallic layer extending at least over the fillet weld.
2. The tubing component of claim 1 wherein the protective metallic layer is an overlay weld.
~~3. The tubing component of claim 2 wherein the overlay weld is obtained by Gas Tungsten Arc Welding or Tungsten Inert Gas welding.~~
~~4.~~<u>3.</u> The tubing component of claim 1 wherein the protective metallic layer is made of a corrosion resistant nickel-based alloy ~~such as an alloy including Nickel, Chromium and Molybdenum wherein Nickel amounts to more than 50%~~.
~~5.~~<u>4.</u> The tubing component of claim 1 wherein the protective metallic layer further extends beyond the fillet weld towards the inside of the inner tube and towards the inside of the outer tube.
~~6.~~<u>5.</u> The tubing component of claim 1 wherein the protective metallic layer overlaps the internal surface of the inner tube over a first specified distance ~~preferably less than 12.7 mm~~.
~~7.~~<u>6.</u> The tubing component of claim 1 wherein the protective metallic layer overlaps the internal surface of the inner tube over said first length.

~~8.~~7. The tubing component of claim 1 wherein the protective metallic layer overlaps the internal surface of the outer tube over a second specified distance~~, preferably less than 12.7 mm~~.

~~9.~~8. The tubing component of claim ~~5~~6 wherein the thickness of the protective metallic layer is equal or smaller than (ID – ID') / 2 over the first specified distance.

~~10. The tubing component of claim 1 wherein the difference ID – ID' is larger than 4 mm, preferably larger than 5.5 mm.~~

~~11.~~9. The tubing component of claim 1 wherein the inner tube comprises a bevel between said first and second lengths.

~~12. The tubing component of claim 1 wherein the outer tube is made of steel, preferably stainless steel, preferably stainless steel including at least 13% chromium.~~

~~13. The tubing component of claim 1 wherein the inner tube is made of steel, preferably stainless steel, preferably stainless steel including at least 13% chromium.~~

~~14.~~10. The tubing component of claim 1 wherein the outer tube includes external threads at least at one end to enable connection to a tubular element.

~~15. The tubing component of claim 1 wherein the tubing component is for the oil and gas industry, especially for high-pressure, high-temperature well conditions.~~

~~16.~~11. A method for producing a tubing component ~~comprising an outer tube and an inner tube within the external tube, said outer and inner tubes being so configured to create a space between each other over a specified length~~ according to any of claims 1 to 10, the method comprising:

a. ~~P~~providing, before assembly, an inner tube with:
   i. a first internal diameter ID along a first length starting from each end of said tube,
   ii. a second, smaller internal diameter ID' along a second length beyond the first length,
b. ~~P~~positioning the inner tube within the outer tube,

c. ~~W~~welding each end of the inner tube to the internal surface of the outer tube so as to produce a frustoconical fillet weld that secures the tubes to each other so that said space is leak-tight,

d. ~~F~~forming a protective metallic layer that extends at least over the weld.

~~17.~~12. The method of claim 11~~16~~ wherein the protective metallic layer is an overlay weld.

~~18. The method of claim 17 wherein the overlay weld is obtained by Gas Tungsten Arc Welding or TIG Tungsten Inert Gas welding.~~

~~19. The method of claim 16 wherein the protective metallic layer is made of a corrosion resistant nickel-based alloy such as an alloy including Nickel, Chromium and Molybdenum wherein Nickel amounts to more than 50%.~~

~~20. The method of claim 16 wherein the protective metallic layer further extends beyond the fillet weld towards the inside of the inner tube and towards the inside of the outer tube.~~

~~21. The method of claim 16 wherein the protective metallic layer overlaps the internal surface of the inner tube over a first specified distance, preferably less than 12.7 mm.~~

~~22. The method of claim 16 wherein the protective metallic layer overlaps the internal surface of the inner tube over said first length.~~

~~23. The method of claim 16 wherein the protective metallic layer overlaps the internal surface of the outer tube over a second specified distance, preferably less than 12.7 mm.~~

~~24. The method of claim 21 wherein the thickness of the metallic layer is equal or smaller than (ID – ID') / 2 over the first specified distance.~~

~~25. The method of claim 16 wherein the difference ID – ID' is larger than 4 mm, preferably larger than 5.5 mm.~~

~~26. The method of claim 16 wherein the inner tube comprises a bevel between said first and second lengths.~~

~~27.~~13. The method of claim 11~~16~~ wherein the protective metallic layer is formed in two passes by making a bottom layer and at least a top layer on top of the bottom layer in order to reduce dilution of iron near the free surface of the layer.

~~28.~~14. The method of claim 11~~16~~ further includes a beveling operation on the fillet weld to remove surface oxides, said beveling operation preferably being made after said welding and before forming the protective metallic layer.

~~29.~~15. The method of claim 11~~16~~ further includes a stress-relieve operation by a ~~P~~post ~~W~~weld ~~H~~heat ~~T~~treatment.

~~30. The method of claim 16 wherein the outer tube is made of steel, preferably stainless steel, preferably stainless steel including at least 13% chromium.~~

~~31. The method of claim 16 wherein the inner tube is made of steel, preferably stainless steel, preferably stainless steel including at least 13% chromium.~~

~~32. The method of claim 16 wherein the outer tube includes external threads at least at one end to enable connection to a tubular element.~~

~~33. The method of claim 16 wherein the tubing component is for the oil & gas industry, especially for high-pressure, high-temperature well conditions.~~