CLAIMS

The invention claimed is:

1. An insulated tubular assembly comprising two jointed insulated tubing segments, a first insulated tubing segment and a second insulated tubing segment, each insulated tubing segment comprising an inner tube defining an inner passage adapted for conveying fluids; an outer tube concentrically disposed about and defining an annulus with said inner tube; an annular bridge at each opposing end of the insulated tubing segment, each annular bridge connecting said inner tube with said outer tube such that one of the inner and the outer tube is longer than the other; the longer forming an extension extending outwardly at one end of the first insulated tubing segment such that a pin member having an external male thread is formed thereon for threadably engaging a female thread of a box member provided either on the second insulated tubing segment or on a coupling jointed to said second insulated tubing segment, pin and box member being jointed in order to form a threaded joint between said first and second insulated tubing segments; and an insulating sleeve, wherein the insulating sleeve comprises a first tubular shell adapted to cover at least part of the extension of the first insulated tubular segment and a second tubular shell overlapping either internally or externally part of the first tubular shell, such that the second tubular shell extends axially about the threaded joint and

wherein the female thread of a box member is provided on a coupling jointed to said second insulated tubing segment, the second insulated tubular segment comprising a second extension with a second pin member thereon, in order to threadably engaged said second pin member into another box member of the coupling forming another threaded joint, and the insulating sleeve comprises a third tubular shell such that the third tubular shell is adapted to cover at least part of the second extension, the second tubular shell overlapping

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either internally or externally part of the first tubular shell and also part of that third tubular shell, such that the second tubular shell extends axially about both threaded joints, the second tubular shell extends from the first tubular shell to the third tubular shell..

2. The insulated tubular assembly as defined in claim 1, wherein said first tubular shell is adapted to cover at least part of the annular bridge of the first insulated tubular segment.

3. The insulated tubular assembly as defined in claim 2, wherein said first tubular shell comprises a first chamfer adapted to expand over the annular bridge of the first insulated tubular segment, and preferably the first tubular shell may cover axially, from either axial side of that annular bridge, parts of both inner tube and outer tube of the first insulated tubing segment.

4. The insulated tubular assembly as defined in claim 1, wherein said first tubular shell is adjacent to the pin member.

5. The insulated tubular assembly as defined in claim 1, wherein said second tubular shell expands above the box member, such that it is longer than the box member.

6. The insulated tubular assembly as defined in claim 1, wherein said insulating sleeve expands from at least part of the annular bridge of the first tubular segment and up to at least part of an annular bridge of the second tubular segment.

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7. The insulated tubular assembly as defined in claim 1, wherein the female thread of a box member is provided on the second insulated tubing segment and the second tubular shell extends partially around the first tubular shell and up to an outer surface of an extension of the second insulated tubing segment.

8. The insulated tubular assembly as defined in claims 1 to 7, wherein the first and the third tubular shells are identical.

9. The insulated tubular assembly as defined in claims 8 or 9, wherein the first and the second insulated tubing segments are provided with a pin member at both ends, such that prior make up of said assembly, the first tubular shell is maintained at one end by a protector, to be removed at the time of makeup, and the coupling and second and third tubular shells are provided at one end of the second insulated tubular segment; second and third tubular shells being maintained by another protector of the coupling, also to be removed at the time of makeup.

10. The insulated tubular assembly as defined in claim 1, wherein each tubular shell comprises: a rigid material selected from the group consisting of plastics and metals, for example preferably selected from polymeric materials, expanded or particulate inorganic materials, expanded graphite and mixtures thereof.

11. The insulated tubular assembly as defined in claim 11, wherein first and/or second tubular shell comprises an outer metallic sleeve welded on one of the first or the second

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insulated tubing segment, preferably welded on the outer tube and/or the annular bridge connecting said inner tube with said outer tube.

12. The insulated tubular assembly as defined in claim 1, wherein each tubular shell is respectively a unitary tubular body.

13. The insulated tubular assembly as defined in claim 1 wherein the second tubular shell comprises a substantially uniform wall thickness such that the first tubular shell further comprises a second chamfer to allow overlapping of the second tubular shell over that second chamfer.

14. The insulated tubular assembly as defined in claim 1, wherein the insulating sleeve defines an outer diameter within + or – 5 % of the nominal outer diameter of the first or the second insulated tubing segment.

15. The insulated tubular assembly as defined in claim 1 wherein the first tubular shell is fixed at an axial position relative to the annular bridge of the first insulated tubing segment, either shrink fitted about the first insulated tubular segment as the first tubular shell is made of a softer material than the first insulated tubular segment or welded at some point of the first insulated tubular segment.

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16. The insulated tubular assembly as defined in claim 1 wherein the insulated tubular assembly comprises a protector fitted at one end of the first insulated tubular segment to maintain a first tubular shell about an extension of that first insulated tubular segment, the protector being configured to remove at the time of makeup.

17. Process of insulating an insulated tubular assembly as defined in claim 1, wherein prior makeup of the first insulated tubing segment with the second insulated tubing segment, the first tubular shell is inserted into the first insulated tubing segment via a first end of the first insulated tubing segment, and the first tubular shell is fitted at a longitudinal position of the extension of the first insulated tubing segment , and then machined with a specific pattern determined as a function of a distance from a free end of that first end.

18. Process of insulating an insulated tubular assembly as defined in claim 1, wherein prior makeup of the first insulated tubing segment with the second insulated tubing segment, the second tubular shell is inserted into the second insulated tubing segment via a free end of either the second insulated tubing segment or the coupling jointed to said second insulated tubing segment, and the second tubular shell is machined with a specific pattern determined as a function of a distance from that free end.

19. Method of assembly of an insulated tubular assembly as defined in claim 1, wherein prior make up, the first insulated tubing segment is vertical, the first tubular shell retained around the annular bridge in order to be threadably engaged with the second insulated tubing itself or the coupling jointed to said second insulated coupling already vertical.

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20. Process of insulating an insulated tubular assembly as defined in claim 1, wherein

- thread engagement of the pin member with the box member is broken,

- the pin member is recut, and another external male thread is machined on the recut pin member, such that the first tubular shell is also machined with a specific pattern determined as a function of a distance from the newly recut free end.

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