damage the sections. That is, such tools are generally suitable for steel tubular products, but may not be designed to grasp or move other materials without the potential for gouging, scoring, deformation, or other damage. This is particularly the case for aluminum and titanium alloys and composite tubular sections.

[0005] There is a need, therefore, for tubular products that provide an alternative to conventional steel products but that can be utilized with existing tooling for manipulating the products during manufacturing, transportation, loading, and use at a well site.

BRIEF DESCRIPTION

[0006] According to a first aspect of the present disclosure, there is provided a modular tubular system including: a tool handling section made of a first material suitable for handling with conventional tubular handling tools; and a tubular section assembled with the tool handling section and made of a second material, different from the first material, not suitable for handling with the conventional tubular handling tools, the tubular section forming a majority portion of an overall length of the modular tubular system; wherein the tool handling section is assembled with the tubular section and stored as an assembled modular tubular product prior to assembly with other tubular sections during deployment in a well; and wherein the tool handling sectioncomprises a box tool joint formed at one end of the tool handling section and comprising a female threaded end for connecting the modular tubular system to a mating tubular section, a service joint formed at an opposite end of the tool handling section and comprising a female threaded end that is connected to a male threaded end of the tubular section, and a neck section of reduced outer diameter as compared to the ends of the tool handling section, forming a handling tube suitable for conventional tubular handling tools.

[0008] According to a second aspect of the present disclosure, there is provided a modular tubular assembly and deployment method including: preassembling a stock of a plurality of modular tubular assemblies, each modular tubular assembly comprising a tool handling section made of a first material suitable for handling with conventional tubular handling tools, and a tubular section assembled with the tool handling section and made of a second material, different from the first material, not suitable for handling with the conventional tubular handling tools, the tubular section forming a majority portion of an overall length of the modular tubular assembly, wherein in each assembly the tool handling section is assembled with the tubular section and stored as an assembled modular tubular assembly prior to assembly with other tubular sections during deployment in a well, and wherein the tool handling section comprises a box tool joint formed at one end of the tool handling section and comprising a female threaded end for connecting the modular tubular assembly to a mating tubular section, a service joint formed at an opposite end of the tool handling section and comprising a female threaded end that is connected to a male threaded end of the tubular section, and a neck section of reduced outer diameter as compared to the ends of the tool handling section, forming a handling tube suitable for conventional tubular handling tools; assembling at least one of the modular tubular assemblies to an upper end of a tubular string made of a material different from the first material and deployed in the well by tool handling contact only with the tool handling section; and deploying the at least one modular tubular assembly into the well.

CLAIMS:

1. A modular tubular system comprising:

a tool handling section made of a first material suitable for handling with conventional tubular handling tools; and

a tubular section assembled with the tool handling section and made of a second material, different from the first material, not suitable for handling with the conventional tubular handling tools, the tubular section forming a majority portion of an overall length of the modular tubular system;

wherein the tool handling section is assembled with the tubular section and stored as an assembled modular tubular product prior to assembly with other tubular sections during deployment in a well; and

wherein the tool handling section comprises a box tool joint formed at one end of the tool handling section and comprising a female threaded end for connecting the modular tubular system to a mating tubular section, a service joint formed at an opposite end of the tool handling section and comprising a female threaded end that is connected to a male threaded end of the tubular section, and a neck section of reduced outer diameter as compared to the ends of the tool handling section, forming a handling tube suitable for conventional tubular handling tools.

2. The system of claim 1, wherein the tool handling section is made of steel, and the tubular section is made of an aluminum or titanium, or an aluminum or titanium alloy, or a composite material.

3. The system of claim 1, wherein the tubular section comprises approximately 80 to 90 percent of the overall length of the modular tubular system.

4. The system of claim 1, wherein the handling tube has a nominal length of at least approximately 0.51 to 1.78 meters (20 to 70 inches) to permit handling with the conventional tubular handling tools.

5. The system of claim 1, wherein the box tool joint comprises a reduced inner diameter smaller than an inner diameter of central handling tube of the tool handing section.

6. The system of claim 1, comprising a pin tool joint on an end of the tubular section opposite the tool handling section.

7. The system of claim 6, wherein the pin tool joint comprises a female threaded connection receiving a second male threaded end of the tubular section, and a male threaded end for connecting the modular tubular system to a second mating tubular section.

8. The system of claim 1, wherein the modular tubular system has a nominal length of approximately 9.14 to 13.72 meters (360 to 540 inches).

9. The system of claim 1, wherein the handling section has a nominal length of approximately 0.64 to 2.54 meters (25 to 100 inches).

10. The system of claim 1, wherein the tubular section occupies a portion of the overall length of the modular tubular section of between 7.37 to 11.94 meters (290 and 470 inches).

11. A modular tubular assembly and deployment method comprising:

preassembling a stock of a plurality of modular tubular assemblies, each modular tubular assembly comprising a tool handling section made of a first material suitable for handling with conventional tubular handling tools, and a tubular section assembled with the tool handling section and made of a second material, different from the first material, not suitable for handling with the conventional tubular handling tools, the tubular section forming a majority portion of an overall length of the modular tubular assembly, wherein

in each assembly the tool handling section is assembled with the tubular section and stored as an assembled modular tubular assembly prior to assembly with other tubular sections during deployment in a well, and wherein the tool handling section comprises a box tool joint formed at one end of the tool handling section and comprising a female threaded end for connecting the modular tubular assembly to a mating tubular section, a service joint formed at an opposite end of the tool handling section and comprising a female threaded end that is connected to a male threaded end of the tubular section, and a neck section of reduced outer diameter as compared to the ends of the tool handling section, forming a handling tube suitable for conventional tubular handling tools;

assembling at least one of the modular tubular assemblies to an upper end of a tubular string made of a material different from the first material and deployed in the well by tool handling contact only with the tool handling section; and

deploying the at least one modular tubular assembly into the well.

12. The method of claim 11, wherein the tubular section of each modular tubular assembly comprises approximately 80 to 90 percent of the overall length of the modular tubular assembly.

13. The method of claim 11, wherein the box tool joint comprises a reduced inner diameter smaller than an inner diameter of central handling tube of the tool handing section.