Claims

1. A composite tubing for use as an insulation product, wherein said composite tubing consists of:
   (a) a foam insulation layer having a closed-cell structure, wherein the foam insulation layer is an elastomeric or polyethylene foam insulation layer having a closed-cell structure; and
   (b) a coating layer bonded to and seamlessly covering an outer surface of the foam insulation layer, wherein the coating layer comprises ethylene propylene diene monomer (M-class) (EPDM), polyvinyl chloride (PVC), acrylonitrile-butadiene rubber (NBR), styrene butadiene rubber (SBR), one or more flame retardants, and one or more non-phthalate plasticizers and is bonded to the outer surface of the foam insulation layer in the absence of an adhesive; and wherein the composite tubing can withstand internal and external temperature cycles with temperatures ranging from -70°F to 300°F.

2. The composite tubing of claim 1, wherein the foam insulation layer comprises a material selected from the group consisting of EPDM, NBR, PVC, polystyrene, polyisocyanurate, and combinations thereof.

3. The composite tubing of claim 1, wherein the foam insulation layer has a density of between about 3 and about 6 pounds per cubic foot (lb/ft^3).

4. The composite tubing of claim 1, wherein the coating layer further comprises one or more additional additives.

5. The composite tubing of claim 1, wherein the tubing has a wall thickness of between about 0.5 inches and about 1 inch.

6. The composite tubing of claim 1, wherein the tubing is a straight tubing having a length of between about three feet and about six feet or a continuous coil tubing having

a length of up to about 1,000 feet and/or wherein the tubing has an inner diameter (ID) ranging from about 0.25 inches to about 6.0 inches.

7. A method of installing an insulation product on a pipe, the method comprising:

(e) providing a composite tubing of claim 1; and

(f) sliding the tubing over a length of the pipe, wherein the sliding comprises pushing the tubing over the length of pipe.

8. The method of claim 7, further comprising coating the transverse ends of the tubing with a contact adhesive, thereby sealing the ends.

9. A method for installing an insulation product on a pipe, the method comprising:

(g) providing a composite tubing of claim 1;

(h) slitting the tubing longitudinally to provide two slit longitudinal ends traversing the length of the tubing;

(i) applying the tubing around a section of pipe to encompass the outer diameter of the pipe section and so that the two slit ends are directly adjacent to one another, thereby forming an open seam;

(j) coating each of the two slit longitudinal ends of the tubing with an adhesive coating and contacting the coated slit longitudinal ends to each other to form a sealed seam; and

(k) coating the two transverse ends of the tubing with an adhesive coating to seal the transverse ends and/or to adhere one or both of the transverse ends to another length of the composite tubing.

10. A pipe installation, comprising:

(a) a round pipe; and

(b) a composite tubing encompassing an outer surface of the pipe, wherein said composite tubing consists of: (i) a foam insulation layer having a closed-cell structure, wherein the foam insulation layer is an elastomeric or polyethylene foam insulation layer having a closed-cell structure, and (ii) a coating layer bonded to

and seamlessly covering an outer surface of the foam insulation layer, wherein the coating layer comprises ethylene propylene diene monomer (M-class) (EPDM), polyvinyl chloride (PVC), acrylonitrile-butadiene rubber (NBR), styrene butadiene rubber (SBR), one or more flame retardants, and one or more non-phthalate plasticizers and is bonded to the outer surface of the foam insulation layer in the absence of an adhesive;

and wherein the composite tubing can withstand internal and external temperature cycles with temperatures ranging from -70°F to 300°F.

11. The pipe installation of claim 10, wherein the foam insulation layer comprises a material selected from the group consisting of PVC, NBR, EPDM, polyethylene, polystyrene, polyisocyanurate and combinations thereof.

12. The pipe installation of claim 10, wherein the coating layer further comprises one or more additional additives.

13. The pipe installation of claim 10, wherein the composite tubing has a thickness of between about 0.5 inches and about 1 inch.

14. The pipe installation of claim 10, wherein the round pipe is a round-shaped metal pipe.

15. The pipe installation of claim 10, wherein the installation is at an outdoor location and/or where there is heat exposure.

16. A method of making an insulation product, the method comprising:

(a) providing a closed-cell foam tube, wherein the closed-cell foam tube is a closed-cell elastomeric or polyethylene foam tube; and

(b) extruding a polymeric coating comprising ethylene propylene diene monomer (M-class) (EPDM), polyvinyl chloride (PVC), acrylonitrile-butadiene rubber (NBR), styrene butadiene rubber (SBR), one or more flame retardants, and

one or more non-phthalate plasticizers in an encapsulating manner over the closed-cell foam tube to seamlessly cover an outer surface of the foam tube, wherein the extruding is performed at a temperature to provide a bond between the polymeric coating and the outer surface of the foam tube, wherein the bond is an adhesive-free bond.

17. The method of claim 16, wherein the closed-cell foam tube comprises a material selected from the group consisting of PVC, NBR, EPDM, polyethylene, polystyrene, polyisocyanurate and combinations thereof.

18. The method of claim 16, wherein the closed-cell foam tube is prepared via extrusion and vulcanization.

19. The method of claim 16, wherein the method comprises an in-line process with manufacture of the closed-cell foam tube.