

CLAIMS

What is claimed is:

1. A method for manufacturing of a flexible plastic tubing whereby it comprises of the following steps:
 - (a) extruding plastic ribbon, with the plastic ribbon helically wrapped around the winding rolls such that its edges overlap and is simultaneously heat-bonded together to form the wall of the flexible tubing, with the winding rolls rotating in unison in a certain clockwise or anti-clockwise direction and advancing forward concurrently to form the base material for the flexible tubing; and concurrently
 - (b) extruding plastic profile whereby it consists of at least one (1) or more electrically conductive wire (or heated conductor) being embedded inside, with the plastic profile being wrapped and heat-bonded around the plastic ribbon forming the flexible tubing; and
 - (c) wherein the electrically conductive wire (or heated conductor) is being fed through a wire insert via the back of the tool die directly connected to the extruder in order to ensure precise positioning of the wire in the plastic profile, whereby
 - (d) the plastic resin for the plastic ribbon is different from the plastic profile, and where
 - (e) both the resins are provided by two (2) different extruder, and whereby
 - (f) the plastic ribbon is extruded using at least an independent tool die and

- (g) the plastic profile is extruded using another separate independent tool die, wherein the plastic profile consists of at least one (1) or more electrically conductive wire (or heated conductor) being embedded inside, and whereby
 - (h) the plastic ribbon and the plastic profile are co-extruded separately from two separate extruders via a single combined tool die, and whereby
 - (i) the plastic ribbon consists of at least one (1) guide; and
 - (j) the plastic profile consists of corresponding guide in order to ensure alignment of the plastic ribbon with the extruded profile together when being helically wrapped and heat bonded together, and whereby
 - (k) the wire conductor embedded within the profile is able to act as a form of added reinforcement for the flexible tubing; OR
 - (l) the wire itself can serve to transmit and exchange useful data between each end of the flexible plastic tubing, and whereby the plastic resin for the profile is electrically insulating and yet is conductive to conduct away any heat generated from the embedded wire.
2. A method for manufacturing of a flexible plastic tubing whereby it comprises of the following steps:
- (a) extruding plastic ribbon, with the plastic ribbon helically wrapped around the winding rolls such that its edges overlap and is simultaneously heat-bonded together to form the wall of the flexible tubing, with the winding rolls rotating in unison in a certain clockwise or anti-clockwise direction and advancing forward concurrently to form the base material for the flexible tubing; and

concurrently

- (b) having the electrically conductive wire (or heated conductor) being fed through a wire insert from the top or from different angles via the wire insert through the tool die in the extruder, and followed by
- (c) having the extruded plastic profile being extruded in a downwards direction concurrently with the wire being encapsulated within the plastic profile; whereby
- (d) the plastic resin for the plastic ribbon is different from the plastic profile, and where
- (e) both the resins are provided by two (2) different extruder, and whereby
- (f) the plastic ribbon is extruded using at least an independent tool die and
- (g) the plastic profile is extruded using another separate independent tool die, wherein the plastic profile consists of at least one (1) or more electrically conductive wire (or heated conductor) being embedded inside.

3. A **method** for manufacturing of a plastic tubing whereby it involves guides being formed onto the plastic profile being extruded out; whereby

- (a) these guides are formed with the aid of the tooling die, followed by
- (b) having the electrically conductive wire/s being laid and align on the guides at the plastic profile side by the mechanical winding force of the winding roll, such that
- (c) it encapsulates the wires before the profile overlaps onto the plastic ribbon in a helical manner on a winding roll.