

Article Overview

Pigtail hot melt tubing is typically manufactured using a combination of extrusion, precise cutting, and curve shaping processes to achieve seamless, curved tubing suitable for medical or industrial applications.

Material Preparation and Extrusion

The process begins with selecting a suitable thermoplastic or polymer material capable of hot melt processing. The material is heated and extruded through a die to form a continuous tube with the desired inner and outer diameters. Extrusion ensures uniform wall thickness and smooth surfaces, which are critical for downstream shaping and bonding operations.

Cutting and Length Control

After extrusion, the tubing is cut to precise lengths using high-precision tube cutters. This step ensures burr-free ends and consistent dimensions, which are essential for maintaining quality and performance in applications like catheters or fluid delivery systems (CCMelt) .

Curve Shaping (Pigtail Formation)

To create the characteristic pigtail curve, the tubing undergoes a thermal curve shaping process. This involves controlled heating and forming using specialized machines that bend the tube into a permanent curve without collapsing the lumen. The process may include multi-zone temperature control to maintain uniformity and prevent deformation .

Optional Bonding and Tipping

For medical applications, additional steps such as thermal bonding, tipping, or reflow may be applied to attach connectors, reinforce ends, or create tapered tips. These processes ensure the tubing is ready for assembly or direct use in devices .

Quality Control

Throughout the manufacturing process, dimensional checks, wall thickness measurements, and visual inspections are performed to ensure the tubing meets strict tolerances. Seamless tubing techniques, such as cold drawing or pilger rolling, may also be used for metal-based pigtail tubing to achieve precise diameters and smooth surfaces .

Summary

Fabrication of pigtail hot melt tubing

The production of pigtail hot melt tubing involves:

- o Material selection and extrusion for uniform tubing.
- o Precision cutting to exact lengths.
- o Thermal curve shaping to form the pigtail.
- o Optional bonding or tipping for functional ends.
- o Quality control to ensure seamless, consistent tubing. This combination of extrusion, cutting, and controlled curve shaping allows manufacturers to produce high-quality pigtail tubing suitable for medical, industrial, or fluid-handling applications.

We engineer high-yield manufacturing solutions for Catheter Cutting, Tipping, Bonding, Drilling, Punching, Reflow, Curve Shaping

Pigtail, Hoses & Fittings KONEX by ProRack Gas Products features a full offering of flexible hoses, pigtails and fittings for the gas

Quality control procedures when procuring new outlet pigtails during the pigtail tube manufacturing and fabrication

This technical report addresses materials, fabrication, and repair issues related to hydrogen and syngas reformer

This chapter discusses the fabrication of pigtail assemblies. A primary reforming furnace tube increases in length by about 4 and 3/4

Connector Pigtail Kits & Terminal Repair Kits - Professional Technician Society (PTS) Wiring Diagram Cell 150 or Ford Catalog

Pigtail Assemblies - Free download as PDF File (.pdf), Text File (.txt) or read online for free. The document provides specifications

GasFlo specializes in the fabrication of brass, stainless steel and exotic metal pigtails for filling, bulk/continuous supply and point of

The design of a pigtail typically features a helical or U-shaped coil made from materials such as stainless steel, carbon steel, or

The intergranular oxidation caused the embrittlement at the grain boundaries during long-term service. From the

Fabrication of pigtail hot melt tubing

The tubes are connected to sub-headers at the inlet and outlet by small bore pipes (Fig. 1) known as pigtails .

In spite of improvements in reformer tube metallurgy and manufacture, outlet pigtail tubes are now seen as a critical

Pigtails are used to transfer syn-gas from reformer tubes to manifolds and experience high stresses from temperature and pressure.

When heated, the tubing shrinks and the adhesive lining melts and flows to form a rugged, environmentally sealed barrier against

In the first case, the hot billet is processed by punching, hot rolling and stretch-reducing rolling into a seamless tube. In the second

An intensive failure investigation of the alloy 803 outlet pigtail tube, used in a steam hydrocarbon reforming furnace,

Web: <https://www.millstraining.co.za>

