

Manufacturing tubular busbars



Article Overview

Tubular busbars are manufactured through a precision-driven process involving material selection, forming, punching, bending, surface treatment, and rigorous quality control to ensure high conductivity and mechanical reliability.

Material Selection

The process begins with selecting high-purity conductive materials. Copper busbars typically use Electrolytic Tough Pitch (ETP) copper (C11000) with $\geq 99.9\%$ purity, while aluminum busbars use 6101-T6 or 6063-T6 alloys for lightweight applications. Material choice affects conductivity, mechanical strength, and thermal performance. Tubular busbars may also require oxygen-free copper (OFC) for premium applications where weldability and minimal hydrogen embrittlement are critical.

Forming the Tubular Shape

Unlike flat busbars, tubular busbars are formed into hollow cylindrical or rectangular tubes. This is achieved through extrusion or rolling processes, where the raw copper or aluminum is shaped into a tube with precise wall thickness and diameter. CNC-controlled extrusion ensures dimensional tolerances within ± 0.1 mm, critical for assembly and electrical performance.

Cutting and Punching

After forming, the tubular busbars are cut to the required lengths using CNC cutting machines. Holes for bolted connections or mounting are created using automatic punching machines or CNC punching systems, which ensure exact positioning and clean edges. Punching force is calculated based on material thickness, perimeter, and shear strength to prevent deformation.

Article Content

What is Busbar? Types, Advantages (2026 Updated Guide)

Hollow Tubular Busbars A hollow busbar is essentially a tube (often rectangular or circular) of conductive material.

Aluminium Tubular Busbar Manufacturer | Lightweight and Efficient

We provide high-quality aluminum tubular busbars that comply with international standards (such as IEC, ASTM), with complete and

Busbar Fabrication: Machines, Process & Production

Complete busbar manufacturing guide: copper processing steps, fabrication machines

Busbars | Busbars manufacturers & supplier | Eaton

Eaton offers numerous busbar manufacturing technologies, ensuring the right busbar for every application. Our primary

Understanding Busbar Manufacturing: Selection,

Coating Busbars for Specific Industries The process of coating busbars is a critical aspect

Busbar Systems | Power Busbars | EAE Electric

Busbar Systems Power Busbar Systems are manufactured for the transport and distribution of electrical energy from 32A to 6300A.

Aluminum Tubular Busbar Extrusion| China Manufacture

We produce aluminum tubular busbars in a variety of sizes and profiles to meet diverse electrical

Aluminum Tubular Busbar Extrusion| China Manufacture

Aluminum tubular busbars are essential components used in power distribution systems, designed to

ROLINX® Busbars

Why Choose ROLINX Busbars? ROLINX busbars are constructed and manufactured laminated busbars that meet the strictest

EMS | ⚡ High Current Busbars Customized

We engineer and manufacture Customized High Current Busbars Solutions made of Copper, Cuponal and

Copper Busbars

Powerful, Reliable Performance from Industry Leading Copper Busbars MSS International is the

Busbars | Busbars manufacturers & supplier | Eaton

Busbars (bus bars) are integral to power distribution and serve numerous industries including automotive, industrial, and aerospace.

Tubular Busbar And Connectors | Copper And

We offer Copper and Aluminium Tubular Busbars in a range of sizes, as well as the accessories to suit

Busbar Manufacturer & Specialist Metal Supplier | ILF

Largest Busbar manufacturer and specialist metal supplier in the UK. Large stock of Copper, Aluminium,

Comprehensive Guide to Busbars: Types, Design,

Explore the comprehensive guide to PV Solar Combiner Boxes: Learn about types, Electris

The busbars produced by Electris are known for their exceptional

Aluminium Busbars and Tubular Conductors | Hydro

Hydro manufactures extruded aluminium busbars, tubular conductors, and flat wire profiles for OEMs and panel builders. Aluminium

Tubular Busbar And Connectors | Copper And Aluminium | Alcomet

We offer Copper and Aluminium Tubular Busbars in a range of sizes, as well as the accessories to suit 33kV, 66kV and 132kV

Aluminium Busbars | UK Manufacturer & Supplier | ILF Ltd

ILF manufacture and supply Aluminium Busbars for clients in industry sectors including rail, medical, marine, data centre, motor sport

Copper Tube Busbars

Copper tube busbars (or similar tubular busbars made from aluminium) have many advantages over solid busbars. We

Bus Bar | Laminated bus bar | power distribution | Mersen

Bus Bars Reduce System Costs A laminated bus bar will lower manufacturing costs by decreasing assembly time as well as internal

Busbar Design Guide

Typical Busbar Sizes If this program recommends sizes that do not fit into the ranges below, change either the number of conductors

Aluminum Busbar | High-Performance Custom

Aluminum busbars provide high electrical conductivity at a lower weight than copper. While copper busbars

Home | Tubular Steel

Our Focus Through a consultative “seek first to understand” approach, Tubular Steel provides innovative tube and pipe solutions to

Busbars | Power, Laminated and Custom Busbar Solutions | Molex

Molex Busbars deliver compact, high-current power distribution solutions for EVs, data centers and industrial automation.

Busbar Fabrication: Techniques for Efficient Assembly

How do you transform raw copper and aluminum into critical components for electrical systems? This article delves

Contact Us

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