BHAGYADEEP CABLES: Wire Harness Division Overview

Excellence in electrical connectivity solutions through precision engineering and quality manufacturing

What is a Wire Harness?

A wire harness is an organized assembly of wires, cables, connectors, and terminals bundled together to create a unified electrical system.

It transmits electrical power and signals efficiently, simplifying complex wiring systems while ensuring reliability and safety.

Used across automotive, aerospace, industrial machinery, and consumer electronics industries.

Why Wire Harnesses Matter

Time Efficiency

Reduce installation time by consolidating multiple wires into one organized unit

Protection

Protect wires from abrasion, moisture, vibration, and electrical interference

Enhanced Safety

Minimize risks of shorts and electrical fires through proper organization

Custom Design

Tailored to fit specific devices and environmental requirements

Step 1: Design & Prototyping

01

Requirements Analysis

Engineers analyze electrical and mechanical requirements: voltage, current, space constraints, and environmental conditions

02

Schematic Creation

Create detailed schematics and 2D/3D layouts using advanced CAD software for precise specifications

03

Prototype Testing

Build prototypes to test fit, function, and performance before full production begins

Step 2: Material Procurement & Preparation

Wire Selection

High-quality copper or aluminum wires selected based on current capacity and insulation type (PVC, Teflon, etc.)

Component Sourcing

Connectors, terminals, and protective sleeves sourced and inspected for compliance standards

Precision Cutting

Wires are cut to precise lengths using automated wire-cutting machines for accuracy

Step 3: Wire Stripping & Terminal Attachment

1

Wire Stripping

Wire ends are stripped to expose conductors for secure connections

2

Terminal Crimping

Terminals are crimped or soldered using specialized tools ensuring corrosion-resistant joints

3

Quality Enhancement

Tin-dipping applied to strengthen wire ends and improve soldering quality

Step 4: Assembly & Bundling

1. **Wire Routing**

   Wires are routed and bundled on assembly boards according to precise design specifications

2. **Branch Connection**

   Branches are connected to the main backbone harness at specified junction points

3. **Protection Application**

   Protective coverings like heat shrink tubing, cable ties, and fabric tape applied for durability

Step 5: Testing & Quality Control

1

Electrical Testing

Verify continuity, insulation resistance, and absence of shorts or opens using advanced testing equipment

2

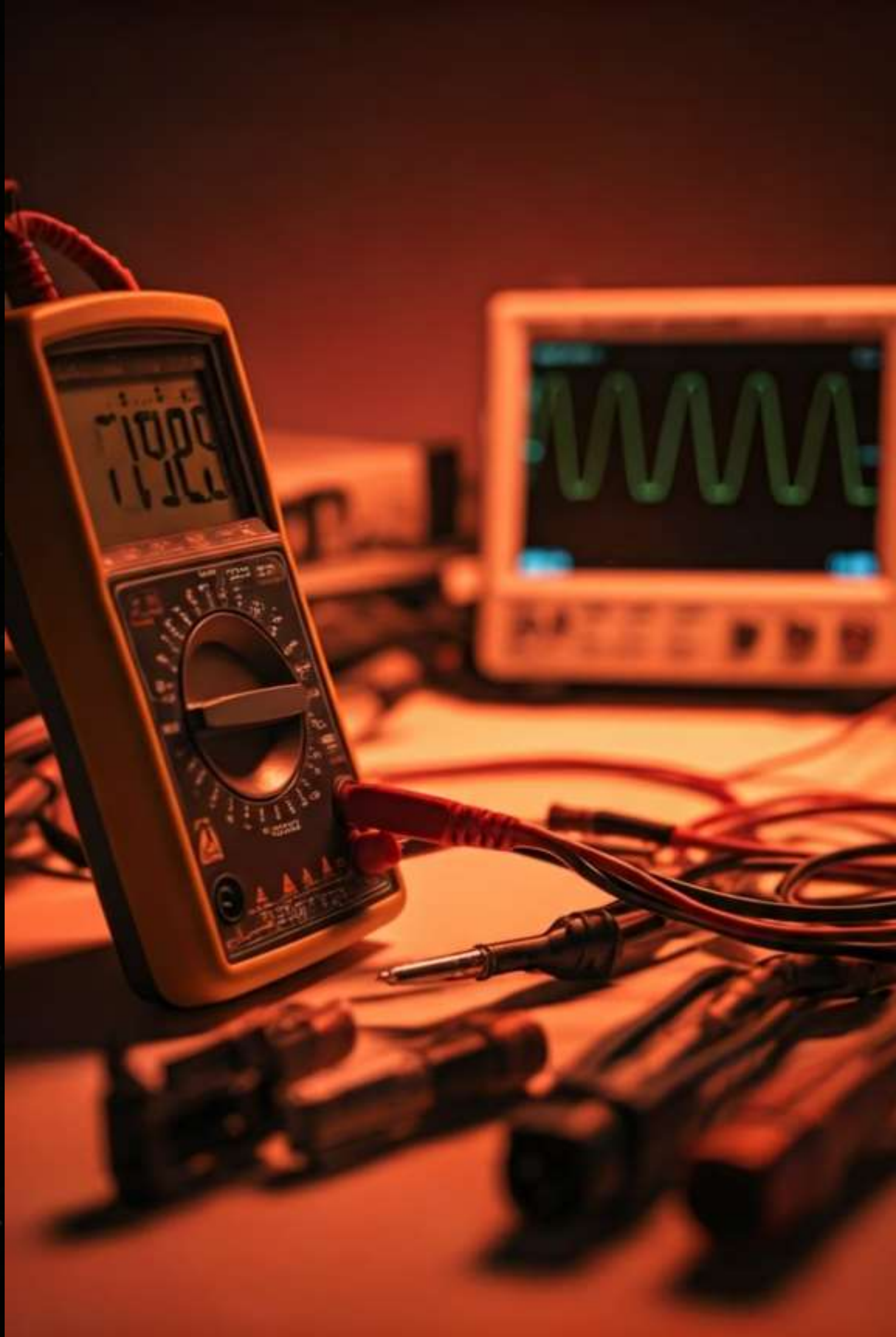
Mechanical Testing

Pull force tests ensure terminal strength and overall harness integrity under stress

3

Real-World Simulation

Visual inspections and dynamic stress tests simulate actual operating conditions for reliability validation



Step 6: Final Inspection & Packaging

- Quality Verification

  Completed wire harnesses undergo comprehensive final quality checks against all specifications

- Documentation & Labeling

  Harnesses are properly labeled, documented, and certified for customer delivery

- Secure Packaging

  Custom packaging ensures complete protection during shipping and handling processes

BHAGYADEEP CABLES

Delivering Precision & Reliability

Expert Design

Our Wire Harness Division combines expert design with quality materials and meticulous assembly processes

Industry Solutions

We serve diverse industries with tailored solutions ensuring safety, efficiency, and long-term durability

Partnership Excellence

Partner with us for your next project — where every connection counts and quality never compromises