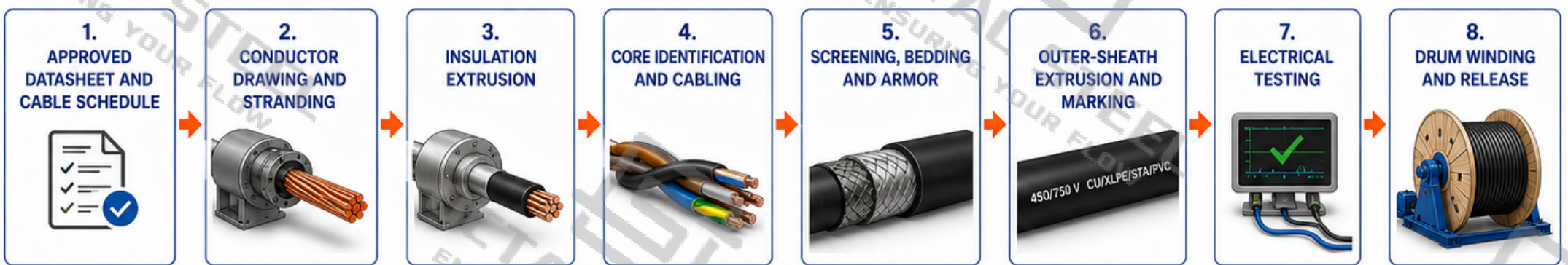


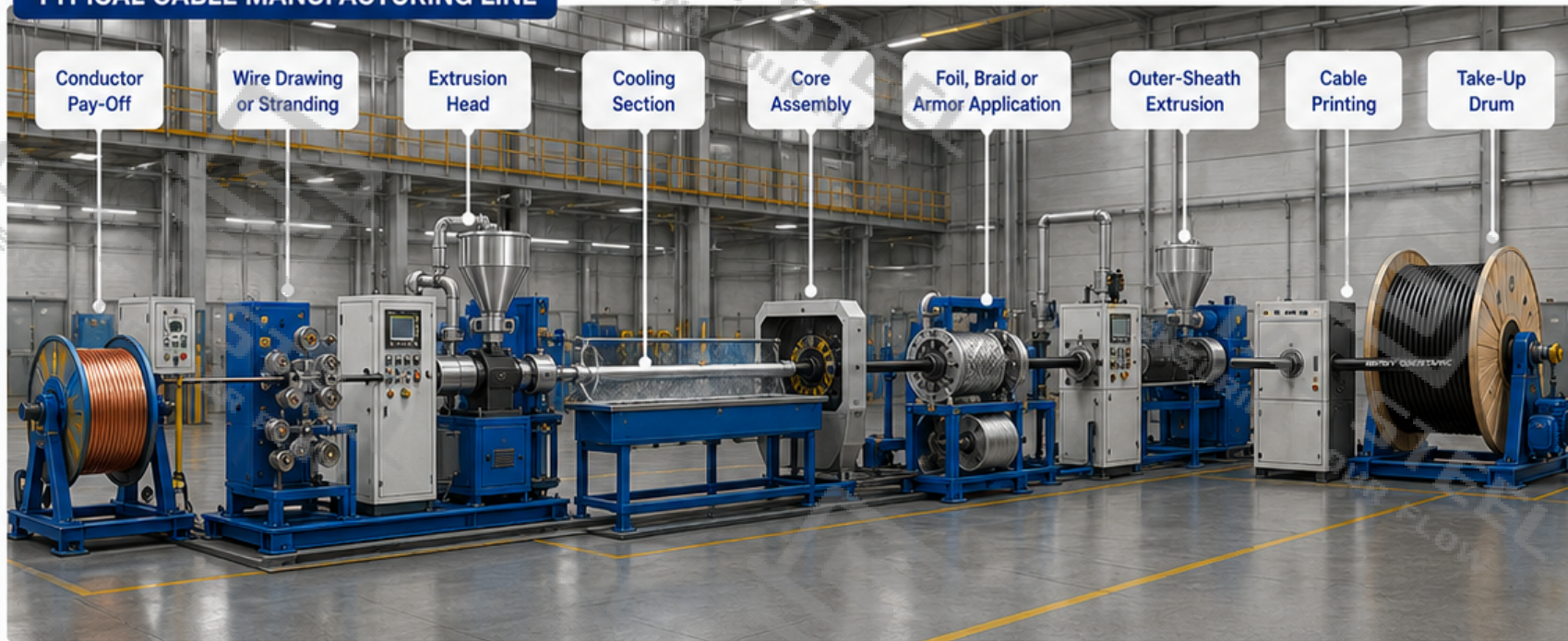
Industrial Cable Manufacturing Process

1/4

TOP MANUFACTURING FLOW



TYPICAL CABLE MANUFACTURING LINE



IN-PROCESS CONTROLS

- ✓ Conductor Material and Class
- ✓ Strand Condition
- ✓ Conductor Resistance
- ✓ Insulation Thickness
- ✓ Insulation Concentricity
- ✓ Core or Pair Identification
- ✓ Screen Continuity and Coverage
- ✓ Armor Arrangement
- ✓ Overall Diameter
- ✓ Sheath Surface
- ✓ Printed Marking



The complete cable construction is controlled against the approved datasheet; conductor size alone does not define the finished product.

MAIN INSPECTION GRID

1 CONDUCTOR RESISTANCE  Verify against the applicable conductor and product requirement.	2 CONDUCTOR AND SCREEN CONTINUITY  Confirm circuit identity and electrical continuity.	3 INSULATION THICKNESS AND CONCENTRICITY  Check the dielectric layer around the conductor.	4 SHEATH THICKNESS AND OVERALL DIAMETER  Confirm construction and accessory compatibility.
5 VOLTAGE-WITHSTAND TEST  Apply the value required for the selected cable construction.	6 INSULATION RESISTANCE  Verify where required by the applicable product standard.	7 CORE, PAIR AND TRIAD IDENTIFICATION  Confirm sequence and correspondence with the cable schedule.	8 SCREEN, ARMOR AND OUTER-SHEATH CONSTRUCTION  Verify coverage, arrangement, surface and marking.

REFERENCE TEST-VOLTAGE STRIP

 2500 V for 5 min Representative flexible PVC or screened control construction	 3000 V for 5 min Representative flexible control construction	 4000 V for 5 min Representative 600/1000 V power or motor construction	 1500 V for 1 min Representative drag-chain data construction
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WARNING

These values belong to different representative cable constructions. Do not apply one test voltage to every cable family.

RELEASE FLOW



i No universal inspection percentage or test list applies to every industrial cable.

MAIN TRACEABILITY CHAIN



TRACEABILITY EVIDENCE EXAMPLES

1. CABLE DATASHEET (GENERIC)

CABLE DATASHEET	
Cable Type	Control Cable
Voltage Rating	450/750 V
Conductor Configuration	24 x 1.5 mm ²
Insulation	PVC
Screen	Overall Al/PET
Sheath	PVC, Black
Temperature Range	-30 to 70 °C
Flame Performance	IEC 60332-1
Product Standard	IEC 60227-5
Reference	REV. 01



2. CABLE SCHEDULE (GENERIC)

CABLE SCHEDULE	
Cable Tag	CBL-101
Circuit / Service	Pump P-101 Power
Route	From MCC-1 to P-101
Cable Type	Control Cable
Size	24 x 1.5 mm ²
Length (m)	125
Destination	Area 02
Installation Method	Cable Tray
Remarks	—

3. CABLE PRINTING AND IDENTIFICATION



4. ELECTRICAL TEST RECORD

ROUTINE ELECTRICAL TEST REPORT	
Cable Tag	CBL-101
Production Batch	A24051501
Test Item	Result
Conductor Resistance	PASS
Insulation Resistance	PASS
Voltage-Withstand Test	PASS
Screen Continuity	PASS
Test Voltage	2500 V AC
Test Duration	5 min
Test Date	2024-05-17
Inspector	QA-02
Result	PASS

5. DIMENSIONAL RECORD

DIMENSIONAL INSPECTION RECORD			
Cable Tag	CBL-101		
Production Batch	A24051501		
Drum No.	045		
Dimension Item	Spec.	Measured	Result
Insulation Thickness	0.70 mm	0.72 mm	PASS
Insulation Concentricity	≤15%	9%	PASS
Overall Diameter	16.0 mm	15.9 mm	PASS
Sheath Thickness	1.8 mm	1.9 mm	PASS
Ovality	≤10%	6%	PASS
Instrument	Micrometer / Gauge		
Date	2024-05-17		
Inspector	QA-05		

6. LABELLED DRUM (GENERIC)



7. PACKING LIST (GENERIC)

PACKING LIST		
Packing List No.	PL-240517-01	
Shipment No.	SH-240517-01	
Customer	ABC Project	
Date	2024-05-18	
Drum No.	Cable Tag	Length (m)
045	CBL-101	1250
046	CBL-102	1000
047	CBL-103	800
Total Length (m)		3050
Packing List Reference	PL-240517-01	
Checked By	QA-01	
Released By	QA Manager	

DOCUMENT CARDS



Approved Cable Datasheet

Defines the accepted construction



Cable Schedule

Links circuit, route, length and destination



Routine Electrical Test Report

Records applicable production tests



Dimensional Inspection Record

Records insulation, sheath and cable dimensions



Type-Test Report Where Specified

Supports specified performance



Drum and Length Schedule

Links measured length to the drum



Packing List

Connects drums and shipment identity

i A document title alone does not prove that a delivered drum matches the approved cable. Marking, construction, length, drum number and records must remain linked.

1 DRUM-SELECTION PANEL



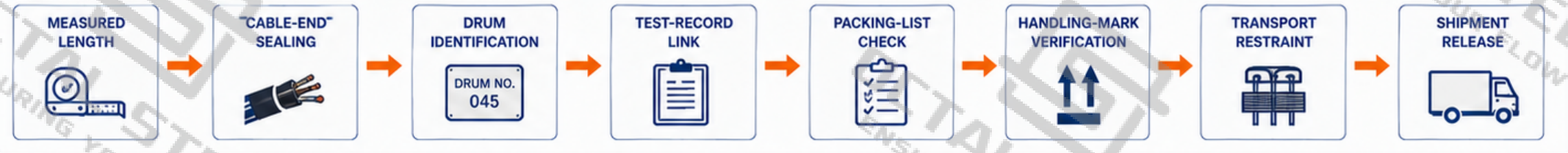
Selection controls:

-  Finished cable diameter
-  Cable weight
-  Minimum bending requirement
-  Specified drum length
-  Transport limits
-  Site handling equipment

2 MAIN PACKING VISUAL



3 RELEASE FLOW



4 RELEASE CHECKS

- ☒ Cable Ends Sealed
- ☒ Drum Number Visible
- ☒ Cable Marking Confirmed
- ☒ Measured Length Recorded
- ☒ Test Record Linked
- ☒ Packing List Matched
- ☒ Rolling Direction Marked
- ☒ Drum Restrained for Transport



A technically correct cable can still delay installation when the drum length, circuit identification, handling mark or delivery sequence does not match the cable schedule.

5 RESTRICTIONS

-  no loose cable ends;
-  no cable bent over a sharp drum-flange edge;
-  no unsupported drums during transport;
-  no invented customer name, shipment number or certification label.

