# COMPLETE PRODUCTION WORK ORDER PACKAGE

**ROOT / MAIN: WO-2026-000060  SELECTED BOM: BOM-000008 / Rev.0**

Contains full frozen details for MAIN + every nested Child BOM Work Order.
PDF Generated: 2026-11-20 00:16:05

## WORK ORDER / BOM RELATIONSHIP INDEX

| Level | Work Order | Parent | Parent Operation | Product / BOM | Qty | Status |
|---|---|---|---|---|---|---|
| **MAIN** | **WO-2026-000060** | | ROOT | S1001 01B5YLY070B5YYYA22 \| BOM-000008 | 1000 m | PLANNED |
| **L1** | **WO-2026-000061** | WO-2026-000060 | 10 OP060 Insulation Extrusion | > BCL5 U-S000-0027-0250A04Y \| BOM-000006 | 1000 kg | PLANNED |
| **L2** | **WO-2026-000062** | WO-2026-000061 | 10 OP030 Bunching / Double Twist | > > BCL5 N-N000-0009-0250007Y \| BOM-00000 | 333.3333 kg | PLANNED |
| **L3** | **WO-2026-000063** | WO-2026-000062 | 10 OP020 Multiwire Drawing | > > > BCL1 N-N000-0001-1250005Y \| BOM-000004 | 334.666633 kg | PLANNED |
| **L2** | **WO-2026-000064** | WO-2026-000061 | 10 OP030 Bunching / Double Twist | > > BCL5 N-N000-0009-0250007Y \| BOM-00000 | 333.3333 kg | PLANNED |
| **L3** | **WO-2026-000065** | WO-2026-000064 | 10 OP020 Multiwire Drawing | > > > BCL1 N-N000-0001-1250005Y \| BOM-000004 | 334.666633 kg | PLANNED |
| **L2** | **WO-2026-000066** | WO-2026-000061 | 10 OP030 Bunching / Double Twist | > > BCL5 N-N000-0009-0250007Y \| BOM-00000 | 333.3333 kg | PLANNED |
| **L3** | **WO-2026-000067** | WO-2026-000066 | 10 OP020 Multiwire Drawing | > > > BCL1 N-N000-0001-1250005Y \| BOM-000004 | 334.666633 kg | PLANNED |

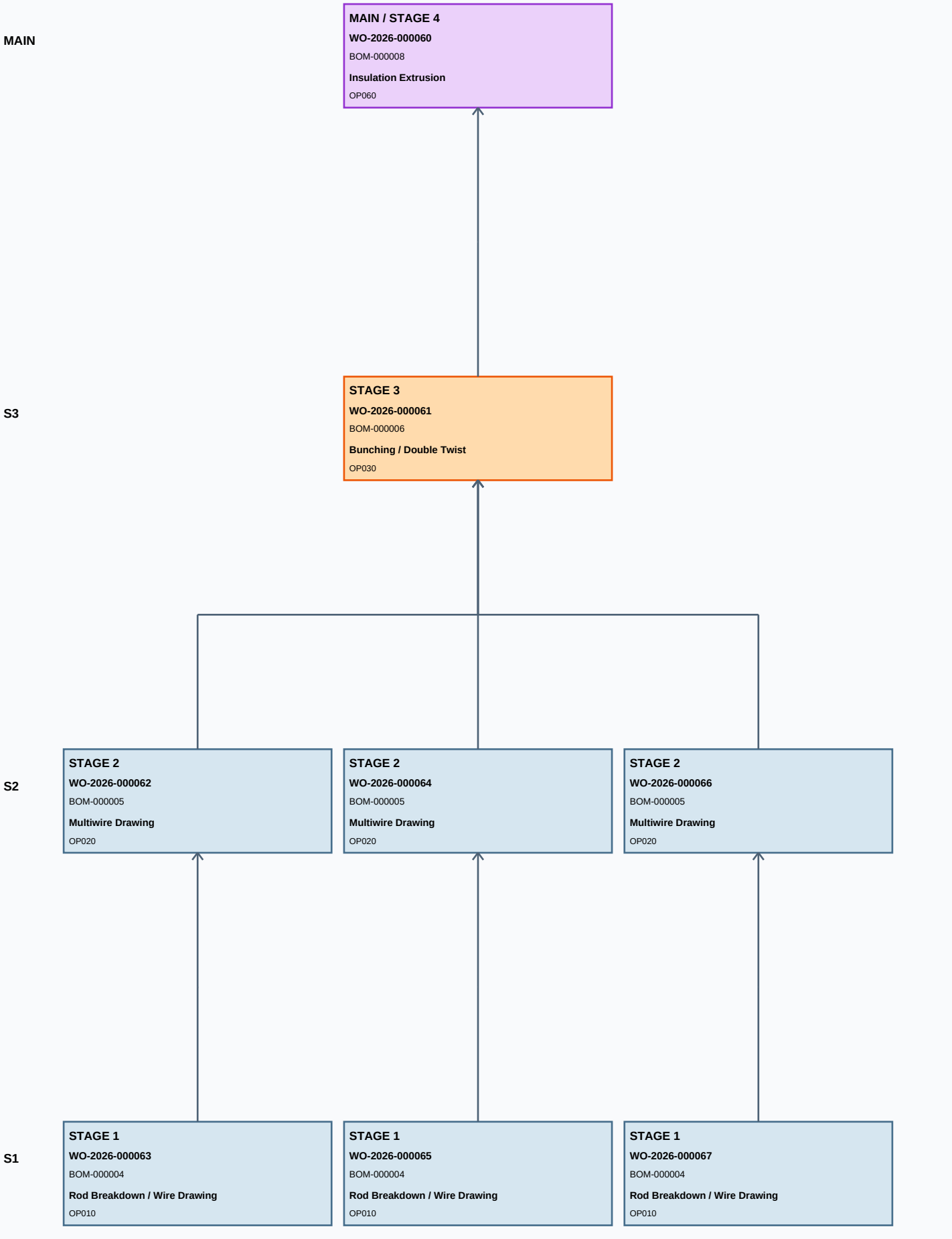
## PRODUCTION / MANUFACTURING SEQUENCE - PRODUCE FROM DEEPEST CHILD TO MAIN

| Prod Seq | Level | Work Order | Parent | Parent Operation | Product / BOM | Qty |
|---|---|---|---|---|---|---|
| **1** | L3 | **WO-2026-000063** | WO-2026-000062 | 10 OP020 Multiwire Drawing | BCL1 N-N000-0001-1250005Y \| BOM-000004 | 334.666633 kg |
| **1** | L3 | **WO-2026-000065** | WO-2026-000064 | 10 OP020 Multiwire Drawing | BCL1 N-N000-0001-1250005Y \| BOM-000004 | 334.666633 kg |
| **1** | L3 | **WO-2026-000067** | WO-2026-000066 | 10 OP020 Multiwire Drawing | BCL1 N-N000-0001-1250005Y \| BOM-000004 | 334.666633 kg |
| **2** | L2 | **WO-2026-000062** | WO-2026-000061 | 10 OP030 Bunching / Double Twist | BCL5 N-N000-0009-0250007Y \| BOM-000005 | 333.3333 kg |
| **2** | L2 | **WO-2026-000064** | WO-2026-000061 | 10 OP030 Bunching / Double Twist | BCL5 N-N000-0009-0250007Y \| BOM-000005 | 333.3333 kg |
| **2** | L2 | **WO-2026-000066** | WO-2026-000061 | 10 OP030 Bunching / Double Twist | BCL5 N-N000-0009-0250007Y \| BOM-000005 | 333.3333 kg |
| **3** | L1 | **WO-2026-000061** | WO-2026-000060 | 10 OP060 Insulation Extrusion | BCL5 U-S000-0027-0250A04Y \| BOM-000006 | 1000 kg |
| **4** | MAIN | **WO-2026-000060** | | FINAL / MAIN | S1001 01B5YLY070B5YYYA22 \| BOM-000008 | 1000 m |

| | |
|---|---|
| **1.** | **Production Stage 1 = ALL Work Orders on the deepest hierarchy level. They may be produced in parallel.** |
| **2.** | **After every Work Order in a stage is completed, move one level upward to the next Production Stage.** |
| **3.** | **The MAIN Work Order is the final stage and starts after all required child/semi-finished stages are completed.** |

# VISUAL WORK ORDER / BOM HIERARCHY

Real operation flow: parallel BOM branches merge at the consuming process, then continue as ONE line.




**OPERATION TYPE LEGEND**

CONDUCTOR / STRANDING | CABLING / LAY-UP (BUKUM) | INSULATION EXTRUSION

Parallel inputs converge into ONE consuming operation. After the merge, the route continues as ONE process line. MAIN = actual final operation.

**MAIN WORK ORDER** **ROOT OF SELECTED BOM TREE**

THIS SECTION CONTAINS THE COMPLETE FROZEN BOM / ROUTING / PARAMETERS / MATERIALS FOR THIS WORK ORDER.

# PRODUCTION WORK ORDER
# WO-2026-000060

**PRODUCT**

**S1001 01B5YLY070B5YYYA22 | Single |** H07RN-F | - | 0.5 | Bare bunched class 5 | YOK | P-EPR | YOK | 0,7 | B | YOK | Y | YOK | NO CLOUR | EN 50525-2-21

Qty: 1000 m Customer: |

WO Date/Time: 2026-10-04 14:14:56

**MAIN WO BARCODE**

WO-2026-000060-MAIN-000061

## WORK ORDER DETAILS

| | | | |
|---|---|---|---|
| **Selected BOM** | BOM-000008 / Rev.0 | **Status / Priority** | PLANNED / NORMAL |
| **WO Role / Level** | MAIN / L0 | **Parent WO** | |
| **Parent Operation** | -- | **Frozen Snapshot** | v1 |
| **Standard / Voltage** | | **Core / Section** | mm2 |
| **Factory** | | **Department** | |
| **Work Centre** | | **Responsible** | |
| **Order / Due** | 2026-10-04 | **Planned Start** | |
| **WO Created Date / Time** | 2026-10-04 14:14:56 | **PDF Generated Date / Time** | 2026-11-20 00:16:05 |

## THIS WORK ORDER - PRODUCT TREE / BOM SEQUENCE

| | |
|---|---|
| **1.** | **BOM-000008 / Rev.0** |

## THIS WORK ORDER - ROUTING / OPERATION SEQUENCE

| WO Seq | Source BOM | Operation | Machine | Work Centre |
|---|---|---|---|---|
| **10** | BOM-000008 / Rev.0 | **OP060 \| Insulation Extrusion** | F02-M04 \| XLPE Insulation Line | \| |

## OP 10 - OP060 | Insulation Extrusion

BOM: BOM-000008 / Rev.0 Source Seq: 10

Machine: F02-M04 | XLPE Insulation Line Work Centre: |

**Speed: 100 m/min**

Setup: 45 min Scrap: 5%

WO-2026-000060-010-OP060-68

## PLANNED PRODUCTION

| Start | Finish | Input Qty | Output Qty | Speed | Setup | Duration | Semi-Finished Output |
|---|---|---|---|---|---|---|---|
| | | **1000 m** | **1000 m** | **100 m/min** | 45 min | 23 min | |

## TECHNICAL / ENGINEERING PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Process Type** | | | | | |
| **Material Standard** | | | | | |
| **Color** | | | | | |
| **Color Masterbatch Ratio (%)** | | | | % | |
| **Color Masterbatch Type** | | | | | |
| **Catalyst Ratio (%)** | | | | % | |
| **Anti-Rodent Additive Ratio (%)** | | | | % | |
| **Anti-Termite Additive Ratio (%)** | | | | % | |
| **Flame-Retardant Additive Ratio (%)** | | | | % | |
| **Foaming Additive Ratio (%)** | | | | % | |
| **Nominal Wall Thickness (mm)** | | | | mm | |
| **Minimum Point Wall Thickness (mm)** | | | | mm | |
| **Nominal Diameter (mm)** | | | | mm | |
| **Minimum Diameter (mm)** | | | | mm | |
| **Maximum Diameter (mm)** | | | | mm | |
| **Manufacturing Wall Thickness (mm)** | | | | mm | |
| **Manufacturing Minimum Wall Thickness (mm)** | | | | mm | |
| **Manufacturing Maximum Wall Thickness (mm)** | | | | mm | |
| **Material Weight (kg/km)** | | | | kg/km | |

| | | | | | |
|---|---|---|---|---|---|
| **Manufacturing Nominal Diameter (mm)** | | | | mm | |
| **Manufacturing Minimum Diameter (mm)** | | | | mm | |
| **Manufacturing Maximum Diameter (mm)** | | | | mm | |
| **Insulation Input Diameter** | | | | | |
| **Maximum Point Wall Thickness (mm)** | | | | mm | |
| **Insulation Resistance (M?.km)** | | | | Mohm/km | |
| **Standard Minimum Diameter** | | | | | |
| **Standard Maximum Diameter** | | | | | |
| **Insulation Marking** | | | | | |
| **Note** | | | | | |
| **Tensile Strength / Elongation Values** | | | | | |

## PRODUCTION PROCESS PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Extruder Zone Temperatures** | | | | ?C | |
| **Head Temperature** | | | | ?C | |
| **Screw Speed** | | | | rpm | |
| **Line Speed** | | | | m/min | |

## QUALITY / TEST PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Minimum Thickness** | | | | mm | |
| **Spark Test Voltage** | | | | kV | |
| **Insulated Core OD** | | | | mm | |

## CHILD BOM / NEXT WORK ORDER(S) FROM THIS OPERATION

| Child Product | Child BOM | Qty/Output | WO Required | Generated Child WO | Relationship |
|---|---|---|---|---|---|
| **BCL5 U-S000-0027-0250A04Y \| Bare Copper \| IEC \| Round/Bunch \| IEC 60028 Class 5 \| Unilay concentric EU \| S Left \| 27 x 0.25 mm \| Lay 16D \| 1.5 mm2** | BOM-000006 / Rev.0 | 1000 kg | 1000 kg | **WO-2026-000061** | NEXT: WO-2026-000060 -> WO-2026-000061 |

## RAW MATERIALS / COMPONENTS - OP 10 ONLY

| Material Code | Material Name | BOM Qty | WO Required | Unit | Role | Scrap % | Notes |
|---|---|---|---|---|---|---|---|
| - | No material line stored for this operation. | | | | | | |

## OP 10 - OPERATOR / QC SIGN-OFF

| Operator / Sign | Actual Start / Stop | Actual Output / Scrap | QC / Supervisor / Sign |
|---|---|---|---|
| | | | |

**CHILD WORK ORDER - LEVEL 1** **PARENT WO-2026-000060 / OP 10 OP060 Insulation Extrusion**

THIS SECTION CONTAINS THE COMPLETE FROZEN BOM / ROUTING / PARAMETERS / MATERIALS FOR THIS WORK ORDER.

# PRODUCTION WORK ORDER
# WO-2026-000061

**PRODUCT**

**BCL5 U-S000-0027-0250A04Y | Bare Copper |**
IEC | Round/Bunch | IEC 60028 Class 5 |
Unilay concentric EU | S Left | 27 x 0.25
mm | Lay 16D | 1.5 mm2
Qty: 1000 kg Customer: |
WO Date/Time: 2026-10-04 14:14:56

**MAIN WO BARCODE**

WO-2026-000061-MAIN-000062

## WORK ORDER DETAILS

| | | | |
|---|---|---|---|
| **Selected BOM** | BOM-000006 / Rev.0 | **Status / Priority** | PLANNED / NORMAL |
| **WO Role / Level** | CHILD / L1 | **Parent WO** | WO-2026-000060 |
| **Parent Operation** | 10 \| OP060 Insulation Extrusion | **Frozen Snapshot** | v1 |
| **Standard / Voltage** | IEC | **Core / Section** | mm2 |
| **Factory** | | **Department** | |
| **Work Centre** | | **Responsible** | |
| **Order / Due** | 2026-10-04 | **Planned Start** | |
| **WO Created Date / Time** | 2026-10-04 14:14:56 | **PDF Generated Date / Time** | 2026-11-20 00:16:05 |

## WORK ORDER NOTES

Generated from parent WO-2026-000060 / OP 10 OP060

## THIS WORK ORDER - PRODUCT TREE / BOM SEQUENCE

| | |
|---|---|
| **1.** | **BOM-000006 / Rev.0** |

## THIS WORK ORDER - ROUTING / OPERATION SEQUENCE

| WO Seq | Source BOM | Operation | Machine | Work Centre |
|---|---|---|---|---|
| **10** | BOM-000006 / Rev.0 | **OP030 \| Bunching / Double Twist** | F03-M05 \| Cabling Machine | \| |

## OP 10 - OP030 | Bunching / Double Twist

BOM: BOM-000006 / Rev.0 Source Seq: 10
Machine: F03-M05 | Cabling Machine Work Centre: |

**Speed: 232323 m/min**
Setup: 3434324 min Scrap: 55555%

WO-2026-000061-010-OP030-69

## PLANNED PRODUCTION

| Start | Finish | Input Qty | Output Qty | Speed | Setup | Duration | Semi-Finished Output |
|---|---|---|---|---|---|---|---|
| | | **1000 kg** | **m** | **232323 m/min** | 3434324 min | 234324 min | |

## TECHNICAL / ENGINEERING PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Material Type** | **ADSAD** | | | | |
| **Construction** | **SADSAD** | | | | |
| **Conductor Stranding Type** | | | | | |
| **Layer Diameters for Rolling** | | | | | |
| **Lay Direction** | | | | | |
| **Diameter** | | | | | |
| **Nominal Lay Length** | | | | | |
| **Maximum Lay Length** | | | | | |
| **Theoretical Conductor Resistance** | | | | | |
| **Maximum Conductor Resistance** | | | | | |
| **Maximum Standard Resistance** | | | | | |
| **Material Weight (kg/km)** | | | | kg/km | |
| **Note** | **AD** | | | | |
| **Lay Type** | | | | | |
| **Minimum Lay Length** | | | | | |
| **Lay Ratio** | | | | | |
| **Minimum Diameter** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Nominal Diameter** | | | | | |
| **Maximum Diameter** | | | | | |
| **Filler Cord Count** | | | | | |
| **Filler Cord Diameter** | | | | | |
| **Dummy Core Count** | | | | | |
| **Dummy Core Diameter** | | | | | |
| **Filler Cord Material** | | | | | |
| **Filler Cord Weight** | | | | | |
| **Yarn Material** | **DASD** | | | | |
| **Yarn Weight** | | | | | |
| **Color and Number Sequence** | | | | | |

## PRODUCTION PROCESS PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Bow / Rotor Speed** | | | | rpm | |
| **Line Speed** | | | | m/min | |

## QUALITY / TEST PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Conductor OD** | | | | mm | |

## CHILD BOM / NEXT WORK ORDER(S) FROM THIS OPERATION

| Child Product | Child BOM | Qty/Output | WO Required | Generated Child WO | Relationship |
|---|---|---|---|---|---|
| **BCL5 N-N000-0009-0250007Y \| Bare Copper \| IEC \| Round/Bunch \| IEC 60028 Class 5 \| NOT \| NOT \| 9 x 0.25 mm \| Lay NOT \| 6 mm2** | BOM-000005 / Rev.0 | 333.3333 kg | 333.3333 kg | **WO-2026-000062** | NEXT: WO-2026-000061 -> WO-2026-000062 |
| **BCL5 N-N000-0009-0250007Y \| Bare Copper \| IEC \| Round/Bunch \| IEC 60028 Class 5 \| NOT \| NOT \| 9 x 0.25 mm \| Lay NOT \| 6 mm2** | BOM-000005 / Rev.0 | 333.3333 kg | 333.3333 kg | **WO-2026-000064** | NEXT: WO-2026-000061 -> WO-2026-000064 |
| **BCL5 N-N000-0009-0250007Y \| Bare Copper \| IEC \| Round/Bunch \| IEC 60028 Class 5 \| NOT \| NOT \| 9 x 0.25 mm \| Lay NOT \| 6 mm2** | BOM-000005 / Rev.0 | 333.3333 kg | 333.3333 kg | **WO-2026-000066** | NEXT: WO-2026-000061 -> WO-2026-000066 |

## RAW MATERIALS / COMPONENTS - OP 10 ONLY

| Material Code | Material Name | BOM Qty | WO Required | Unit | Role | Scrap % | Notes |
|---|---|---|---|---|---|---|---|
| - | No material line stored for this operation. | | | | | | |

## OP 10 - OPERATOR / QC SIGN-OFF

| Operator / Sign | Actual Start / Stop | Actual Output / Scrap | QC / Supervisor / Sign |
|---|---|---|---|
| | | | |

**CHILD WORK ORDER - LEVEL 2** **PARENT WO-2026-000061 / OP 10 OP030 Bunching / Double Twist**

THIS SECTION CONTAINS THE COMPLETE FROZEN BOM / ROUTING / PARAMETERS / MATERIALS FOR THIS WORK ORDER.

# PRODUCTION WORK ORDER
# WO-2026-000062

**PRODUCT**

**BCL5 N-N000-0009-0250007Y | Bare Copper |**
IEC | Round/Bunch | IEC 60028 Class 5 |
NOT | NOT | 9 x 0.25 mm | Lay NOT | 6 mm2

Qty: 333.3333 kg Customer: |

WO Date/Time: 2026-10-04 14:14:56

**MAIN WO BARCODE**

WO-2026-000062-MAIN-000063

## WORK ORDER DETAILS

| | | | |
|---|---|---|---|
| **Selected BOM** | BOM-000005 / Rev.0 | **Status / Priority** | PLANNED / NORMAL |
| **WO Role / Level** | CHILD / L2 | **Parent WO** | WO-2026-000061 |
| **Parent Operation** | 10 \| OP030 Bunching / Double Twist | **Frozen Snapshot** | v1 |
| **Standard / Voltage** | IEC | **Core / Section** | mm2 |
| **Factory** | | **Department** | |
| **Work Centre** | | **Responsible** | |
| **Order / Due** | 2026-10-04 | **Planned Start** | |
| **WO Created Date / Time** | 2026-10-04 14:14:56 | **PDF Generated Date / Time** | 2026-11-20 00:16:05 |

## WORK ORDER NOTES

Generated from parent WO-2026-000061 / OP 10 OP030

## THIS WORK ORDER - PRODUCT TREE / BOM SEQUENCE

| | |
|---|---|
| **1.** | **BOM-000005 / Rev.0** |

## THIS WORK ORDER - ROUTING / OPERATION SEQUENCE

| WO Seq | Source BOM | Operation | Machine | Work Centre |
|---|---|---|---|---|
| **10** | BOM-000005 / Rev.0 | **OP020 \| Multiwire Drawing** | F03-M02 \| Fine Wire Drawing Machine | \| |

## OP 10 - OP020 | Multiwire Drawing

BOM: BOM-000005 / Rev.0 Source Seq: 10

Machine: F03-M02 | Fine Wire Drawing Machine Work Centre: |

**Speed: 33333 m/min**

Setup: 545 min Scrap: 1%

WO-2026-000062-010-OP020-70

## PLANNED PRODUCTION

| Start | Finish | Input Qty | Output Qty | Speed | Setup | Duration | Semi-Finished Output |
|---|---|---|---|---|---|---|---|
| | | **333.3333 kg** | **m** | **33333 m/min** | 545 min | 30 min | |

## TECHNICAL / ENGINEERING PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Material Type** | **ERSDF** | | | | |
| **Construction** | **DSF** | | | | |
| **Conductor Stranding Type** | | | | | |
| **Layer Diameters for Rolling** | **4534** | 4544 | | | |
| **Lay Direction** | | | | | |
| **Diameter** | | 4 | 44 | | |
| **Nominal Lay Length** | | | 44 | | |
| **Maximum Lay Length** | | | | | |
| **Theoretical Conductor Resistance** | | 44 | 6 | | |
| **Maximum Conductor Resistance** | | 4 | 4 | | |
| **Maximum Standard Resistance** | | | | | |
| **Material Weight (kg/km)** | **4** | 4 | 4 | kg/km | |
| **Note** | | | | | |

## PRODUCTION PROCESS PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Line Speed** | **12** | 8 | 15 | m/min | |

## QUALITY / TEST PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Wire Diameter** | **8768** | 6767 | 6767 | mm | |

## CHILD BOM / NEXT WORK ORDER(S) FROM THIS OPERATION

| Child Product | Child BOM | Qty/Output | WO Required | Generated Child WO | Relationship |
|---|---|---|---|---|---|
| **BCL1 N-N000-0001-1250005Y \| Bare Copper \| IEC \| Round/Bunch \| IEC 60228 Class 1 \| NOT \| NOT \| 1 x 1.25 mm \| Lay NOT \| 2.5 mm2** | BOM-000004 / Rev.0 | 1004 kg | 334.666633 kg | **WO-2026-000063** | NEXT: WO-2026-000062 -> WO-2026-000063 |

## RAW MATERIALS / COMPONENTS - OP 10 ONLY

| Material Code | Material Name | BOM Qty | WO Required | Unit | Role | Scrap % | Notes |
|---|---|---|---|---|---|---|---|
| - | No material line stored for this operation. | | | | | | |

## OP 10 - OPERATOR / QC SIGN-OFF

| Operator / Sign | Actual Start / Stop | Actual Output / Scrap | QC / Supervisor / Sign |
|---|---|---|---|
| | | | |

**CHILD WORK ORDER - LEVEL 3** **PARENT WO-2026-000062 / OP 10 OP020 Multiwire Drawing**

THIS SECTION CONTAINS THE COMPLETE FROZEN BOM / ROUTING / PARAMETERS / MATERIALS FOR THIS WORK ORDER.

# PRODUCTION WORK ORDER
# WO-2026-000063

**PRODUCT**

**BCL1 N-N000-0001-1250005Y | Bare Copper |** IEC | Round/Bunch | IEC 60228 Class 1 | NOT | NOT | 1 x 1.25 mm | Lay NOT | 2.5 mm2

Qty: 334.666633 kg Customer: |

WO Date/Time: 2026-10-04 14:14:56

**MAIN WO BARCODE**

WO-2026-000063-MAIN-000064

## WORK ORDER DETAILS

| | | | |
|---|---|---|---|
| **Selected BOM** | BOM-000004 / Rev.0 | **Status / Priority** | PLANNED / NORMAL |
| **WO Role / Level** | CHILD / L3 | **Parent WO** | WO-2026-000062 |
| **Parent Operation** | 10 \| OP020 Multiwire Drawing | **Frozen Snapshot** | v1 |
| **Standard / Voltage** | IEC | **Core / Section** | mm2 |
| **Factory** | | **Department** | |
| **Work Centre** | | **Responsible** | |
| **Order / Due** | 2026-10-04 | **Planned Start** | |
| **WO Created Date / Time** | 2026-10-04 14:14:56 | **PDF Generated Date / Time** | 2026-11-20 00:16:05 |

## WORK ORDER NOTES

Generated from parent WO-2026-000062 / OP 10 OP020

## THIS WORK ORDER - PRODUCT TREE / BOM SEQUENCE

| | |
|---|---|
| **1.** | **BOM-000004 / Rev.0** |

## THIS WORK ORDER - ROUTING / OPERATION SEQUENCE

| WO Seq | Source BOM | Operation | Machine | Work Centre |
|---|---|---|---|---|
| **10** | BOM-000004 / Rev.0 | **OP010 \| Rod Breakdown / Wire Drawing** | F03-M01 \| Rod Breakdown Machine | \| |

## OP 10 - OP010 | Rod Breakdown / Wire Drawing

BOM: BOM-000004 / Rev.0 Source Seq: 10

Machine: F03-M01 | Rod Breakdown Machine Work Centre: |

**Speed: 4 m/min**

Setup: 30 min Scrap: 1%

WO-2026-000063-010-OP010-71

## PLANNED PRODUCTION

| Start | Finish | Input Qty | Output Qty | Speed | Setup | Duration | Semi-Finished Output |
|---|---|---|---|---|---|---|---|
| | | **334.666633 kg** | **1000 kg** | **4 m/min** | 30 min | 15 min | |

## TECHNICAL / ENGINEERING PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Material Type** | **copper** | | | | |
| **Construction** | | | | | |
| **Conductor Stranding Type** | | | | | |
| **Layer Diameters for Rolling** | | | | | |
| **Lay Direction** | **33** | | | | |
| **Diameter** | **33** | 5 | 333 | | |
| **Nominal Lay Length** | | | 33 | | |
| **Maximum Lay Length** | **3** | | 3 | | |
| **Theoretical Conductor Resistance** | **3** | | 3 | | |
| **Maximum Conductor Resistance** | **3** | 3 | | | |
| **Maximum Standard Resistance** | **3** | | 3 | | |
| **Material Weight (kg/km)** | **3** | | 3 | kg/km | |
| **Note** | | | | | |

## PRODUCTION PROCESS PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Inlet Diameter** | **333** | 33 | 33 | mm | |
| **Outlet Diameter** | **3** | 3 | | mm | |

| | | | | | |
|---|---|---|---|---|---|
| **Line Speed** | **3333** | 33 | 3 | m/min | |
| **Annealer Current** | **333** | 3 | 33 | A | |

## QUALITY / TEST PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Conductor Resistance** | **33** | 3 | 33 | ohm/km | |
| **Wire Diameter** | **333333** | 33333 | 3 | mm | |

## RAW MATERIALS / COMPONENTS - OP 10 ONLY

| Material Code | Material Name | BOM Qty | WO Required | Unit | Role | Scrap % | Notes |
|---|---|---|---|---|---|---|---|
| **BCL1 N-N000-0001-8000012Y** | Bare Copper \| IEC \| Round/Bunch \| IEC 60228 Class 1 \| NOT \| NOT \| 1 x 8 mm \| Lay NOT \| 50 mm2 | 1000 | **338.013299** | kg | | 1% | |

## OP 10 - OPERATOR / QC SIGN-OFF

| Operator / Sign | Actual Start / Stop | Actual Output / Scrap | QC / Supervisor / Sign |
|---|---|---|---|
| | | | |

**CHILD WORK ORDER - LEVEL 2** **PARENT WO-2026-000061 / OP 10 OP030 Bunching / Double Twist**

THIS SECTION CONTAINS THE COMPLETE FROZEN BOM / ROUTING / PARAMETERS / MATERIALS FOR THIS WORK ORDER.

# PRODUCTION WORK ORDER
# WO-2026-000064

**PRODUCT**

**BCL5 N-N000-0009-0250007Y | Bare Copper |**
IEC | Round/Bunch | IEC 60028 Class 5 |
NOT | NOT | 9 x 0.25 mm | Lay NOT | 6 mm2

Qty: 333.3333 kg Customer: |

WO Date/Time: 2026-10-04 14:14:56

**MAIN WO BARCODE**

WO-2026-000064-MAIN-000065

## WORK ORDER DETAILS

| | | | |
|---|---|---|---|
| **Selected BOM** | BOM-000005 / Rev.0 | **Status / Priority** | PLANNED / NORMAL |
| **WO Role / Level** | CHILD / L2 | **Parent WO** | WO-2026-000061 |
| **Parent Operation** | 10 \| OP030 Bunching / Double Twist | **Frozen Snapshot** | v1 |
| **Standard / Voltage** | IEC | **Core / Section** | mm2 |
| **Factory** | | **Department** | |
| **Work Centre** | | **Responsible** | |
| **Order / Due** | 2026-10-04 | **Planned Start** | |
| **WO Created Date / Time** | 2026-10-04 14:14:56 | **PDF Generated Date / Time** | 2026-11-20 00:16:05 |

## WORK ORDER NOTES

Generated from parent WO-2026-000061 / OP 10 OP030

## THIS WORK ORDER - PRODUCT TREE / BOM SEQUENCE

| | |
|---|---|
| **1.** | **BOM-000005 / Rev.0** |

## THIS WORK ORDER - ROUTING / OPERATION SEQUENCE

| WO Seq | Source BOM | Operation | Machine | Work Centre |
|---|---|---|---|---|
| **10** | BOM-000005 / Rev.0 | **OP020 \| Multiwire Drawing** | F03-M02 \| Fine Wire Drawing Machine | \| |

## OP 10 - OP020 | Multiwire Drawing

BOM: BOM-000005 / Rev.0 Source Seq: 10

Machine: F03-M02 | Fine Wire Drawing Machine Work Centre: |

**Speed: 33333 m/min**

Setup: 545 min Scrap: 1%

WO-2026-000064-010-OP020-72

## PLANNED PRODUCTION

| Start | Finish | Input Qty | Output Qty | Speed | Setup | Duration | Semi-Finished Output |
|---|---|---|---|---|---|---|---|
| | | **333.3333 kg** | **m** | **33333 m/min** | 545 min | 30 min | |

## TECHNICAL / ENGINEERING PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Material Type** | **ERSDF** | | | | |
| **Construction** | **DSF** | | | | |
| **Conductor Stranding Type** | | | | | |
| **Layer Diameters for Rolling** | **4534** | 4544 | | | |
| **Lay Direction** | | | | | |
| **Diameter** | | 4 | 44 | | |
| **Nominal Lay Length** | | | 44 | | |
| **Maximum Lay Length** | | | | | |
| **Theoretical Conductor Resistance** | | 44 | 6 | | |
| **Maximum Conductor Resistance** | | 4 | 4 | | |
| **Maximum Standard Resistance** | | | | | |
| **Material Weight (kg/km)** | **4** | 4 | 4 | kg/km | |
| **Note** | | | | | |

## PRODUCTION PROCESS PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Line Speed** | **12** | 8 | 15 | m/min | |

## QUALITY / TEST PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Wire Diameter** | **8768** | 6767 | 6767 | mm | |

## CHILD BOM / NEXT WORK ORDER(S) FROM THIS OPERATION

| Child Product | Child BOM | Qty/Output | WO Required | Generated Child WO | Relationship |
|---|---|---|---|---|---|
| **BCL1 N-N000-0001-1250005Y \| Bare Copper \| IEC \| Round/Bunch \| IEC 60228 Class 1 \| NOT \| NOT \| 1 x 1.25 mm \| Lay NOT \| 2.5 mm2** | BOM-000004 / Rev.0 | 1004 kg | 334.666633 kg | **WO-2026-000065** | NEXT: WO-2026-000064 -> WO-2026-000065 |

## RAW MATERIALS / COMPONENTS - OP 10 ONLY

| Material Code | Material Name | BOM Qty | WO Required | Unit | Role | Scrap % | Notes |
|---|---|---|---|---|---|---|---|
| - | No material line stored for this operation. | | | | | | |

## OP 10 - OPERATOR / QC SIGN-OFF

| Operator / Sign | Actual Start / Stop | Actual Output / Scrap | QC / Supervisor / Sign |
|---|---|---|---|
| | | | |

**CHILD WORK ORDER - LEVEL 3** **PARENT WO-2026-000064 / OP 10 OP020 Multiwire Drawing**

THIS SECTION CONTAINS THE COMPLETE FROZEN BOM / ROUTING / PARAMETERS / MATERIALS FOR THIS WORK ORDER.

# PRODUCTION WORK ORDER
# WO-2026-000065

**PRODUCT**

**BCL1 N-N000-0001-1250005Y | Bare Copper |** IEC | Round/Bunch | IEC 60228 Class 1 | NOT | NOT | 1 x 1.25 mm | Lay NOT | 2.5 mm2

Qty: 334.666633 kg Customer: |

WO Date/Time: 2026-10-04 14:14:56

**MAIN WO BARCODE**

WO-2026-000065-MAIN-000066

## WORK ORDER DETAILS

| | | | |
|---|---|---|---|
| **Selected BOM** | BOM-000004 / Rev.0 | **Status / Priority** | PLANNED / NORMAL |
| **WO Role / Level** | CHILD / L3 | **Parent WO** | WO-2026-000064 |
| **Parent Operation** | 10 \| OP020 Multiwire Drawing | **Frozen Snapshot** | v1 |
| **Standard / Voltage** | IEC | **Core / Section** | mm2 |
| **Factory** | | **Department** | |
| **Work Centre** | | **Responsible** | |
| **Order / Due** | 2026-10-04 | **Planned Start** | |
| **WO Created Date / Time** | 2026-10-04 14:14:56 | **PDF Generated Date / Time** | 2026-11-20 00:16:05 |

## WORK ORDER NOTES

Generated from parent WO-2026-000064 / OP 10 OP020

## THIS WORK ORDER - PRODUCT TREE / BOM SEQUENCE

| | |
|---|---|
| **1.** | **BOM-000004 / Rev.0** |

## THIS WORK ORDER - ROUTING / OPERATION SEQUENCE

| WO Seq | Source BOM | Operation | Machine | Work Centre |
|---|---|---|---|---|
| **10** | BOM-000004 / Rev.0 | **OP010 \| Rod Breakdown / Wire Drawing** | F03-M01 \| Rod Breakdown Machine | \| |

## OP 10 - OP010 | Rod Breakdown / Wire Drawing

BOM: BOM-000004 / Rev.0 Source Seq: 10

Machine: F03-M01 | Rod Breakdown Machine Work Centre: |

**Speed: 4 m/min**

Setup: 30 min Scrap: 1%

WO-2026-000065-010-OP010-73

## PLANNED PRODUCTION

| Start | Finish | Input Qty | Output Qty | Speed | Setup | Duration | Semi-Finished Output |
|---|---|---|---|---|---|---|---|
| | | **334.666633 kg** | **1000 kg** | **4 m/min** | 30 min | 15 min | |

## TECHNICAL / ENGINEERING PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Material Type** | **copper** | | | | |
| **Construction** | | | | | |
| **Conductor Stranding Type** | | | | | |
| **Layer Diameters for Rolling** | | | | | |
| **Lay Direction** | **33** | | | | |
| **Diameter** | **33** | 5 | 333 | | |
| **Nominal Lay Length** | | | 33 | | |
| **Maximum Lay Length** | **3** | | 3 | | |
| **Theoretical Conductor Resistance** | **3** | | 3 | | |
| **Maximum Conductor Resistance** | **3** | 3 | | | |
| **Maximum Standard Resistance** | **3** | | 3 | | |
| **Material Weight (kg/km)** | **3** | | 3 | kg/km | |
| **Note** | | | | | |

## PRODUCTION PROCESS PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Inlet Diameter** | **333** | 33 | 33 | mm | |
| **Outlet Diameter** | **3** | 3 | | mm | |

| | | | | | |
|---|---|---|---|---|---|
| **Line Speed** | **3333** | 33 | 3 | m/min | |
| **Annealer Current** | **333** | 3 | 33 | A | |

## QUALITY / TEST PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Conductor Resistance** | **33** | 3 | 33 | ohm/km | |
| **Wire Diameter** | **333333** | 33333 | 3 | mm | |

## RAW MATERIALS / COMPONENTS - OP 10 ONLY

| Material Code | Material Name | BOM Qty | WO Required | Unit | Role | Scrap % | Notes |
|---|---|---|---|---|---|---|---|
| **BCL1 N-N000-0001-8000012Y** | Bare Copper \| IEC \| Round/Bunch \| IEC 60228 Class 1 \| NOT \| NOT \| 1 x 8 mm \| Lay NOT \| 50 mm2 | 1000 | **338.013299** | kg | | 1% | |

## OP 10 - OPERATOR / QC SIGN-OFF

| Operator / Sign | Actual Start / Stop | Actual Output / Scrap | QC / Supervisor / Sign |
|---|---|---|---|
| | | | |

**CHILD WORK ORDER - LEVEL 2** **PARENT WO-2026-000061 / OP 10 OP030 Bunching / Double Twist**

THIS SECTION CONTAINS THE COMPLETE FROZEN BOM / ROUTING / PARAMETERS / MATERIALS FOR THIS WORK ORDER.

# PRODUCTION WORK ORDER
# WO-2026-000066

**PRODUCT**

**BCL5 N-N000-0009-0250007Y | Bare Copper |**
IEC | Round/Bunch | IEC 60028 Class 5 |
NOT | NOT | 9 x 0.25 mm | Lay NOT | 6 mm2

Qty: 333.3333 kg Customer: |

WO Date/Time: 2026-10-04 14:14:56

**MAIN WO BARCODE**

WO-2026-000066-MAIN-000067

## WORK ORDER DETAILS

| | | | |
|---|---|---|---|
| **Selected BOM** | BOM-000005 / Rev.0 | **Status / Priority** | PLANNED / NORMAL |
| **WO Role / Level** | CHILD / L2 | **Parent WO** | WO-2026-000061 |
| **Parent Operation** | 10 \| OP030 Bunching / Double Twist | **Frozen Snapshot** | v1 |
| **Standard / Voltage** | IEC | **Core / Section** | mm2 |
| **Factory** | | **Department** | |
| **Work Centre** | | **Responsible** | |
| **Order / Due** | 2026-10-04 | **Planned Start** | |
| **WO Created Date / Time** | 2026-10-04 14:14:56 | **PDF Generated Date / Time** | 2026-11-20 00:16:05 |

## WORK ORDER NOTES

Generated from parent WO-2026-000061 / OP 10 OP030

## THIS WORK ORDER - PRODUCT TREE / BOM SEQUENCE

| | |
|---|---|
| **1.** | **BOM-000005 / Rev.0** |

## THIS WORK ORDER - ROUTING / OPERATION SEQUENCE

| WO Seq | Source BOM | Operation | Machine | Work Centre |
|---|---|---|---|---|
| **10** | BOM-000005 / Rev.0 | **OP020 \| Multiwire Drawing** | F03-M02 \| Fine Wire Drawing Machine | \| |

## OP 10 - OP020 | Multiwire Drawing

BOM: BOM-000005 / Rev.0 Source Seq: 10

Machine: F03-M02 | Fine Wire Drawing Machine Work Centre: |

**Speed: 33333 m/min**

Setup: 545 min Scrap: 1%

WO-2026-000066-010-OP020-74

## PLANNED PRODUCTION

| Start | Finish | Input Qty | Output Qty | Speed | Setup | Duration | Semi-Finished Output |
|---|---|---|---|---|---|---|---|
| | | **333.3333 kg** | **m** | **33333 m/min** | 545 min | 30 min | |

## TECHNICAL / ENGINEERING PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Material Type** | **ERSDF** | | | | |
| **Construction** | **DSF** | | | | |
| **Conductor Stranding Type** | | | | | |
| **Layer Diameters for Rolling** | **4534** | 4544 | | | |
| **Lay Direction** | | | | | |
| **Diameter** | | 4 | 44 | | |
| **Nominal Lay Length** | | | 44 | | |
| **Maximum Lay Length** | | | | | |
| **Theoretical Conductor Resistance** | | 44 | 6 | | |
| **Maximum Conductor Resistance** | | 4 | 4 | | |
| **Maximum Standard Resistance** | | | | | |
| **Material Weight (kg/km)** | **4** | 4 | 4 | kg/km | |
| **Note** | | | | | |

## PRODUCTION PROCESS PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Line Speed** | **12** | 8 | 15 | m/min | |

## QUALITY / TEST PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Wire Diameter** | **8768** | 6767 | 6767 | mm | |

## CHILD BOM / NEXT WORK ORDER(S) FROM THIS OPERATION

| Child Product | Child BOM | Qty/Output | WO Required | Generated Child WO | Relationship |
|---|---|---|---|---|---|
| **BCL1 N-N000-0001-1250005Y \| Bare Copper \| IEC \| Round/Bunch \| IEC 60228 Class 1 \| NOT \| NOT \| 1 x 1.25 mm \| Lay NOT \| 2.5 mm2** | BOM-000004 / Rev.0 | 1004 kg | 334.666633 kg | **WO-2026-000067** | NEXT: WO-2026-000066 -> WO-2026-000067 |

## RAW MATERIALS / COMPONENTS - OP 10 ONLY

| Material Code | Material Name | BOM Qty | WO Required | Unit | Role | Scrap % | Notes |
|---|---|---|---|---|---|---|---|
| - | No material line stored for this operation. | | | | | | |

## OP 10 - OPERATOR / QC SIGN-OFF

| Operator / Sign | Actual Start / Stop | Actual Output / Scrap | QC / Supervisor / Sign |
|---|---|---|---|
| | | | |

**CHILD WORK ORDER - LEVEL 3** **PARENT WO-2026-000066 / OP 10 OP020 Multiwire Drawing**

THIS SECTION CONTAINS THE COMPLETE FROZEN BOM / ROUTING / PARAMETERS / MATERIALS FOR THIS WORK ORDER.

# PRODUCTION WORK ORDER
# WO-2026-000067

**PRODUCT**

**BCL1 N-N000-0001-1250005Y | Bare Copper |** IEC | Round/Bunch | IEC 60228 Class 1 | NOT | NOT | 1 x 1.25 mm | Lay NOT | 2.5 mm2

Qty: 334.666633 kg Customer: |

WO Date/Time: 2026-10-04 14:14:56

**MAIN WO BARCODE**

WO-2026-000067-MAIN-000068

## WORK ORDER DETAILS

| | | | |
|---|---|---|---|
| **Selected BOM** | BOM-000004 / Rev.0 | **Status / Priority** | PLANNED / NORMAL |
| **WO Role / Level** | CHILD / L3 | **Parent WO** | WO-2026-000066 |
| **Parent Operation** | 10 \| OP020 Multiwire Drawing | **Frozen Snapshot** | v1 |
| **Standard / Voltage** | IEC | **Core / Section** | mm2 |
| **Factory** | | **Department** | |
| **Work Centre** | | **Responsible** | |
| **Order / Due** | 2026-10-04 | **Planned Start** | |
| **WO Created Date / Time** | 2026-10-04 14:14:56 | **PDF Generated Date / Time** | 2026-11-20 00:16:05 |

## WORK ORDER NOTES

Generated from parent WO-2026-000066 / OP 10 OP020

## THIS WORK ORDER - PRODUCT TREE / BOM SEQUENCE

| | |
|---|---|
| **1.** | **BOM-000004 / Rev.0** |

## THIS WORK ORDER - ROUTING / OPERATION SEQUENCE

| WO Seq | Source BOM | Operation | Machine | Work Centre |
|---|---|---|---|---|
| **10** | BOM-000004 / Rev.0 | **OP010 \| Rod Breakdown / Wire Drawing** | F03-M01 \| Rod Breakdown Machine | \| |

## OP 10 - OP010 | Rod Breakdown / Wire Drawing

BOM: BOM-000004 / Rev.0 Source Seq: 10

Machine: F03-M01 | Rod Breakdown Machine Work Centre: |

**Speed: 4 m/min**

Setup: 30 min Scrap: 1%

WO-2026-000067-010-OP010-75

## PLANNED PRODUCTION

| Start | Finish | Input Qty | Output Qty | Speed | Setup | Duration | Semi-Finished Output |
|---|---|---|---|---|---|---|---|
| | | **334.666633 kg** | **1000 kg** | **4 m/min** | 30 min | 15 min | |

## TECHNICAL / ENGINEERING PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Material Type** | **copper** | | | | |
| **Construction** | | | | | |
| **Conductor Stranding Type** | | | | | |
| **Layer Diameters for Rolling** | | | | | |
| **Lay Direction** | **33** | | | | |
| **Diameter** | **33** | 5 | 333 | | |
| **Nominal Lay Length** | | | 33 | | |
| **Maximum Lay Length** | **3** | | 3 | | |
| **Theoretical Conductor Resistance** | **3** | | 3 | | |
| **Maximum Conductor Resistance** | **3** | 3 | | | |
| **Maximum Standard Resistance** | **3** | | 3 | | |
| **Material Weight (kg/km)** | **3** | | 3 | kg/km | |
| **Note** | | | | | |

## PRODUCTION PROCESS PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Inlet Diameter** | **333** | 33 | 33 | mm | |
| **Outlet Diameter** | **3** | 3 | | mm | |

| | | | | | |
|---|---|---|---|---|---|
| **Line Speed** | **3333** | 33 | 3 | m/min | |
| **Annealer Current** | **333** | 3 | 33 | A | |

## QUALITY / TEST PARAMETERS

| Parameter | Required / Target | Min | Max | Unit | Remarks |
|---|---|---|---|---|---|
| **Conductor Resistance** | **33** | 3 | 33 | ohm/km | |
| **Wire Diameter** | **333333** | 33333 | 3 | mm | |

## RAW MATERIALS / COMPONENTS - OP 10 ONLY

| Material Code | Material Name | BOM Qty | WO Required | Unit | Role | Scrap % | Notes |
|---|---|---|---|---|---|---|---|
| **BCL1 N-N000-0001-8000012Y** | Bare Copper \| IEC \| Round/Bunch \| IEC 60228 Class 1 \| NOT \| NOT \| 1 x 8 mm \| Lay NOT \| 50 mm2 | 1000 | **338.013299** | kg | | 1% | |

## OP 10 - OPERATOR / QC SIGN-OFF

| Operator / Sign | Actual Start / Stop | Actual Output / Scrap | QC / Supervisor / Sign |
|---|---|---|---|
| | | | |