**Environmental** Product Declaration

# Prysmian Low Voltage Thermoplastic Copper Building Wire

UL Type THHN/THWN-2 High Speed (HS) 600V
CSA Type T90/TWN75 600V
UL Type TFFN 600V
Hook-Up Wire UL Type MTW, TFF 600V, UL Type AWM 1000V and CSA Type TEW 600V
Heavy Wall UL Type MTW, AWM 600V; NEC Type THW 600V and CSA Type TEW 600V

Prysmian's Thermoplastic Copper Building Wire line consists of Types THHN/THWN-2, TFFN, MTW, and Canadian constructions such as T90 and TEW. Our high-quality copper building wire is manufactured in the U.S. and delivers long-term, reliable performance in many building applications.

With 150 years of experience in over 50 countries around the globe, Prysmian is the world leader in the energy and telecom cable industry. Prysmian offers the broadest range of services and know-how in the industry. Each year, Prysmian manufactures thousands of miles of underground and submarine cables and systems for power transmission and distribution, as well as medium and low voltage cables for the construction and infrastructure sectors. The company produces a comprehensive range of optical fibers, copper cables, and connectivity systems for voice, video, and data transmission for the telecommunication sector.

Prysmian is a leader in the industry and a pioneer in sustainability initiatives. The company has adopted a science-based approach and adheres to EPA standards to achieve net-zero emission targets for Scope 1 and 2 by 2035 and Scope 3 by 2050.

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025 and EN 15804+A2. EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.

| | |
|---|---|
| EPD PROGRAM AND PROGRAM OPERATOR NAME, ADDRESS, LOGO, AND WEBSITE | ASTM International<br>100 Barr Harbor Drive West Conshohocken, PA 19428 |
| GENERAL PROGRAM INSTRUCTIONS AND VERSION NUMBER | ASTM General Program Instructions. Version 8.0. April 29, 2020. |
| MANUFACTURER NAME AND ADDRESS | Prysmian Group<br>4 Tesseneer Road<br>Highland Heights, KY 41076 |
| DECLARATION NUMBER | EPD838 |
| DECLARED PRODUCT & FUNCTIONAL UNIT OF DECLARED UNIT | Prysmian Low Voltage Thermoplastic Copper Building Wire<br>Functional Unit = To transmit energy expressed for 1A over a distance of 1km during 40 years and a 100% use rate, in accordance with the relevant standards shown in the product technical data sheets.<br>Lifetime and use rate correspond to the application of energy distribution network as defined in the table given in Appendix 6.1. of the specific rules for wire, cables and accessories. over a 75 year building lifetime |
| REFERENCE PCR AND VERSION NUMBER | Product Category Rules for Electrical, Electronic and HVAC-R Products, v4.0, 2021.<br>PEP ecopassport Program: Product Specific Rules for Wires, Cables and Accessories, v4.0, 2022. |
| DESCRIPTION OF PRODUCT APPLICATION/USE | There Prysmian cable products are primarily used in building applications. |
| PRODUCT REFERENCE SERVICE LIFE (RSL) DESCRIPTION | 40 Years |
| MARKETS OF APPLICABILITY | North America |
| DATE OF ISSUE | December 13, 2024 |
| PERIOD OF VALIDITY | 5 Years |
| EPD TYPE | Product Specific |
| DATASET VARIABILITY | N/A |
| EPD SCOPE | Cradle-to-Grave |
| YEAR(S) OF REPORTED PRIMARY DATA | 2023 |
| LCA SOFTWARE & VERSION NUMBER | LCA for Experts v10.7.0.183 |
| LCI DATABASE(S) & VERSION NUMBER | Sphera Managed Content & USLCI v2.0 |
| LCIA METHODOLOGY & VERSION NUMBER | TRACI 2.1; CML 4.1 |
| The sub-category PCR review was conducted by: | |
| This declaration was independently verified in accordance with ISO 14025: 2006. The "PEP ecopassport Program: Product Category Rules for Electrical, Electronic and HVAC-R Products, v4.0, 2021." based on EN 15804:2012+A2:2019, serves as the core PCR. The supporting PSR is the "PEP ecopassport Program: Product Specific Rules for Wires, Cables and Accessories, v4.0, 2022."<br>☐ INTERNAL ☒ EXTERNAL | Timothy S Brooke |
| This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by: | |
| This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by: | Thomas P Gloria, Ph. D<br>Industrial Ecology Consultants |

Environmental declarations from different programs (ISO 14025) may not be comparable.
Comparison of the environmental performance using EPD information shall consider all relevant information modules over the full life cycle of the products within the building.
This PCR allows EPD comparability only when the same functional requirements between products are ensured and the requirements of EN 15804:2012+A2:2019 are met. It should be noted that different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.

## General Information

### Description of Company/Organization

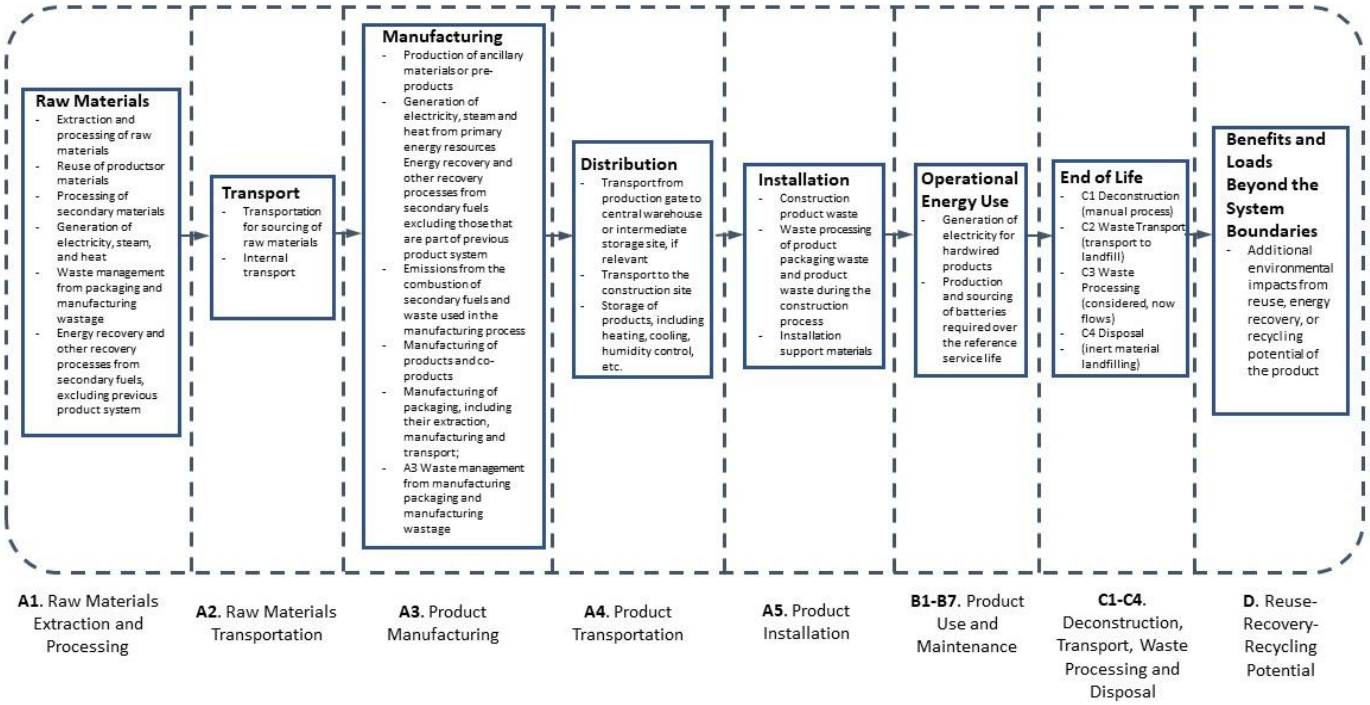
Prysmian, a global provider of cabling solutions, is leading the charge in the energy transition and digital transformation. With 150 years of experience in over 50 countries around the globe, the company's business strategy is a testament to its understanding of market dynamics, focusing on the development of resilient, high-performing, sustainable, and innovative cable solutions across the Transmission, Power Grid, Electrification, and Digital Solutions segments.

### Product Description

Product Names: **THHN/THWN-2 High Speed (HS), T90/TWN75 and TFFN**
Characteristic: Wire and Cable
Prysmian's THHN/THWN-2 (HS), T90/TWN75 and TFFN cables are produced with bare copper conductor, Insulated with premium-grade of flame-retardant, heat- and moisture-resistant Polyvinyl Chloride (PVC) and covered with Tough Polyamide (Nylon).
Additional features include:
- Meet Cold bend and Cold impact test at -25˚C
- Rated Gasoline and Oil Res II
- High Speed low friction technology for easy cable pulling
- Sunlight-resistant for 8AWG and larger, black only

Product Names: **Hook-Up Wire MTW and Heavy Wall MTW**
Characteristic: Wire and Cable
Prysmian's Hook-Up Wire MTW and Heavy Wall MTW cables are produced with bare copper conductor and insulated with premium-grade of Polyvinyl Chloride (PVC).
Additional features include:
- Outstanding oil, flame and moisture resistance
- Extra-flexible

### Flow Diagram



## Manufacturer Specific EPD

This product-specific EPD was developed based on the cradle-to-grave (modules A1-D) life cycle assessment. The EPD accounts for raw material extraction and processing, transport, product manufacturing, distribution, installation, use, maintenance, disposal, and potential benefits and loads following the end of life disposal. Manufacturing data were gathered directly from company personnel. For EPDs with product groups, an impact assessment was completed for each product and the highest impacts were reported as representations of the product group. The rest of the products in each group are represented through scaling factor tables and can be independently calculated.

## Application

Prysmian THHN/THWN-2 High Speed (HS) cables is ideal for a wide range of applications, including but not limited to general purpose building wire for services, feeders and branch circuits, conduit and raceways, 1/0 and larger for cable tray use.

Prysmian T90/TWN75 cables is ideal for a wide range of applications, including but not limited to exposed or concealed wiring in dry or damp locations. Maximum conductor temperature 90ºC dry, 75ºC wet and 60ºC when exposed to oil. For use in raceways in dry or damp locations. Not cable tray rated.

Prysmian TFFN cables is ideal for a wide range of applications, including but not limited to use in internal wiring of fixtures, fixture raceways and fire alarm circuits in raceways.

Prysmian Hook-Up Wire MTW and Heavy Wall MTW cables is ideal for a wide range of applications, including but not limited to use in motor and transformer lead and external wiring of machinery.

## Material Composition

The primary product components and/or materials must be indicated as a percentage mass to enable the user of the EPD to understand the composition of the product in delivery status.

The average composition of a Prysmian Prysmian Copper THHN 750 kcmil wire is as follows:

| | Percentage in mass (%) |
|---|---|
| **Material** | **Maximum** |
| Colorant | 0.13% |
| Conductor | 92.45% |
| Insulation | 7.41% |
| Other | 0.00% |
| Total | 100.00% |

## Technical Details

For the declared product, the following technical data in the delivery status must be provided with reference to the test standard:

| Technical Data | |
|---|---|
| **General Specifications** | |
| Conductor | Bare annealed compressed stranded copper per ASTM B3 and ASTM B8 or solid plain copper per ASTM B3 |
| Insulation | Color-coded premium-grade flame-retardant, heat- and moisture-resistant Polyvinyl Chloride (PVC) or Premium-grade, color-coded PVC |
| Jacket | Tough Polyamide (Nylon) |
| Features | Sequential foot markings every 2 feet on 8 AWG and larger for easy measuring |

# Hook-Up Wire UL Types MTW, TFF, AWM and CSA TEW

90ºC, 600 Volt, MTW, TFF, 105ºC, 1000 Volt, AWM, 600 Volt TEW



## Product Construction:

### Conductor:
- 18 through 8 AWG fully annealed stranded bare copper

### Insulation:
- Premium-grade, color-coded PVC
- Temperature range:
  MTW: -40ºC to +90ºC
  AWM: -40ºC to +105ºC
  TEW: -30ºC to +105ºC
- Color code: See chart below

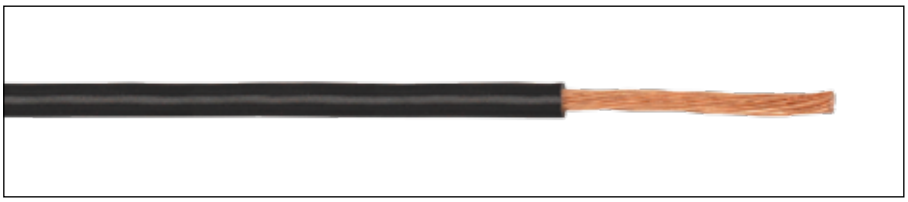
### Jacket Marking:
- **For 18 and 16 AWG:**
  CAROL AWG ($MM^2$) 600 V E135243-8 MTW (UL) OR TFF OR AWM 1015/1032/1335 VW-1 -- CSA TEW 105˚C FT1 ROHS (YEAR)
- **For 14 thru 8 AWG:**
  CAROL AWG ($MM^2$) 600 V E135243-8 MTW (UL) OR AWM 1015/1032/1335 VW-1 -- CSA TEW 105˚C FT1 ROHS (YEAR)

## Applications:
- Motor and transformer lead
- External wiring of machinery

## Features:
- Outstanding oil, flame and moisture resistance
- Extra-flexible

## Industry Approvals:
- UL Type MTW/AWM
- CSA TEW
- Passes VW-1 Vertical Flame Test
- OSHA Acceptable
- AWM Style 1015 – 18-8 AWG
- AWM Style 1335 – 18-10 AWG
- AWM Style 1336 – 8 AWG
- AWM Style 1032
- RoHS Compliant

## Packaging:
- 18 and 16 AWG:
  500' (152.4 m) spools
  2500' (762 m) spools
- 14 through 10 AWG:
  500' (152.4 m) spools
  2500' (762 m) reels
- 8 AWG: 500' (152.4 m) reels
- Other put-ups available on special order



**UL TYPE MTW, AWM, TFF, CSA TYPE TEW - 600 VOLT**

| CATALOG NUMBER | AWG SIZE | COND. STRAND | NOMINAL INS. THICKNESS | | NOMINAL O.D. | | APPROX. NET WT. LBS/M[(S)] |
|---|---|---|---|---|---|---|---|
| | | | INCHES | mm | INCHES | mm | |
| 76502 | 18 | 16/30 | 0.031 | 0.79 | 0.110 | 2.79 | 10 |
| 76512 | 16 | 26/30 | 0.031 | 0.79 | 0.123 | 3.12 | 14 |
| 76812 | 14 | 19/.0147 | 0.031 | 0.79 | 0.136 | 3.45 | 20 |
| 76822 | 12 | 19/.0185 | 0.031 | 0.79 | 0.155 | 3.94 | 28 |
| 76832 | 10 | 19/.0234 | 0.031 | 0.79 | 0.176 | 4.47 | 42 |
| 76843 | 8 | 19/.0295 | 0.045 | 1.14 | 0.242 | 6.15 | 72 |

[(S)] Actual shipping weight may vary.

## COLOR CODE CHART

| STOCK COLORS | ORDERING SUFFIX | STOCK COLORS | ORDERING SUFFIX |
|---|---|---|---|
| Black | 01 | Orange | 04 |
| White | 02 | Brown | 08 |
| Red | 03 | Purple | 19 |
| Blue | 07 | Gray | 10 |
| Green | 06 | Pink | 13 |
| Yellow | 05 | | |

# T90 High Speed (HS)

PVC, Low-Voltage Power
600 V, CSA Type T90/TWN75, Single Conductor, Copper

## Product Construction:

### Conductor:

- 14 AWG thru 10 AWG stranded bare annealed copper
- 8 AWG thru 500 kcmil compressed stranded bare annealed copper
- 14 AWG thru 10 AWG solid plain copper

### Insulation:

- Color-coded premium-grade flame-retardant, heat- and moisture-resistant Polyvinyl Chloride (PVC)

### Jacket:

- Tough Polyamide (Nylon)

### Print:

**For 14 AWG solid thru 10 AWG solid:**

- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED THHN/THWN-2 (UL) E66903 SIZE AWG (SIZE MM²) GRI AND GRII 600 V VW-1 OR T90 NYLON/TWN75 C(UL) FT1 (-25˚C)

**For 14 AWG strand thru 10 AWG strand:**

- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED MTW OR THHN/THWN-2 (UL) SIZE AWG (SIZE MM²) GRI AND GRII 600 V VW-1 OR AWM OR T90 NYLON/TWN75 C(UL) FT1 (-25˚C)

**For 8 AWG thru 500 kcmil, all colors:**

- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE MM²) GRI AND GRII 600 V VW-1 OR AWM OR T90 NYLON/TWN75 C(UL) FT1 (-25˚C)

**For 8 AWG thru 500 kcmil, black only:**

- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE MM²) GRI AND GRII SUN RES 600 V VW-1 OR AWM OR T90 NYLON/TWN75 C(UL) FT1 (-25˚C)

## Applications:

- For exposed or concealed wiring in dry or damp locations
- Maximum conductor temperature 90°C dry, 75°C wet and 60°C when exposed to oil
- For use in raceways in dry or damp locations
- Not cable tray rated

## Features:

- Rated at 90°C dry or damp locations, 75°C wet
- Rated Gasoline and Oil Resistant II
- Meets cold bend and cold impact tests at -25°C
- Suitable for installation at –10°C
- Sequential foot markings every 2 feet on 8 AWG and larger for easy measuring
- Sunlight-resistant for 8 AWG and larger, black only
- High Speed (HS) cable features a specially designed XLPE insulation that allows for fast and easy cable pulls

## Compliances:

**Industry Compliances:**

- c(UL) CSA Standard C22.2 No. 75

**Other Compliances:**

- RoHS Compliant

## Packaging:

- 14 AWG thru 10 AWG: 300 m reels
- 8 AWG thru 6 AWG: 300 m or 3,000 m reels
- 4 AWG thru 4/0: 300 m or 1,500 m reels
- 250 kcmil thru 500 kcmil: 900 m reels

| CATALOG NUMBER | CONDUCTOR SIZE AWG/ kcmil | CONDUCTOR SIZE mm² | NO. OF WIRES | MIN. AVG. INSULATION THICKNESS IN | MIN. AVG. INSULATION THICKNESS mm | JACKET THICKNESS IN | JACKET THICKNESS mm | NOMINAL CABLE DIAMETER IN | NOMINAL CABLE DIAMETER mm | COPPER WEIGHT LBS/ 1000 FT | COPPER WEIGHT kg/km | NET WEIGHT LBS/ 1000 FT | NET WEIGHT kg/km | AMPACITY (1) 30°C AMBIENT @75˚C | AMPACITY (1) 30°C AMBIENT @90˚C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **14 AWG - 500 kcmil CONDUCTORS** | | | | | | | | | | | | | | | |
| 100014 | 14 | 2.08 | 1 | 0.015 | 0.38 | 0.004 | 0.10 | 0.102 | 2.59 | 16 | 24 | 19 | 28 | 15 | 15 |
| 110014 | 14 | 2.08 | 19 | 0.015 | 0.38 | 0.004 | 0.10 | 0.109 | 2.77 | 13 | 19 | 16 | 24 | 15 | 15 |
| 100012 | 12 | 3.31 | 1 | 0.015 | 0.38 | 0.004 | 0.10 | 0.102 | 2.59 | 16 | 24 | 19 | 28 | 20 | 20 |
| 110012 | 12 | 3.31 | 19 | 0.015 | 0.38 | 0.004 | 0.10 | 0.130 | 3.30 | 20 | 30 | 24 | 36 | 20 | 20 |
| 100010 | 10 | 5.26 | 1 | 0.020 | 0.51 | 0.004 | 0.10 | 0.150 | 3.81 | 40 | 60 | 45 | 67 | 30 | 30 |
| 110010 | 10 | 5.26 | 19 | 0.020 | 0.51 | 0.004 | 0.10 | 0.161 | 4.09 | 32 | 48 | 38 | 57 | 30 | 30 |
| 210008 | 8 | 8.37 | 19 | 0.030 | 0.76 | 0.005 | 0.13 | 0.212 | 5.38 | 51 | 76 | 62 | 92 | 45 | 45 |
| 210006 | 6 | 13.3 | 19 | 0.030 | 0.76 | 0.005 | 0.13 | 0.248 | 6.30 | 81 | 121 | 94 | 140 | 65 | 65 |
| 210004 | 4 | 21.2 | 13-6 | 0.040 | 1.02 | 0.006 | 0.15 | 0.317 | 8.05 | 129 | 192 | 151 | 225 | 85 | 85 |
| 210003 | 3 | 26.7 | 13-6 | 0.040 | 1.02 | 0.006 | 0.15 | 0.344 | 8.74 | 163 | 243 | 189 | 281 | 100 | 105 |
| 210002 | 2 | 33.6 | 13-6 | 0.040 | 1.02 | 0.006 | 0.15 | 0.375 | 9.53 | 205 | 305 | 232 | 345 | 115 | 120 |
| 210001 | 1 | 42.4 | 13-6 | 0.050 | 1.27 | 0.007 | 0.18 | 0.427 | 10.85 | 258 | 384 | 296 | 440 | 130 | 140 |
| 310110 | 1/0 | 53.5 | 13-6 | 0.050 | 1.27 | 0.007 | 0.18 | 0.456 | 11.58 | 326 | 485 | 368 | 548 | 150 | 155 |
| 310210 | 2/0 | 67.4 | 13-6 | 0.050 | 1.27 | 0.007 | 0.18 | 0.509 | 12.93 | 411 | 612 | 457 | 680 | 175 | 185(2) |
| 310310 | 3/0 | 85 | 13-6 | 0.050 | 1.27 | 0.007 | 0.18 | 0.557 | 14.15 | 518 | 771 | 570 | 848 | 200 | 210 |
| 310410 | 4/0 | 107 | 13-6 | 0.050 | 1.27 | 0.007 | 0.18 | 0.612 | 15.54 | 653 | 972 | 711 | 1058 | 230 | 235 |
| 310250 | 250 | 127 | 37 | 0.060 | 1.52 | 0.008 | 0.20 | 0.694 | 17.63 | 772 | 1149 | 850 | 1265 | 255 | 265 |
| 310300 | 300 | 152 | 37 | 0.060 | 1.52 | 0.008 | 0.20 | 0.747 | 18.97 | 926 | 1378 | 1011 | 1505 | 285 | 295 |
| 310350 | 350 | 177 | 37 | 0.060 | 1.52 | 0.008 | 0.20 | 0.797 | 20.24 | 1081 | 1609 | 1173 | 1746 | 310 | 325 |
| 310400 | 400 | 203 | 37 | 0.060 | 1.52 | 0.008 | 0.20 | 0.842 | 21.39 | 1235 | 1838 | 1334 | 1985 | 335 | 345 |
| 310500 | 500 | 253 | 37 | 0.060 | 1.52 | 0.008 | 0.20 | 0.925 | 23.50 | 1544 | 2298 | 1656 | 2464 | 380 | 395 |

Dimensions and weights are nominal; subject to industry tolerances.

* Non-stock item; minimum runs apply. Please consult Customer Service for price and delivery.

** Based on CEC Part 1 Table 2 Allowable ampacities for not more than three copper conductors in raceway or cable.

*** For 3-wire 120/240 V and 120/208 V service conductors for single dwellings, or for feeder conductors supplying single dwelling units of row housing of apartment and similar buildings, and sized in accordance with Rules 8-200 (1), 8-200 (2) (1), the allowable ampacity for sizes No. 6 and No. 2/0 AWG shall be 60A and 200A, respectively. In this case, the 5% adjustment of Rule 8-106 (1) can not be applied.

## COLOR CODE CHART

| COLOR CODE | COLOR |
|---|---|
| 01 | Black |
| 02 | White |
| 03 | Red |
| 04 | Orange |
| 05 | Yellow |
| 06 | Green |
| 07 | Blue |
| 08 | Brown |

## PACKAGING CODE CHART

| PACKAGING CODE | PACKAGING |
|---|---|
| 95 | 300 Meters |
| 60 | 600 Meters |
| 97 | 900 Meters |
| 98 | 1200 Meters |
| 99 | 1500 Meters |
| 90 | 3000 Meters |
| 96 | 6000 Meters |

# TFFN

## PVC, Low-Voltage Wiring
## 600 V, UL Type TFFN, Single Conductor, Copper



### Product Construction:

**Conductor:**
- 18 AWG and 16 AWG fully annealed bare copper per ASTM B3 and B174

**Insulation:**
- Color-coded premium-grade flame-retardant, heat- and moisture-resistant Polyvinyl Chloride (PVC)

**Jacket:**
- Tough Polyamide (Nylon)

**Print:**
- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) TYPE MTW OR TFFN (UL) SIZE AWG (SIZE MM²) GASOLINE AND OIL RESISTANT II 600 V OR AWM

### Applications:
- Internal wiring of fixtures
- Fixture raceways
- Fire alarm circuits in raceways

### Features:
- Rated Gasoline and Oil Resistant II
- Resistant to abrasion, acids, alkalines, ozone and water
- For TFFN applications, the conductor is appropriate for use in dry locations not to exceed 90°C
- For MTW applications, the conductor is appropriate for use in dry locations at 90°C or not to exceed 60°C in wet locations or where exposed to oil or coolants
- Meets cold bend and cold impact tests at -25°C

### Compliances:
**Industry Compliances:**
- ASTM B3 and B174
- UL Standard 66 for fixture wire
- UL Standard 1063 for machine tool wire (MTW)
- NFPA 90 (NEC® Article 402)
- NFPA 79 as appliance wiring material 600 V

**Other Compliances:**
- RoHS Compliant

### Packaging:
- 4 x 500' in a carton
- 2500' reels

| CATALOG NUMBER | CONDUCTOR SIZE AWG/kcmil | CONDUCTOR SIZE mm² | NO. OF WIRES | MIN. AVG. INSULATION THICKNESS IN | MIN. AVG. INSULATION THICKNESS mm | JACKET THICKNESS IN | JACKET THICKNESS mm | NOMINAL CABLE DIAMETER IN | NOMINAL CABLE DIAMETER mm | COPPER WEIGHT LBS/1000 FT | COPPER WEIGHT kg/km | NET WEIGHT LBS/1000 FT | NET WEIGHT kg/km | AMPACITY (1) 30°C AMBIENT @90°C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18 AWG AND 16 AWG CONDUCTORS** | | | | | | | | | | | | | | |
| **28018** | 18 | 0.52 | 16 | 0.015 | 0.38 | 0.004 | 0.10 | 0.086 | 2.18 | 5 | 7 | 7 | 10 | 6 |
| **28016** | 16 | 0.82 | 26 | 0.015 | 0.38 | 0.004 | 0.10 | 0.097 | 2.46 | 8 | 12 | 11 | 16 | 8 |

Dimensions and weights are nominal; subject to industry tolerances.
(1) Allowable ampacities shown are for general use as specified by the National Electric Code.
Adjustment and corrections may apply.
NOTE: For MTW applications, the conductor is appropriate for use in dry locations at 90°C or not to exceed 60°C in wet locations or when exposed to oil or coolants (with ampacity limited to that for 75°C conductor temperature) as outlined in NFPA 79 Electrical Standards for Industrial Machinery.

### COLOR CODE CHART

| COLOR CODE | COLOR | COLOR CODE | COLOR |
|---|---|---|---|
| **1** | Black | **7** | Blue |
| **2** | White | **8** | Orange |
| **3** | Red | **9** | Gray |
| **4** | Green | **A** | Purple |
| **5** | Yellow | **B** | Pink |
| **6** | Brown | | |

### PACKAGING CODE CHART

| PACKAGING CODE | PACKAGING |
|---|---|
| **20** | 4 x 500' |
| **34** | 2500' Reel |

General Cable
Phone: 855-720-2792
www.generalcable.com

RoHS Compliant
Directive 2011/65/EU

UL®

# THHN/THWN-2 High Speed

PVC, Low-Voltage Power
600 V, UL Type THHN/THWN-2, Single Conductor, Copper

## Product Construction:

### Conductor:
- 14 AWG thru 1000 kcmil bare annealed stranded copper per ASTM B3 and ASTM B8
- 14 AWG thru 10 AWG solid plain copper per ASTM B3

### Insulation:
- Color-coded premium-grade flame-retardant, heat- and moisture-resistant Polyvinyl Chloride (PVC)

### Jacket:
- Tough Polyamide (Nylon)

### Print:
**For 14 AWG solid thru 10 AWG solid:**
- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED THHN/THWN-2 (UL) E66903 (SIZE) AWG (SIZE mm²) GRI and GRII 600 V VW-1 OR T90 NYLON/TWN 75°C (UL) FT1 (-25°C) MADE IN USA

**For 14 AWG strand thru 10 AWG strand:**
- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE mm²) GRI and GRII 600 V VW-1 OR AWM OR T90 NYLON/TWN 75°C (UL) FT1 (-25°C) MADE IN USA

### Print (cont'd.):
**For 8 AWG thru 1 AWG, black only:**
- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE mm²) GRI and GRII SUN RES 600 V VW-1 OR AWM OR T90 NYLON/TWN 75°C (UL) FT1 (-25°C) MADE IN USA

**For 8 AWG thru 1 AWG, all colors:**
- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE mm²) GRI and GRII 600 V VW-1 OR AWM OR T90 NYLON/TWN 75°C (UL) FT1 (-25°C) MADE IN USA

**For 1/0 and larger, black only:**
- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE mm²) GRI and GRII SUN RES 600 V FOR CT USE OR AWM T90 NYLON/TWN 75°C (UL) FT1 (-25°C) MADE IN USA

**For 1/0 and larger, all colors:**
- GENERAL CABLE® (PLANT OF MFG) (YEAR OF MFG) HIGH SPEED MTW OR THHN/THWN-2 (UL) (SIZE) AWG (SIZE mm²) GRI and GRII SUN RES 600 V FOR CT USE OR AWM T90 NYLON/TWN 75°C (UL) FT1 (-25°C) MADE IN USA

### Applications:
- General purpose building wire for services, feeders and branch circuits
- Conduit and raceways
- 1/0 and larger for cable tray use

### Features:
- High Speed cable features a specially designed XLPE insulation that allows for fast and easy cable pulls
- 1/0 AWG and larger are rated for cable tray use
- Rated Gasoline and Oil Resistant II
- Resistant to abrasion, acids, alkalines, ozone, and water
- For THHN/THWN-2 applications, the conductor is appropriate for wet or dry locations not to exceed 90°C
- For MTW applications, the conductor is appropriate for use in dry locations at 90°C or not to exceed 60°C in wet locations or where exposed to oil or coolants (with ampacity limited to that for 75°C conductor temperature) as outlined in NFPA 79 Electrical Standards for Industrial Machinery
- Sequential foot markings every 2 feet on 8 AWG and larger for easy measuring
- Sunlight-resistant for 8 AWG and larger, black only
- Meets cold bend and cold impact tests at -25°C

### Compliances:
**Industry Compliances:**
- ASTM B3 and B8
- UL Standard 83 – THHN/THWN-2
- UL Standard 1063 for machine tool wire (MTW)
- ICEA S-95-658/NEMA WC70
- NEC® Article 310
- RoHS Compliant
- c(UL) – T90 Nylon

**Flame Test Compliances:**
- UL 2556 VW-1 rated through 1 AWG
- UL 2556 CT USE 1/0 and larger
- CSA C22.2 No. 0.3-92 FT1 Vertical Flame Test

### Packaging:
- Cut-to-length services available for 8 AWG and larger

### COLOR CODE CHART

| COLOR CODE | COLOR | COLOR CODE | COLOR |
|---|---|---|---|
| 1 | Black | 7 | Blue |
| 2 | White | 8 | Orange |
| 3 | Red | 9 | Gray |
| 4 | Green | A | Purple |
| 5 | Yellow | B | Pink |
| 6 | Brown | | |

### PACKAGING CODE CHART

| PACKAGING CODE | PACKAGE |
|---|---|
| 10 | 2 x 500' |
| 20 | 4 x 500' |
| 32 | 500' Reel |
| 33 | 1000' Reel |
| 54 | 2000' Reel |
| 34 | 2500' Reel |
| 55 | 5000' Reel |
| 00 | Cut to Order |
| XX | Master Reel |

RoHS Compliant Directive 2011/65/EU

Made in America

General Cable

# THHN/THWN-2 High Speed

PVC, Low-Voltage Power
600 V, UL Type THHN/THWN-2, Single Conductor, Copper

| CATALOG NUMBER | SIZE | | NUMBER OF WIRES | INSULATION THICKNESS | | JACKET THICKNESS | | NOMINAL CABLE O.D. | | COPPER WEIGHT | | NET WEIGHT | | AMPACITY (1) 90°C | PACKAGING PUT-UP CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | AWG or kcmil | mm² | | INCHES | mm | INCHES | mm | INCHES | mm | LBS/ 1000 FT | kg/km | LBS/ 1000 FT | kg/km | | |
| **TYPE THHN/THWN-2 90°C WET OR DRY LOCATIONS** | | | | | | | | | | | | | | | |
| **23014** | 14 | 2.08 | 1 | 0.015 | 0.38 | 0.004 | 0.10 | 0.102 | 2.59 | 16 | 23 | 19 | 27 | 25 | 20, 34 |
| **23012** | 12 | 3.31 | 1 | 0.015 | 0.38 | 0.004 | 0.10 | 0.119 | 3.02 | 25 | 37 | 28 | 41 | 30 | 20, 34 |
| **23010** | 10 | 5.26 | 1 | 0.020 | 0.51 | 0.004 | 0.10 | 0.150 | 3.81 | 40 | 58 | 45 | 66 | 40 | 10, 34 |
| **24014** | 14 | 2.08 | 19 | 0.015 | 0.38 | 0.004 | 0.10 | 0.109 | 2.77 | 13 | 18 | 16 | 23 | 25 | 20, 34 |
| **24012** | 12 | 3.31 | 19 | 0.015 | 0.38 | 0.004 | 0.10 | 0.130 | 3.31 | 20 | 29 | 24 | 35 | 30 | 20, 34 |
| **24010** | 10 | 5.26 | 19 | 0.020 | 0.51 | 0.004 | 0.10 | 0.161 | 4.09 | 32 | 47 | 38 | 55 | 40 | 10, 34 |
| **25008** | 8 | 8.37 | 19 | 0.030 | 0.76 | 0.005 | 0.13 | 0.212 | 5.38 | 51 | 74 | 62 | 90 | 55 | 32, 33, XX, 00 |
| **25006** | 6 | 13.3 | 19 | 0.030 | 0.76 | 0.005 | 0.13 | 0.248 | 6.30 | 81 | 118 | 94 | 137 | 75 | 32, 33, XX, 00 |
| **25004** | 4 | 21.2 | 19 | 0.040 | 1.02 | 0.006 | 0.15 | 0.317 | 8.05 | 129 | 188 | 151 | 220 | 95 | 32, 55, XX, 00 |
| **25002** | 2 | 33.6 | 19 | 0.040 | 1.02 | 0.006 | 0.15 | 0.375 | 9.53 | 205 | 298 | 232 | 338 | 130 | 55, XX, 00 |
| **25001** | 1 | 42.4 | 19 | 0.050 | 1.27 | 0.007 | 0.18 | 0.427 | 10.85 | 258 | 375 | 296 | 431 | 145 | 55, XX, 00 |
| **26110** | 1/0 | 53.5 | 19 | 0.050 | 1.27 | 0.007 | 0.18 | 0.466 | 11.84 | 326 | 474 | 368 | 535 | 170 | 55, XX, 00 |
| **26210** | 2/0 | 67.4 | 19 | 0.050 | 1.27 | 0.007 | 0.18 | 0.509 | 12.93 | 411 | 598 | 457 | 665 | 195 | 55, XX, 00 |
| **26310** | 3/0 | 85 | 19 | 0.050 | 1.27 | 0.007 | 0.18 | 0.557 | 14.15 | 518 | 754 | 570 | 829 | 225 | 55, XX, 00 |
| **26410** | 4/0 | 107 | 19 | 0.050 | 1.27 | 0.007 | 0.18 | 0.612 | 15.54 | 653 | 950 | 711 | 1034 | 260 | 55, XX, 00 |
| **27250** | 250 | 124 | 37 | 0.060 | 1.52 | 0.008 | 0.20 | 0.694 | 17.63 | 772 | 1123 | 850 | 1236 | 290 | 55, XX, 00 |
| **27300** | 300 | 152 | 37 | 0.060 | 1.52 | 0.008 | 0.20 | 0.747 | 18.97 | 926 | 1348 | 1011 | 1472 | 320 | 34, XX, 00 |
| **27350** | 350 | 177 | 37 | 0.060 | 1.52 | 0.008 | 0.20 | 0.797 | 20.24 | 1081 | 1573 | 1173 | 1707 | 350 | 34, XX, 00 |
| **27400** | 400 | 203 | 37 | 0.060 | 1.52 | 0.008 | 0.20 | 0.842 | 21.39 | 1235 | 1797 | 1334 | 1941 | 380 | 34, XX, 00 |
| **27500** | 500 | 253 | 37 | 0.060 | 1.52 | 0.008 | 0.20 | 0.925 | 23.50 | 1544 | 2247 | 1656 | 2409 | 430 | 34, XX, 00 |
| **27600** | 600 | 304 | 61 | 0.070 | 1.78 | 0.009 | 0.23 | 1.024 | 26.01 | 1853 | 2696 | 1996 | 2904 | 475 | 54, XX, 00 |
| **27750** | 750 | 380 | 61 | 0.070 | 1.78 | 0.009 | 0.23 | 1.126 | 28.60 | 2316 | 3370 | 2478 | 3607 | 535 | 54, XX, 00 |
| **27100** | 1000 | 507 | 61 | 0.070 | 1.78 | 0.009 | 0.23 | 1.275 | 32.39 | 3088 | 4494 | 3283 | 4777 | 615 | 54, XX, 00 |

Dimensions and weights are nominal; subject to industry tolerances.
(1) Ampacities per 2014 NEC Table 310.15(B)(16).

General Cable

Made in America

RoHS Compliant
Directive 2011/65/EU

## Placing on the Market / Application Rules

The standards that can be applied for THHN/THWN-2 are:
- ASTM B3, ASTM B8,
- UL 83,
- UL 1063 for machine tool wire (MTW),
- ICEA S-95-658 / NEMA WC70,
- NEC Article 310,
- UL 2556 VW-1 rated through 1AWG,
- UL 2556 CT USE 1/0 and larger,
- CSA C22.2 No 0.3-92 FT1,
- ROHS Compliant

The standards that can be applied for T90/TWN75 are:
- CSA C22.2 No. 75,
- ROHS Compliant

The standards that can be applied for TFFN are:
- ASTM B3, ASTM B174,
- UL 66,
- UL 1063 for machine tool wire (MTW),
- NFPA 90 (NEC Article 402),
- NFPA 79 as applicance wiring material 600V,
- ROHS Compliant

The standards that can be applied for HOOL-UP WIRE MTW are:
- UL Type MTW/AWM,
- CSA TEW,
- Passes UL VW-1 Vertical Flame Test,
- OSHA Acceptable,
- AWM Style 1015 – 18-8 AWG,
- AWM Style 1335 – 18-10 AWG,
- AWM Style 1336 – 8 AWG,
- AWM Style 1032,
- ROHS Compliant

The standards that can be applied for HEAVY WALL MTW are:
- UL Type AWM,
- UL and NMTBA type MTW,
NEC type THW,
- CSA TEW,
- Passes UL VW-1 Vertical Flame Test,
- ROHS Compliant

## Properties of Declared Product as Shipped

Prysmian Low Voltage Copper Building Wire are cut on standard lengths, packed in no-returnable coils and delivered as a complete product.

## Methodological Framework

### Functional Unit

| Name | Value | Unit |
|---|---|---|
| Functional unit | To transmit energy expressed for 1A over a distance of 1km during 40 years and a 100% use rate, in accordance with the relevant standards shown in the product technical data sheets. Lifetime and use rate correspond to the application of energy distribution network as defined in the table given in Appendix 6.1. of the specific rules for wire, cables and accessories. | |
| Maximum Mass | 3560 | kg |
| Conversion factor to 1 kg | 0.0003 | - |

### System Boundary

This is a cradle to grave Environmental Product Declaration. The following life cycle phases were considered:

| Product Stage | | | Construction Process Stage | | Use Stage | | | | | | | End of Life Stage* | | | | Benefits and Loads Beyond the System Boundaries |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Raw material supply | Transport | Manufacturing | Transport from gate to the site | Construction/ installation process | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | Deconstruction /demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling potential |
| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |

**Description of the System Boundary Stages Corresponding to the PCR**

**(X = Included; MND = Module Not Declared)**

*This includes provision of all materials, products and energy, packaging processing and its transport, as well as waste processing up to the end-of waste state or disposal of final residues.

### Reference Service Life

The reference service life of a properly installed Prysmian Copper THHN 750 kcmil cable is 40 years.

### Allocation

Allocation of manufacturing was determined by mass, in kilogram per kilometer.

## Cut-off Criteria

Processes whose total contribution to the final result, with respect to their mass and in relation to all considered impact categories, is less than 1% can be neglected. The sum of the neglected processes may not exceed 5% by mass of the considered impact categories. For that a documented assumption is admissible.

For Hazardous Substances the following requirements apply:

- The Life Cycle Inventory (LCI) of hazardous substances will be included, if the inventory is available.
- If the LCI for a hazardous substance is not available, the substance will appear as an input in the LCI of the product, if its mass represents more than 0.1% of the product composition.
- If the LCI of a hazardous substance is approximated by modeling another substance, documentation will be provided.

This EPD is in compliance with the cut-off criteria. No processes were neglected or excluded. Capital items for the production processes (machine, buildings, etc.) were not taken into consideration.

## Data Sources

Primary data were collected for every process in the product system under the control of Prysmian. Secondary data from the Sphera database were utilized when necessary. These data were evaluated and have temporal, geographic, and technical coverage appropriate to the scope of the product category.

## Data Quality

The data sources used are complete and representative of global systems in terms of the geographic and technological coverage and are a recent vintage (i.e. less than ten years old). The data used for primary data are based on direct information sources of the manufacturers. Secondary data sets were used for raw materials extraction and processing, end of life, transportation, and energy production flows. Wherever secondary data is used, the study adopts critically reviewed data for consistency, precision, and reproducibility to limit uncertainty.

## Period Under Review

The period under review is the full calendar year of 2023.

## Treatment of Biogenic Carbon

The uptake and release of biogenic carbon throughout the product life cycle follows EN15805+A2 Section 6.4.4.

## Comparability and Benchmarking

A comparison or an evaluation of EPD data is only possible if all data sets to be compared were created according to EN 15804+A2 and the building context, respectively the product-specific characteristics of performance, are taken into account. Environmental declarations from different programs may not be comparable. Full conformance with the PCR allows for EPD comparability only when all stages a product's life cycle have been considered. However, variations and deviations are possible.

## Estimates and Assumptions

**End of Life**
In the End of Life phase, copper is assumed to have a 60% recycling rate in accordance with the PEP PCR.

## Units

The LCA results within this EPD are reported in SI units.

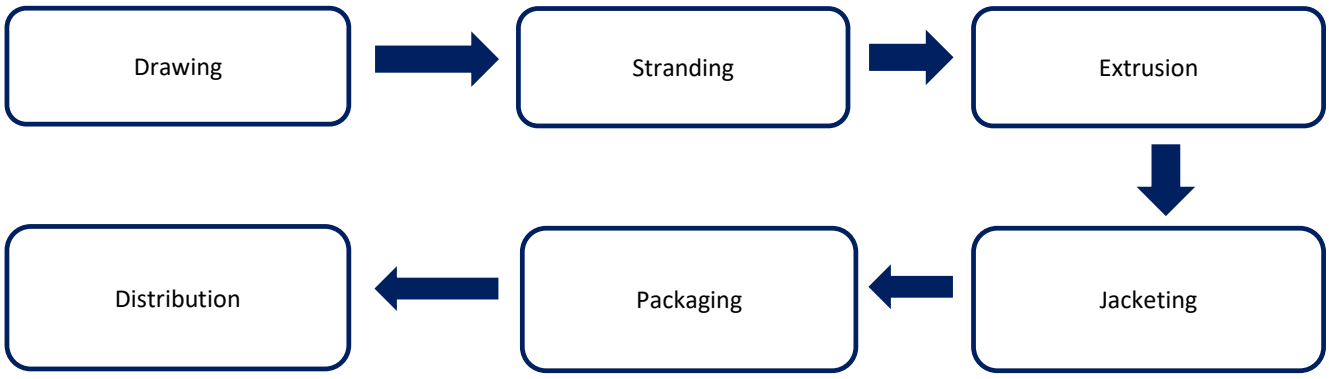
## Additional Environmental Information

### Background data

For life cycle modeling of the considered products, the LCA for Experts Software System for Life Cycle Engineering, developed by Sphera, is used. The Sphera database contains consistent and documented datasets which are documented online. To ensure comparability of results in the LCA, the basic data of the Sphera database were used for energy, transportation, and auxiliary materials.

### Manufacturing

This study includes the impacts from five of Prysmian's manufacturing facilities which produce building wire. Conductor materials come either pre-drawn or go through a drawing process at the manufacturing site. The conductor then goes through a stranding process. Jacketing is extruded to size and applied to cables as appropriate along with any insulation or additional cable components. The cables are packaged on reels and sent to customer.



## Packaging

All packaging is fully recyclable. The packaging material is composed primarily of a wooden or steel reel.

| | Quantity (% By Weight) |
|---|---|
| **Material** | **Maximum** |
| Paper | 0.00% |
| Metal | 0.00% |
| Plastic | 0.00% |
| Wood | 100.00% |
| Total | 100.00% |

## Transportation

| Transport to Building Site (A4) | | |
|---|---|---|
| **Name** | **Max** | **Unit** |
| Fuel type | Diesel | |
| Liters of fuel | 38 | l/100km |
| Transport distance | 800 | km |
| Capacity utilization (including empty runs) | 85 | % |
| Gross density of products transported | - | $kg/m^3$ |
| Weight of products transported | 3560 | kg |
| Volume of products transported | - | $m^3$ |

## Product Installation

Prysmian has established guidelines in HSE for installation processes, beginning with the development of a HSE plan. The HSE plan will be developed with specific site Environmental and Health concerns that might arise during installation process. Management and installation team will all be trained on the HSE plan prior to installation.

| Installation into the building (A5) | | |
|---|---|---|
| **Name** | **Max** | **Unit** |
| Water consumption | - | $m^3$ |
| Other energy carriers | - | MJ |
| Product loss per functional unit | 1.78E+02 | kg |
| Waste materials at construction site | 1.79E+02 | kg |
| Output substance (recycle) | 9.88E+01 | kg |
| Output substance (landfill) | 7.93E+01 | kg |
| Output substance (incineration) | 0.00E+00 | kg |
| Packaging waste (recycle) | 8.31E-01 | kg |
| Packaging waste (landfill) | 2.08E-01 | kg |
| Packaging waste (incineration) | 0.00E+00 | kg |
| Direct emissions to ambient air*, soil, and water | 1.08E+01 | kg $CO_2$ |
| VOC emissions | - | kg |

*CO2 emissions to air from disposal of packaging

| Reference Service Life | | |
|---|---|---|
| **Name** | **Value** | **Unit** |
| Reference Service Life | 40 | years |
| Replacements | 0 | - |

## Product Use

No cleaning, maintenance, repair, or refurbishment is required.

Operational energy use was modeled as use phase losses determined by the IEC 61156-5 standard. The maximum loss values for each cable category are detailed in the table below and were used in the B6 stage.

The operational energy use is presented under the assumption that the cable experiences a current of 1 Amp. The equation used to calculate the use phase is:

$$E = Z * l^2 * \Delta t$$

Where:

ℤ = linear resistivity of the cable in Ω/km, provided by Prysmian
L = current in A, assumption is 1 A
Δt = use time in seconds, assumption is 40 years

| Operational Energy Use (B6) | | |
|---|---|---|
| **Name** | **Max** | **Unit per RSL** |
| Water consumption (from tap, to sewer) | - | $m^3$ |
| Electricity consumption | 6.17 | kWh |
| Other energy carriers | - | MJ |
| Equipment output | - | kW |
| Direct emissions to ambient air, soil, and water | - | kg |

## Disposal

The product can be mechanically dissembled to separate the different materials. The majority of components are disposed of through recycling, incineration, or landfill, in accordance with the PCR.

| End of life (C1-C4) | | |
|---|---|---|
| **Name** | **Max** | **Unit** |
| Collected separately | 1.98E+03 | kg |
| Collected as mixed construction waste | 1.59E+03 | kg |
| Reuse | 0.00E+00 | kg |
| Recycling | 1.98E+03 | kg |
| Landfilling | 1.59E+03 | kg |
| Incineration with energy recovery | 0.00E+00 | kg |
| Removals of biogenic carbon | - | kg |

## Re-use Phase

Re-use of the product is not common, but a large amount of the metals in this material will be recycled.

| Re-Use, recovery, And/Or Recycling Potential (D) | | |
|---|---|---|
| **Name** | **Max** | **Unit** |
| Net energy benefit from energy recovery from waste treatment declared as exported energy in C3 (R>0.6) | 0.00 | MJ |
| Net energy benefit from thermal energy due to treatment of waste declared as exported energy in C4 (R<0.6) | 0.00 | MJ |
| Net energy benefit from material flow declared in C3 for energy recovery | 0.00 | MJ |
| Process and conversion efficiencies | - | |
| Further assumptions for scenario development (e.g. further processing technologies, assumptions on correction factors); | These products are almost entirely metals and the recycling rate from the PCR and the benefit for module D is calculated by the benefit of recycling product at the end of life. | |

## System Boundary

This is a cradle to grave Environmental Product Declaration. The following life cycle phases were considered:

| **Product Stage** | | | **Construction Process Stage** | | **Use Stage** | | | | | | | **End of Life Stage*** | | | | **Benefits and Loads Beyond the System Boundaries** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Raw material supply | Transport | Manufacturing | Transport from gate to the site | Construction/ installation process | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | Deconstruction /demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling potential |
| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |

**Description of the System Boundary Stages Corresponding to the PCR**

**(X = Included; MND = Module Not Declared)**

*This includes provision of all materials, products and energy, packaging processing and its transport, as well as waste processing up to the end-of waste state or disposal of final residues.

## LCA Results - Maximum Impact - CU THHN 750 KCMIL Results

Please see the system boundary diagram above for an explanation of the A1-D life cycle stages. The below results all represent the Low Voltage Thermoplastic Copper Building Wire with the highest impact, which is the CU THHN 750 KCMIL Cable. For all other cables in this product series, please see the scaling factors below to calculate their impacts.

Results shown below were calculated using TRACI 2.1 Methodology.

**TRACI 2.1 Impact Assessment**

| Parameter | Parameter | Unit | A1-A3 | A4 | A5 | B6 | C2 | C3 | C4 | D | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GWP | Global warming potential | kg $CO_2$-Eq. | 1.43E+04 | 2.64E+02 | 1.14E+03 | 2.79E+00 | 1.46E-07 | 3.25E+02 | 1.95E+01 | -3.58E+03 | 1.60E+04 |
| ODP | Depletion potential of the stratospheric ozone layer | kg CFC-11 Eq. | 2.00E-05 | 1.00E-08 | 1.01E-06 | 3.24E-13 | 5.54E-18 | 2.66E-13 | 1.06E-12 | 1.20E-07 | 2.10E-05 |
| AP Air | Acidification potential for air emissions | kg $SO_2$-Eq. | 1.22E+02 | 1.59E+00 | 7.93E+00 | 3.54E-03 | 8.80E-10 | 9.56E-02 | 1.22E-01 | -9.83E+01 | 1.31E+02 |
| EP | Eutrophication potential | kg N-Eq. | 4.00E+00 | 8.80E-02 | 3.44E-01 | 2.93E-04 | 4.88E-11 | 2.68E-03 | 5.39E-03 | -1.53E+00 | 4.44E+00 |
| SP | Smog formation potential | kg $O_3$-Eq. | 1.05E+03 | 4.37E+01 | 1.02E+02 | 5.14E-02 | 2.42E-08 | 6.50E-01 | 2.28E+00 | -1.06E+02 | 1.20E+03 |
| FFD | Fossil Fuel Depletion | MJ-surplus | 1.96E+04 | 4.67E+02 | 1.60E+03 | 2.99E+00 | 2.59E-07 | 1.58E+01 | 3.33E+01 | -2.24E+03 | 2.18E+04 |

**Stages B1 through B7 and C1 through C4 have been considered and only those with non-zero values have been reported*

Results shown below were calculated using CML 2001 - April 2013 Methodology.

**CML 4.1 Impact Assessment**

| Parameter | Parameter | Unit | A1-A3 | A4 | A5 | B6 | C2 | C3 | C4 | D | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GWP | Global warming potential | kg $CO_2$-Eq. | 1.43E+04 | 2.65E+02 | 1.16E+03 | 2.82E+00 | 1.47E-07 | 3.25E+02 | 1.97E+01 | -3.59E+03 | 1.61E+04 |
| ODP | Depletion potential of the stratospheric ozone layer | kg CFC-11 Eq. | 2.00E-05 | 9.98E-09 | 1.01E-06 | 1.92E-11 | 5.53E-18 | 1.57E-11 | 6.25E-11 | 5.41E-08 | 2.10E-05 |
| AP Air | Acidification potential for air emissions | kg $SO_2$-Eq. | 1.29E+02 | 1.30E+00 | 7.98E+00 | 3.39E-03 | 7.23E-10 | 7.97E-02 | 1.14E-01 | -1.16E+02 | 1.38E+02 |
| EP | Eutrophication potential | kg$(PO_4)^3$-Eq. | 7.09E+00 | 2.32E-01 | 7.46E-01 | 3.74E-04 | 1.29E-10 | 6.95E-03 | 1.27E-02 | -1.08E+00 | 8.09E+00 |
| POCP | Formation potential of tropospheric ozone photochemical oxidants | kg ethane-Eq. | 5.77E+00 | 1.52E-01 | 5.73E-01 | 2.93E-04 | 8.44E-11 | 2.69E-03 | 9.19E-03 | -5.08E+00 | 6.50E+00 |
| ADPE | Abiotic depletion potential for non-fossil resources | kg Sb-Eq. | 4.18E+00 | 1.10E-07 | 2.09E-01 | 3.40E-07 | 6.09E-17 | 2.57E-06 | 6.08E-06 | -6.50E+00 | 4.39E+00 |
| ADPF | Abiotic depletion potential for fossil resources | MJ | 1.91E+05 | 3.37E+03 | 1.40E+04 | 3.39E+01 | 1.87E-06 | 1.49E+02 | 2.52E+02 | -1.71E+04 | 2.08E+05 |

**Stages B1 through B7 and C1 through C4 have been considered and only those with non-zero values have been reported*

| EN15804+A2 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameter** | **Parameter** | **Unit** | **A1-A3** | **A4** | **A5** | **B6** | **C2** | **C3** | **C4** | **D** | **Total** |
| GWP-total | Climate change - total | kg $CO_2$-Eq. | 1.44E+04 | 2.66E+02 | 1.07E+03 | 2.84E+00 | 1.47E-07 | 3.25E+02 | 1.98E+01 | -3.65E+03 | 1.61E+04 |
| GWP-fossil | Climate change - fossil | kg $CO_2$-Eq. | 1.43E+04 | 2.66E+02 | 1.06E+03 | 2.84E+00 | 1.47E-07 | 3.25E+02 | 1.97E+01 | -3.59E+03 | 1.60E+04 |
| GWP-biogenic | Climate change - biogenic | kg $CO_2$-Eq. | -1.08E+01 | 0.00E+00 | 1.08E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| GWP-luluc | Climate change - land use and land use change | kg $CO_2$-Eq. | 2.39E+00 | 0.00E+00 | 1.37E-01 | 2.89E-04 | 0.00E+00 | 8.46E-03 | 1.18E-01 | -3.16E+01 | 2.66E+00 |
| ODP | Ozone depletion | kg CFC-11 Eq. | 1.97E-05 | 6.88E-09 | 9.93E-07 | 1.63E-11 | 3.81E-18 | 1.33E-11 | 5.31E-11 | 9.54E-09 | 2.07E-05 |
| AP | Acidification | mol $H^+$ Eq. | 1.49E+02 | 1.76E+00 | 9.47E+00 | 3.83E-03 | 9.75E-10 | 5.25E-02 | 1.40E-01 | -1.25E+02 | 1.61E+02 |
| EP-freshwater | Eutrophication aquatic freshwater | kg P-Eq. | 5.84E-02 | 7.56E-05 | 6.73E-03 | 1.57E-06 | 4.19E-14 | 5.03E-06 | 4.48E-05 | 1.39E-02 | 6.52E-02 |
| EP-marine | Eutrophication aquatic marine | kg N Eq. | 1.77E+01 | 6.77E-01 | 1.64E+00 | 8.49E-04 | 3.75E-10 | 1.12E-02 | 3.60E-02 | -2.16E+00 | 2.00E+01 |
| EP-terrestrial | Eutrophication terrestrial | mol N Eq. | 1.93E+02 | 7.38E+00 | 1.76E+01 | 9.17E-03 | 4.09E-09 | 2.40E-01 | 3.96E-01 | -1.81E+01 | 2.19E+02 |
| POCP | Photochemical ozone formation | NMVOC Eq. | 5.42E+01 | 1.99E+00 | 5.05E+00 | 2.48E-03 | 1.11E-09 | 3.11E-02 | 1.10E-01 | -1.14E+01 | 6.14E+01 |
| ADP-minerals&metals | Depletion of abiotic resources - minerals and metals | kg Sb Eq. | 4.18E+00 | 0.00E+00 | 2.09E-01 | 2.73E-07 | 0.00E+00 | 9.21E-07 | 1.28E-06 | -6.50E+00 | 4.39E+00 |
| ADP-fossil | Depletion of abiotic resources - fossil fuels | mol N Eq. | 2.12E+05 | 3.40E+03 | 1.51E+04 | 4.72E+01 | 1.89E-06 | 1.57E+02 | 2.60E+02 | -9.02E+03 | 2.31E+05 |
| WDP | Water use | $m^3$ world Eq. deprived | 6.48E+03 | 0.00E+00 | 3.23E+02 | 5.60E-01 | 0.00E+00 | 2.54E+01 | 2.25E+00 | -3.16E+03 | 6.83E+03 |
| PM | Particulate matter emissions | Disease incidence | 2.40E-03 | 6.94E-06 | 1.27E-04 | 3.55E-08 | 3.85E-15 | 5.92E-07 | 1.75E-06 | -2.85E-04 | 2.53E-03 |
| IRP | Ionizing radiation, human health | kBq U235 Eq. | 7.55E+02 | 5.98E-17 | 3.56E+01 | 3.90E-01 | 3.31E-26 | 2.39E-01 | 3.15E-01 | 3.10E+02 | 7.91E+02 |
| ETP-fw | Ecotoxicity (freshwater) | CTUe | 1.06E+05 | 4.93E+03 | 1.18E+04 | 7.55E+00 | 2.73E-06 | 1.55E+02 | 1.73E+02 | -5.17E+04 | 1.23E+05 |
| HTP-c | Human toxicity, cancer effects | CTUh | 2.03E-05 | 7.16E-08 | 1.11E-06 | 3.76E-10 | 3.97E-17 | 4.11E-09 | 3.53E-09 | 4.29E-06 | 2.14E-05 |
| HTP-nc | Human toxicity, non-cancer effects | CTUh | 9.48E-04 | 4.87E-06 | 5.40E-05 | 6.40E-09 | 2.70E-15 | 3.68E-07 | 1.37E-07 | 3.53E-04 | 1.01E-03 |
| SQP | Land use related impacts/Soil quality | dimensionless | 1.22E+04 | 0.00E+00 | 5.85E+02 | 5.24E+00 | 0.00E+00 | 1.41E+01 | 7.15E+01 | -1.26E+05 | 1.28E+04 |

Results below contain the resource use throughout the life cycle of the product.

| Resource Use | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parameter** | **Parameter** | **Unit** | **A1-A3** | **A4** | **A5** | **B6** | **C2** | **C3** | **C4** | **D** | **Total** |
| $RPR_E$ | Renewable primary energy as energy carrier | MJ | 1.08E+04 | 0.00E+00 | 4.90E+02 | 1.22E+01 | 0.00E+00 | 9.95E+00 | 4.53E+01 | -2.66E+04 | 1.14E+04 |
| $RPR_M$ | Renewable primary energy resources as material utilization | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| $NRPR_E$ | Nonrenewable primary energy as energy carrier | MJ | 2.13E+05 | 3.40E+03 | 1.51E+04 | 4.72E+01 | 1.89E-06 | 1.57E+02 | 2.60E+02 | -9.02E+03 | 2.31E+05 |
| $NRPR_M$ | Nonrenewable primary energy as material utilization | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| SM | Use of secondary material | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RSF | Use of renewable secondary fuels | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| NRSF | Use of nonrenewable secondary fuels | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| RE | Energy recovered from disposed waste | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.19E-01 | 0.00E+00 |
| FW | Use of net fresh water | $m^3$ | 1.48E+02 | 0.00E+00 | 7.39E+00 | 1.71E-02 | 0.00E+00 | 5.95E-01 | 6.88E-02 | -1.09E+01 | 1.56E+02 |

**All use phase and disposal stages have been considered and only those with non-zero values have been reported*

Results below contain the output flows and wastes throughout the life cycle of the product.

## Output Flows and Waste Categories

| Parameter | Parameter | Unit | A1-A3 | A4 | A5 | B6 | C2 | C3 | C4 | D | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HWD | Hazardous waste disposed | kg | 5.09E-03 | 0.00E+00 | 2.54E-04 | 2.75E-08 | 0.00E+00 | 2.68E-08 | 6.47E-08 | 3.02E-03 | 5.34E-03 |
| NHWD | Non-hazardous waste disposed | kg | 4.59E+02 | 0.00E+00 | 1.67E+02 | 1.35E-02 | 0.00E+00 | 2.85E+01 | 1.32E+03 | 7.20E+03 | 1.97E+03 |
| HLRW | High-level radioactive waste | kg | 8.10E+00 | 0.00E+00 | 3.92E-01 | 4.72E-03 | 0.00E+00 | 2.76E-03 | 2.72E-03 | 3.14E+00 | 8.50E+00 |
| ILLRW | Intermediate- and low-level radioactive waste | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| CRU | Components for re-use | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| MR | Materials for recycling | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.30E+03 | 0.00E+00 |
| MER | Materials for energy recovery | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.65E+03 | 0.00E+00 |
| EE | Recovered energy exported from system | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.19E-01 | 0.00E+00 |

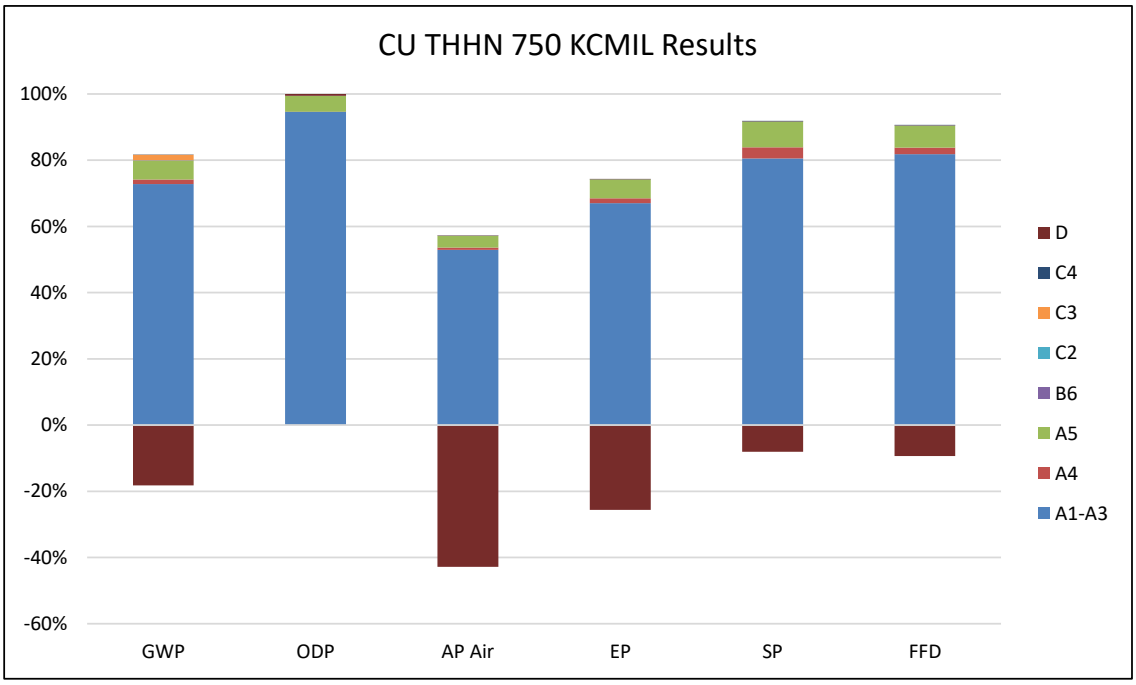
**All use phase and disposal stages have been considered and only those with non-zero values have been reported*

## Biogenic Carbon Content

| Parameter | Unit | A1-A3 | A4 | A5 | B6 | C2 | C3 | C4 | D | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Biogenic Carbon Content in Product | kg C | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Biogenic Carbon Content in Accompanying Packaging | kg C | 3.94E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.94E+01 |

## LCA Interpretation - Maximum Impact

The production life cycle stage (A1-A3) dominates the impacts across all impact categories. This is due to the upstream production of raw materials used in the product, along with energy use in the manufacturing of the product. The D reuse, recovery, and recycling potential stage shows as a negative value and accounts for the benefit of energy recovery during incineration, and the benefit from recycling material at the end-of-life for a product. Though the energy use (B6) phase does not have a large impact, this is due to the functional unit of 1 AMP, lifetime use may be larger than 1 AMP.




## System Boundary

This is a cradle to grave Environmental Product Declaration. The following life cycle phases were considered:

| Product Stage | | | Construction Process Stage | | Use Stage | | | | | | | End of Life Stage* | | | | Benefits and Loads Beyond the System Boundaries |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Raw material supply | Transport | Manufacturing | Transport from gate to the site | Construction/ installation process | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | Deconstruction /demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling potential |
| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |

**Description of the System Boundary Stages Corresponding to the PCR**

**(X = Included; MND = Module Not Declared)**

*This includes provision of all materials, products and energy, packaging processing and its transport, as well as waste processing up to the end-of waste state or disposal of final residues.

## Scaling Factor Tables

For EPDs with product groups, an impact assessment was completed for each product and the highest impacts were reported as representations of the product group. The rest of the products in each group are represented through scaling factor tables and can be independently calculated.

To use these scaling factors, you will need the result from the tables in section 'LCA Results - Maximum Impact' and the chosen cable you are investigating. The scaling factors multiplied by the results above will be the results for that particular cable. For example, if you wanted to know how much GWP impact came from the A1-A3 stage of example product below, you would follow the equation below.

| | Scaling Factor | * | Results | = | Final GWP |
|---|---|---|---|---|---|
| CU THHN 2 AWG Stranded | 9.73E-02 | * | 1.43E+04 | = | 1.39E+03 |

This equation can be used for all steps of the life cycle, where the scaling factor from each stage is multiplied by the results shown in this study in order to get any of the results. The scaling factors below are split into A1-A3 factors, which have each main impact category distinct from the others. This is due to the fact that the manufacturing site and the raw materials used in each cable can vary tremendously in these category. The A4-D categories are more based on weight of the cable, the individual impact category does not have as much variability and can be assumed to be the same. C2-D will all have the same scaling factor, and therefore, the scaling factor for these can be used in the equation above for any individual category. These scaling factors can be used in any categories, including the TRACI 2.1 impacts, CML 4.1 impacts and EN15804+A2 impacts, from the results section.

To adjust for more operational energy use than one amp, you will need the result from the tables in section 'LCA Results - Maximum Impact', the chosen cable you are investigating, and your expected amperage over 40 years. The scaling factors multiplied by the results above will be the operational use results for that particular cable, multiplied by the squared amperage. For example, if you wanted to know how much 100 Amps would increase the example product's B6 stage GWP, you would follow the equation below:

| | Scaling Factor | * | Results | * | Amperage-squared | = | Final GWP |
|---|---|---|---|---|---|---|---|
| CU THHN 2 AWG Stranded | 3.62E+02 | * | 2.79E+00 | * | $100^2$ | = | 1.01E+07 |

| | A1 - A3 | | | | | | | A4 | A5 | B6 | C2 - D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GWP | ODP | AP | EP | PCOP | FFD/ADP | Resources | | | | |
| CU THHN 14 AWG Solid | 7.27E-03 | 8.00E-03 | 7.46E-03 | 7.91E-03 | 8.01E-03 | 6.36E-03 | 7.24E-03 | 9.65E-03 | 9.65E-03 | 1.49E+02 | 9.65E-03 |
| CU THHN 14 AWG Stranded | 1.03E-02 | 1.10E-02 | 1.04E-02 | 1.12E-02 | 1.15E-02 | 9.09E-03 | 1.03E-02 | 1.56E-02 | 1.56E-02 | 1.49E+02 | 1.56E-02 |
| CU THHN 12 AWG Solid | 1.02E-02 | 1.13E-02 | 1.05E-02 | 1.11E-02 | 1.12E-02 | 8.89E-03 | 1.01E-02 | 1.32E-02 | 1.32E-02 | 9.29E+01 | 1.32E-02 |
| CU THHN 12 AWG Stranded | 1.30E-02 | 1.41E-02 | 1.33E-02 | 1.42E-02 | 1.44E-02 | 1.15E-02 | 1.30E-02 | 1.83E-02 | 1.83E-02 | 9.29E+01 | 1.83E-02 |
| CU THHN 10 AWG Solid | 1.28E-02 | 1.40E-02 | 1.31E-02 | 1.39E-02 | 1.41E-02 | 1.13E-02 | 1.28E-02 | 1.74E-02 | 1.74E-02 | 6.21E+01 | 1.74E-02 |
| CU THHN 10 AWG Stranded | 1.31E-02 | 1.41E-02 | 1.33E-02 | 1.42E-02 | 1.44E-02 | 1.16E-02 | 1.31E-02 | 1.84E-02 | 1.84E-02 | 6.21E+01 | 1.84E-02 |
| CU THHN 8 AWG Stranded | 2.15E-02 | 2.30E-02 | 2.17E-02 | 2.32E-02 | 2.39E-02 | 1.91E-02 | 2.17E-02 | 3.12E-02 | 3.12E-02 | 3.69E+01 | 3.12E-02 |
| CU THHN 6 AWG Stranded | 3.29E-02 | 3.57E-02 | 3.35E-02 | 3.57E-02 | 3.66E-02 | 2.90E-02 | 3.30E-02 | 4.53E-02 | 4.53E-02 | 2.32E+01 | 4.53E-02 |
| CU THHN 4 AWG Stranded | 2.46E-02 | 2.31E-02 | 2.43E-02 | 2.41E-02 | 2.47E-02 | 2.33E-02 | 2.17E-02 | 3.12E-02 | 3.12E-02 | 1.94E+02 | 3.12E-02 |
| CU THHN 3 AWG Stranded | 7.70E-02 | 7.20E-02 | 7.38E-02 | 7.42E-02 | 7.54E-02 | 8.57E-02 | 8.68E-02 | 8.03E-02 | 8.03E-02 | 2.42E+02 | 8.03E-02 |
| CU THHN 2 AWG Stranded | 9.73E-02 | 9.27E-02 | 9.45E-02 | 9.48E-02 | 9.60E-02 | 1.06E-01 | 1.06E-01 | 1.01E-01 | 1.01E-01 | 3.62E+02 | 1.01E-01 |
| CU THHN 1 AWG Stranded | 1.19E-01 | 1.11E-01 | 1.14E-01 | 1.14E-01 | 1.16E-01 | 1.32E-01 | 1.33E-01 | 1.23E-01 | 1.23E-01 | 7.19E+02 | 1.23E-01 |
| CU THHN 1/0 AWG Stranded | 1.48E-01 | 1.41E-01 | 1.44E-01 | 1.44E-01 | 1.46E-01 | 1.60E-01 | 1.61E-01 | 1.53E-01 | 1.53E-01 | 7.20E+00 | 1.53E-01 |
| CU THHN 2/0 AWG Stranded | 1.86E-01 | 1.79E-01 | 1.82E-01 | 1.82E-01 | 1.84E-01 | 1.98E-01 | 2.00E-01 | 1.91E-01 | 1.91E-01 | 5.40E+00 | 1.91E-01 |
| CU THHN 3/0 AWG Stranded | 2.29E-01 | 2.23E-01 | 2.26E-01 | 2.26E-01 | 2.28E-01 | 2.40E-01 | 2.41E-01 | 2.34E-01 | 2.34E-01 | 3.89E+00 | 2.34E-01 |
| CU THHN 4/0 AWG Stranded | 2.90E-01 | 2.84E-01 | 2.86E-01 | 2.87E-01 | 2.88E-01 | 2.99E-01 | 3.00E-01 | 2.94E-01 | 2.94E-01 | 3.08E+00 | 2.94E-01 |
| CU THHN 250 kcmil Stranded | 3.42E-01 | 3.33E-01 | 3.37E-01 | 3.37E-01 | 3.39E-01 | 3.57E-01 | 3.59E-01 | 3.48E-01 | 3.48E-01 | 2.95E+00 | 3.48E-01 |
| CU THHN 300 kcmil Stranded | 4.07E-01 | 3.99E-01 | 4.02E-01 | 4.03E-01 | 4.05E-01 | 4.21E-01 | 4.23E-01 | 4.13E-01 | 4.13E-01 | 2.47E+00 | 4.13E-01 |
| CU THHN 350 kcmil Stranded | 4.74E-01 | 4.68E-01 | 4.70E-01 | 4.71E-01 | 4.73E-01 | 4.86E-01 | 4.88E-01 | 4.79E-01 | 4.79E-01 | 2.11E+00 | 4.79E-01 |
| CU THHN 400 kcmil Stranded | 5.39E-01 | 5.33E-01 | 5.36E-01 | 5.36E-01 | 5.37E-01 | 5.49E-01 | 5.50E-01 | 5.43E-01 | 5.43E-01 | 1.84E+00 | 5.43E-01 |
| CU THHN 500 kcmil Stranded | 6.66E-01 | 6.64E-01 | 6.65E-01 | 6.65E-01 | 6.66E-01 | 6.71E-01 | 6.72E-01 | 6.68E-01 | 6.68E-01 | 1.45E+00 | 6.68E-01 |

| | A1 - A3 | | | | | | | A4 | A5 | B6 | C2 - D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GWP | ODP | AP | EP | PCOP | FFD/ADP | Resources | | | | |
| CU THHN 600 kcmil Stranded | 7.98E-01 | 7.93E-01 | 7.95E-01 | 7.96E-01 | 7.97E-01 | 8.07E-01 | 8.08E-01 | 8.02E-01 | 8.02E-01 | 1.20E+00 | 8.02E-01 |
| CU THHN 750 kcmil Stranded | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 |
| CU TFFN 18 AWG Stranded | 4.34E-03 | 4.66E-03 | 4.40E-03 | 4.69E-03 | 4.79E-03 | 3.85E-03 | 4.36E-03 | 6.29E-03 | 6.29E-03 | 4.94E+02 | 6.29E-03 |
| CU TFFN 16 AWG Stranded | 5.53E-03 | 5.97E-03 | 5.62E-03 | 5.98E-03 | 6.10E-03 | 4.88E-03 | 5.53E-03 | 7.81E-03 | 7.81E-03 | 2.44E+02 | 7.81E-03 |
| CU T90 14 AWG Solid | 5.13E-03 | 5.52E-03 | 5.21E-03 | 5.55E-03 | 5.66E-03 | 4.54E-03 | 5.14E-03 | 7.37E-03 | 7.37E-03 | 1.49E+02 | 7.37E-03 |
| CU T90 14 AWG Stranded | 5.20E-03 | 5.50E-03 | 5.23E-03 | 5.60E-03 | 5.74E-03 | 4.63E-03 | 5.24E-03 | 7.82E-03 | 7.82E-03 | 1.49E+02 | 7.82E-03 |
| CU T90 12 AWG Solid | 8.04E-03 | 8.79E-03 | 8.23E-03 | 8.74E-03 | 8.87E-03 | 7.07E-03 | 8.03E-03 | 1.09E-02 | 1.09E-02 | 9.29E+01 | 1.09E-02 |
| CU T90 12 AWG Stranded | 8.10E-03 | 8.75E-03 | 8.23E-03 | 8.77E-03 | 8.94E-03 | 7.16E-03 | 8.12E-03 | 1.15E-02 | 1.15E-02 | 9.29E+01 | 1.15E-02 |
| CU T90 10 AWG Solid | 1.28E-02 | 1.40E-02 | 1.31E-02 | 1.39E-02 | 1.41E-02 | 1.13E-02 | 1.28E-02 | 1.74E-02 | 1.74E-02 | 6.21E+01 | 1.74E-02 |
| CU T90 10 AWG Stranded | 1.31E-02 | 1.41E-02 | 1.33E-02 | 1.42E-02 | 1.44E-02 | 1.15E-02 | 1.30E-02 | 1.83E-02 | 1.83E-02 | 6.21E+01 | 1.83E-02 |
| CU T90 8 AWG Stranded | 2.13E-02 | 2.28E-02 | 2.15E-02 | 2.30E-02 | 2.35E-02 | 1.89E-02 | 2.15E-02 | 3.09E-02 | 3.09E-02 | 3.69E+01 | 3.09E-02 |
| CU T90 6 AWG Stranded | 3.29E-02 | 3.57E-02 | 3.35E-02 | 3.57E-02 | 3.62E-02 | 2.90E-02 | 3.30E-02 | 4.52E-02 | 4.52E-02 | 2.32E+01 | 4.52E-02 |
| CU T90 4 AWG Stranded | 6.28E-02 | 5.83E-02 | 6.01E-02 | 6.04E-02 | 6.15E-02 | 7.08E-02 | 7.17E-02 | 6.64E-02 | 6.64E-02 | 1.94E+02 | 6.64E-02 |
| CU T90 3 AWG Stranded | 7.67E-02 | 7.20E-02 | 7.38E-02 | 7.41E-02 | 7.53E-02 | 8.50E-02 | 8.59E-02 | 8.04E-02 | 8.04E-02 | 2.42E+02 | 8.04E-02 |
| CU T90 1 AWG Stranded | 1.18E-01 | 1.11E-01 | 1.14E-01 | 1.14E-01 | 1.16E-01 | 1.30E-01 | 1.32E-01 | 1.23E-01 | 1.23E-01 | 7.16E+02 | 1.23E-01 |

## Additional Environmental Information

### Environmental and Health During Manufacturing

Prysmian has an established HSE Management System in place at its manufacturing sites. Site programs ensure that OSHA and environmental requirements are met or exceeded to help ensure the safety and health of all employees, contractors, and guests.

### Environmental and Health During Installation

There is no harmful emissive potential. No damage to health or impairment is expected under normal use corresponding to the intended use of the product.

### Extraordinary Effects

**Fire**
None
**Water**
None
**Mechanical Destruction**
None

### Delayed Emissions

Global warming potential is calculated using the TRACI 2.1 and CML 4.1 impact assessment methodologies. Delayed emissions are not considered.

### Environmental Activities and Certifications

Prysmian North America manufacturing sites strive to meet or exceed all applicable federal, state, and local environmental regulations. All manufacturing sites are ISO 14001:2015 Certified.

Prysmian maintains a variety of certifications based on the widely accepted industry standards:
- Quality Management System certifications (ISO9001/TL9000)
- Environmental Management System certifications (ISO14001)
- Health and Safety Management System certifications (ISO45001)

These certificates can be downloaded from our company website here: https://www.prysmian.com/en

### Further Information

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Highland Heights, KY 41076

## References


- PCR — PEP ecopassport Program: Product Category Rules for Electrical, Electronic and HVAC-R Products, v4.0, 2021.
- PSR — PEP ecopassport Program: Product Specific Rules for Wires, Cables and Accessories, v4.0, 2022.
- LCA for Experts v10.7.0.183 — Sphera Solutions GmbH. LCA for Experts Software System and Database for Life Cycle Engineering. Version 10.7.0.183 (software).
- ISO 14025 — ISO 14025:2011-10, Environmental labels and declarations — Type III environmental declarations — Principles and procedures.
- ISO 14040 — ISO 14040:2009-11, Environmental management — Life cycle assessment — Principles and framework.
- ISO 14044 — ISO 14044:2006-10, Environmental management — Life cycle assessment — Requirements and guidelines.
- EN 15804+A2 — EN 15804:2012+A2:2019/AC:2021 - Sustainability of construction works - Environmental Product Declarations -
- ASTM 2020 — ASTM International General Program Instructions v8.0, April 29, 2020
- ISO 21930: — ISO 21930:2017, Sustainability in buildings and civil engineering works - Core rules for environmental product
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## Contact Information

### Study Commissioner

- For more information, visit our website at https://www.prysmian.com/en

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