

# SP 2,5/ 1-M BU - Plug

3043051

<https://www.phoenixcontact.com/us/products/3043051>



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Plug, nom. voltage: 500 V, nominal current: 24 A, number of positions: 1, connection method: Spring-cage connection, Rated cross section: 2.5 mm<sup>2</sup>, cross section: 0.08 mm<sup>2</sup>- 4 mm<sup>2</sup>, color: blue

The figure shows versions of the SP 2,5/1-... connector in various colors

## Product description

Connector element center, left housing with engagement pin, right opened without cover

## Your advantages

- Cable housing can be snapped on to the plugs, see figure below
- The plug with spring-cage connection is assembled directly on site by snapping together single-position plug elements
- The ST-COMBI plugs for self-assembly provide solutions that users can implement themselves

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 3043051       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | BE02          |
| Product key                          | BE2144        |
| GTIN                                 | 4017918894917 |
| Weight per piece (including packing) | 3.2 g         |
| Weight per piece (excluding packing) | 3.14 g        |
| Customs tariff number                | 85366990      |
| Country of origin                    | PL            |

## Technical data

### Notes

|                    |                                                                                                                                                                         |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes on operation | COMBI connectors are connectors without switching power in accordance with IEC 61984 and can be connected or disconnected without load or voltage when used as intended |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Product properties

|                     |               |
|---------------------|---------------|
| Product type        | Terminal plug |
| Number of positions | 1             |
| Pitch               | 5.2 mm        |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Degree of pollution  | 3   |

### Electrical properties

|                     |      |
|---------------------|------|
| Rated surge voltage | 6 kV |
|---------------------|------|

### Connection data

|                                                                                           |                                                       |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Nominal cross section                                                                     | 2.5 mm <sup>2</sup>                                   |
| Connection method                                                                         | Spring-cage connection                                |
| Stripping length                                                                          | 8 mm ... 10 mm                                        |
| Internal cylindrical gage                                                                 | A3                                                    |
| Connection in acc. with standard                                                          | IEC 61984                                             |
| Conductor cross-section rigid                                                             | 0.08 mm <sup>2</sup> ... 4 mm <sup>2</sup>            |
| Cross section AWG                                                                         | 28 ... 12 (converted acc. to IEC)                     |
| Conductor cross-section flexible                                                          | 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>          |
| Conductor cross-section, flexible [AWG]                                                   | 28 ... 14 (converted acc. to IEC)                     |
| Conductor cross-section flexible (ferrule without plastic sleeve)                         | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>          |
| Flexible conductor cross-section (ferrule with plastic sleeve)                            | 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>          |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup>                                   |
| Nominal cross section                                                                     | 2.5 mm <sup>2</sup>                                   |
| Nominal current                                                                           | 24 A                                                  |
| Maximum load current                                                                      | 24 A (with 4 mm <sup>2</sup> conductor cross-section) |
| Nominal voltage                                                                           | 500 V                                                 |

### Dimensions

|        |         |
|--------|---------|
| Width  | 5.2 mm  |
| Height | 15.8 mm |
| Depth  | 39 mm   |
| Length | 15.8 mm |
| Pitch  | 5.2 mm  |

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## Material specifications

|                                                                  |                 |
|------------------------------------------------------------------|-----------------|
| Color                                                            | blue (RAL 5015) |
| Flammability rating according to UL 94                           | V0              |
| Insulating material group                                        | I               |
| Insulating material                                              | PA              |
| Static insulating material application in cold                   | -60 °C          |
| Relative insulation material temperature index (Elec., UL 746 B) | 130 °C          |
| Fire protection for rail vehicles (DIN EN 45545-2) R22           | HL 1 - HL 3     |
| Fire protection for rail vehicles (DIN EN 45545-2) R23           | HL 1 - HL 3     |
| Fire protection for rail vehicles (DIN EN 45545-2) R24           | HL 1 - HL 3     |
| Fire protection for rail vehicles (DIN EN 45545-2) R26           | HL 1 - HL 3     |
| Surface flammability NFPA 130 (ASTM E 162)                       | passed          |
| Specific optical density of smoke NFPA 130 (ASTM E 662)          | passed          |
| Smoke gas toxicity NFPA 130 (SMP 800C)                           | passed          |

## Environmental and real-life conditions

### Ambient conditions

|                                          |                                                                           |
|------------------------------------------|---------------------------------------------------------------------------|
| Ambient temperature (operation)          | -60 °C (max. operating temperature see derating curve)                    |
| Ambient temperature (storage/transport)  | -25 °C ... 60 °C (for a short time, not exceeding 24 h, -60 °C to +70 °C) |
| Ambient temperature (assembly)           | -5 °C ... 70 °C                                                           |
| Ambient temperature (actuation)          | -5 °C ... 70 °C                                                           |
| Permissible humidity (operation)         | 20 % ... 90 %                                                             |
| Permissible humidity (storage/transport) | 30 % ... 70 %                                                             |

## Standards and regulations

|                                  |           |
|----------------------------------|-----------|
| Connection in acc. with standard | IEC 61984 |
|----------------------------------|-----------|

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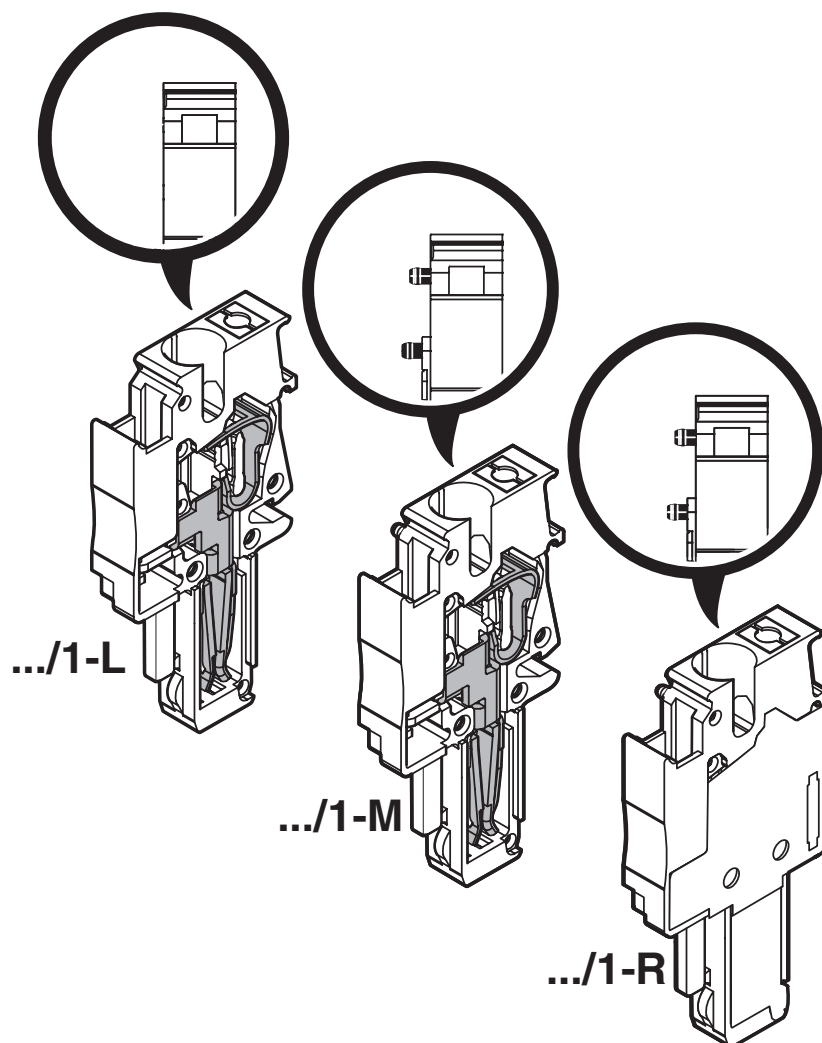
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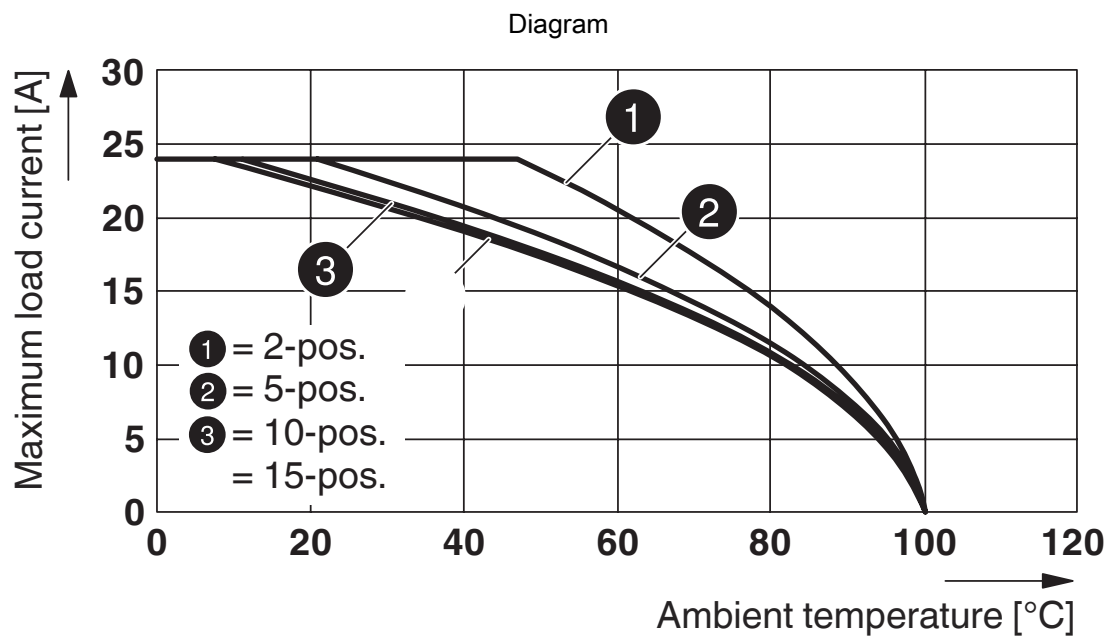
<https://www.phoenixcontact.com/us/products/3043051>



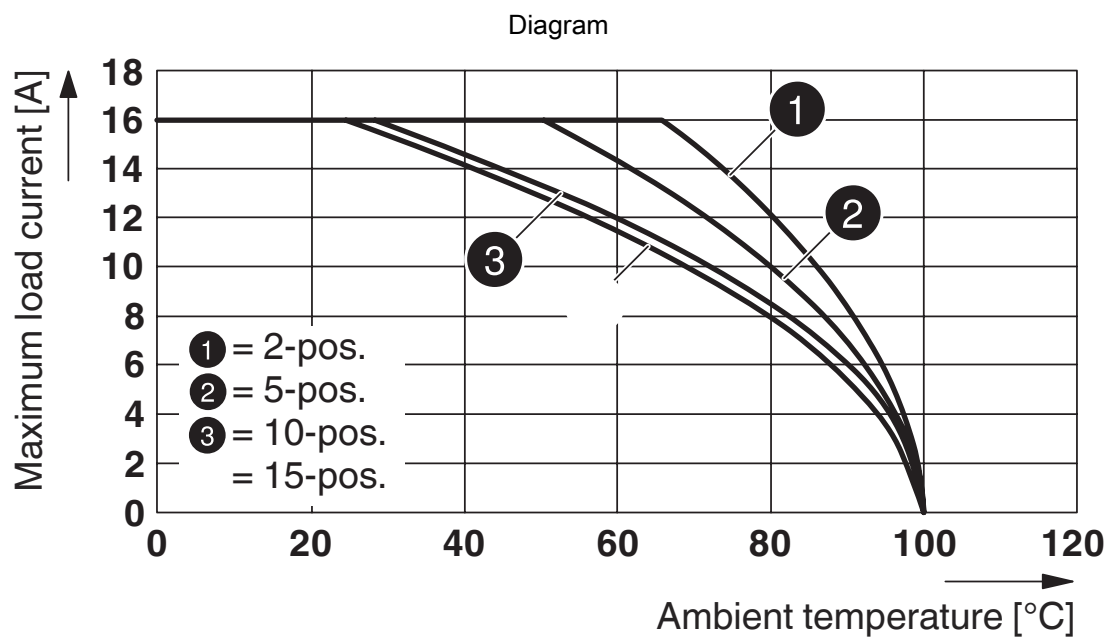
## Drawings

Schematic diagram

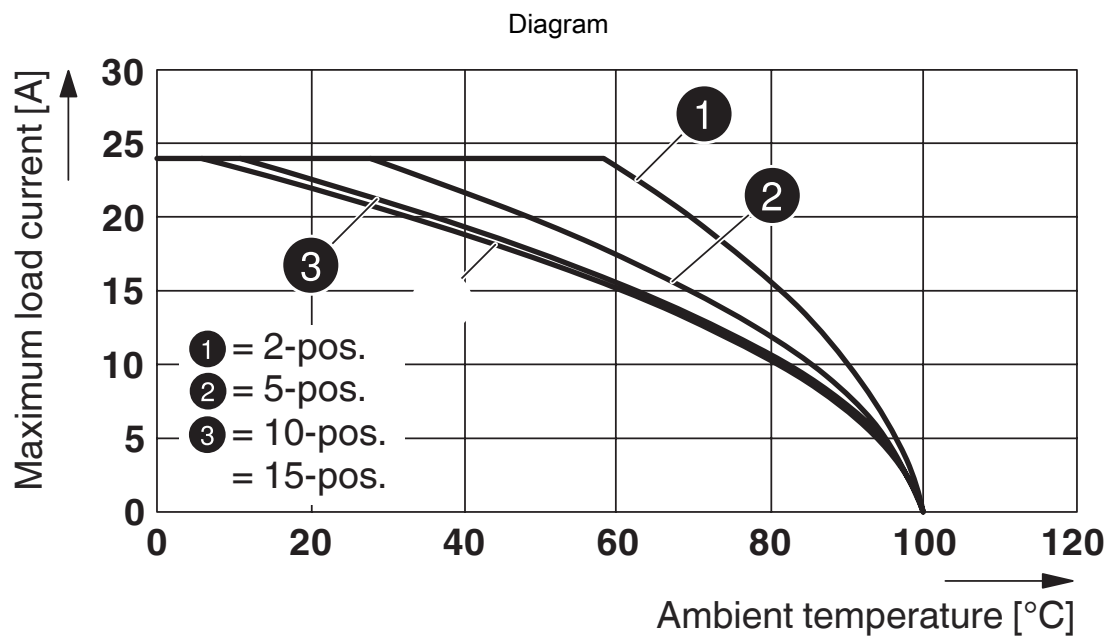




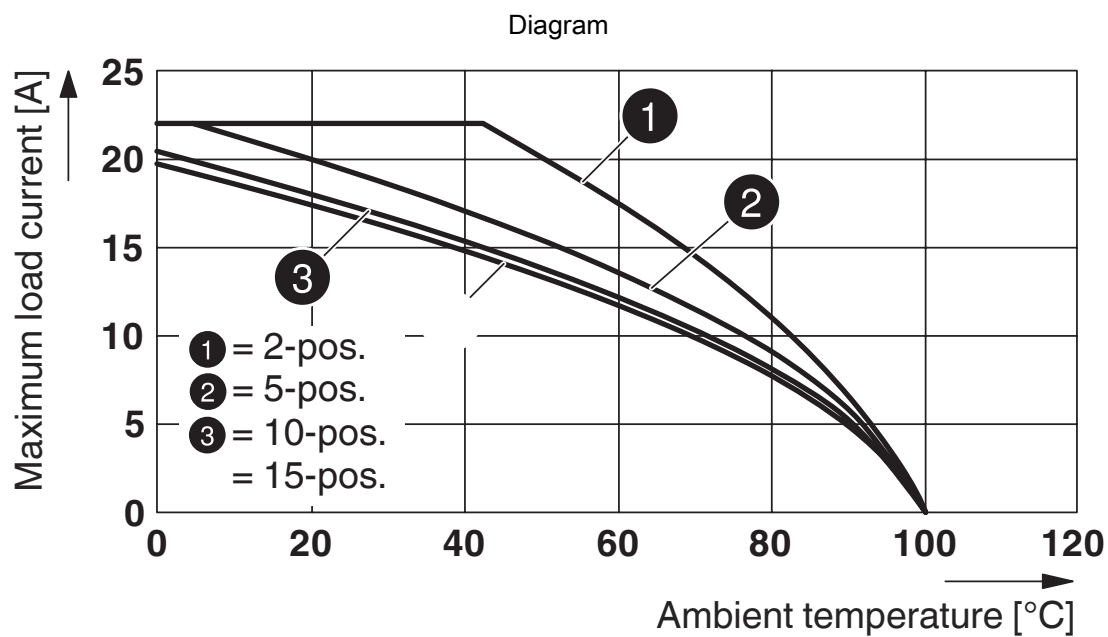
Derating curve for ST 2,5/ 1P, ST 2,5/ 2P, ST 2,5-TWIN/ 1P and for all plug versions SP...



Derating curve for ST 2,5-TWIN-MT/1P, ST 2,5-TWIN-TG/1P and for all plug versions SP...



Derating curve for ST 2,5-QUATTRO/2P, ST 2,5-QUATTRO/4P and for all plug versions SP...

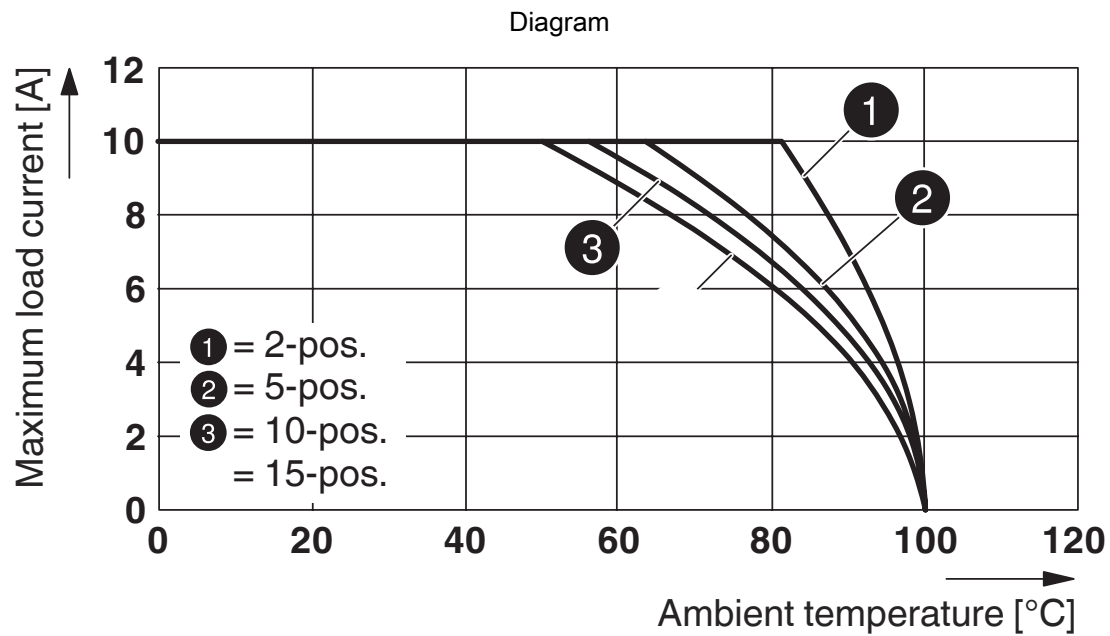


Derating curve for STTB 2,5/ 2P, STTB 2,5/ 2P-PV and for all plug versions SP...

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Derating curve for ST 2,5-4L/1P, ST 2,5-4L/2P and for all plug versions SP... .

Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/3043051>

|  <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                    | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                  | 300 V                 | 20 A                  | 28 - 12           | -                           |
| C                                                                                                                  | 300 V                 | 20 A                  | 28 - 12           | -                           |
| D                                                                                                                  | 600 V                 | 5 A                   | 28 - 12           | -                           |

|  <b>IECEE CB Scheme</b><br>Approval ID: DE1-62736/B1/B2 |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

|  <b>VDE Zeichengenehmigung</b><br>Approval ID: 40019518 |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                            | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                                      |                       |                       |                   |                             |
| Only flexible conductors                                                                                                                   | 500 V                 | -                     | -                 | 0.2 - 2.5                   |
| Only rigid conductors                                                                                                                      | 500 V                 | -                     | -                 | 0.2 - 4                     |

|  <b>cULus Recognized</b><br>Approval ID: E60425 |                       |                       |                   |                             |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                    | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                                  | 300 V                 | 20 A                  | 26 - 12           | -                           |
| C                                                                                                                                  | 300 V                 | 20 A                  | 26 - 12           | -                           |
| D                                                                                                                                  | 600 V                 | 5 A                   | 26 - 12           | -                           |

| <b>DNV</b><br>Approval ID: TAE00001CS |  |  |  |  |
|---------------------------------------|--|--|--|--|
|---------------------------------------|--|--|--|--|

|  <b>EAC</b><br>Approval ID: KZ7500651131219505 |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|-----------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27250306 |
| ECLASS-15.0 | 27250306 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC002021 |
|-----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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## Environmental product compliance

|                                         |                                          |
|-----------------------------------------|------------------------------------------|
| EU RoHS                                 |                                          |
| Fulfills EU RoHS substance requirements | Yes, No exemptions                       |
| China RoHS                              |                                          |
| Environment friendly use period (EFUP)  | EFUP-E                                   |
|                                         | No hazardous substances above the limits |
| EU REACH SVHC                           |                                          |
| REACH candidate substance (CAS No.)     | No substance above 0.1 wt%               |
| EF3.1 Climate Change                    |                                          |
| CO2e kg                                 | 0.027 kg CO2e                            |

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