

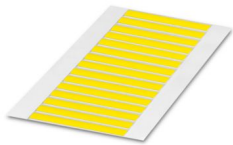
# WMS-2 HF 19,1 (60X30)RL YE - Shrink sleeve



0833203

<https://www.phoenixcontact.com/us/products/0833203>

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Shrink sleeve, Roll, yellow (RAL 1018), unmarked, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLLMASTER 300/600, THERMOMARK ROLL X1, THERMOMARK ROLL, THERMOMARK ROLL 2.0, THERMOMARK X1.2, cable diameter range: 9.5 ... 19.1 mm, unperforated, mounting type: slide-on, Number of individual labels: 500, text field height: 30 mm, text field width: 60 mm

## Product description

Due to their ladder-style format, the preassembled shrink sleeves in the WMS-2 HF... product family provide a good overview and facilitate quick use. After the printing and applying process, you have the option of shrinking the marked shrink sleeves by applying heat manually and thus fixing them on the cable/wire.

## Your advantages

- Permanent and captive identification of single-core wires, wires, cables, pneumatic hoses, and other cylindrical objects
- Ladder style design: For a good overview and to facilitate quick use, the sleeves are preassembled in cut lengths: 15 mm, 30 mm, or 60 mm
- As an option, the sleeves can be shrunk by applying heat manually to fix the sleeve in position
- High diameter coverage with a shrink ratio of 2:1
- Widely used and proven worldwide in the railway industry

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 0833203       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BG14          |
| Product key                          | BG2216        |
| GTIN                                 | 4055626044507 |
| Weight per piece (including packing) | 1,656.3 g     |
| Weight per piece (excluding packing) | 1,656.3 g     |
| Customs tariff number                | 39173200      |
| Country of origin                    | DK            |

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## Technical data

### Notes

|                      |   |
|----------------------|---|
| Material information | <p>The specified minimum wire diameter of the shrink sleeve refers to its use as a marking material and does not guarantee any insulation characteristics once shrunk.</p> <p>Depending on the processed material batch, as well as the storage and processing conditions, the maximum insertable wire diameter may be reduced.</p> |
|----------------------|---|

### Product properties

|                     |                  |
|---------------------|------------------|
| Product type        | Shrink sleeve    |
| Area of application | Railway industry |

### Marking

|                                     |                |
|-------------------------------------|----------------|
| Number of individual labels         | 500            |
| Number of individual labels per row | 1              |
| Slot type                           | Shrink sleeve  |
| Identification technology           | Thermotransfer |

### Dimensions

|        |         |
|--------|---------|
| Width  | 60 mm   |
| Height | 31.4 mm |

### Text field

|                   |       |
|-------------------|-------|
| Text field width  | 60 mm |
| Text field height | 30 mm |

### Material specifications

|  |                   |
|--|-------------------|
| Color  | yellow (RAL 1018) |
| Material   | Polyolefine       |
| Base element material                                  | polyolefine       |
| Shrink rate  | 2:1               |
| 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       |
| Components   | halogen-free      |
| Shrink temperature                                     | > 90 °C           |

### Cable/line

|                         |                    |
|-------------------------|--------------------|
| External cable diameter | 9.5 mm ... 19.1 mm |
|-------------------------|--------------------|

### Environmental and real-life conditions

#### Ambient conditions

|                                 |                   |
|---------------------------------|-------------------|
| Ambient temperature (operation) | -30 °C ... 105 °C |
|---------------------------------|-------------------|

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|   |  |
|---|--|
| Recommended ambient temperature (storage/transport) | 10 °C  |
| Recommended humidity (storage/transport)            | 45 % ... 55 % (Storage in a dry and dark place in the original packaging is recommended) |

## Test for substances that would hinder coating with paint or varnish

|   |                      |
|---|----------------------|
| Testing for paint wetting impairment substances (LABS-conformity) | VW PV 3.10.7:2005-02 |
| Result  | Test passed          |

## Test for substances that would hinder coating with paint or varnish

|   |                    |
|---|--------------------|
| Testing for paint wetting impairment substances (LABS-conformity) | VDMA 24364:2018-05 |
| Result  | Test passed        |

## Scratch resistance

|               |                                |
|---------------|--------------------------------|
| Specification | EN ISO 1518-1:2023 (following) |
| Requirements  | ≥ 5 N                          |
| Result        | Test passed                    |

## Tesafilm test

|               |                                     |
|---------------|-------------------------------------|
| Specification | DIN EN ISO 2409:2020-12 (following) |
| Result        | Test passed                         |

## UV resistance

|               |                                       |
|---------------|---------------------------------------|
| Specification | DIN EN ISO 4892-2:2021-11 (following) |
| Result        | Test passed                           |
| Test duration | 96 h                                  |
| Procedure     | Artificial irradiation.               |

## Temperature resistance

|                        |                                 |
|------------------------|---------------------------------|
| Specification          | ANSI/UL 969-2018:03 (following) |
| Test duration          | 240 h                           |
| Rating 100 °C (121 °C) | Test passed                     |

## Wipe resistance of inscriptions

|   |  |
|---|--|
| Specification                                     | DIN EN 61010-1 (VDE 0411-01):2020-03<br>DIN EN 62208 (VDE 0660-511):2012-06 (in parts) |
| Isopropanol (99%) [67-63-0]                       | Test passed  |
| Water + Petroleum ether<br>[CAS No. 64742-82-1]   | Test passed  |
| Sodium hydroxide 0.1 mol/l<br>[CAS No. 1310-73-2] | Test passed  |
| Ethanol (99 %)<br>[CAS No. 64-17-5]               | Test passed  |

## Immersion in chemicals, oil & fuel

|   |                          |
|---|--------------------------|
| Specification                                     | ISO 175:2010 (following) |
| Test duration                                     | 168 h                    |
| Sodium hydroxide 0.1 mol/l<br>[CAS No. 1310-73-2] | Test passed              |

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|   |             |
|---|-------------|
| Saltwater (saturated 350 g/l)<br>[CAS No. - ] | Test passed |
| Ethanol (99 %)<br>[CAS No. 64-17-5]           | Test passed |
| Diesel<br>[CAS No. 68476-34-6]                | Test passed |
| IRM 901                                       | Test passed |
| IRM 902                                       | Test passed |
| IRM 903                                       | Test passed |

## Testing in a condensation changing climate in the presence of sulfur dioxide

|               |                      |
|---------------|----------------------|
| Specification | EN ISO 22479:2022-06 |
| Result        | Test passed          |
| Procedure     | Method B             |
| Cycles        | 2                    |

## Salt spray test

|               |   |
|---------------|---|
| Specification | DIN EN IEC 60068-2-11 (VDE 0468-2-11):2022-10 |
| Result        | Test passed                                   |
| Test duration | 96 h  |

## Standards and regulations

|                 |                             |
|-----------------|-----------------------------|
| Wipe resistance | DIN EN 61010-1 (VDE 0411-1) |
|-----------------|-----------------------------|

## Standards

|                       |            |
|-----------------------|------------|
| Standards/regulations | EN 45545-2 |
|-----------------------|------------|

## Mounting

|               |          |
|---------------|----------|
| Mounting type | slide-on |
|---------------|----------|

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27281102 |
| ECLASS-15.0 | 27281102 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC001530 |
|-----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39131500 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|   |                    |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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