

# WMS-2 HF 4,8 (EX9)R BU - Shrink sleeve



0819991

<https://www.phoenixcontact.com/us/products/0819991>

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Shrink sleeve, Roll, blue (RAL 5015), unmarked, can be labeled with: THERMOMARK E. SLEEVE, THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLLMASTER 300/600, THERMOMARK ROLL X1, THERMOMARK ROLL, THERMOMARK ROLL 2.0, THERMOMARK W, THERMOMARK X1.2, cable diameter range: 2.4 ... 4.8 mm, unperforated, mounting type: slide-on, cable diameter range (automated processing): 2.4 ... 4.5 mm, Number of individual labels: 1, roll length: 30 m, text field height: 9 mm, text field width: 30000 mm

## Product description

The continuous shrink sleeves in the WMS-2 HF... product family, in size 3.2 ... 9.5, are suitable for automated processing with the THERMOMARK E.SLEEVE applicator. The continuous format of the material means that individual marker lengths can be realized. 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
- High flexibility, as individual marker lengths ranging from 3.45 mm ... 2000 mm (0.14" ... 78.7") can be realized in combination with the cutter and perforation cutter
- 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	0819991
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BG14
Product key	BG2216
GTIN	4055626056944
Weight per piece (including packing)	319 g
Weight per piece (excluding packing)	319 g
Customs tariff number	39173200
Country of origin	PL

## Technical data

### Notes

Note on application	For the THERMOMARK ROLL and THERMOMARK ROLL 2.0 roll printers, this material can only be processed with an external media hub.
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	1
Number of individual labels per row	1
Identification technology	Thermotransfer

### Dimensions

Length of roll	30.00 m
Height	8.7 mm

### Text field

Text field width	30000 mm
Text field height	9 mm

### Material specifications

Color	blue (RAL 5015)
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	2.4 mm ... 4.8 mm
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### 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 %

## 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 125 °C (150 °C)	Test passed

## Wipe resistance of inscriptions

Specification	DIN EN 61010-1 (VDE 0411-1):2011-07 DIN EN 62208 (VDE 0660-511):2012-06 (in parts)
Isopropanol (99%) [67-63-0]	Test passed
n-Hexane [CAS No. 110-54-3]	Test passed
Water + Petroleum ether [CAS No. 64742-82-1]	Test passed
Sodium hydroxide 0.1 mol/l [CAS No. 1310-73-2]	Test passed
Ethanol (99 %) [CAS No. 64-17-5]	Test passed

## Immersion in chemicals, oil & fuel

Specification	ISO 175:2010 (following)
Test duration	168 h

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Sodium hydroxide 0.1 mol/l [CAS No. 1310-73-2]	Test passed
Saltwater (saturated 350 g/l) [CAS No. - ]	Test passed
Ethanol (99 %) [CAS No. 64-17-5]	Test passed
Acetone (99 %) [CAS No. 67-64-1]	Test passed
Diesel [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	DIN EN ISO 22479:2022-08
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

### Standards

Standards/regulations	EN 45545-2
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## Mounting

Mounting type	slide-on
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## Classifications

### ECLASS

ECLASS-13.0	27281102
ECLASS-15.0	27281102

### ETIM

ETIM 10.0	EC001530
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### UNSPSC

UNSPSC 21.0	39131500
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### EU REACH SVHC

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