

# SPUMA 400

## Flexible RF cable equal to LMR<sup>®</sup> 400



### Applications

- Communication
- Industrial and Railway
- Defence

### Features

- Very low loss
- Flexible cable
- Non-halogen (non-toxic) low smoke, flame resistant type available

### Benefits

- Less attenuation
- Less price
- Excellent return loss (VSWR)

LMR<sup>®</sup> is a registered Trademark of Times Microwave Systems

# SPUMA-400

## Cable design



## Construction

	Material	Diameter
1 Center conductor	solid copper-plated aluminum wire	2.74 mm
2 Dielectric	foamed polyethylene	7.24 mm
3 Inner shield	aluminum/PES longitudinal foil	7.4 mm
4 Outer shield	tin-plated copper braid	8.15 mm
5 Jacket	SPUMA_400: polyethylene SPUMA_400-FR: LSFH (modified polyethylene)	10.25 mm +/-0.1

## Electrical characteristics

	SPUMA_400	SPUMA_400-FR
Impedance	50 Ω +/-2	
Operating frequency	6 GHz	
Capacitance	78 pF/m	
Velocity of propagation	85 %	
Signal delay	3.9 ns/m	
Insulation resistance	108 MΩm	
Min. screening effectiveness up to 6GHz	> 90 dB	

## General characteristics

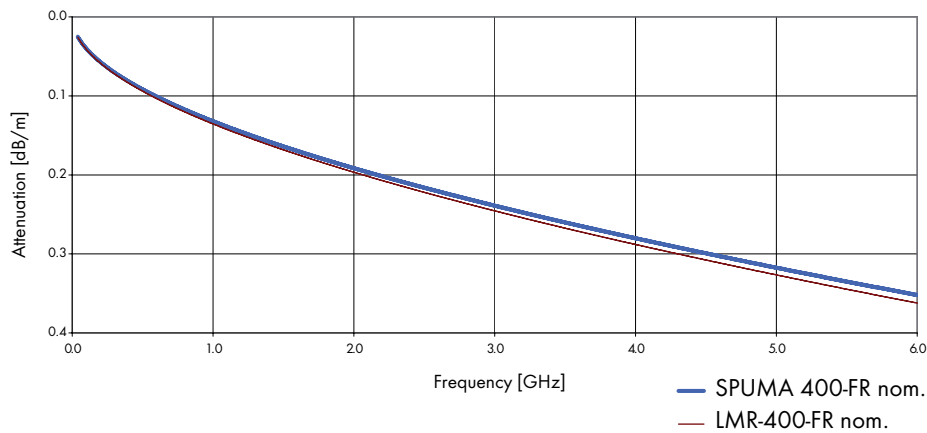
	SPUMA_400	SPUMA_400-FR
Weight	9.4 kg / 100 m	11.5 kg / 100 m
Min. bending radius	static: 25 mm repeated (for max. 50 bendings): 100 mm	
Temperature range	operation: -40 °C up to +85 °C installation: -20 °C up to +85 °C	
Railway standards	-	DIN EN 5510-2 and CEN/TS 45545 compliant
Halogen free	IEC 60754	
2002/95/EC (RoHS)	compliant	

# SPUMA-400

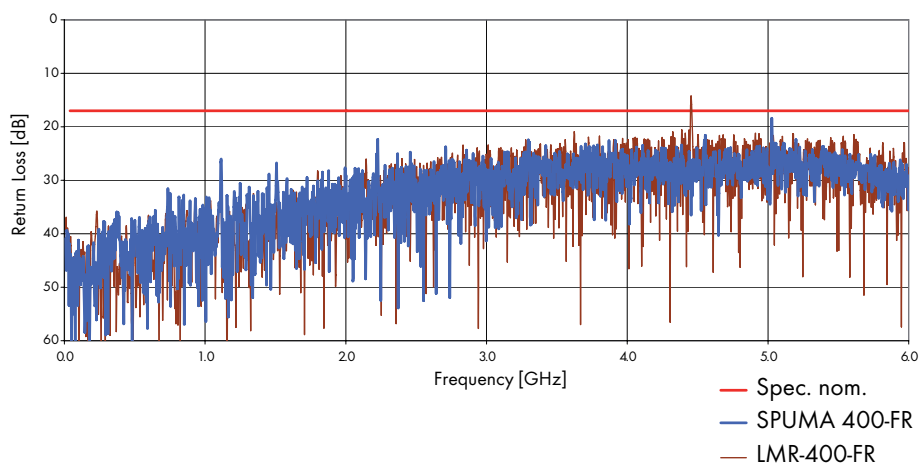
## Suitable connectors

<p>TNC:            11 TNC-50-7-16/133 N                            11 TNC-50-7-18/133 N                            11 TNC-R50-7-13/133 NE                            16 TNC-50-7-4/133 NE                            16 TNC-50-7-12/133_NE                            24 TNC-R50-7-4/133 N</p> <p>N:                11 N-50-7-69/133 NE                            11 N-50-7-82/133 NE                            16 N-50-7-50/133 NE                            16 N-50-7-77/133 N                            24 N-50-7-31/133 NH</p> <p>QN:             11 QN-50-7-8/133 NH                            16 QN-50-7-5/133 NH                            24 QN-50-7-5/133 NH</p> <p>7/16:            24 716-50-7-8/003 -Y</p>	<p>Return loss of assembly with straight plug and right angle connectors</p> <p>1 GHz            &gt;28 dB          2.5 GHz        &gt;23 dB          3.5 GHz        &gt;18 dB          6 GHz           &gt;15 dB</p>
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## Attenuation vs. frequency (typical)



## Return loss vs. frequency



# SPUMA-400

## Product portfolio

Description	DIN 5510	CEN/TS45545
SPUMA_400	-	-
SPUMA_400-FR-01	X	X

## Railway standards

### DIN 5510

Description	Test method
Flame spread, single cable	EN 60332-1-2
Smoke density	EN 61034-2
Toxicity	EN 50305, 9.2

### CEN/TS 45545

Description	Test method
Flame spread, single cable	EN 60332-1-2
Flame spread, bunched cables	EN 50266-2-5
Smoke density	EN 61034-2
Toxicity	CEN/TS 45545-2, C.16.4

## Assembly configurator

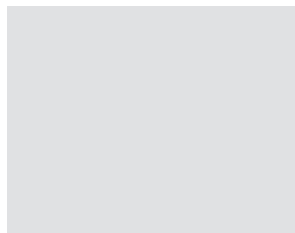
HUBER+SUHNER provides individual assembly solutions:

- Web-based tool
- Easy to use
- Fast configuration

HUBER+SUHNER is certified according to ISO 9001, ISO 14001, ISO/TS 16949 and IRIS.

### WAIVER

It is exclusively in written agreements that we provide our customers with warrants and representations as to the technical specifications and/or the fitness for any particular purpose. The facts and figures contained herein are carefully compiled to the best of our knowledge, but they are intended for general informational purposes only.



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