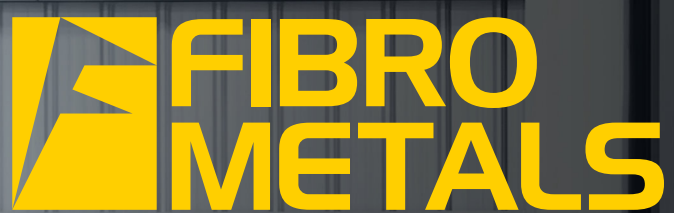


Made in EU



## Concrete reinforcement fibers

Technical specifications

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# Contents

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- Steel fibers
  - Description
  - Material properties
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  - Microfibers
  - Corrugated fibers
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# About

## Our company

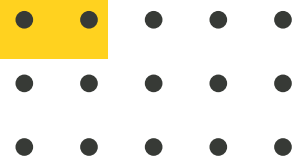
*“Quality, accuracy and reliability”*

Fibrometals is one of the largest manufacturer of steel fibers in Eastern Europe. The company was founded in 2013 in Romania and it has since established long-term partnerships with clients from Europe, North America and Asia.

Maintaining the highest standard of quality has always been our priority. All our fibers are certified and produced to meet the industry's standards. Through regular testing of the products and careful maintenance of the machines, we ensure that our clients

always get the best quality products.

We are also constantly improving on our processes towards an agile and lean production in order to be able to respond immediately to our clients' needs. Through innovation and continuous refinement, we seek to become an even more reliable partner for our current and future clients.



# About

## Concrete reinforcement fibers

Concrete is a relatively brittle material, with a tensile strength that is significantly lower than its compressive strength.

The most common method used to improve concrete's resistance to tension is the reinforcement with steel bars which, in certain cases, may not be the ideal solution. For specific applications such as industrial flooring, sprayed concrete constructions, slender structures, fire resistant structures etc, fiber reinforcement has been proven to be more effective, from both structural and economic perspectives.



## Benefits of fiber use in concrete



increased dynamic load resistance



increased mechanic shock resistance



improved compressive strength



improved tensile strength



increased freeze/thaw resistance



reduced bleeding



reduced cracking

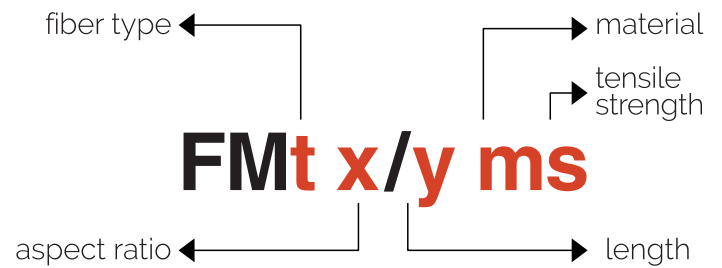


cost effective & time saving

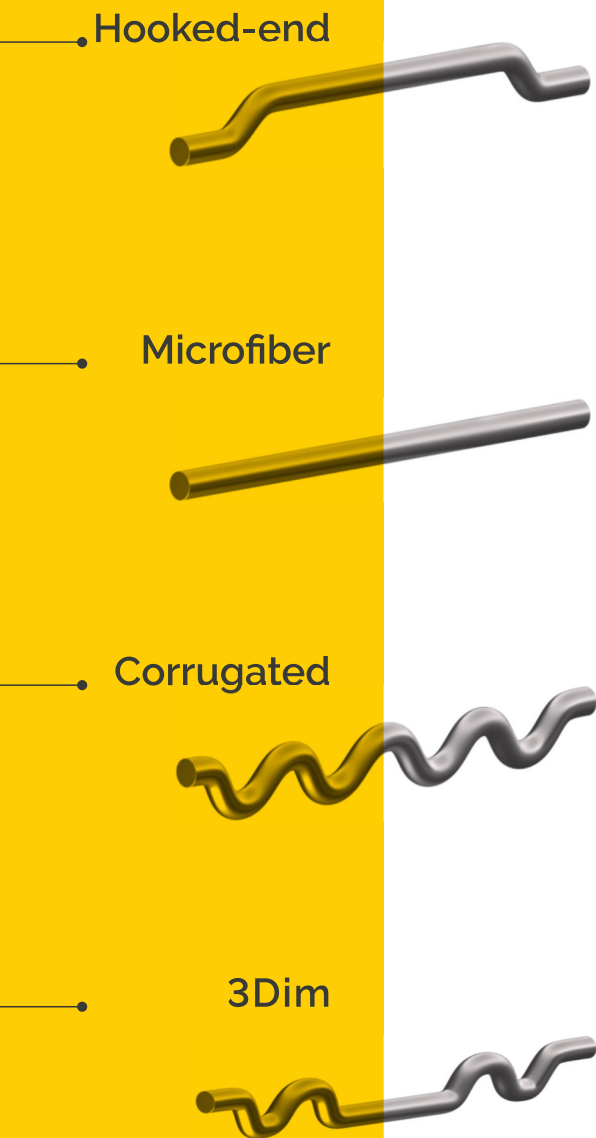
# Steel fibers



## Factory code



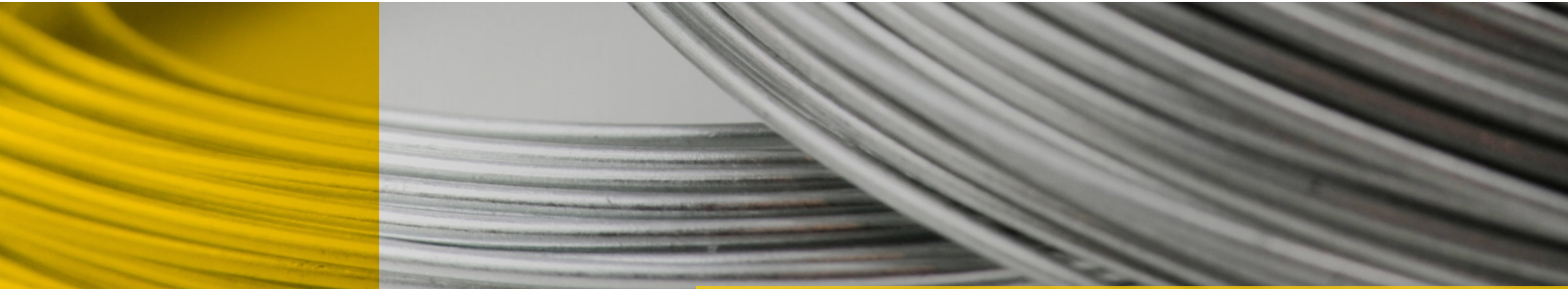
## General characteristics



Type	Hooked-end	Microfiber	Corrugated	3Dim
Material	Matte (M) / Brass-coated (B) / Galvanized (G) / Stainless steel (S)			
A	35-90	24-40	35-85	45-85
L	30-60 mm	6-12.5* mm	30-60 mm	50
D	0.38-1.05 mm	0.22-0.40 mm	0.60-1.05 mm	0.60-1.05
S	1200**/2400 MPa	1200/2400 MPa	1200 MPa	1200 MPa

Legend		
A	Aspect ratio (L+D)	*Custom lengths can be manufactured.
L	Length (mm)	
D	Diameter (mm)	**Average value achieved in factory tests: 1200 MPa. Certified and design value: 1100 MPa.
S	Tensile strength (MPa)	

# Steel fibers



## Material properties

Hard steel wire with low carbon content

### Wire

OLC 25 STANDARD SF 134/2006

### Surface

matte (M) | brass-coated (B)

### Tensile strength

1200 MPa\* | 2400 MPa

### Chemical composition

- C max. 0,24%
- Mn max. 0,25-0,50%
- Si max. 0,05%
- P max. 0,04%
- S max. 0,05%

\*Average value achieved in factory tests: 1200 MPa. Certified and design value: 1100 MPa.

Hooked-end



Microfiber



Corrugated



3Dim



# Steel fibers

## Hooked-end fibers

### Available sizes



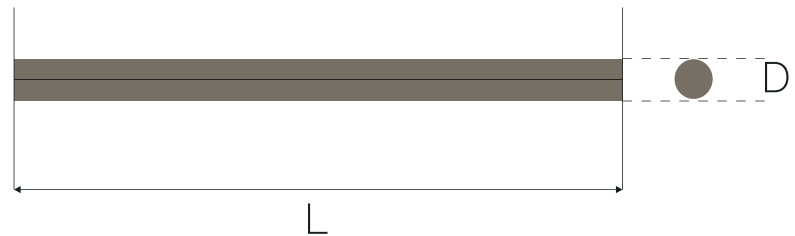
Factory code	Aspect ratio $L \div D$	Length L (mm $\pm$ 2)	Diameter D (mm $\pm$ 0,04)	Tensile strength (MPa)	Hook length l (mm)	Height h (mm $\pm$ 0,5)	Angle $\alpha$ ( $^{\circ}$ $\pm$ 5)
FMH 35/30 M12	35	30	0.80	1100-1200	1-4	1,8	45
FMH 45/50 M12	45	50	1.05	1100-1200	1-4	1,8	45
FMH 45/35 M12	45	35	0.80	1100-1200	1-4	1,8	45
FMH 50/30 M12	50	30	0.60	1100-1200	1-4	1,8	45
FMH 55/60 M12	55	60	1.05	1100-1200	1-4	1,8	45
FMH 60/50 M12	60	50	0.80	1100-1200	1-4	1,8	45
FMH 60/35 M12	60	35	0.60	1100-1200	1-4	1,8	45
FMH 75/60 M12	75	60	0.80	1100-1200	1-4	1,8	45
FMH 85/50 M12	85	50	0.60	1100-1200	1-4	1,8	45
FMH 90/35 B24	90	35	0.38	1100-1200	1-4	1,8	45
FMH 90/35 M12	90	35	0.40	1100-1200	1-4	1,8	45

Legend		
H	Hooked-end	
M	Matte	
B	Brass-coated	

# Steel fibers

Microfibers

## Available sizes



Factory code	Aspect ratio L÷D	Length L (mm±2)	Diameter D (mm±0,04)	Tensile strength (MPa)			
FMM 25/6 B24	25	6	0.25	2400			
FMM 30/12 M12	30	12.5	0.4	1100-1200			
FMM 45/10 B24	45	10	0.22	2400			
FMM 40/10 B24	40	10	0.25	2400			

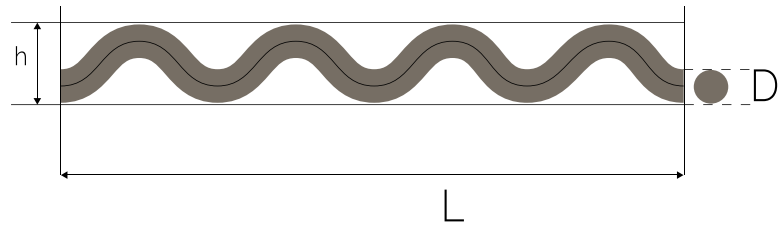
Legend		
M		Microfiber
M'		Matte
B		Brass-coated



# Steel fibers

## Corrugated fibers

### Available sizes



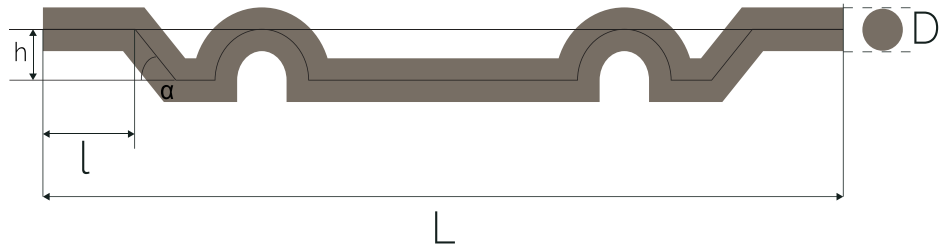
Factory code	Aspect ratio L÷D	Length L (mm±2)	Diameter D (mm±0,04)	Tensile strength (MPa)	Height h (mm±0,5)	Angle $\alpha$ (°±5)	
FMC 35/30 M12	35	30	0.8	1100-1200	1,8	45	
FMC 45/50 M12	45	50	1.05	1100-1200	1,8	45	
FMC 50/30 M12	50	30	0.6	1100-1200	1,8	45	
FMC 55/60 M12	55	60	1.05	1100-1200	1,8	45	
FMC 60/50 M12	60	50	0.8	1100-1200	1,8	45	
FMC 75/60 M12	75	60	0.8	1100-1200	1,8	45	
FMC 85/50 M12	85	50	0.6	1100-1200	1,8	45	

Legend		
C	Corrugated	
M	Matte	
B	Brass-coated	

# Steel fibers

3Dim fibers

## Available sizes



Factory code	Aspect ratio $L \div D$	Length $L$ (mm $\pm 2$ )	Diameter $D$ (mm $\pm 0,04$ )	Tensile strength (MPa)	Hook length $l$ (mm)	Height $h$ (mm $\pm 0,5$ )	Angle $\alpha$ ( $^{\circ} \pm 5$ )
FMD 45/50 M12	45	50	1.05	1100-1200	1-4	1,8	45
FMD 60/50 M12	60	50	0.8	1100-1200	1-4	1,8	45
FMD 85/50 M12	85	50	0.6	1100-1200	1-4	1,8	45

Legend		
D	3Dim	
M	Matte	
B	Brass-coated	

# Further information



## Packaging options and storage



Paper bags  
of 20 and 25 kg



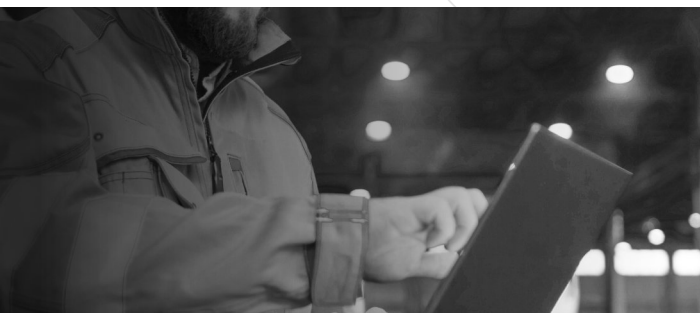
Carboard boxes



Pallets of  
1000-1250 kg



Keep dry!



## Standards and certifications

The Fibrometals factory is **ISO** certified according to the **14001** and **9001** standards.

Our fibers follow both the European **SR EN 14889-1:2007** and the **ASTM A820 (Type 1)** standards.





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