

- Glasfaser
- Metallfaser
- Resonatoren
- Einzellösungen
- Komplettkomponenten

MATERIAL PROPERTIES

Stainless steel wool 1.4113 generally

1. BASIC MATERIAL

1.1 Material designation

Material number	Appr. according to DIN	AISI	AFNOR
1.4113	X 6 CrMo 17	434	Z8 CD 17.01

1.2 Chem. analysis

STANDARD	C	Si	Mn	P	S	Cr	Mo	Ni
DIN	0,07	1,00	1,00	0,045	0,030	16,0 - 18,0	0,9 - 1,2	-
AISI	0,12	1,00	1,00	0,04	0,03	16,0 - 18,0	0,75-1,25	-
AFNOR	0,08	1,00	1,00	0,04	0,03	16,0 - 18,0	0,9 - 1,2	0,5
Own stand.	0,07	1,00	1,00	0,045	0,045	16,0 - 18,0	0,9 - 1,2	0,4

1.3 Thermal treatment (if relevant)

softening	750 - 850 °C
hot shaping	1.050 - 850 °C

1.4 Solidity values

1.4.1 according to DIN (condition: annealed)

R _{p0,2} N/mm ²	R _m N/mm ²	A ₅ %	hardness HB 30
270	450 - 650	20	130 - 180

1.4.1.1 Mechan. properties at high temperatures

R_{p0,2}
N/mm²
not defined

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1.4.1.2 Average temperature expansion coefficient between 20°C and ...°C

100	200	300	400	500	600	700	800	°C
10,0	10,0	10,5	10,5	11,0	-	-	-	(10 ⁻⁶ K ⁻¹)

1.4.2 Plant norm (delivery specifications) condition: cold drawn, plain

R _m	A ₅
N/mm ²	%
850 – 1.000	10

1.5 Physical properties

Density (20°C)	Spec. warmth (20°C)	Heat conduct. (20°C)	Elect. resist. (20°C)	E-module (20°C)
7,7 kg/dm ³	0,46 J/g K	25 W/K m	0,70 Ω mm ² /m	216*10 ³ N/mm ²
Magnetizable				
yes				

1.6 Other properties

Utilization for increased corrosion resistance

Mo increased tensile strength and heat resistance and improves corrosion resistance

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2. FIBERS

2.1 Fiber strand

2.1.1 medium fine

average fiber strength: 60µm - 150µm

measured at the flattest point.

2.1.2 Geometry

Irregular (e.g. L-shaped, U-shaped, etc., each with irregular surface)

2.1.3 Fiber length

In strand form infinite: approx. 10% < 0,2m

2.1.4 Strand Weight

7 gr/m – 80 gr/m

2.1.5 Strand Density

200kg/m³ - 400kg/m³ depending on the treatment.

2.2 Needled felt

Weight per unit area from 800 g/m² to 2.500 g/m², manufactured length-wise

Density approx. 5 - 9 mm.

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2.3 Heat resistance

Depending on the density, the load-conveying capacity and the surrounding atmosphere up to approx. $T=800^{\circ}\text{C}$.

fusion occurs at: $T=1.300^{\circ}\text{C}$ in leaded gas
 $T=1.400^{\circ}\text{C}$ in unleaded gas

Oxidation rate: annealing at $T=800^{\circ}$ Cover 100 h, air atmosphere
weight loss: 3%

2.4 corrosion resistance

rust and acid resistant, depending on the surface condition and the temperature and surrounding conditions.