

**Material Designation**

1.4767      DIN

**Standards**

DIN 17470  
 ASTM B 603  
 (Class IIA, chem. analysis and electrical resistivity only)

**Chemical Composition**

	Cr	Al	Fe
Alloying Content <sup>1</sup> [wt.-%]	20.0	min. 5.0	Bal.

**Properties**

1.4767 (CrAl 20 5) is a ferritic iron-chromium-aluminum alloy (FeCrAl) that is particularly suitable for use in high-temperature applications above 1000 °C due to the formation of a stable Al<sub>2</sub>O<sub>3</sub> layer. The material is characterized by high scale resistance, high electrical resistance, and very good corrosion resistance in chemically demanding environments with oxidizing, sulfur-containing, or carburizing atmospheres. 1.4767 is magnetic up to approx. 600 °C and is suitable for applications with operating temperatures up to 1200 °C<sup>2</sup>.

**Area of Application and Typical Applications Examples**

1.4767 is used as a heating element in industrial furnaces and in burner heads and hoods. Other areas of application include heating tubes and radiators as well as heating coils for household appliances (cooktops, toasters, hair dryers). The material serves as a carrier material for catalysts.

**Delivery Conditions**

- ✘ Wire annealed or annealed, pre-oxidized (coils, barrels, on spools up to 3.0 mm possible)
- ✘ Straightened bars
- ✘ Alternative delivery conditions on request

**Physical Properties**

Melting Temperature [°C]	1500
Max. Operating Temperature [°C]	1200 <sup>2</sup>

**Properties at Room Temperature**

Electrical Resistivity [ $\Omega$ mm <sup>2</sup> /m]	1.39
Thermal Conductivity [W/m·K]	13
Specific Heat Capacity [kJ/kg·K]	0.46
Density [g/cm <sup>3</sup> ]	7.2

**Quality**

- ISO 9001
- ISO 14001
- ISO 50001
- Approvals acc. to standards like ABS, BV, DNV ...
- Customer specific approval certificates

**Innovation**

- Fully automated phased-array-ultrasonic testing up to dia. 1000 mm
- CO<sub>2</sub>-reduction by innovative heat treatment solutions

**Flexibility**

- Product range from fine wire to forging
- Directly from stock close at hand

**Individuality**

- Dimensions
- Tolerances
- Surface qualities
- Delivery conditions

**Your personal contact:**


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<sup>1</sup> In accordance with DIN 17470 and ASTM B 603, additional alloying elements are permitted to optimize the physical and technological properties.

<sup>2</sup> Temperature valid for wire > 2.0 mm in air.

### Physical Properties

#### Temperature Coefficient of Electrical Resistivity<sup>3</sup>

Temperature [°C]	20	200	400	600	800	1000	1200
Temperature Coefficient	1.00	1.01	1.01	1.04	1.05	1.06	1.06

#### Average Value of Thermal Expansion Coefficient<sup>3</sup>

Temperature [°C]	20-400	20-800	20-1000
Thermal Expansion Coefficient x [10 <sup>-6</sup> /K]	12	14	15

### Mechanical Properties room temperature, annealed condition, nominal values

Dimension [mm]	Tensile Strength [MPa]	Elongation [%]	Hardness HV <sup>4</sup>
0.060 – 0.125	750	10	235
> 0.125 – 1.00	730	15	230
> 1.00	700	16	220
> 2.50	680	16	210

#### Creep Strength 1%-1000h reference values<sup>3</sup>

Temperature [°C]	600	700	800	900	1000	1100	1200
Creep Strength [MPa]	40	15	6.0	2.5	1.0	0.3	0.1

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<sup>3</sup> In accordance with DIN 17470

<sup>4</sup> Calculated from tensile strength, rounded values