

# Glass-to-Metal Seal Alloys: JLC 486 / NiFe51

## Wire

These alloys are for special glass to metal sealing applications in lighting, automotive, and electronic industries.

**JLC 486** Alloy, also known as NiFe47Cr6 is used as single lead in compact fluorescent lamps (CFL), as lead-in-wires for lamps, and in semiconductor devices.

**NiFe51** Alloy is used as the single lead in CFLs for making electrical connection and glass sealing. It is also used for reed switches, spark application in air bags, battery connections, gas measurement sensors and in opto-electronics. Other variations of this alloy are also available. Please contact JLC for more details.

Specifications			
Alloy	ASTM standard	Werkstoff Nr	DIN No.
JLC 486	-	2.4486	17745
NiFe51	F30	2.4478	17745

Nominal Chemical Composition (%)					
Alloy	Ni	Mn	Si	Cr	Fe
JLC 486	Min 47.0	Max 0.50	Max 0.30	5.5-6.5	Balance
NiFe51	47-52	Max 0.50	Max 0.30	-	Balance

Physical & Mechanical Properties (at room temperature)							
Alloy	Tensile strength N/mm <sup>2</sup>		Elongation % at L <sub>0</sub> = 100 mm		Density g/cm <sup>3</sup>	Thermal Conductivity W/m.K	Electrical Resistivity at 20°C μΩ-cm
	Min	Max	Min	Max			
JLC 486	400	600	25	35	8.2	14.00	85
NiFe51	400	600	25	35	8.25	17.00	43

Mean Coefficient of Thermal Expansion (10 <sup>-6</sup> /K)						
Alloy	Temperature Range (°C)					
	20-100	20-200	20-300	20-400	20-500	20-600
JLC 486	9.2	9.2	9.3	10.4	11.6	12.5
NiFe51	10.3	10.2	10.1	9.9	10.0	10.9

Size Range			
Form	Dia (mm)	Width (mm)	Thickness (mm)
Wire	0.3-1.5	-	-