

MS-903

Material no. **1.4903**
DIN: **X10CrMoVNb9-1**

Comparison of standards:

Chemical composition: (Approximate values in %)

C	Mn	Cr	Mo	V	Nb	Nb
0,10	0,40	9,00	0,95	0,22	0,07	0,045

Application & Characteristics

MS-903 is a high-temperature martensitic steel that exhibits good mechanical properties (yield strength and creep rupture strength) under long-term conditions at temperatures above 500 °C and is suitable for high-temperature applications in thermal engines and power plants such as pressure vessels at elevated temperatures up to 650 °C.

Heat treatment: :

Forging or rolling	1150 – 900 °C		
Soft annealing	750 – 780 °C	Oven cooling	
Annealing	700 – 750 °C		
Remuneration:	Hardening	1040 – 1090 °C	Air or oil cooling
	Tempering	730 – 780 °C	Air or oil cooling

Mechanical properties at room temperature:

Condition	tempered		
0,2%-Yield point	N/mm ²	≥ 450	
Tensile strength	N/mm ²	630 - 730	
Elongation (L=5d)	%	≥ 19 (lengthwise)	
Elongation (L=5d)	%	≥ 17 (across)	
Notched bar impact work (ISO-V)	J	≥ 40 (lengthwise)	
Notched bar impact work (ISO-V)	J	≥ 27 (across)	

Mechanical properties at elevated temperatures:

0,2%-Yield point	at °C	200	300	400	500	600
remuneration	N/mm ²	380	360	340	300	215