

## TP 904L • UNS N08904 • 1.4539 • TPS-Technichromo 904L

This high-alloy austenitic is very resistant to attack from diluted sulphuric acid, phosphoric acid and acetic acid. It resists pitting in neutral chloride solutions. Its resistance to stress corrosion cracking in some hot chlorides is much superior to that of the lower nickel austenites. This steel has good formability and weldability. This material is present in all common standards like ASTM and EN, however with some differences. Design stresses up to 370°C are included in ASME II.

Material grade	Norm	Chemical composition • mass in %									
		C	Si	Mn	P	S	Cr	Ni	Mo	Ti	Sonst.
		max.	max.	max.	max.	max.	min. – max.	min. – max.	min. – max.		
1.4539	EN 10216-5	0,020	0,70	2,00	0,030	0,010	19,00 - 21,00	24,00 - 26,00	4,00 - 5,00	-	Cu 1,20 – 2,00; N 0,15 max.
1.4539	VD-TÜV 421	0,020	0,70	2,00	0,030	0,015	19,00 - 21,00	24,00 - 26,00	4,00 - 5,00	-	Cu 1,20 – 2,00; N 0,04 - 0,15 max.
N08904	ASTM A 213	0,020	1,00	2,00	0,040	0,030	19,00 - 23,00	23,00 - 28,00	4,00 - 5,00	-	Cu 1,00 – 2,00; N 0,10 max.

Material grade	Norm	Mechanical properties and heat treatment					
		Rp 0,2 [MPa]	Rp 1,0 [MPa]	Rm [MPa]	A [%]	Härte	Wärmebehandlung
		min.	min.	min. – max.	min	HRB max.	
1.4539	EN 10216-5	230	250	520 - 720	35	-	lösungsgeglüht
1.4539	VD-TÜV 421	230	260	530 - 720	35	-	lösungsgeglüht
N08904	ASTM A 213	215	-	490	35	90	lösungsgeglüht

Tolerances				
AD - Rohr	AD	WD	special WT	ID
ab Ø4,550 mm	±0,050 mm	±0,150 mm	±0,100 mm	X
ab Ø9,530 mm	±0,050 mm	±0,100 mm	±0,080 mm	±0,050 mm
ab Ø30,001 mm***	±0,100 mm	±0,150 mm		±0,050 mm

\*\*\* to max. Ø44,500 mm

- Tolerances acc. to DIN EN 10305-1 can be confirmed to OD 30mm
- Tolerances acc. to DIN EN ISO 1127 / DIN EN 10216-5 can be confirmed
- Tolerances acc. to ASTM can be confirmed generally

Abmessungsbereich\*

Abmessungsspektrum

AD	WD	[mm]	1,00	1,20	1,24	1,30	1,40	1,50	1,60	1,65	1,82	2,00	2,11	2,20	2,30	2,35	2,41	2,64	2,77	2,80	3,00	3,20	3,25	3,50	3,60	3,85	3,91	4,00	
[mm]	[inch]	[inch]			0,048					0,065	0,072		0,083			0,093	0,095	0,104	0,109			0,126	0,128				0,154		
8,00																													
9,00																													
9,53	0,375																												
10,00																													
11,00																													
12,00																													
12,70	0,500																												
13,00																													
14,00																													
15,00																													
15,88	0,625																												
16,00																													
16,80																													
17,15	0,675																												
18,00																													
19,00																													
19,05	0,750																												
20,00																													
21,34	0,840																												
21,40																													
22,00																													
22,23	0,875																												
23,00																													
24,30																													
25,00																													
25,20																													
25,40	1,000																												
26,00																													
26,67	1,050																												
28,00																													
30,00																													
31,75	1,250																												
32,00																													
33,40	1,315																												
35,00																													
36,00																													
38,00																													
38,10	1,500																												

