

S31803/S32205 • 1.4462 • TPS-Techniduplex TD2205

A widely used duplex steel combining high strength and corrosion resistance in various organic acids, anorganic acids, aggressive coolingwaters and hydrous H₂S/NaCl mixtures. With a near equal mix of austenite and ferrite, they give yield strength 30% higher and tensile strengths marginally higher than comparable nitrogen-containing austenitics. High resistance to general corrosion and specifically to pitting and crevice corrosion. Their resistance to stress-corrosion cracking in neutral chlorides is superior to that of the austenites. In high chloride acidic or moderately sour environments where hydrogen or sulphide stress cracking is more likely, higher alloyed austenitics need also to be considered. Impact values are high and transition temperatures of base materials vary around - 50°C. However, the proportion and orientation of ferrite in welds and base materials may significantly affect toughness at subzero temperatures. Exposure to moderate and high temperatures and less rapid cooling may cause embrittlement.

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.		
1.4462	EN 10216-5	0,030	1,00	2,00	0,035	0,015	21,00 - 23,00	4,50 - 6,50	2,50 - 3,50	-	N 0,10 – 0,22
1.4462	VD-TÜV 418	0,030	1,00	2,00	0,030	0,015	21,00 - 23,00	4,50 - 6,50	2,50 - 3,50	-	N 0,10 – 0,22
S31803	ASME SA / AS TM A 789	0,030	1,00	2,00	0,030	0,020	21,00 - 23,00	4,50 - 6,50	2,50 - 3,50	-	N 0,08 – 0,20
S32205	ASME SA / AS TM A 789	0,030	1,00	2,00	0,030	0,020	22,00 - 23,00	4,50 - 6,50	2,50 - 3,50	-	N 0,14 – 0,20

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.	
1.4462	EN 10216-5	450	-	640 - 880	22	-	lösungsgeglüht
1.4462	VD-TÜV 418	450	-	640 - 880	22	-	lösungsgeglüht
S31803	ASME SA / AS TM A 789	450	-	620	25	30	lösungsgeglüht
S32205	ASME SA / AS TM A 789	485	-	655	25	30	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

	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	
AD		[inch]			0,048					0,065	0,072		0,083			0,093	0,095	0,104	0,109			0,126	0,128				0,154		
[mm]	[inch]																												
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		■	■	■	■	■	■																					

