

COMPOZIȚIA CHIMICĂ ȘI CARACTERISTICILE MECANICE ALE MATERIALELOR PENTRU FITINGURI-EURONORME

MARCA DE MATERIAL		COMPOZIȚIA CHIMICĂ														CARACTERISTICI MECANICE					
Simbolizare alfanumerică	Simbolizare numerică	C % max.	Si % max.	Mn % max.	P % max.	S % max.	Al % min.	Cr % max.	Cu % max.	Mo % max.	Nb % max.	Ni % max.	Ti % max.	V % max.	Cr+Cu+Mo+Ni % max.	Rm N/mm2	Rp 0.2 N/mm2 min.	A5 % min.	KV 0C J min.	KV -10C J min.	Rp 0.2cald N/mm2 min.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
SR EN 10216-1:2003																					
TEVI DE OTEL FARA SUDURA UTILIZATE LA PRESIUNE																					
TEVI DE OTEL NEALIAT, CU CARACTERISTICI PRECIZATE LA TEMPERATURA AMBIANTA																					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
P195TR1	1.0107	0.13	0.35	0.70	0.025	0.020		0.30	0.30	0.08	0.010	0.30	0.040	0.02	0.70	320-440	195	27			
P195TR2	1.0108	0.13	0.35	0.70	0.025	0.020	0.020	0.30	0.30	0.08	0.010	0.30	0.040	0.02	0.70	320-440	195	27	40	28	
P235TR1	1.0254	0.16	0.35	1.20	0.025	0.020		0.30	0.30	0.08	0.010	0.30	0.040	0.02	0.70	360-500	235	25			
P235TR2	1.0255	0.16	0.35	1.20	0.025	0.020	0.020	0.30	0.30	0.08	0.010	0.30	0.040	0.02	0.70	360-500	235	25	40	28	
P265TR1	1.0258	0.20	0.40	1.40	0.025	0.020		0.30	0.30	0.08	0.010	0.30	0.040	0.02	0.70	410-570	265	21			
P265TR2	1.0259	0.20	0.40	1.40	0.025	0.020	0.020	0.30	0.30	0.08	0.010	0.30	0.040	0.02	0.70	410-570	265	21	40	28	
SR EN 10216-2:2003																					
TEVI DE OTEL FARA SUDURA UTILIZATE LA PRESIUNE																					
TEVI DE OTEL NEALIAT SI ALIAT, CU CARACTERISTICI PRECIZATE LA TEMPERATURA RIDICATA																					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
P195GH	1.0348	0.13	0.35	0.70	0.025	0.020	0.020	0.30	0.30	0.08	0.010	0.30	0.040	0.02	0.70	320-440	195	27	40	28	400C - 94
P235GH	1.0345	0.16	0.35	1.20	0.025	0.020	0.020	0.30	0.30	0.08	0.010	0.30	0.040	0.02	0.70	360-500	235	25	40	28	450C - 108
P265GH	1.0425	0.20	0.40	1.40	0.025	0.020	0.020	0.30	0.30	0.08	0.010	0.30	0.040	0.02	0.70	410-570	265	23	40	28	450C - 128
16Mo3	1.5415	0.12-0.20	0.35	0.40-0.90	0.025	0.020	0.040 max	0.30	0.30	0.25-0.35		0.30				450-600	280	22	20C 40		500C - 146
10CrMo5-5	1.7338	0.15	0.50-1.00	0.30-0.60	0.025	0.020	0.040 max	1.00-1.50	0.30	0.45-0.65		0.30				410-560	275	22	20C 40		500C -143
13CrMo4-5	1.7335	0.10-0.17	0.35	0.40-0.70	0.025	0.020	0.040 max	0.70-1.15	0.30	0.40-0.60		0.30				440-590	290	22	20C 40		500C -166
10CrMo9-10	1.7380	0.08-0.14	0.50	0.30-0.70	0.025	0.020	0.040 max	2.00-2.50	0.30	0.90-1.10		0.30				480-630	280	22	20C 40		500C -180
11CrMo9-10	1.7383	0.08-0.15	0.50	0.40-0.80	0.025	0.020	0.040 max	2.00-2.50	0.30	0.90-1.10		0.30				540-680	355	20	20C 40		500C -239
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
20CrMoV13-5-5	1.7779	0.17-0.23	0.15-0.35	0.30-0.50	0.025	0.020	0.040 max	3.00-3.30	0.30	0.50-0.60		0.30		0.45-0.55		740-880	590	16	20C 40		500C -370
X10CrMoVNb9-1	1.4093	0.08-0.12	0.20-0.50	0.30-0.60	0.020		0.040 max	8.00-9.50	0.30	0.85-1.05	0.06-0.100	0.40		0.18-0.25		630-830	450	19	20C 40		600C -215
X20CrMoV11-1	1.4922	0.17-0.23	0.15-0.50	1.00	0.025	0.020	0.040 max	10.00-12.50	0.30	0.80-1.20		0.30-0.80		0.25-0.35		690-840	490	17	20C 40		550C -250

SR EN 10216-3:2003

TEVI DE OTEL FARA SUDURA UTILIZATE LA PRESIUNE

TEVI DE OTEL ALIAT, CU GRANULATIE FINA

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
							Al / N max								Nb+Ti+ V max				KV - min.	KV +20C min.	
P275NL1	1.0488	0.16	0.40	0.50- 1.50	0.025	0.020	0.020	0.30	0.30	0.08	0.050	0.50	0.040	0.05	0.05	390-530	275	24	40 KV-40C	70	
P275NL2	1.1104	0.16	0.50	0.50 1.50	0.025	0.015	0.020		0.30		0.050		0.040	0.05	0.05	390-530	275	24	40 KV-50C	100	
P355N	1.0562	0.20	0.50	0.90- 1.70	0.025	0.020	0.020	0.30	0.30	0.08	0.050	0.50	0.040	0.10	0.12	490-650	355	22	40 KV-20C	55	
P355NH	1.0565	0.20	0.50	0.90- 1.70	0.025	0.020	0.020	0.30	0.30	0.08	0.050	0.50	0.040	0.10	0.12	490-650	355	22	40 KV-20C	55	400C - 167
P355NL1	1.1106	0.18	0.50	0.90- 1.70	0.025	0.020	0.020	0.30	0.30	0.08	0.050	0.50	0.040	0.10	0.12	490-650	355	22	40 KV-40C	70	
P355NL2	1.0566	0.18	0.60	0.90- 1.70	0.025	0.015	0.020	0.30	0.30	0.08	0.050	0.50	0.040	0.10	0.12	490-650	355	22	40 KV-50C	100	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
P460NL1	1.8915	0.20	0.60	1.00- 1.70	0.025	0.020	0.020	0.30	0.70	0.10	0.050	0.80	0.040	0.20	0.22	560-730	460	19	40 KV-40C	70	
P460NL2	1.8918	0.20	0.60	1.00- 1.70	0.025	0.015	0.020	0.30	0.70	0.10	0.050	0.80	0.040	0.20	0.22	560-730	460	19	40 KV-40C	90	

NF EN 10216-4:2002

TEVI DE OTEL FARA SUDURA UTILIZATE LA PRESIUNE

TEVI DE OTEL NEALIAT SI ALIAT, CU CARACTERISTICI SPECIFICATE LA TEMPERATURA SCAZUTA

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
P265NL	1.0453	0.20	0.40	0.60- 1.40	0.025	0.020	0.020	0.30	0.30	0.08	0.100	0.30	0.040	0.02		410-570	265	24	40 KV-40C	50	
26CrMo4-2	1.7219	0.22- 0.29	0.35	0.50- 0.80	0.025	0.020		0.9- 1.20	0.30	0.15- 0.30						560-740	440	18	40 KV-60C	60	
12Ni14	1.5637	0.15	0.15- 0.35	0.30- 0.80	0.025	0.010			0.30			3.25- 3.75		0.05		440-620	345	22	40 KV-100C	65	
X12Ni5	1.5680	0.15	0.35	0.30- 0.80	0.020	0.010			0.30			4.50- 5.30		0.05		510-710	390	21	40 KV-120C	70	
X10Ni9	1.5682	0.13	0.15- 0.35	0.30- 0.80	0.020	0.010			0.30			8.50- 9.50		0.05		690-840	510	20	40 KV-196C	70	

**DIN EN 10216-5:2004 TEVI DE OTEL FARA SUDURA UTILIZATE LA PRESIUNE
TEVI DE OTEL INOXIDABIL**

OTELURI AUSTENITICE REZISTENTE LA COROZIUNE

1	2	3	4	5	6	7	N max	9	10	11	12	13	14	15	16	17	18	19	KV+20C	KV-196C	22
X2CrNi19-11	1.4306	0.03	1.00	2.00	0.040	0.015	0.110	18.00- 20.00				10.0- 12.00				460-680	180	40	100	60	
X5CrNi18-10	1.4301	0.07	1.00	2.00	0.040	0.015	0.110	17.00- 19.50				8.0- 10.50				500-700	195	40	100	60	
X6CrNiTi18-10 kalt	1.4541	0.08	1.00	2.00	0.040	0.015		17.00- 19.00				9.0- 12.00	5xC - 0.700			500-730	200	35	100	60	
X6CrNiTi18-10 warm	1.4541															460-680	180	35	100	60	
X6CrNiNb18-10	1.4550	0.08	1.00	2.00	0.040	0.015		17.00- 19.00			10xC - 1.000	9.0- 12.00				510-740	205	35	100	60	
X2CrNiMo17-12-2	1.4404	0.03	1.00	2.00	0.040	0.015	0.110	16.50- 18.50		2.00- 2.50		10.0- 13.00				490-690	190	40	100	60	
X5CrNiMo17-12-2	1.4401	0.07	1.00	2.00	0.040	0.015	0.110	16.50- 18.50		2.00- 2.50		10.0- 13.00				510-710	205	40	100	60	
X6CrNiMoTi17-12-2 kalt	1.4571	0.08	1.00	2.00	0.040	0.015		16.50- 18.50		2.00- 2.50		10.5- 13.50	5xC - 0.700			500-730	210	35	100		
X6CrNiMoTi17-12-2 warm	1.4571															490-690	190	35	100	60	
X6CrNiMoNb17-12-2	1.4580	0.08	1.00	2.00	0.040	0.015		16.50- 18.50		2.00- 2.50	10xC - 1.000	10.5- 13.50				510-740	215	35	100		
X2CrNiMo18-14-3	1.4435	0.03	1.00	2.00	0.040	0.015	0.110	17.00- 19.00		2.50- 3.00		12.5- 15.00				490-690	190	40	100	60	