

Diversos



CHAGAS



SEDE:

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APARTADO 92

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Lista de Correspondência com as anteriores
Designações Nacionais

DESIGNAÇÃO		DESIGNAÇÕES ANTERIORES				
NOVA EN 10025*	EXISTENTE EN 10025 JANEIRO 91	ALEMANHA		PORTUGAL	REINO UNIDO BS 4360	ESPANHA UNE 36,080
		NÚMERO MATERIAL	DESIG. EM DIN 17100			
S185	Fe 310-0	1,0035	St033	Fe 310,0		A 310-0
S235JR	Fe 360 B	1,0037	St 37-2	Fe 360-B		
S235JRG1	Fe 360 BFU	1,0036	Ust 37-2			AE 235 B-FU
S235JRG2	Fe 360 BFN	1,0038	RSt 37-2		40 B	AE 235 B-FN
S235J0	Fe 360 C	1,0114	St 37-3 U	Fe 360-C	40 C	AE 235 C
S235J2G3	Fe 360 D1	1,0116	St 37-3 N	Fe 360-D	40 D	AE 235 D
S235J2G4	Fe 360 D2	1,0117				
S275JR	Fe 430 B	1,0044	St 44-2	Fe 430-B	43 B	AE 275 B
S275J0	Fe 430 C	1,0143	St 44-3 U	Fe 430-C	43 C	AE 275 C
S275J2G3	Fe 430 D1	1,0144	St 44-3 N	Fe 430-D	43 D	AE 275 D
S275J2G4	Fe 430 D2	1,0145				
S355JR	Fe 510 B	1,0045		Fe 510-B	50 B	AE 355 B
S355J0	Fe 510 C	1,0553	St 52-3 U	Fe 510-C	50 C	AE 355 C
S355J2G3	Fe 510 D1	1,0570	St 52-3	Fe 510-D	50 C	AE 355 D
S355J2G4	Fe 510 D2	1,0577				
S355K2G3	Fe 510 DD1	1,0595		Fe 510-DD	50 DD	
S355K2G4	Fe 510 DD2	1,0596				
E295	Fe 490-2	1,0050	St 50-2	Fe 490-2		A 490
E335	Fe 590-2	10,060	St 60-2	Fe 590-2		A 590
E360	Fe 690-2	10,070	St 70-2	Fe 690-2		A 690

Comparação Internacional de Normas Aço de Construção

CHAGAS

Lista de Correspondência com as anteriores
Designações Nacionais

CORRESPONDENTE EM:						
ITÁLIA	BÉLGICA	SUÉCIA	FRANÇA	AUSTRIA	NORUEGA	HOLANDA
UNI 7070-82	7	SS...	NF A35-501	M3118	NS...	EU 25-72
Fe 320	A 320	13 00-00	A 33	St 320		Fe 310
Fe 360 B	AE 235-B	13 11-00	E 24-2		NS 12 120	Fe 360 A
				Ust 360 B	NS 12 122	Fe 360 BFU
		13 12-00		Ust 360 B	NS 12 123	Fe 360 BFN
Fe 360 C	AE 235-C		E 24-2	St 360 C	NS 12 124	Fe 360 CFN
				St 360 CE		
Fe 360 C	AE 235-D		E 24-4	St 360 D	NS 12 124	Fe 360 DFN
Fe 430 B	AE 255-B	14 12-00	E 28-2	St 430 B	NS 12 142	Fe 430 B
Fe 430 C	AE 255-C		E 28-3	St 430 C	NS 12 143	Fe 430 C
				St 430 CE		
Fe 430 D	AE 255-D	14 14-00	E 28-4	St 430 D	NS 12 143	Fe 430 D
		14 14-01				
Fe 510 B	AE 355-B		E 36-2		F	e 510 B
Fe 510 C	AE 355-C		E 36-3	St 510 C	NS 12 153	Fe 510 C
Fe 510 D	AE 355-D		S	t 510 D	NS 12 153	Fe 510 D
	AE 355-DD		E 36-4		F	e 510 DD
Fe 480	A 490-2	15 50-00	A 50-2	St 490		Fe 490-2
		15 50-01				
Fe 580	A 590-2	16 50-00	A 60-2	St 590		Fe 590-2
		16 50-01				
Fe 650	A 690-2	16 55-00	A 70-2	St 690		Fe 690-2

Designação		Tipo de Desoxidação	Sub-grupo (2)	Tensão de Cedência		
Segundo EN 10027-1 e ECISS IC 10	Segundo EN 10027-2			≤ 16	> 16 ≤ 40	> 40 ≤ 63
S 185 (3)	1,0035	À Escolha	BS	185	175	—
S235 JR (3)	1,0037	À Escolha	BS	235	225	—
S235 JRG1 (3)	1,0036	FU	BS			—
S235 JRG2	1,0038	FN	BS			215
S235 JO	1,0114	FN	QS			215
S235 J2G3	1,0116	FF	QS			215
S235 J2G4	1,0117	FF	QS			215
S275 JR	1,0044	FN	BS	275	265	255
S275 JO	1,0143	FN	QS			
S275 J2G3	1,0144	FF	QS			
S275 J2G4	1,0145	FF	QS			
S355 JR	1,0045	FN	BS	355	345	335
S355 JO	1,0553	FN	QS			
S355 J2G3	1,0570	FF	QS			
S355 J2G4	1,0577	FF	QS			
S355 K2G3	1,0595	FF	QS			
S355 K2G4	1,0596	FF	QS			
E295 (4)	1,0050	FN	BS	295	285	275
E335 (4)	1,0060	FN	BS	335	325	315
E360 (4)	1,0070	FN	BS	360	355	345

- (1) - Os Valores indicados nos quadros aplicam-se aos provetes longitudinais para o ensaio de tracção. Para as chapas, bandas e bandas largas de largura maior ou igual a 600 mm utilizam-se provetes transversais (t)
- (2) - BS = aços de base; QS = aço de qualidade.
- (3) - Apenas disponível em espessuras nominais menores ou iguais a 25 mm
- (4) - Estes aços não são geralmente utilizados em perfis U, cantoneiras e perfis.

Características Mecânicas para Produtos Longos e Produtos Planos

CHAGAS

NP - EN 10 025 + A1

Superior ReH em N/ mm ² (1)					Tensão de Ruptura à Tracção Rm em N/ mm ² (1)			
> 63 ≤ 80	> 80 ≤ 100	> 100 ≤ 150	> 150 ≤ 200	> 200 ≤ 250	Espessura Nominal em mm			
					< 3	3 ≤ 100	> 100 ≤ 150	> 150 ≤ 250
—	—	—	—	—	310-540	290-510	—	—
—	—	—	—	—	360-510	340-470	—	—
—	—	—	—	—	360-510	340-470	—	—
215	215	195	185	175	360-510	340-470	340-470	320-470
215	215	195	185	175	360-510	340-470	340-470	320-470
215	215	195	185	175	360-510	340-470	340-470	320-470
215	215	195	185	175	360-510	340-470	340-470	320-470
245	235	225	215	205	430-580	410-560	400-540	380-540
325	215	295	285	275	510-680	490-630	470-630	450-630
265	255	245	235	225	490-660	470-610	450-610	440-610
305	295	275	265	255	590-770	570-710	550-710	640-710
335	325	305	295	285	690-900	670-830	650-830	640-830

NP - EN 10 025 + A1 (Cont.)

Designação		Tipo de Desoxidação	Sub-grupo (2)	Orientação do Provette (1)
Segundo EN 10027-1 e ECISS IC 10	Segundo EN 10027-2			
S185 (3)	1,0035	À Escolha	BS	
				t
S235 JR (3)	1,0037	À Escolha	BS	
S235 JRG1 (3)	1,0036	FU	BS	
S235 JRG2	1,0038	FN	BS	
S235 JO	1,0114	FN	QS	
S235 J2G3	1,0116	FF	QS	
S235 J2G4	1,0117	FF	QS	t
S275 JR	1,0044	FN	BS	
S275 JO	1,0143	FN	QS	
S275 J2G3	1,0144	FF	QS	
S275 J2G4	1,0145	FF	QS	t
S355 JR	1,0045	FN	BS	
S355 JO	1,0553	FN	QS	
S355 J2G3	1,0570	FF	QS	
S355 J2G4	1,0577	FF	QS	
S355 K2G3	1,0595	FF	QS	t
S355 K2G4	1,0596	FF	QS	
E 295 (4)	1,0050	FN	BS	
				t
E 335 (4)	1,0060	FN	BS	
				t
E 360 (4)	1,0070	FN	BS	
				t

- (1) - Os Valores indicados nos quadros aplicam-se aos provetes longitudinais para o ensaio de tracção. Para as chapas, bandas e bandas largas de largura maior ou igual a 600 mm utilizam-se provetes transversais (t)
- (2) - BS = aços de base; QS = aço de qualidade.
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Características Mecânicas para Produtos Longos e Produtos Planos

CHAGAS

NP - EN 10 025 + A1 (Cont.)

Alongamento Mínimo em % (1)									
Lo = 80 mm Espessura Nominal em mm					Lo = 5,65/So Espessura Nominal em mm				
≤ 1	> 1 ≤ 1,5	> 1,5 ≤ 2	> 2 ≤ 2,5	> 2,5 ≤ 3	> 3 ≤ 40	> 40 ≤ 63	> 63 ≤ 100	> 100 ≤ 150	> 150 ≤ 250
10	11	12	13	14	18	—	—	—	—
8	9	10	11	12	16	—	—	—	—
17	18	19	20	21	26	25	24	22	21
15	16	17	18	19	24	23	22	22	21
14	15	16	17	18	22	21	20	18	17
12	13	14	15	16	20	19	18	18	17
14	15	16	17	18	22	21	20	18	17
12	13	14	15	16	20	19	18	18	17
12	13	14	15	16	20	19	18	16	15
10	11	12	13	14	18	17	16	15	14
8	9	10	11	12	16	15	14	12	11
6	7	8	9	10	14	13	12	11	10
4	5	6	7	8	11	10	9	7	7
3	4	5	6	7	10	9	8	8	6

Polegadas	0	1	2	3	4	5
	M I L Í M E T R O S					
0	-	25,400	50,800	76,200	101,600	127,000
1/64	0,397	25,797	51,197	76,597	101,997	127,397
1/32	0,794	26,194	51,594	76,994	102,394	127,794
3/64	1,191	26,591	51,991	77,391	102,791	128,191
1/16	1,588	26,988	52,388	77,788	103,188	128,588
5/64	1,984	27,384	52,784	78,184	103,584	128,984
3/32	2,381	27,781	53,181	78,581	103,981	129,381
7/64	2,778	28,178	53,578	78,978	104,378	129,778
1/8	3,175	28,575	53,975	79,375	104,775	130,175
9/64	3,572	28,972	54,372	79,772	105,172	130,572
5/32	3,969	29,369	54,769	80,169	105,569	130,969
11/64	4,366	29,766	55,166	80,566	105,966	131,366
3/16	4,762	30,162	55,562	80,962	106,362	131,762
13/64	5,159	30,559	55,959	81,359	106,759	132,159
7/32	5,556	30,956	56,356	81,756	107,156	132,556
15/64	5,953	31,353	56,753	82,153	107,553	132,953
1/4	6,350	31,750	57,150	82,550	107,950	133,350
17/64	6,747	32,147	57,547	82,947	108,347	133,747
9/32	7,144	32,544	57,944	83,344	108,744	134,144
19/64	7,541	32,941	58,341	83,741	109,141	134,541
5/16	7,938	33,338	58,738	84,138	109,538	134,938
21/64	8,334	33,734	59,134	84,534	109,934	135,334
11/32	8,731	34,131	59,531	84,931	110,331	135,731
23/64	9,128	34,528	59,928	85,328	110,728	136,128
3/8	9,525	34,925	60,325	85,725	111,125	136,525
25/64	9,922	35,322	60,722	86,122	111,522	136,922
13/32	10,319	35,719	61,119	86,519	111,919	137,319
27/64	10,716	36,116	61,516	86,916	112,316	137,716
7/16	11,112	36,512	61,912	87,312	112,712	138,112
29/64	11,509	36,909	62,309	87,709	113,109	138,509
15/32	11,906	37,306	62,706	88,106	113,506	138,906
31/64	12,303	37,703	63,103	88,503	113,903	139,303

Conversão de Polegadas em Milímetros

CHAGAS

6	7	8	9	10	11
M I L Í M E T R O S					
152,400	177,800	203,200	228,600	254,000	279,400
152,797	178,197	203,597	228,997	254,397	279,797
153,194	178,594	203,994	229,394	254,794	280,194
153,591	178,991	204,391	229,791	255,191	280,591
153,988	179,388	204,788	230,188	255,588	280,988
154,384	179,784	205,184	230,584	255,984	281,384
154,781	180,181	205,581	230,981	256,381	281,781
155,178	180,578	205,978	231,378	256,778	282,178
155,575	180,975	206,375	231,775	257,175	282,575
155,972	181,372	206,772	232,172	257,572	282,972
156,369	181,769	207,169	232,569	257,969	283,369
156,766	182,166	207,566	232,966	258,366	283,766
157,162	182,562	207,962	233,362	258,762	284,162
157,559	182,959	208,359	233,759	259,159	284,559
157,956	183,356	208,756	234,156	259,556	284,956
158,353	183,753	209,153	234,553	259,953	285,353
158,750	184,150	209,550	234,950	260,350	285,750
159,147	184,547	209,947	235,347	260,747	286,147
159,544	184,944	210,344	235,744	261,144	286,544
159,941	185,341	210,741	236,141	261,541	286,941
160,338	185,738	211,138	236,538	261,938	287,338
160,734	186,134	211,534	236,934	262,334	287,734
161,131	186,531	211,931	237,331	262,731	288,131
161,528	186,928	212,328	237,728	263,128	288,528
161,925	187,325	212,725	238,125	263,525	288,925
162,322	187,722	213,122	238,522	263,922	289,322
162,719	188,119	213,519	238,919	264,319	289,719
163,116	188,516	213,916	239,316	264,716	290,116
163,512	188,912	214,312	239,712	265,112	290,512
163,909	189,309	214,709	240,109	265,509	290,909
164,306	189,706	215,106	240,506	265,906	291,306
164,703	190,103	215,503	240,903	266,303	291,703

Polegadas	0	1	2	3	4	5
	M I L Í M E T R O S					
1/2	12,700	38,100	63,500	88,900	114,300	139,700
33/64	13,097	38,497	63,897	89,297	114,697	140,097
17/32	13,494	38,894	64,294	89,694	115,094	140,494
35/64	13,891	39,291	64,691	90,091	115,491	140,891
9/16	14,288	39,688	65,088	90,488	115,888	141,288
37/64	14,684	40,084	65,484	90,884	116,284	141,684
19/32	15,081	40,481	65,881	91,281	116,681	142,081
39/64	15,478	40,878	66,278	91,678	117,078	142,478
5/8	15,875	41,275	66,675	92,075	117,475	142,875
41/64	16,272	41,672	67,072	92,472	117,872	143,272
21/32	16,669	42,069	67,469	92,869	118,269	143,669
43/64	17,066	42,466	67,866	93,266	118,666	144,066
11/16	17,462	42,862	68,262	93,662	119,062	144,462
45/64	17,859	43,259	68,659	94,059	119,459	144,859
23/32	18,256	43,656	69,056	94,456	119,856	145,256
47/64	18,653	44,053	69,453	94,853	120,253	145,653
3/4	19,050	44,450	69,850	95,250	120,650	146,050
49/64	19,447	44,847	70,247	95,647	121,047	146,447
25/32	19,844	45,244	70,644	96,044	121,444	146,844
51/64	20,241	45,641	71,041	96,441	121,841	147,241
13/16	20,638	46,038	71,438	96,838	122,238	147,638
53/64	21,034	46,434	71,834	97,234	122,634	148,034
27/32	21,431	46,831	72,231	97,631	123,031	148,431
55/64	21,828	47,228	72,628	98,028	123,428	148,828
7/8	22,225	47,625	73,025	98,425	123,825	149,225
57/64	22,622	48,022	73,422	98,822	124,222	149,622
29/32	23,019	48,419	73,819	99,219	124,619	150,019
59/64	23,416	48,816	74,216	99,616	125,016	150,416
15/16	23,812	49,212	74,612	100,012	125,412	150,812
61/64	24,209	49,609	75,009	100,409	125,809	151,209
31/32	24,606	50,006	75,406	100,806	126,206	151,606
63/64	25,003	50,403	75,803	101,203	126,603	152,003

Conversão de Polegadas em Milímetros



6	7	8	9	10	11
M I L Í M E T R O S					
165,100	190,500	215,900	241,300	266,700	292,100
165,497	190,897	216,297	241,697	267,097	292,497
165,894	191,294	216,694	242,094	267,494	292,894
166,291	191,691	217,091	242,491	267,891	293,291
166,688	192,088	217,488	242,888	268,288	293,688
167,084	192,484	217,884	243,284	268,684	294,084
167,481	192,881	218,281	243,681	269,081	294,481
167,878	193,278	218,678	244,078	269,478	294,878
168,275	193,675	219,075	244,475	269,875	295,275
168,672	194,072	219,472	244,872	270,272	295,672
169,069	194,469	219,869	245,269	270,669	296,069
169,466	194,866	220,266	245,666	271,066	296,466
169,862	195,262	220,662	246,062	271,462	296,862
170,259	195,659	221,059	246,459	271,859	297,259
170,656	196,056	221,456	246,856	272,256	297,656
171,053	196,453	221,853	247,253	272,653	298,053
171,450	196,850	222,250	247,650	273,050	298,450
171,847	197,247	222,647	248,047	273,447	298,847
172,244	197,644	223,044	248,444	273,844	299,244
172,641	198,041	223,441	248,841	274,241	299,641
173,038	198,438	223,838	249,238	274,638	300,038
173,434	198,834	224,234	249,634	275,034	300,434
173,831	199,231	224,631	250,031	275,431	300,831
174,228	199,628	225,028	250,428	275,828	301,228
174,625	200,025	225,425	250,825	276,225	301,625
175,022	200,422	225,822	251,222	276,622	302,022
175,419	200,819	226,219	251,619	277,019	302,419
175,816	201,216	226,616	252,016	277,416	302,816
176,212	201,612	227,012	252,412	277,812	303,212
176,609	202,009	227,409	252,809	278,209	303,609
177,006	202,406	227,806	253,206	278,606	304,006
177,403	202,803	228,203	253,603	279,003	304,403
12 = 304,800 mm					

