

Our sales network

With 40 sales offices in 40 different countries around the world, Industeel stands as one of the foremost international steel makers, with an unmatched capacity of support everywhere around the world.



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transforming
tomorrow

All information in this brochure is for the purpose of information only.
Industeel reserves the right to change its product range at any time without prior notice.

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Industeel



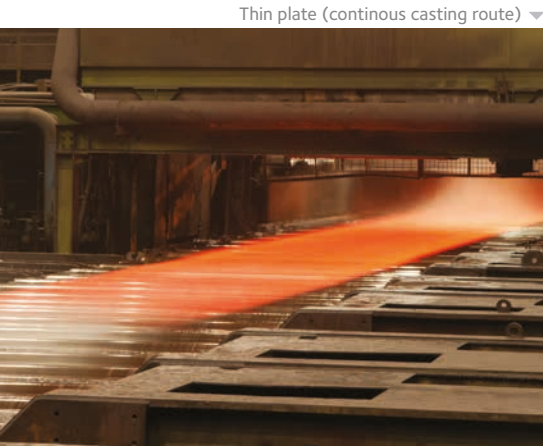
Special carbon and low alloy
steel plate solutions for pressure
equipment, pipes and storage tanks



Tailor-made solutions

Your partner for your projects with stringent technical requirements

- More than 150 years of experience of melting, casting, rolling and finishing special steel plates
- Technical support for material selection and fabrication
- The largest size range of plate products
- Prefabrication: forming, bevelling, bending, painting, cutting
- R&D fully dedicated to development and optimisation of Industeel products for your business
- Certified to all major certification and quality systems



Thin plate (continous casting route)

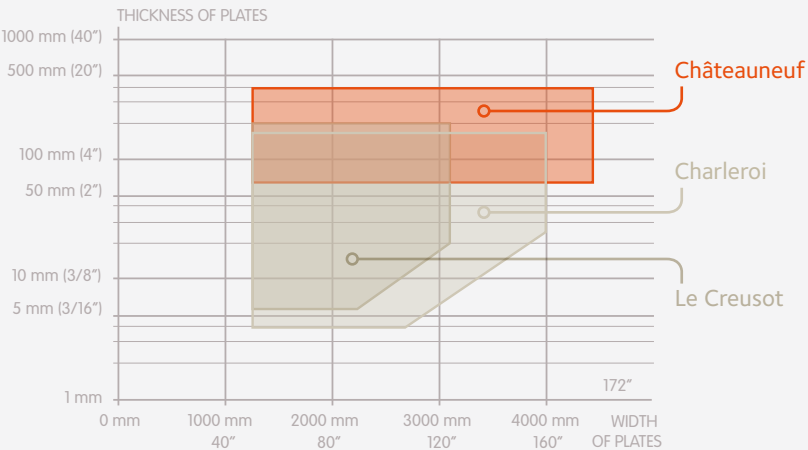


Technical assistance on welding



Heavy plate (ingot route)

Largest dimensional range worldwide for steels for pressure vessel fabrication



SPECIAL CARBON and LOW ALLOY STEEL PLATE SOLUTIONS for pressure equipment, pipes and storage tanks

Examples of APPLICATIONS

	INDUSTEEL TRADEMARKS	PLATES ASTM (OR ASME SA)	UNS NUMBER	PLATES EN 10028 SERIES	MATERIAL NUMBER	FORGINGS ASTM (OR ASME SA)	OTHER	CHEMICAL ANALYSIS (WEIGHT %) (a) VALUES ARE MAXIMUM UNLESS A MINIMUM OR A RANGE IS INDICATED														YIELD STRENGTH (MIN) (a) MPa [ksi]	ULTIMATE TENSILE STRENGTH (a) MPa [ksi]	ADDITIONAL TRADEMARK FEATURES (a)				DELIVERY PROGRAM (b)					OIL & GAS				POWER GENERATION			STORAGE AND TRANSPORTATION		
								C	Mn	P	S	Si	Cr	Mo	Ni	V	Other	Carbon Equivalent (c)	J-factor X-bar (d)	Charpy-V temperature	Other			Max Unit Weight tonnes	Thickness mm [in.]	Max Width mm [in.]	Max Length mm [in.]	Heat treatment	Offshore and onshore production	Refining and Petrochemicals	Gas processing	Thermal	Nuclear	Renewables	Tanks	Pipes and Fittings	Pipes and Fittings grades suitability					
STEELS FOR HIGH TEMPERATURE SERVICE	CromElso™ 11	A387 Grade 11 Class 2	K11789	13CrMoSi5-5	1.7336	A336 Grade F11 Class 3		0.15	0.45 - 0.60	0.007	0.004	0.50 - 0.80	1.0 - 1.5	0.45 - 0.60	0.25	0.01		310 [45]	515 - 690 [75 - 100]		J < 130 X ≤ 15	-18°C [0°F]	API 934 C UTS min 90% of ASME II-D Table U	60	6 - 200 [¼ - 8]	4350 [170]	18000 [710]	NT QT		**		*				*	A/SA 691 Grade 1 ¼ CR A/SA 234 WP11 CL3, 2 & 1					
	CromElso™ 22	A387 Grade 22 Class 2	K21590	10CrMo9-10	1.7380	A336 Grade F22 Class 3		0.15	0.30 - 0.60	0.007	0.004	0.25	2.0 - 2.50	0.90 - 1.10	0.30	0.01		310 [45]	515 - 690 [75 - 100]		J < 100 X ≤ 15	-29°C [-20°F]	API 934 A	60	6 - 250 [¼ - 10]	4350 [170]	18000 [710]	QT		**		*			*	A/SA 691 Grade 2 ¼ CR A/SA 234 WP22 CL3 & 1						
	CromElso™ 22 Enhanced	A542 Type B Class 4	K21590	12CrMo9-10	1.7375	A508 Grade 22 Class 4		0.15	0.60	0.007	0.004	0.25	2.0 - 2.50	0.90 - 1.10	0.25	0.01		415 [60]	585 - 760 [85 - 110]		J < 100 X ≤ 15	-29°C [-20°F]		60	6 - 250 [¼ - 10]	4350 [170]	18000 [710]	QT	*	**	**											
	CromElso™ 22V	A542 Type D Class 4a	K31835	13CrMoV9-10	1.7703	A336 Grade F22V		0.15	0.60	0.007	0.004	0.10	2.0 - 2.50	0.90 - 1.10	0.25	0.25 - 0.35	Nb: 0.07 B: 0.002	415 [60]	585 - 760 [85 - 110]		J < 80 X ≤ 12	-29°C [-20°F]	API 934 A PWHT 705°C [1300°F] up to 40 hours	60	6 - 250 [¼ - 10]	4350 [170]	18000 [710]	QT		***												
	CromElso™ 5	A387 Grade 5 Class 2	S50200	X12CrMo5	1.7362	A336 Grade F5		0.08 - 0.12	0.30 - 0.50	0.020	0.004	0.50	4.5 - 5.5	0.45 - 0.65	0.30	0.01		310 [45]	515 - 690 [75 - 100]			-29°C [-20°F]		15	6 - 105 [¼ - 4]	4000 [160]	16000 [630]	NT		**					**	A/SA 691 Grade 5CR A/SA 234 WP5 CL3 & 1						
	CromElso™ 9	A387 Grade 9 Class 2	K90941			A336 Grade F9		0.08 - 0.12	0.30 - 0.50	0.020	0.004	0.50	8.5 - 9.5	0.90 - 1.10	0.30	0.04		310 [45]	515 - 690 [75 - 100]			-29°C [-20°F]		15	6 - 105 [¼ - 4]	4000 [160]	16000 [630]	NT		**					**	A/SA 691 Grade 9CR A/SA 234 WP9 CL3 & 1						
	CromElso™ 91	A387 Grade 91 Class 2	K90901	X10CrMoVNb9-1	1.4903	A336 Grade F91	VdTÜV 511/2	0.08 - 0.12	0.30 - 0.50	0.015	0.004	0.50	8.5 - 9.5	0.85 - 1.05	0.20	0.18 - 0.25	Nb: 0.06 - 0.10	415 [60]	585 - 760 [85 - 110]			-20°C [-4°F]	N/Al ≥ 3.0 creep resistant	60	6 - 200 [¼ - 8]	4350 [170]	18000 [710]	NT QT		*		***	*	*	***	A/SA 691 Grade 91 A/SA 234 WP91						
	CromElso™ 92	A1017 Grade 92 ASME Code Case 2179	K92460	steel 10CrWMoVNb9-2	steel 1.4901	steel Grade F92	VdTÜV 552/3	0.08 - 0.12	0.30 - 0.50	0.020	0.004	0.50	8.5 - 9.5	0.30 - 0.60	0.30	0.15 - 0.25	Nb: 0.06 - 0.10 W: 1.50 - 2.00 B: 0.001 - 0.006	440 [64]	620 - 840 [90 - 120]			-20°C [-4°F]	N/Al ≥ 3.0 creep resistant	60	6 - 200 [¼ - 8]	4350 [170]	18000 [710]	NT QT				***	**		***	Steel grade 92 WP92						
	-			15NiMoCuNb5-6-4	1.6368		VdTÜV 377/1	0.15	1.0	0.020	0.006	0.25 - 0.50	0.30	0.25 - 0.50	1.0 - 1.30		Nb: 0.015 - 0.045 Cu: 0.50 - 0.80	430 [62]	610 - 780 [88 - 113]			-20°C [-4°F]		15	6 - 200 [¼ - 8]	4350 [170]	18000 [710]	NT (QT)				**										
	-	A302 Grade B	K12022					0.25	1.15 - 1.50	0.020	0.010	0.15 - 0.40	0.30	0.45 - 0.60	0.40	0.02		345 [50]	550 - 690 [80 - 100]			0°C [32°F]		60	6 - 200 [¼ - 8]	4350 [170]	18000 [710]	N(T)				**			*	A/SA 672 Grade H 80 A/SA 234 WP1						
-	A533 Type B Class 2	K12539			A508 Grade 3 Class 2		0.20	1.60	0.010	0.005	0.15 - 0.40	0.30	0.50	0.40 - 0.70	0.02		500 [72]	600 - 720 [87 - 104]			-29°C [-20°F]		60	6 - 200 [¼ - 8]	4350 [170]	18000 [710]	QT				*	*										
-	A299 Grade A & Grade B	K02803					0.28	0.90 - 1.50	0.025	0.010	0.15 - 0.40	0.30	0.12	0.40	0.01		Grade A 275 [40] Grade B 310 [45]	515 - 655 [75 - 95] 550 - 690 [80 - 100]			0°C [32°F]		60	6 - 210 [¼ - 8]	4350 [170]	18000 [710]	N(T)		*		*			*	A/SA 671 Grade CK 75 A/SA 672 Grade N 75 A/SA 691 Grade CMS-75							
STEELS FOR MODERATE TEMPERATURE SERVICE	CarElso™ 60	A516 Grade 60	K02100	P275 NH/NL1/NL2	1.0487 1.0488 1.1104			0.20	0.85 - 1.20	0.010	0.006	0.15 - 0.40	0.30	0.12	0.40	0.03		220 [32]	415 - 550 [60 - 80]	≤0.39 (e)		-46°C [-50°F]	SSC resistant (f)	60	6 - 400 [¼ - 16]	4350 [170]	19000 [745]	N		*					*	A/SA 671 Grade CC 60 A/SA 672 Grade C 60 A/SA 234 WPB & A 860 WPHY 60						
	CarElso™ 65	A516 Grade 65	K02403	P275 NH/NL1/NL2	1.0487 1.0488 1.1104			0.20	0.85 - 1.20	0.010	0.006	0.15 - 0.40	0.30	0.12	0.40	0.03		240 [35]	450 - 585 [65 - 85]	≤0.41 (e)		-46°C [-50°F]	SSC resistant (f)	60	6 - 400 [¼ - 16]	4350 [170]	19000 [745]	N		*				*	A/SA 671 Grade CC 65 A/SA 672 Grade C 65 A 860 WPHY 65							
	CarElso™ 70	A516 Grade 70	K02700	P355 N/NH/NL1/NL2	1.0562 1.0565 1.0566 1.1106	A266 Grade 2 & Grade 4 A765 Grade II		0.20	0.85 - 1.20	0.010	0.006	0.15 - 0.40	0.30	0.12	0.40	0.03		260 [38]	485 - 620 [70 - 90]	≤0.43 (e)		-46°C [-50°F]	SSC resistant (f)	60	6 - 400 [¼ - 16]	4350 [170]	19000 [745]	N		*				*	A/SA 671 Grade CC 70 A/SA 672 Grade C 70 A/SA 234 WPC & A 860 WPHY 70							
	SuperElso® 500			P500 Q/QH/QL1	1.8873 1.8874 1.8875			0.13	1.60	0.010	0.005	0.15 - 0.40	0.30	0.50	1.0	0.20		500 [72]	600 - 720 [87 - 104]			-50°C [-58°F]		60	6 - 200 [¼ - 8]	4350 [170]	18000 [710]	QT	*			*		*	*	A/SA 672 Grade J 90						
	-			P460NH/NL1	1.8935 1.8915		VdTÜV 523	0.20	1.10 - 1.70	0.020	0.005	0.60	0.30	0.10	0.80	0.20		460 [67]	630 - 725 [91 - 105]			-40°C [-40°F]		60	6 - 400 [¼ - 16]	4350 [170]	19000 [745]	N						**								
	-	A738 Grade B	K12007	P460Q/QH/QL1/QL2	1.8870 1.8871 1.8872 1.8864	A508 Grade 3 Class 1		0.20	0.90 - 1.60	0.015	0.005	0.15 - 0.55	0.25	0.20	0.60	0.07	Nb: 0.04 V+Nb: 0.08	415 [60]	585 - 705 [85 - 102]			-29°C [-20°F]		60	6 - 400 [¼ - 16]	4350 [170]	18000 [710]	QT				**		*								
	-	A533 Type B Class 1	K12539	20MnMoNi 4-5	1.6311		RCC-M 18MND5 RCC-M 16MND5	0.23	1.15 - 1.50	0.020	0.010	0.15 - 0.40	0.30	0.45 - 0.60	0.40 - 0.70	0.02		460 [67]	590 - 690 [85 - 100]			-20°C [-4°F]		60	6 - 200 [¼ - 8]	4350 [170]	18000 [710]	QT				***										
	-	A533 Type C Class 2	K12539			A508 Grade 3 Class 2		0.20	1.15 - 1.50	0.010	0.005	0.15 - 0.40	≤0.30	0.45 - 0.60	0.70 - 1.00	0.02		485 [70]	620 - 795 [9																							