ZERON 100 is a 25% chromium super duplex stainless steel. Duplex stainless steels are a family of stainless steels with dual phase structure. Roughly 50 percent of the structure is ferrite (like 400 series stainless) and 50 percent is austenite (structure of 300 series stainless). ZERON 100 is a more highly alloyed and higher performance grade of stainless steel than 316L or the common duplex grade, 2205. 2205 contains 22 Cr, 5.5 Ni, and 3.1 Mo. By comparison, ZERON 100 contains 25 Cr, 7 Ni, 3.5 Mo with nitrogen, tungsten, and copper additions. For this reason ZERON 100 is termed a super duplex stainless steel.

Questions	Answer	S							
What are some typical applications where ZERON 100 is successfully used?	ZERON 100 has utilized extensive desulfurization a	ZERON 100 has found its most significant usage in seawater applications, sour gas applications, and in sulfuric acid service. As a result, it has been utilized extensively in seawater reverse osmosis desalination systems, offshore oil & gas exploration, downhole oil wells, and in mining and flue gas desulfurization applications.							
What alloys would I consider ZERON 100 to potentially replace?	ZERON 100 is commonly used as an upgrade to 2205 and 316L stainless. It is an alternate to other superduplex stainless steels such as 2507 or alloy 255. It is also considered to replace higher nickel alloys such as 904L, 6% molybdenum stainless steels (AL-6XN® and 254 SMO®), and in some cases alloy 625 and C-276.								
How does ZERON 100 compare to other superduplex grades?	ZERON 100 (S3 (S32750) beca and tungsten. Be ZERON 100. The resistance in acid hydrochloric acid very high streng seawater. ZERON forms from stock limited product f information is av	2760) differs from use of its additions (oth are added at ab- ise elements provid l service such as sul . Both superduplex th and have similar I 100 is available ir s, whereas 2507 is orms. Additional cor ailable upon reques	2507 of copper out 0.6% to e additional furic or grades have resistance to a all product available in mparative t.	Iso-Corrosio	904L 316L 10 Acid Con	m/y) for some s Boiling Point Cur ZERON 100 5327 20 30	tainless steels in dilute	e sulfuric acid	
What is the relative cost of ZERON 100 to some common corrosion alloys?	Generally, ZERON 100 will be more expensive than 316L or 2205. It is less expensive than 6% molybdenum stainless and nickel alloys. Pricing ratios can fluctuate significantly with the cost of raw materials such as nickel and molybdenum and also by product form. Current price information to other grades in the appropriate size, quantity, and product form can be found at www.rolledalloys.com or contact our sales department.								
What materials specifications cover ZERON 100?	UNS	532760 (19338	() (astinas)	W.Nr./FN	1 4501 (1 4	508 (astinas)			
	ASME	B16.5, B16.34,	B16.47, B31.3, 1	Section VIII Division	1 Case 2244-2, 224	45-1, Section III Divi	sion 1 Case N-564-2		
	ASTM	A 182 (Grade F5	5), A 240, A 276	5, A 314, A 473, A	479, A 789, A 790,	, A 815, A 890, A 92	28, A 988, A 995,		
	EUROPEAN	EN 10028-7, EN	10088-2, EN 10	088-3, EN 10272,	EN 10216-5, EN 102	217-7			
	NACE	ISO 15156 / MI	R0175 Part 3						
	API	5LC							
	BSI	PD 5500 - Enqui	ry Case 5500/87						
Is ZERON 100 included in the ASME Code?	ZERON 100 (UN It is also include Flanges: NPS 26 Temp, °F ZERON 100' 2205' AL-6XN®' ZERON 100'	S S32760) is cove 1 in B16.5 (Pipe Fle through NPS 60), 100 31.1 ksi 25.7 ksi 27.1 ksi 36.3 ksi	red for ASME Sec anges and Flange B31.3 (Process I 200 31.0 ksi 25.7 ksi 27.1 ksi 35.9 ksi	tion VIII, Division 1 d Fittings), B16.34 2iping). 300 29.4 ksi 24.8 ksi 25.7 ksi 34.4 ksi	l construction by coc 4 (Valves - Flanged, 400 29.0 ksi 23.9 ksi 24.6 ksi 34.0 ksi	le case 2245 and ir Threaded, and Weld 500 29.0 ksi 23.3 ksi 23.8 ksi 34.0 ksi	n Section III, Division 1 by C ling End), 16.47 (Large Dia 600 29.0 ksi 23.1 ksi 23.3 ksi 34.0 ksi	ase N-564-2. imeter Steel	
	Questions What are some typical applications where ZERON 100 is successfully used? What alloys would I consider ZERON 100 to potentially replace? How does ZERON 100 compare to other superduplex grades? What is the relative cost of ZERON 100 to some common corrosion alloys? What materials specifications cover ZERON 100? Is ZERON 100 included in the ASME Code?	QuestionsAnswer:What are some typical applications where ZERON 100 is successfully used?ZERON 100 has utilized extensive desulfurization aWhat alloys would I consider ZERON 100 to potentially replace?ZERON 100 is co 255. It is also co alloy 625 and CHow does ZERON 100 compare to other superduplex grades?ZERON 100 (S3 (S32750) becar and tungsten. Br ZERON 100. The resistance in acid very high strengt seconder. ZERON to ZERON 100 to some common corrosion alloys?What is the relative cost of ZERON 100 to some common corrosion alloys?Generally, ZEROI and furtuate sig grades in the apWhat materials specifications cover ZERON 100?UNS ASIME ASIME EUROPEAN NACE API BSIIs ZERON 100 included in the ASME Code?ZERON 100 (UM It is also included Flanges: NPS 26 Temp, °F ZERON 100' ZERON 100' ZERON 100'	QuestionsAnswersWhat are some typical applications where ZERON 100 is successfully used?ZERON 100 has found its most sign utilized extensively in seawater reve desulfurization applications.What alloys would I consider ZERON 100 to potentially replace?ZERON 100 is commonly used as an 255. It is also considered to replace alloy 625 and C276.How does ZERON 100 compare to other superduplex grades?ZERON 100 (\$32750) differs from (\$32750) because of its additions and tungsten. Bath are added at bh ZERON 100. These elements provid resistance in add service such as sul hydrachloric add. 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It is also considered to replace higher nickel all alloy 625 and C-276.How does ZERON 100 compare to other superduplex grades?ZERON 100 (S32760) differs from 2507 (S32750) because of its additions of copper and hungsten. Both are added at about 0.6% to ZERON 100. These elements provide additional resistance in additional distinct in and service such as sulfarit or hydrochloic cail. Both superdupley grades have wery high strength and have similar resistance to service. ZERON 100 is available in all product forms from stock, whereas 2507 is available in limited product forms. Additional comparative information is available upon request.What tis the relative cost of ZERON 100 to some common corrosion alloys?Generally, ZERON 100 will be more expensive than 3 can fluctuate significantly with the cost of row materi grades in the appropriate size, quantity, and product information is available upon request.What materials specifications cover ZERON 100?UNS S32760 (193380 Castings) ASIM A 182 (Grade F55), A 240, A 276 EUROPEAN EUROPEAN 	QuestionsAnswersWhat are some typical applications where ZERON 100 is successfully used?ZERON 100 has found its mast significant usage in seawater application utilized extensively in seawater reverse somois desdination systems, or desulfuization applications.What alloys would I consider ZERON 100 to potentially replace?ZERON 100 is commonly used as an upgrade to 2205 and 31.64 staini 255. 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It is less appensive flow 304 weeney for the appropriate size, quantify, and praduct form can be found at www.rolledalloys.com ar contract our grades in the appropriate size, quantify, and praduct form can be found at www.rolledalloys.com ar contract our starks in the appropriate size, paramity, and praduct form can be found at www.rolledalloys.com ar contract our first for starks and 816.4 (76.9338) (Castings) What materials specifications cover ZERON 1000 included in the ASME Code? ZERON 100 (MS 532760) is covered for ASME Section VIII, Divisin 1 construction by code cases	Guestions Answers What are some typical applications where ZERON 100 is successfully used? ZR0N 100 his found is not significant usage in secwate applications, sou gas applications, downhole all wells, and a mining and downhore ZERON 100 is successfully used? What alloys would 1 consider ZERON 100 is potentially replace? 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	7.	What is the useful temperature range for ZERON 100?	Because of its duplex structure, ZERON 100 is suggested to be used between -100°F and 600°F. Long term exposure to temperatures above 600°F can lead to the precipitation of intermetallic phases in duplex stainless steels. These phases can reduce toughness and corrosion resistance.						
_	8.	How easy is ZERON 100 to fabricate?	ZERON 100 is fabricated using methods consistent with other stainless steels. Welding can be performed using ZERON 100X overmatching fillers and GMAW, GTAW, SAW or SMAW processes typically. Flux cored wires are available however the FCAW process typically results in welds with high oxygen contents and low toughness levels. As a result, poor charpy impact test results could be expected.						
-			Forming ZERON 100 products does require more force and greater springback can be expected due to its much higher minimum yield strength than standard stainless steels. For comparison ZERON 100 has a minimum yield strength at room temperature of 85,000 psi, whereas 316L stainless is 30,000 psi minimum. ZERON 100 cannot be bent to as tight a radius as 316L stainless. A 2T internal bend radius is suggested. By comparison in ASTM A240, ZERON 100 plate is 25% minimum elongation, whereas, 316L plate requires 40% minimum elongation. Additional information can be found in Bulletin 105 (Welding Guidelines for ZERON 100)						
	9.	If I have experience welding other duplexes do I need to requalify to weld ZERON 100 products and what AWS Classifications cover ZERON 100X weld products?	No. ZERON 100 (S32760) is assigned to the same P group in the ASME Section IX as 2205 and other duplex stainless steels. This is P group 10H Group 1. ZERON 100X filler is made to AWS Classifications. ER2594 (AWS A5.9) covers GMAW and GTAW bare wires. Bare wire fillers are assigned to F number 6 in ASME Section IX. Covered electrodes are to E2595-15 (AWS A5.4). The F number for all A5.4 electrodes is 5 according to ASME Section IX.						
-	10.	What product forms are available?	Plate, sheet, round bar, pipe, fittings, forgings, and weld wires are carried by Rolled Alloys [®] in both the USA and U.K. Additionally, round bar in the strain hardened condition or fastener grade (ZERON 100 FG) is available in diameters from ½ to 2-1/2 inch. This product provides higher strength than standard annealed ZERON 100 round bar.						
			Welded and seamless tubing is produced in ZERON 100, but not carried in Rolled Alloys inventory. Recent product developments include ZERON 100 high strength wire line for down hole use and long seam welded tube for heat exchanger, instrumentation tube, subsea umbilical and flying lead applications.						
	11.	If I mix ZERON 100 with other superduplexes, is there a potential for galvanic corrosion?	ZERON 100 is galvanically compatible with other superduplex stainless steels, 6% molybdenum stainless steels and also C-276 in seawater solutions. It is possible to mix them in an assembly if necessary provided the proper welding consumable is used.						
-	12.	Where can I get more information on ZERON 100?	Our website www.rolledalloys.com provide downloadable brochures in PDF format that include our ZERON 100 alloy data sheet (Rolled Alloys Bulletin 104), ZERON 100 Welding Guidelines (Rolled Alloys Bulletin 105), and case histories. You may also contact a Rolled Alloys sales representative and request further information.						
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