



# SEAMLESS PIPES & TUBES



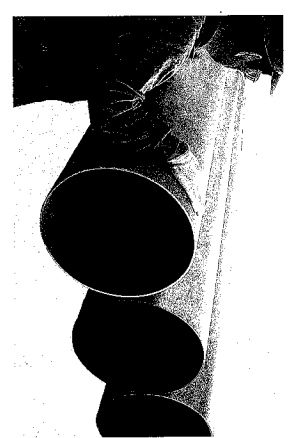
STAINLESS STEEL PIPES    KUZE CLEAN PIPES/TUBES  
SUPER STAINLESS PIPES    HIGH NICKEL ALLOY TUBES



# Stainless Steel Pipes

Seamless

## 配管用ステンレス鋼管



TP316L 18" Sch10S Seamless Pipes

外径は最小6A(10.5mm)から最大600A(610mm)まで、また肉厚スケジュールは5Sから最大160までと世界最大クラスの広範囲な製造寸法を実現しております。用途も一般配管用オーステナイトステンレス鋼のほか耐熱性に優れたSUS321やSUS347、耐食性に優れた二相系ステンレス鋼(SUS329J3~J4)に至るまで多品種で製造可能であり、高い品質管理能力と相まって世界トップ水準のステンレス鋼管メーカーとの評価をいただいております。

### 代表的な製造鋼種 Typical Production Steel Pipes

適用規格 Applicable Specification

鋼種記号 Steel Grade

JIS G 3459	SUS304TP/304LTP	SUS316TP/316LTP	SUS317TP/317LTP
	SUS321TP/321HTP	SUS347TP/347HTP	SUS310TP/310S TP
	SUS329J1TP	SUS329J3LTP	SUS329J4LTP

### 配管用ステンレス鋼管の製造寸法(JIS G 3459/3468)

Production sizes for JIS G 3459 / G 3468

呼び径 Nominal Diameter	外径 OD mm	鋼 種													
		スケジュール5S Schedule5S		スケジュール10S Schedule10S		スケジュール20S Schedule20S		スケジュール40 Schedule40		スケジュール80 Schedule80		スケジュール120 Schedule120		スケジュール160 Schedule160	
A	B	厚さ Wall Thickness mm	単重(*) Unit Weight kg/m	厚さ Wall Thickness mm	単重(*) Unit Weight kg/m	厚さ Wall Thickness mm	単重(*) Unit Weight kg/m	厚さ Wall Thickness mm	単重(*) Unit Weight kg/m	厚さ Wall Thickness mm	単重(*) Unit Weight kg/m	厚さ Wall Thickness mm	単重(*) Unit Weight kg/m	厚さ Wall Thickness mm	単重(*) Unit Weight kg/m
6	1/8	10.5	1.0	0.238	1.2	0.280	1.5	0.338	1.7	0.375	2.4	0.487	—	—	—
8	1/4	13.8	1.2	0.379	1.65	0.503	2.0	0.592	2.2	0.640	3.0	0.812	—	—	—
10	3/8	17.3	1.2	0.484	1.65	0.647	2.0	0.767	2.3	0.865	3.2	1.13	—	—	—
15	1/2	21.7	1.65	0.829	2.1	1.03	2.5	1.20	2.8	1.33	3.7	1.67	—	—	4.7
20	3/4	27.2	1.65	1.06	2.1	1.32	2.5	1.55	2.9	1.77	3.9	2.28	—	—	5.5
25	1	34.0	1.65	1.34	2.8	2.19	3.0	2.33	3.4	2.61	4.5	3.33	—	—	6.4
32	1 1/4	42.7	1.65	1.70	2.8	2.80	3.0	2.99	3.6	3.53	4.9	4.64	—	—	6.4
40	1 1/2	48.6	1.65	1.94	2.8	3.21	3.0	3.43	3.7	4.16	5.1	5.56	—	—	7.1
50	2	60.5	1.65	2.43	2.8	4.05	3.5	5.00	3.9	5.53	5.5	7.58	—	—	8.7
65	2 1/2	76.3	2.1	3.91	3.0	5.51	3.5	6.39	5.2	9.27	7.0	12.2	—	—	9.5
80	3	89.1	2.1	4.58	3.0	6.48	4.0	8.53	5.5	11.5	7.6	15.5	—	—	11.1
90	3 1/2	101.6	2.1	5.24	3.0	7.42	4.0	9.79	5.7	13.7	8.1	19.0	—	—	12.7
100	4	114.3	2.1	5.91	3.0	8.37	4.0	11.1	6.0	16.3	8.6	22.8	11.1	28.7	13.5
125	5	139.8	2.8	9.62	3.4	11.6	5.0	16.9	6.6	22.0	9.5	31.0	12.7	40.5	15.9
150	6	165.2	2.8	11.4	3.4	13.8	5.0	20.1	7.1	28.1	11.0	42.5	14.3	54.1	18.2
200	8	216.3	2.8	15.0	4.0	21.3	6.5	34.2	8.2	42.8	12.7	64.8	18.2	90.4	23.0
250	10	267.4	3.4	22.5	4.0	26.4	6.5	42.5	9.3	60.2	15.1	95.5	21.4	132	28.6
300	12	318.5	4.0	31.5	4.5	35.4	6.5	50.8	10.3	79.6	17.4	131	25.4	187	33.3
350	14	355.6	4.0	35.3	5.0	43.9	8.0	69.7	11.1	95.9	19.0	160	27.8	228	—
400	16	406.4	4.5	45.3	5.0	50.3	8.0	79.9	12.7	125	21.4	207	—	—	—
450	18	457.2	4.5	51.1	5.0	56.7	8.0	90.1	14.3	159	23.8	259	—	—	—
500	20	508.0	5.0	63.1	5.5	69.3	9.5	119	15.1	187	—	—	—	—	—
550	22	558.8	5.0	69.4	5.5	76.3	9.5	131	15.9	216	—	—	—	—	—
600	24	609.6	5.5	83.3	6.5	98.3	9.5	143	17.5	260	—	—	—	—	—

備考: (\*)単重はSUS316/316L、SUS347、SUS310Sでの値を表示しております。

(\*\*)この表にないJIS規格外寸法や厚尺管についても製造できる場合がありますのでお問い合わせください。

Note: (\*)Unit weight values in above table are shown in case of SUS316/316L、SUS347 and SUS310S.

(\*\*)Even if the above table dose not list the size you desire, please let us know as we may be able to produce size that are beyond the JIS specifications.

製造可  
Possible to produce

製造可(一部工程委託生産)  
Possible to product  
(Partial process on  
consignment production.)

Seamless

## Stainless Steel Pipes for General Service

We produce a wide variety of pipes from a minimum diameter of 6A(10.5mm) to a maximum diameter of 600A(610mm). Our wall thickness ranges from 5S to a maximum of 160S, covering the world widest ranges. In addition to the austenitic stainless steel pipes for general service use, we produce a wide range of products such as SUS321 and SUS347 that are excellent heat resisting steels. We also produce duplex stainless steel pipes (SUS329J3- J4) that are excellent corrosion resisting steel. With our high level of quality control, we have established our reputation as the world top level maker of stainless steel pipes.

### 代表的な製造鋼種 Typical Production Steel Pipes

適用規格 Applicable Specification  
 ASME SA-312/SA-312M  
 ASTM A 312/A 312M  
 ASTM A790/A 790M

鋼種記号 / UNS番号 Steel Grade / UNS Designation  
 TP304/304L TP316/316L TP317/317L  
 TP321/321H TP347/347H TP310/310S  
 S31803 S32750 S32760

### ASTM/ASME規格対応の製造寸法(ASTM A312/ASME SA312)

Production sizes for ASTM A312/ASME SA312

NPS	Outside Diameter		Nominal Wall Thickness											
	inch	mm	Schedule 5S		Schedule 10S		Schedule 30(*)		Schedule 40S/40(*)		Schedule 80S/80(*)		Schedule 160S/160(*)	
			inches	Weight	inches	Weight	inches	Weight	inches	Weight	inches	Weight	inches	Weight
			mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m	mm	kg/m
1/8	0.405	10.3	—	—	0.049	0.28	0.057	0.32	0.068	0.37	0.095	0.47	—	—
1/4	0.540	13.7	—	—	0.065	0.49	0.073	0.54	0.088	0.63	0.119	0.80	—	—
3/8	0.675	17.1	—	—	0.065	0.63	0.073	0.70	0.091	0.84	0.126	1.10	—	—
1/2	0.840	21.3	0.065	0.80	0.083	1.00	0.095	1.12	0.109	1.27	0.147	1.62	—	—
3/4	1.050	26.7	0.065	1.03	0.083	1.28	0.095	1.44	0.113	1.69	0.154	2.20	—	—
1	1.315	33.4	0.065	1.30	0.109	2.09	0.114	2.18	0.133	2.50	0.179	3.24	—	—
1 1/4	1.660	42.2	0.065	1.65	0.109	2.70	0.117	2.87	0.140	3.39	0.181	4.47	—	—
1 1/2	1.900	48.3	0.065	1.91	0.109	3.11	0.125	3.53	0.145	4.05	0.200	5.41	—	—
2	2.375	60.3	0.065	2.40	0.109	3.93	0.125	4.48	0.154	5.44	0.218	7.48	—	—
2 1/2	2.875	73.0	0.083	3.69	0.120	5.26	0.188	8.04	0.203	8.63	0.276	11.41	—	—
3	3.500	88.9	0.083	4.51	0.120	6.45	0.188	9.92	0.216	11.29	0.300	15.27	—	—
3 1/2	4.000	101.6	0.083	5.18	0.120	7.40	0.188	11.41	0.226	13.57	0.318	18.63	—	—
4	4.500	114.3	0.083	5.84	0.120	8.36	0.188	12.91	0.237	16.07	0.337	22.32	—	—
5	5.563	141.3	0.109	9.47	0.134	11.57	—	—	0.258	21.77	0.375	30.97	—	—
6	6.625	168.3	0.109	11.32	0.134	13.84	—	—	0.280	28.26	0.432	42.56	—	—
8	8.625	219.1	0.109	14.79	0.148	19.96	—	—	0.322	42.55	0.500	64.64	—	—
10	10.75	273.1	0.134	22.63	0.165	27.78	0.307	51.03	0.365	60.31	0.594	96.01	—	—
12	12.75	323.9	0.156	31.25	0.180	36.00	0.330	65.20	0.406	79.73	0.688	132.08	—	—
14	14.00	355.6	0.156	34.36	0.188	41.30	0.375	81.33	0.438	94.55	0.750	158.10	—	—
16	16.00	406.4	0.19	41.56	0.188	47.29	0.375	93.27	0.500	123.30	0.844	203.53	—	—
18	18.00	457	0.165	46.81	0.188	53.26	0.438	122.38	0.562	155.80	0.938	254.55	—	—
20	20.00	508	0.188	59.25	0.218	68.61	0.500	155.12	0.594	183.42	—	—	—	—
22	22.00	559	0.188	65.24	0.218	75.53	0.500	171.09	—	—	—	—	—	—
24	24.00	610	0.218	82.47	0.250	94.45	0.562	209.64	0.688	255.41	—	—	—	—

備考: (\*) 肉厚はASME B36.10M準拠  
 (\*\*) Schedule 100 以上の製造寸法はお問合せください。  
 Note: (\*) Wall thickness values are in conformity to ASME B36.10M standards.  
 (\*\*) Please contact us for the production sizes schedule 100 and over.

製造可 製造可(一部工程委託生産)  
 Possible to produce Possible to product  
 (Partial process on  
 consignment production.)

# 製造製品の化学成分表(抜粋)

## Chemical Compositions

### JIS G 3459 Chemical Compositions of JIS G 3459 Standard Products

鋼種記号 Type	化学成分 Chemical Compositions %								Others
	C	Si	Mn	P	S	N	Cr	Mo	
SUS304	0.08max	1.0max	2.00max	0.045max	0.030max	8.0-11.0	18.0-20.0	—	
SUS304L	0.030max	1.0max	2.00max	0.045max	0.030max	9.0-13.0	18.0-20.0	—	
SUS316	0.08max	1.0max	2.00max	0.045max	0.030max	10.0-14.0	16.0-18.0	2.00-3.00	
SUS316L	0.030max	1.0max	2.00max	0.045max	0.030max	12.0-16.0	16.0-18.0	2.00-3.00	
SUS317	0.08max	1.0max	2.00max	0.045max	0.030max	11.0-15.0	18.0-20.0	3.00-4.00	
SUS317L	0.030max	1.0max	2.00max	0.045max	0.030max	11.0-15.0	18.0-20.0	3.00-4.00	
SUS310S	0.08max	1.5max	2.00max	0.045max	0.030max	19.0-22.0	24.0-26.0	—	
SUS321	0.08max	1.0max	2.00max	0.045max	0.030max	9.0-13.0	17.0-19.0	—	Ti=5xC % min
SUS347	0.08max	1.0max	2.00max	0.045max	0.030max	9.0-13.0	17.0-20.0	—	Nb=10xC % min
SUS329J1	0.08max	1.0max	1.50max	0.040max	0.030max	3.0-6.0	17.0-19.0	1.0-3.0	
SUS329J3L	0.030max	1.0max	1.50max	0.040max	0.030max	4.5-6.5	21.0-24.0	2.5-3.5	N=0.08-0.20
SUS329J4L	0.030max	1.0max	1.50max	0.040max	0.030max	5.5-7.5	24.0-26.0	2.5-3.5	N=0.08-0.30

### ASTM A312/A312M Chemical Compositions of ASTM A312/A312M Standard Products

Type or UNS No.	化学成分 Chemical Compositions %								Others
	C	Si	Mn	P	S	N	Cr	Mo	
TP304	0.08max	1.0max	2.0max	0.045max	0.030max	8.0-11.0	18.0-20.0	—	
TP304L	0.035max	1.0max	2.0max	0.045max	0.030max	8.0-12.0	18.0-20.0	—	
TP316	0.08max	1.0max	2.0max	0.045max	0.030max	10.0-14.0	16.0-18.0	2.0-3.0	
TP316L	0.035max	1.0max	2.0max	0.045max	0.030max	10.0-15.0	16.0-18.0	2.0-3.0	
TP317	0.08max	1.0max	2.0max	0.045max	0.030max	11.0-14.0	18.0-20.0	3.0-4.0	
TP317L	0.035max	1.0max	2.0max	0.045max	0.030max	11.0-15.0	18.0-20.0	3.0-4.0	
TP310S	0.08max	1.0max	2.0max	0.045max	0.030max	19.0-22.0	24.0-26.0	0.75max	
TP321	0.08max	1.0max	2.0max	0.045max	0.030max	9.0-12.0	17.0-19.0	—	Ti=5x(C+N)%-0.7
TP347	0.08max	1.0max	2.0max	0.045max	0.030max	9.0-12.0	17.0-19.0	—	Nb=10xC%-1.10
UNS S31254	0.02max	0.8max	1.0max	0.030max	0.010max	17.5-18.5	19.5-20.5	6.0-6.5	N=0.18-0.22 Cu=0.5-1.0
UNS N08904	0.02max	1.0max	2.0max	0.040max	0.030max	23.0-28.0	19.0-23.0	4.0-5.0	N=0.10max, Cu=1.0-2.0
UNS N08925	0.02max	0.5max	1.0max	0.045max	0.030max	24.0-26.0	19.0-21.0	6.0-7.0	N=0.10-0.20 Cu=0.8-1.5
UNS N08926	0.02max	0.5max	2.0max	0.030max	0.010max	24.0-26.0	19.0-21.0	6.0-7.0	N=0.15-0.25, Cu=0.5-1.5

### ASTM A790/A790M Chemical Compositions of ASTM A790/A790M Standard Products

Type or UNS No.	化学成分 Chemical Compositions %								Others
	C	Si	Mn	P	S	N	Cr	Mo	
UNS S31803	0.03max	1.0max	2.0max	0.030max	0.020max	4.5-6.5	21.0-23.0	2.5-3.5	N=0.08-0.20
UNS S32205	0.03max	1.0max	2.0max	0.030max	0.020max	4.5-6.5	22.0-23.0	3.0-3.5	N=0.14-0.20
UNS S32750	0.03max	0.8max	1.2max	0.035max	0.020max	6.0-8.0	24.0-26.0	3.0-5.0	N=0.24-0.32, Cu=0.5max
UNS S32760	0.05max	1.0max	1.0max	0.030max	0.010max	6.0-8.0	24.0-26.0	3.0-4.0	N=0.2-0.3, Cu=0.5-1.0, W=0.5-1.0, PRE=40min

### 特殊用途ニッケル合金製品の化学成分表 Chemical Compositions of Nickel Alloy Products for Special Purpose

品種記号 UNS No.	化学成分 Chemical Compositions %								Others					
	Ni	Cr	Mo	Fe	Mn	Cu	C	Si		P	S			
N08028	30-34	26-28	3.0-4.0	bal.	2.5max	0.6-1.4	0.03max	1.0max	0.03max	0.03max				
N09925	42-46	19.5-22.5	2.5-3.5	22.0min	1.0max	1.5-3.0	0.03max	0.5max	0.03max	0.03max	Al=0.1-0.5, Ti=1.9-2.4			
N06255	47-52	23-26	6.0-9.0	bal.	1.0max	1.2max	0.03max	1.0max	0.03max	0.03max	Ti=0.69max, W=3.0max			
N07718	50-55	17-21	2.8-3.3	bal.	0.35max	0.30max	0.08max	0.35max	0.015max	0.015max	Al=0.20-0.80, Ti=0.65-1.15, Nb+Ta=4.75-5.5, B=0.006max			

# 製造製品の機械的性質と熱処理条件(抜粋)

## Mechanical Properties & Heat Treatment

### JIS G 3459 Mechanical Properties & Heat Treatment

鋼種記号 Type	機械的性質 Mechanical Properties			熱処理 Heat Treatment	
	引張強さ Tensile Strength N/mm <sup>2</sup>	耐力 Yield Strength N/mm <sup>2</sup>	伸び(縦方向) Elongation %	固溶化熱処理 Solution Treatment °C	安定化熱処理(要求ある場合) Stabilizing Treatment °C (if requested)
SUS304TP	520 以上	205 以上	35 以上		
SUS304LTP	480 以上	175 以上	35 以上		
SUS316TP	520 以上	205 以上	35 以上	1010 以上、急冷	
SUS316LTP	480 以上	175 以上	35 以上		規定無し
SUS317TP	520 以上	205 以上	35 以上		
SUS310STP	480 以上	175 以上	35 以上	1030 以上、急冷	
SUS321TP	520 以上	205 以上	35 以上	920 以上、急冷	
SUS347TP	520 以上	205 以上	35 以上	980 以上、急冷	850~930、急冷
SUS329J1TP	590 以上	390 以上	18 以上		
SUS329J3LTP	620 以上	450 以上	18 以上	950 以上、急冷	規定無し
SUS329J4LTP	620 以上	450 以上	18 以上		

### ASTM A312/A312M Mechanical Properties & Heat Treatment of Austenitic Stainless Steel Products

Type or UNS No.	Mechanical Properties (Longitudinal)			熱処理 Heat Treatment	
	Tensile Strength, min, ksi [MPa]	Yield Strength, min, ksi [MPa]	Elongation in 2 in. min, %	Temperature min, °C [°F]	Cooling/ Testing Requirements
TP304	75 [515]	30 [205]	35		
TP304L	70 [485]	25 [170]	35		
TP316	75 [515]	30 [205]	35		
TP316L	70 [485]	25 [170]	35		
TP317	75 [515]	30 [205]	35		
TP317L	75 [515]	30 [205]	35	1040 [1900]	Quenched in water or rapidly cooled
TP310S	75 [515]	30 [205]	35		
TP321	≤ 3/8 in. 75 [515] > 3/8 in. 70 [485]	≤ 3/8 in. 30 [205] > 3/8 in. 25 [170]	35		
TP347	75 [515]	30 [205]	35		
S31254	≤ 0.187 in. 98 [675] t > 0.187 in. 95 [655]	≤ 0.187 in. 45 [310] t > 0.187 in. 45 [310]	35	1150 [2100]	
N08904	71 [490]	31 [215]	35	1100 [2000]	Quenched in water or rapidly cooled
N08925	87 [600]	43 [295]	40	1100-1150 [2010-2100]	
N08926	94 [650]	43 [295]	35		

### ASTM A790/A790M Mechanical Properties & Heat Treatment of Duplex Stainless Steel Products

UNS No.	Mechanical Properties (Longitudinal)			熱処理 Heat Treatment	
	Tensile Strength, min, ksi [MPa]	Yield Strength, min, ksi [MPa]	Elongation in 2 in. min, %	Temperature °C	Cooling
S31803	90 [620]	65 [450]	25	1020-1100	Rapidly cooling
S32205	95 [655]	65 [450]	25	1020-1100	Rapidly cooling
S32750	116 [800]	80 [550]	15	1025-1125	Rapidly cooling
S32760	109 [750]	80 [550]	25	1070-1140	Rapidly cooling

### AMS 5589 Mechanical Properties of AMS 5589

AMS Designation	UNS No.	Condition	Mechanical Properties (Longitudinal)		
			Tensile Strength, min, ksi [MPa]	Yield Strength, min, ksi [MPa]	Elongation in 2 in. min, %
5589	N07718	As solution heat treated	155 [1069]	95 [655]	30
		After precipitation heat treated	185 [1276]	150 [1034]	12

# 品質管理体制

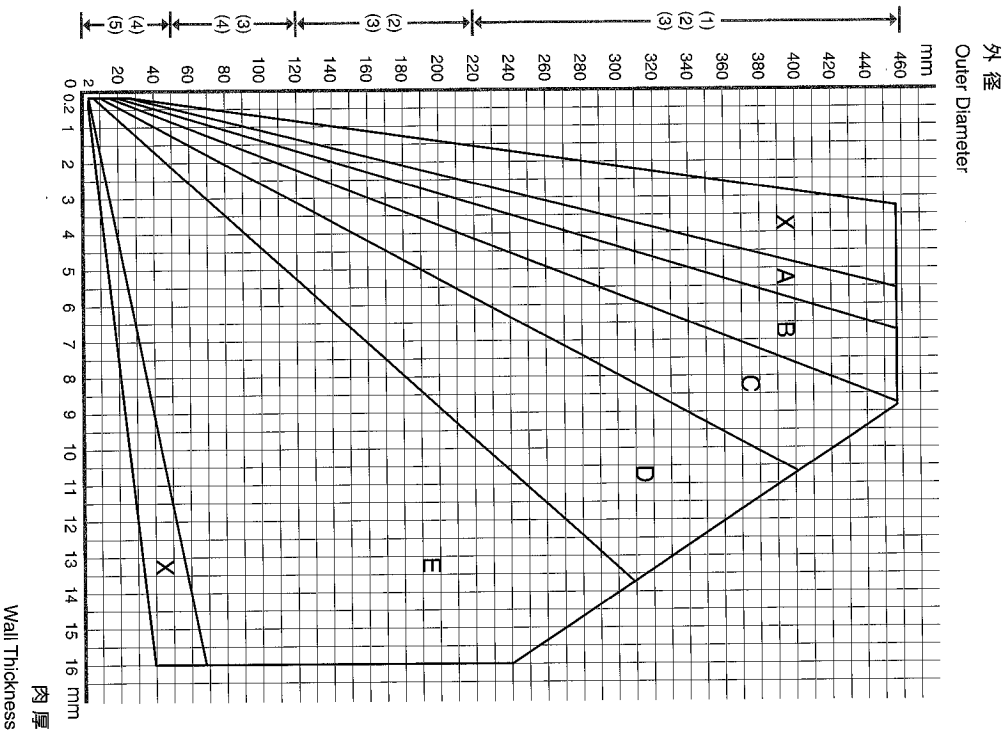
## Quality Management System

ステンレス久世はISO 9001で認証された厳しい品質管理システムにより一般ステンレス鋼管からスーパーステンレス鋼管や高ニッケル合金管に至るまでの幅広い製品を生産し、お客様の多種多様なご要望に対応できる体制を整えております。また高精度製品や特殊寸法製品、高硬度製品など特別のご要望に対する生産実績も豊富で、長年にわたってお客様から信頼いただける製品をご提供してまいりました。

Stainless KUZE utilizes stringent Quality Management System in accordance with ISO 9001 and produces wide variety of products ranging from general service stainless steel pipes to super-stainless steel pipes and to high nickel alloy tubes to satisfy customers' needs. Stainless KUZE also has been satisfying customers with special requirements such as high precision products, products with special dimensions and extra hard products.

### ■製造寸法および寸法精度

Production Size and Dimension Accuracy



■外径精度 (Min. ±0.05mm) Outer Diameter Accuracy

A	B	C	D	E	X
±1.1%	±1.0%	±0.8%	±0.6%	±0.4%	*ご相談

\* Discussion Item

■肉厚精度 (Min. ±0.05mm) Wall Thickness Accuracy

(1)	(2)	(3)	(4)	(5)
-12.5%	±12.5%	±10%	±7.5%	±5%



### Certificate

Registration No. : 0006  
 Registration Date : 20 October 2008  
 Certificate No. : 13 October 2008  
 Issue Date : 13 October 2008

**Stainless Kuze Co., Ltd.**  
**Hakui Works**

81 Shiro, Shimaneken, Japan, 684-0001

This is to certify that the Quality Management System of the organization has been established and implemented in meeting the requirements of **JIS Q 9001:2008 (ISO 9001:2008)**

Number of Customer Satisfaction Surveys with Results (Major Customer): 23 Surveys and 242 responses

For further details on this certificate, please refer to the website: www.tuv.com



**ASR Co. Ltd.**  
 27, Nishimachi, Chiyoda-ku, Tokyo, Japan  
**Katsuya Katsuyuki**  
 Technical Manager  
 Chief Operating Officer

### ISO 登録証 Certificate of Registration

### Certificate

**Quality Assurance System  
 for Manufacturer of Materials**  
 acc. to Directive 97/23/EC

Certificate No. : 01 262 240-19 0048

Number of certificates of this type : 1

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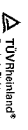
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