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ISHIKAWA GIKEN INDUSTRY CO.,LTD.

Greetings to our future customers,

As you all know, with the recent improvement of lifestyle culture, the demand for stainless steel pipe is rapidly growing. Additionally, I believe its role will become more important in the future. We are the pioneer developer of stainless steel clad pipe technology using electric welding since 1971. Its name became famous in the industry as ICS pipe.

This decorative pipe, with its iron core and stainless steel outer covering, brought about a revolution in cost performance. In response to a wide variety of customer's needs, and an increasing demand, our solid stainless steel piping has also been performing well in the market.

We are working in unity following these three mottos-

1. Reliable products
2. Continuous Research
3. Contributing to society through ethical business practices

We look forward to serving you through our products and services.



Company President and CEO
Kenya Hayashi

Company Name	Ishikawa Giken Industry, Co., LTD.
Established	November 2nd 1970
Business Capital	55,000,000 JPY
Products	ICS pipe: Monthly production capacity 350 tons Stainless steel pipe: Monthly production capacity 120 tons Cutting and processing of pipes, others
Head Office and Factory	1272-1 Deajima-machi, Hakusan City, Ishikawa, 924-0854, Japan TEL +81-76-277-1145 (main) / FAX +81-76-277-1041
Production Site	14,980m ²
Building Size	7,266m ²
Offices	Tokyo Sales Office, Osaka Sales Office



ICS Pipe

Beautiful form and elegant luster. Creating a simply beautiful, sophisticated space.

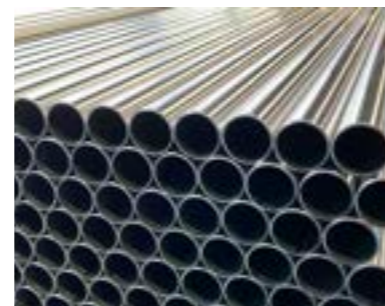
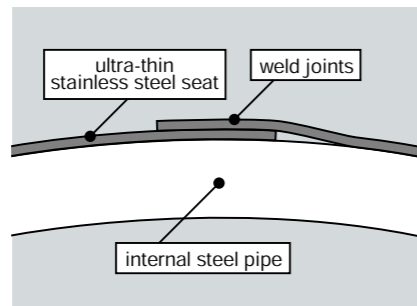
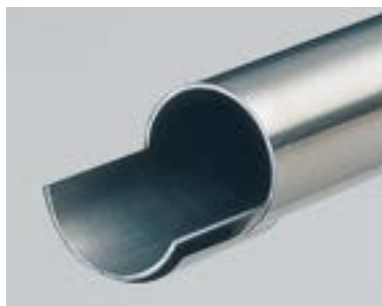


Features of ICS Pipe

ICS is stainless clad pipe. We use our automatic, high frequency, tube mill machine to create a carbon steel pipe which then has an ultra thin (0.1mm) stainless steel strip SUS 304 (18Cr-9Ni) adhered to its outer surface and welded with a high quality polymerized seam.

Our stainless steel pipe surface has a #400 polished finish, giving you a beautifully profound and elegant luster in comparison to plated piping.

The outer seam of our ICS piping provides a completely welded bond, as does the internal steel piping, making it possible to use as an integrated pipe. It is nearly comparable to an all stainless steel pipe, while giving you more competitive cost performance.



Uses

Cars, Trains, Buses

luggage racks, overhead racks, handrails and ceiling handhold rails, and seat frames

Buildings, Department Stores, Public Buildings

stair railings, grip bars, protective shelving, wall shelving and doorway guide props

Shops

display shelves, partitions, dividers, stand parts, window protection piping, various other interior display products

In the Home

shelves, stair railings, laundry poles and hanger piping (for closets and storage spaces)

Machine and Equipment Parts

steel furniture, electrical appliances, industrial food equipment and medical equipment

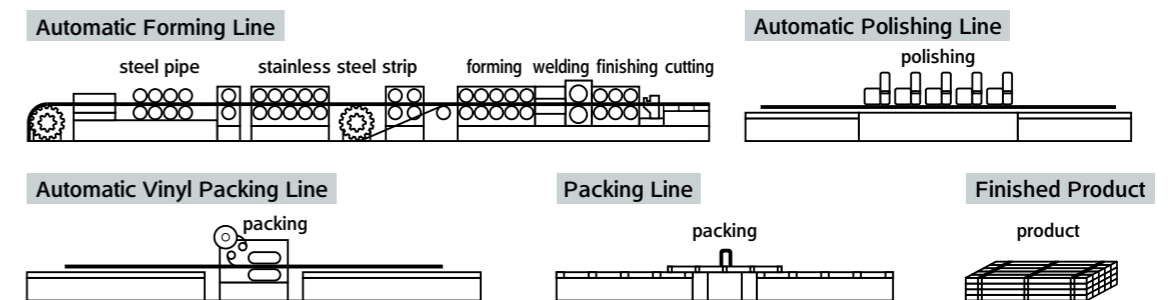


Product Dimensions

For dimensions and lengths other than those shown please contact us for more information.

Outer Diameter (mm)	Thickness (mm)	Standard Lengths (mm)	
9.5	0.8	3,650	4,000
13	1.0	3,650	4,000
16	1.0	3,650	4,000
19	1.0	3,650	4,000
22	1.0	-	-
25	1.0	3,650	4,000
28.7	1.2	-	4,000
32	1.2	3,650	4,000
38	1.2	3,650	4,000

ICS Pipe Processing Chart



Caution - Since the inside of ICS pipe is made of iron, rust may occur depending on the environment and location of use. This is especially the case when using outdoors. Please note that the welding of the outer stainless steel may peel off, causing injury do to the advancement of rust within the pipe.

Stainless Steel Pipe

Ishikawa Giken's motto is to improve quality through using the latest technology while meeting requested completion dates.



Characteristics of Stainless Steel Pipe

Using either TIG(tungsten inert gas) or high frequency welding methods we create a tubular pipe from a cold-rolled strip of stainless steel.

Utilizing high tech methods in our advanced production facility we are able to fabricate pipes with an incredibly stable welded strength.

Following strict quality controls our technological prowess gives us the edge in supplying quality products to our customers.

Our speedy turn around time, process control and reliable shipment system gets products to our customers when they need them.

Product Properties

Steel Properties	Tensile Test			Flattening Test
	Tensile Strength N/mm ²	Yield Strength N/mm ²	Elongation %	Distance Between Flat Plates (H)
SUS304	520 and higher	205 and higher	35 and higher	1/3D

For the Tensile Test, use of the No.11 test piece specified in the JIS Z 2201 (Test pieces for tensile test for metallic materials), and complying with the JIS Z 2241 (Metallic materials-Tensile testing-Method of test at room temperature) has been utilized.

Dimensional Sizing Margin of Error

Units in mm

Outer Diameter	Less than φ 10	±0.10
	φ 10 and higher φ 38 and lower	±0.12
Thickness	0.30 and higher less than 1.00	±0.10
	1.00 and higher less than 1.60	±0.15
	1.60 and higher less than 2.50	±0.20
Length	Please contact us directly	

Uses

Building materials

handrails, metal fittings, shutters and pillars

Cars, Trains, Buses, etc.

handrails, luggage racks, water pipes, EGR pipes and custom parts

Furniture

desks, chairs, wagons and display shelves

Household Items

cupboards, kitchen racks, towel holders, laundry poles and hose reels

Others

for general decoration, various sensors, agricultural equipment



Available Product Dimensions (mm) and Weight (kg/m) Table

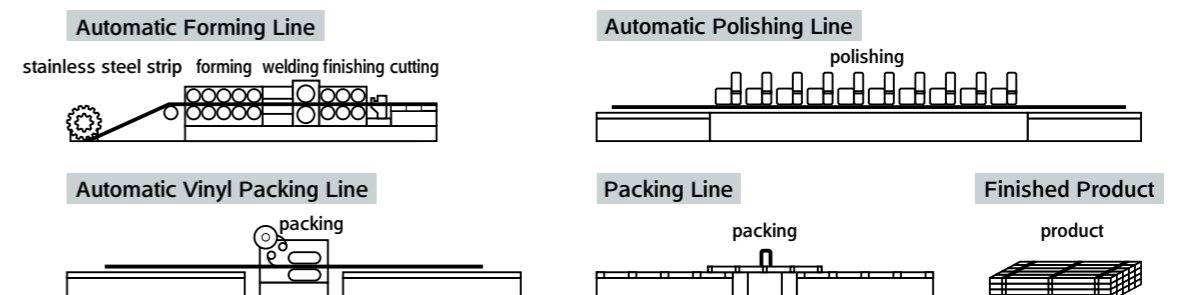
For dimensions (outer diameter, thickness, length) and steel properties other than those shown in this table, please contact us for more detailed information.

SUS 304, with a specific gravity of 7.93 (g/cm³) (thickness t, outer diameter D) $W=t \times (D-t) \times 0.02491$, was used for this chart.

Thickness \ Outer Diameter	6.0	7.0	8.0	9.0	9.5	10.0	12.0	12.7	13.0	14.0	16.0	17.0	19.0	20.0	22.0	25.0	25.4	27.2	30.0	31.8	32.0	38.0	
0.3	-	-	0.058	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.4	-	-	0.076	-	0.091	-	-	0.123	-	0.136	-	-	-	-	-	-	-	-	-	-	-	-	-
0.5	0.069	0.081	0.093	0.106	0.112	0.118	0.143	0.152	0.156	0.168	0.193	-	0.230	0.243	0.268	0.305	0.310	0.333	-	0.390	0.392	-	
0.7	0.092	0.110	0.127	0.145	0.153	0.162	0.197	0.209	0.214	0.232	0.267	-	0.319	0.337	0.371	0.424	0.431	0.462	-	0.542	0.546	-	
0.8	0.104	0.124	0.143	0.163	0.173	0.183	0.223	0.237	0.243	0.263	0.303	0.323	0.363	0.383	0.422	0.482	0.490	0.526	0.582	0.618	0.622	0.741	
1.0	0.125	0.149	0.174	0.199	0.212	0.224	0.274	0.291	0.299	0.324	0.374	0.399	0.448	0.473	0.523	0.598	0.608	0.653	0.722	0.767	0.772	0.922	
1.2	-	-	0.203	-	0.248	0.263	0.323	0.344	0.353	0.383	0.442	0.472	0.532	0.562	0.622	0.711	0.723	0.777	0.860	0.915	0.921	1.100	
1.5	-	-	-	-	-	0.318	0.392	0.418	0.430	0.467	0.542	0.579	0.654	0.691	0.766	0.878	0.893	0.960	1.065	1.132	1.140	1.364	
2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.897	-	1.146	-	-	1.395	-	1.495	-	

※ Outer diameters of 19.5/20.6/21.7/22.6 are also possible to produce.

Stainless Steel Pipe Processing Chart



ICS Cut Pipe Products

Broadening the world of pipes to meet all your needs. More variety means more success.

IG Stainless Steel Cut Pipe Products

We help you shape your future with our excellent selection of quality, durable pipes, ideal for meeting all of your bending and welding project needs.

In response to customer needs we have cut ICS pipes into shorter lengths for greater versatility and economy. Our easy use line-up includes 4 popular lengths: 600mm, 910mm, 1210mm and 1820mm.

Uses

drying poles, coat stands, towel racks, furniture parts, stairs and other handrails, Shelving for home use, protection pipes, other decorative piping



Product Type and Packing Unit

Outer Diameter (mm)	Length (mm)	Single Package (number of pipes)	Packing Units (number of pipes)	Seal Color Code
9.5	600 910 1,210 1,820	10 pipes in nylon bag	60 pipes	pink
13		10 pipes in nylon bag	30 pipes	yellow
16		10 pipes	30 pipes	blue
19		10 pipes	30 pipes	orange
25		10 pipes	20 pipes	green
32		5 pipes	15 pipes	white
38		5 pipes	10 pipes	gray

※ Lengths of 300mm are also available for each diameter upon request.

IG stainless steel piping, made from SUS 304 (18Cr-8Ni) all stainless steel, are resistant to rust and can be bent and welded easily.

In response to customer needs we have cut IG stainless steel pipes into shorter lengths for greater versatility and economy. Our easy use line-up includes 4 popular lengths: 600mm, 910mm, 1210mm and 1820mm.

Uses

drying poles, coat stands, towel racks, furniture parts, stairs and other handrails, shelving for Home use, protection pipes, and other decorative piping



Product Type and Packing Unit

Outer Diameter (mm)	Length (mm)	Single Package (number of pipes)	Packing Units (number of pipes)	Seal Color Code
9.5	600 910 1,210 1,820	10 pipes in nylon bag	60 pipes	pink
13		10 pipes in nylon bag	30 pipes	yellow
16		10 pipes	30 pipes	blue
19		10 pipes	30 pipes	orange
25		10 pipes	20 pipes	green
32		5 pipes	15 pipes	white
38		5 pipes	10 pipes	gray

※ Lengths of 450mm are also available for each diameter upon request.

ICS Oval Pipes

Easy grip piping for both young and old.

Stainless -Steel Oval Pipe

An all stainless steel pipe with a unique and luxurious design.

Features of ICS Oval Pipes

Our production method yields a higher cost performance pipe in comparison to all stainless steel piping.

As this pipe prevents rolling it is an added safety design that protects the wrist.

Taking advantage of the oval shape we have developed a luxurious pipe customers have come to appreciate for its quality finish.

Uses

handrails, steel furniture, kitchen equipment, for decoration and other uses



Features of Stainless Oval Pipes

Our pipes are well designed and elegant.

Utilizing 18-8 stainless steel, it is a high quality, rust resistant pipe.

Uses

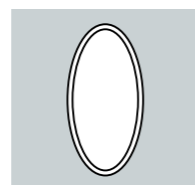
furniture, storage room/closets, storage hangers, carrier bars, car accessories



Product Specifications

Dimensions(mm)	35×19
Shape	Oval shape
Thickness(mm)	1.2

Cross Sectional View of Pipe

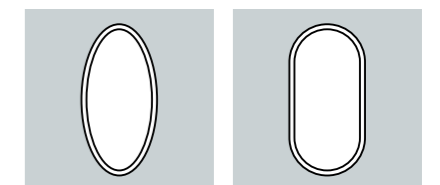


Oval Shape Pipe

Product Type and Specifications

Dimensions(mm)	28×16	30×15	39×20
Shape	oval shape	flat oval shape	flat oval shape
Thickness(mm)	1.2	0.8	1.0

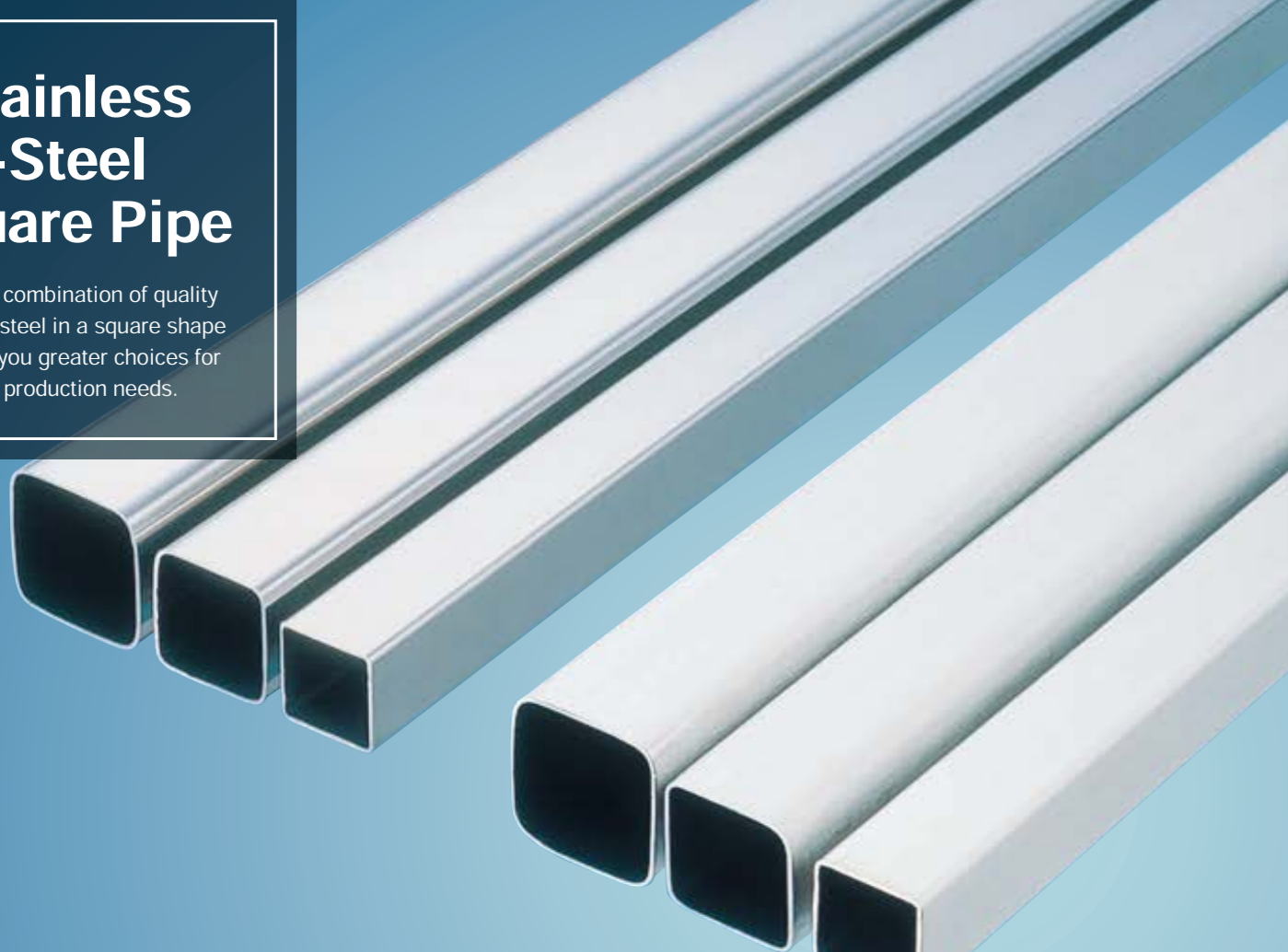
Cross Sectional View of Pipe



Oval Shape Pipe Flat Oval Shape Pipe

Stainless-Steel Square Pipe

With the combination of quality stainless steel in a square shape we offer you greater choices for your production needs.



Pipe Processing

Seeking to meet the needs of our customers we can also process custom orders.



We are ready to fulfill any of your drilling, notching and processing needs. Please contact us to start moving forward in serving you.

Feature of Stainless Steel Square Pipe

All of our stainless steel pipes provide excellent durability, weather and corrosion resistance.

Our stainless steel pipe surface can be finished in two different ways, #400 polishing or hairline polishing, to meet our customer's requirements.

Uses

steel furniture, product display shelving, partitions, towel racks, exterior decor



Product Specifications

Side Lengths \ Thickness	Units in mm		
	0.5	0.8	1.0
13 × 13	○	○	○
16 × 16	○	○	○
19 × 19	○	○	○

※ For dimensions other than those shown on this table please contact us.

Dimensional Sizing Margin of Error

	Units in mm	
Side Lengths	±0.20	
Thickness	less than 1.00	±0.10
	1.00 and higher	±0.15
Lengths	Please contact us directly	

Facts about Stainless Steel

Stainless steel is made by adding nickle (Ni) and chromium (Cr) to iron (Fe), creating a very thin protective film (roughly 3nm) on the surface of the steel giving it a high resistance to oxidation (rust) in comparison to iron. However it is not completely "rust free," meaning rust may appear depending on environment conditions and usage of the material. In light of this regular maintenance is necessary in order to keep its beautiful aesthetic appearance for many years to come.

Concerning Stainless Steel's Rusting

Rust may occur as a result of foreign matter and/or chemicals to stainless steel which then work to break down its protective layer and cause damage.

- What is foreign matter** -
- ① adhesion of dissimilar metals such as iron powder
 - ② sea salt contamination, such as sodium chloride and magnesium chloride, which most commonly occur along coastal areas or locations hit by tropical storms
 - ③ soot, acid rain, sulfurous acid gasses from vehicles and industrial pollution, volcanic activity and geothermal gasses
- What are chemicals** - cleaning fluids may contain chlorine or sulfur which could destroy the protective film of stainless steel

Stainless Steel Maintenance

- ① Periodic wiping to remove salts and to prevent foreign matter from adhering to its surface.
- ② If lightly soiled, wipe the surface with a wet cloth. If dirt remains use a soft sponge or cloth with a neutral (non-abrasive) detergent and rinse thoroughly. After rinsing dry completely.
- ③ If the early stages of rust appear, remove using a stainless steel cleaner. Carefully wash with water and dry completely, pay attention that all of the cleaning agent has been removed.
- ④ If it can not be removed with any of these methods scrub with a fine grade sand paper or other abrasive cleaning method. However, in this case, the surface will be scratched and can not be repaired to its original condition without going through a polishing process after which the surface should be washed and dried completely.



TECHNOLOGY

Our aim is to achieve the highest quality by employing advanced technology, continuous research and development for our products.

1st Factory

In a complex and diversified society our target is meeting the needs of our customers by creating perfect products, made from the latest materials, which always satisfy. With our abundant experience using reliable technology, combined with the latest equipment and manufacturing techniques, we are leading the way to a better future.

Our active workforce is unified in creating a total management system for efficiently taking and delivering orders. We are a company of people in motion, from working on improvements, to reducing costs, to sending them on a reliable delivery schedule. As nature is always close at hand, we seek to preserve the environment while producing excellent products. Our dream is to offer a line of piping reaching outward into the future while caring for each others needs.

Main Equipment

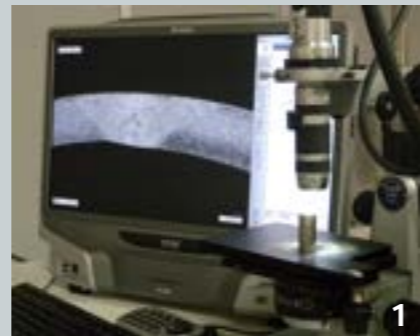


1
2

- Tube mill machine
- Pipe straightener
- Pipe forming machine
- Pipe grinder
- Automatic pipe forming machine
- Automatic chamfering machine
- Automatic packaging machine
- Machine Center
- NC lathe machine
- Pipe bending machine

1. TIG tube mill machine
2. High-frequency tube mill machine

Testing machine



1
2



- Universal Testing Instruments
- Dynamic Ultra Micro Hardness Tester
- Roundness and Cylindrical Profile Measuring Instruments
- Image Dimension Measurement System
- Digital Microscope
- Contour Measurement Machine
- Eddy Current Tester
- Hydraulic Pressure Tester
- Hybrid Type Nondestructive Inspection System

1. Digital Microscope
2. Dynamic Ultra Micro Hardness Tester

2nd Factory



3rd Factory



4th Factory

