



Building  
Future

**J-Press<sup>®</sup>**

The Best Piping a Building Can Get

**HYGIENE | RELIABILITY | SIMPLICITY**



*Stainless Steel Double Crimping Technology*

**50 Years Warranty\***

**Practical by Design**



\*for stainless steel 316L

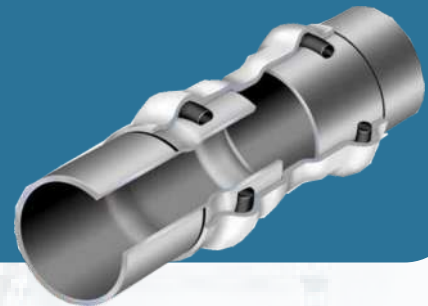


## Company Profile

J-Steel Systems Pvt. Ltd. was established in the year 2010 for marketing of Innovative Press-Fit Stainless Steel Plumbing System in North India. The commitment to the quality of the product and the services provided by the Company helped it to grow rapidly and establish good marketing network in India. "J-Press" is the first brand in India to be approved by CPWD for the prestigious projects like IITs, IISER, STPI, etc. It has been used in MES projects, Paramilitary forces projects like CRPF, etc. Now, the Company has taken the initiative to launch top of the line technology in Stainless Steel piping in India with Double Crimping Technology.

The company is headed by Pravin Goel (an Engineer and MBA from MDI), the renowned expert in Stainless Steel, having been given Gold Medal by Sugar Technologist Association for pioneering work in SS, a consultant who worked with Railway Designers for promoting SS use in Railway Coaches, and the person who brought the World Class Press-Fit technology in Stainless Steel in India.

J-Press, is the brand that brings the best piping technology in India at a reasonable price and targets the Good Quality Infrastructure projects of long lasting importance, high end residential projects, Hospitals, Hotels, Industries and Commercial Projects.



## Main Benefits of J-Press Piping System with V-Profile:

- **Hygiene:** Stainless Steel being corrosion resistant having anti-bacterial properties is known for its Hygiene Value
- **Innovative Press Fit Technology** with double crimping (V-Profile) helps protect 'O' ring from damage or displacement
- **Reliability:** Long Maintenance Free life of 50 years (304 grade in Drinking water and 316L for all water types)
- **High Pressure Rating:** Design Pressure of 25kgf/cm<sup>2</sup>, more than any other piping system
- **High Flow Rate:** C-Value of 150 means that a lower diameter of pipe will give a better flow rate of water as compared to GI or Plastic pipes
- **High Rise Buildings:** Suitable (Rather most reliable option for High Rise Buildings which are more than 6 storeys as it has lowest coefficient of thermal expansion as compared to Plastics)
- **Impact Resistance:** Makes this piping system Earthquake Proof as well as prevent drilling of pipelines by mistake
- **Ease of Installation:** No Welding or Threading make special skills unnecessary. Fast installation time.

## Applications of J-Press Piping Technology

- **RO Water System**
- **Residential:** High Quality Residences, Farm Houses, High Rise Apartments: which want trouble free and cost effective piping.
- **Hospitals:** OT theatre, Water Supply, Gases, Fire Fighting System
- **Hotels:** Water Supply, Fire Fighting System
- **Industry:** Compressed Air, Process Water, Solar Water, Cooling pipes, Water Treatment Plants
- **Infrastructure Projects:** Public building with heavy usage





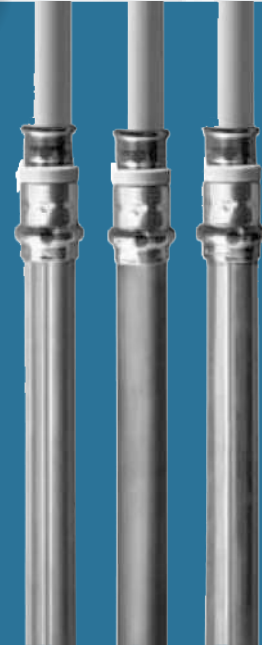
### Grade 304 of J-Press Applications

Suitable for RO water, treated drinking water, Compressed Air, Medical Gases, Solar water, Fire Fighting System with Chloride levels upto 200ppm and dissolved free chlorine upto 2 ppm

Suitable for Underground as well as concealed applications including Main Water Supply Systems

### Grade 316L of J-Press Applications

All applications as mentioned under 304 Grade  
Water of Borewell, higher Chloride content upto 1000ppm  
Suitable for Drainage Water, Chemical Industry, Pharmaceutical, and Industrial applications



### Product Specification:

**Pipe Standard** - JIS G 3448

**Fitting Standard** - JWWA G 116 (V-Profile)

Size (Inch)	JIS DN	OD (MM)	Wall Thk (MM)
½"	15	15.88	0.8
¾"	20	22.22	1.0
1"	25	28.58	
1-¼"	30	34.00	
1-½"	40	42.70	1.2
2"	50	48.60	
2-½"	65	76.10	
3"	80	88.90	2.0
4"	100	108.80	
6"	150	168.30	

### Specifications for Tender Document

Providing and fixing Stainless Steel Grade AISI 316L / AISI 304 pipes confirming to JIS G3448, JWWA G116, complete with "Press- Fit" V-Profile joining system (double crimping), EPDM O-ring for Hot and Cold water supply (brand "J-Press") capable to withstand temperature upto 110 degree centigrade along with fittings, such as sockets, bends, elbows, tees, reducers, unions, flanges, etc. necessary adapters for SS / GI/ Copper and CP fittings, complete.



### Types of Fittings



Coupler



Male Adapter



Female Adapter



Reducer



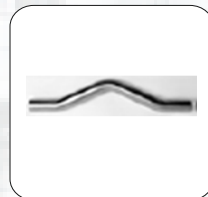
Elbow



Male Elbow



Slip coupling



Pipe Bend



Angle Adapter



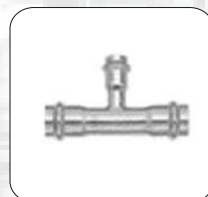
Valve Connector



Tee



Female Tee



Reducing Tee



Cap

### Types of O Ring and applications

Material	Temperature Range	Color	Application
EPDM	-50 C TO 120 C	Black	Drinking Water, Compressed Air, Solar Water, Fire system etc.
HNBR	-20 C TO 70C	Yellow	Petroleum Products, LPG, Forced Air Systems, Gas Installations ( Available on request only.



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Tooling Partner - Novopress | [www.novopress.de](http://www.novopress.de)



Crimping Tools



Crimping Tools

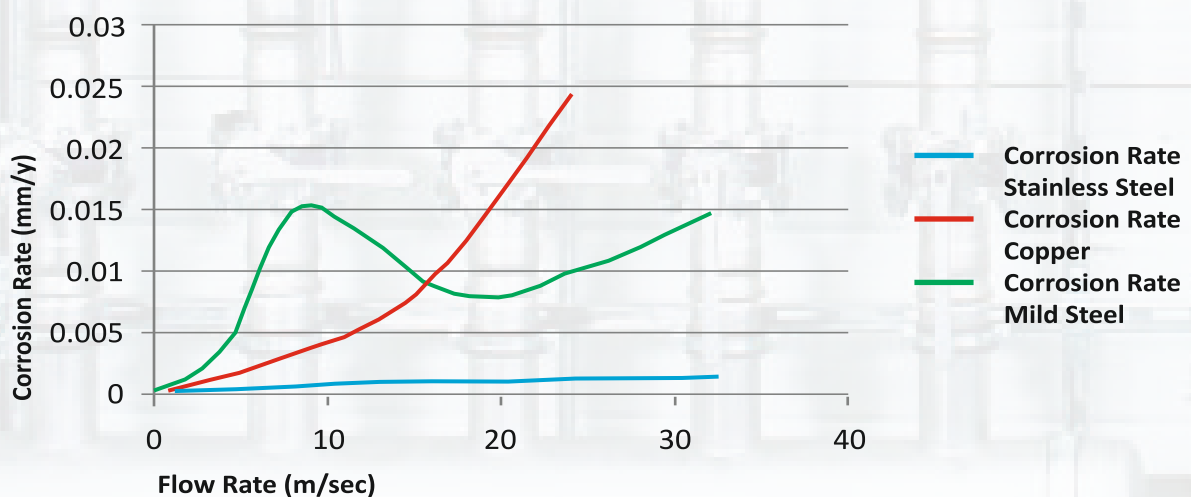


Pipe Cutter



Installed View

### Effect of Water Velocity on Corrosion Rate



Source: Nickel Development Institute • Stainless Steel corrodes the least at high flow rates



## CHEMICAL COMPOSITION

Steel Grade	Carbon (C)	Manganese (Mn)	Phosphorus (P)	Sulphur (S)	Silicon (Si)	Chromium (Cr)	Nickel (Ni)	Molybdenum (Mo)
304	0-0.08%	0-2%	0-0.045%	0-0.03%	0-1%	18-20%	8-10.5%	-
316 L	0-0.04%	0-2%	0-0.045%	0-0.03%	0-1%	16-18%	10-14%	2-3%

Steel Grade	0.2% Proof Stress MPa	Tensile Strength MPa	Elongation %	Hardness Test (HRB max)
304	230	540-750	45	80
316 L	240	530-680	40	79

## PHYSICAL PROPERTIES

AISI Type No.	Melting Point Range (°C)	Density (g/cm³)	Average Coefficient of Thermal Expansion (x10⁻⁶/°C)		Thermal Conductivity (cal/cm-sec°C)		Specific Heat (cal/g°C)	Electric resistivity (Ohm cm) R-T	Vertical modulus of elasticity	Magnetism
			0-100°C	0-650°C	100°C	500°C				
304	1399-1454	8.03	17.3	18.7	0.0388	0.0512	0.12	72	19.7	No
316-L	1371-1399	8.03	16	18.5	0.0388	0.0512	0.12	72	19.7	No

\* Source : Nickel Institute, European Stainless Steel Development Association

The Pressure rating for stainless steel Pipe for general service is 16 kg/cm<sup>2</sup> design. However, the pipes have been found capable enough to withstand fluid pressure as high as 25 Kg/cm<sup>2</sup> (355 psi).

## CORROSION RESISTANCE OF STAINLESS STEEL & OTHER MATERIALS

Physical Properties of Pipe Materials (Reference Values)

	Specific Gravity	Average Coefficient of Thermal Expansion (x10⁻⁶/°C) (0-100°C)	Thermal Conductivity (cal/cm-sec °C) (100°C)	Specific Heat (cal/g°C) (0-100°C)	Electric resistivity (micro-Ohm-cm) (Room Temperature)	Young's modulus 9kg/mm²	Magnetism
Carbon Steel Pipe for Ordinary Piping	7.86	11.6	0.142	0.115	14.2	21000	Yes
Phosphorus Deoxidized Seamless Copper Pipe	8.96	17.6	0.934	0.092	1.71	11000	No
Unplasticized Polyvinyl Chloride Pipe	1.43	70	0.12x10 <sup>-3</sup>	0.035	<=10x10 <sup>14</sup>	-	No
Heat-Resistant Unplasticized Polyvinyl Chloride Pipe	1.56	70	0.11x10 <sup>-3</sup>	0.25	<=10x10 <sup>14</sup>	-	No
Stainless Steel Pipes for Piping	7.93	17.3	0.039	0.12	72	19700	No

The Stainless Steel Association conducted immersion tests on stainless steel and other materials in hot water. The following table is an excerpt from the data in its report. The dissolution of stainless steel is very small, and in terms of both concentration of dissolved metallic ions and corrosion weight loss, we have the relationship SS 304 < copper < galvanised sheet. The quantity of dissolved iron ions is 107 times greater, and the corrosion is 77 times greater with galvanised sheet than SS 304. In case of Copper, the dissolved Copper ions is 8 times greater and corrosion is 10 times greater than SS 304.



## Comparison of SS piping with Other Materials

Parameter	GI	PPR	cPVC	Composite	Cu	SS	Why SS is Better
Corrosion Resistance	1	5	5	5	4	5	Stainless Steel grades 304/316L have better corrosion resistance. Even copper has Green corrosion of Copper
Hygiene	1	3	3	4	4	5	Food Grade, Recommended for Drinking water, Food and Pharma equipment
Maintenance Free Life	1	3	2	1	3	5	Minimum replacement costs
Enhances Building Life	1	3	3	1	4	5	Negligible leakage, hence least damage to building
Strength of Pipes	4	2	1	1	3	5	Stainless steel is the strongest among competing materials
Ease of Installation	2	2	3	3	2	5	Fast installation with Low Skill worker
Earthquake Proof	3	2	2	5	3	5	Withstands the vibrations and shocks due to its ductile
Cleanability	1	2	2	2	4	5	Lowest deposit buildup due to smooth surface
Food Grade	1	2	2	2	4	5	Meets all food grade standards
High temperature Application	3	1	1	1	4	5	Retains strength at high temperature
Low Temperature Application	3	1	1	1	3	5	Is not brittle at low temperature, unlike plastics or GI
Fire Resistant	4	1	1	1	3	5	Withstands High temperature.
Experience of Usage	5	1	1	1	5	5	Worldwide usage experience of 30-40 years
Outside Painting Required	1	5	5	5	5	5	No need of painting
Deposition of Algae	2	1	1	2	3	5	Smooth surface prevents algae buildup
Blockage Problem	1	2	2	2	4	5	No deposit buildup hence no blockage
Damage due to Drilling	4	1	1	1	4	5	Strongest material doesn't get damaged due to drilling
High Flow Rate of Water	2	3	3	2	3	5	Smooth and Wear resistant at High Flow rate
Low Roughness (less scaling)	1	3	3	2	4	5	Smooth surface prevents deposition
Usage in Public Building	1	1	1	1	2	5	Strong material not easily damaged
Wear Resistant	1	1	1	1	1	5	Not effected by sand or high flow rate
Joint Assurance System	3	1	1	1	2	5	No Welding or Solution joining. Permanent Mechanical Joint
Saves Pumping Energy	1	3	3	2	4	5	Smooth surface need less electricity
Water Quality affect	1	5	5	5	4	5	No change in water quality during storage
Pressure Rating	3	2	1	1	3	5	Highest Design pressure rating of 25 bar
Joint Strength	2	1	1	1	2	5	Press fit joint has foolproof and high strength joint
Application Range	3	2	2	2	4	5	Used for Air, Water and Many Gases
Less conducting (Jhiri) Requirement	2	1	1	3	3	5	As Pipe dia is less
High Wall Strength	3	1	1	3	3	5	Less Brick cutting for piping retains its strength
Saving in Labor Cost	1	4	5	5	1	5	Fast installation with Low Skill worker
Saving in Installation Time	1	3	3	5	1	5	Fast to install (approx 1/3rd time of GI piping)
Application in High Rise Buildings	3	2	2	2	4	5	Not affected by Vibration and Wind Speeds
Reduces Space requirement in	2	1	1	2	3	5	Since lower dia is possible, saving in Shaft sizes possible
Life Cycle cost	1	3	3	1	4	5	Lowest lifecycle cost
Equivalent ID (NB sizes shown)	½"	1"	1"	1"	½"	½"	Plastics are commonly denoted by OD sizes
Low Diameter possible (eq. OD)	¾"	1"	1"	1"	½"	½"	High flow rates, less deposits, allow for use of low diameter
Cost index (GI = 100%), incl. Labor	100	90	80	110	200	140	High flow rates, less deposits, allow for use of low diameter
<b>Total 5 * Ratings</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>2</b>	<b>34</b>	<b>Highest Rating in most parameters</b>

### Performance Parameters

- Pressure Rating — Design 25 kg/cm<sup>2</sup>
- Joint Strength — 3000N for 1/2"
- Max Flow rate — upto 20m/s possible

**1 = Poor, 5 = Excellent**

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CIN : U27100HR2013PTC050080, PAN - AADCJ1757D GST - 06AADCJ1757D1ZU