



**PRIMEGOLD**  
S.S. WATER PIPES



**FOOD GRADE**  
316 L Stainless Steel Water Pipes & Fittings

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**PRIMEGOLD INDIA LIMITED**

5/2, Punjabi Bagh Extn., Club Road, New Delhi-110026

e-mail : [pipe@primegoldgroup.com](mailto:pipe@primegoldgroup.com), [www.primegoldgroup.com/www.primegoldpipes.com](http://www.primegoldgroup.com/www.primegoldpipes.com)

## Profile

Ten years of extensive Research & Development in the field of plumbing pipes in order to solve the problem of leakage, ensure seepage free walls, hygienic water flow and to control increasing pollution hazards in various industries like chemical, pharmaceutical and food & beverage environment, Sh. Pradeep Aggarwal, an Industrialist, with vast experience in the steel industry got success in the year 2004. He ushered in a new era of manufacturing /marketing and distribution of infrastructure related product Primegold S. S. Water Pipes in the Indian market. Now, stainless steel has emerged as an alloy that is increasingly preferred for several plumbing projects.

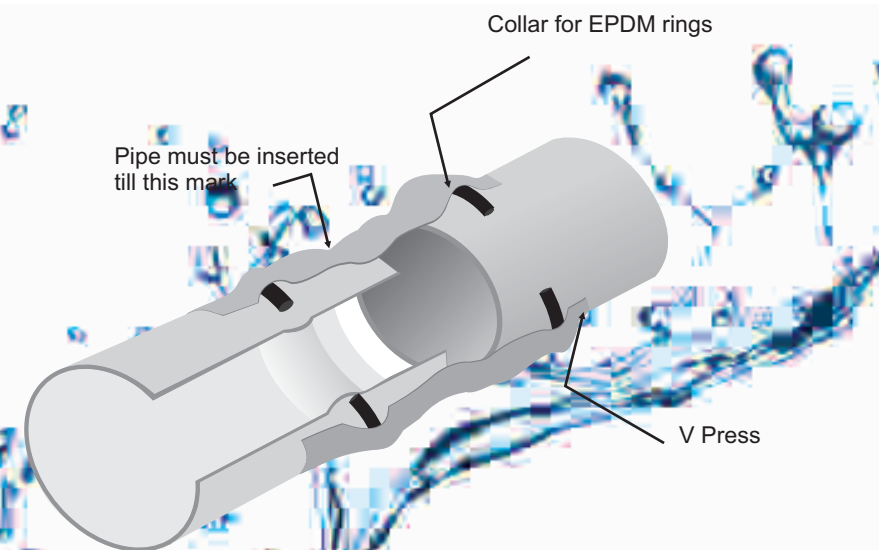
Prime Gold 316 L Grade Stainless Steel Pipe is one of the most hygienic pipes from the standpoint of water plumbing and environment as well. It is lightweight and can be used anywhere. Moreover it is strong enough to handle any pressure and offers easiest food grade approved plumbing.

Further, Primegold Pipes have lower friction as compared to cement lined or corroded carbon steel pipes ensuring less loss of water pressure along the pipeline. This provides an opportunity to diminish the internal diameter of the pipe and save capital cost. This is also a reason for a lower adhesion of deposits as well as lower bacteria colonization. It is also

## Primegold Stainless Plumbing System Grade 316 L

The integrated plumbing system consists of Stainless Steel Pipes and Fittings for distribution of water in various segments namely residential, commercial, industrial etc. It is available in all normal sizes used in Indian market.

V PRESS FITTING



## Advantages of Primegold Stainless Steel Integrated Plumbing System

### Corrosion Resistant

Primegold Stainless Steel is corrosion resistant steel. Corrosion is phenomenon as per oxide film theory whereby a thin, stable oxide film with passive coating is formed on the surface of a metal which protects from corrosion, while other plumbing systems like GI system are faster corroding with heavy re-installation costs and minimum service life on the other hand Stainless Steel continues to serve for several years.

### Hygienic

Using Primegold S. S. Water Pipe ensures water quality of portable water which gets compromised by using non food grade plumbing system.

### Minimum Maintenance

Once Primegold Stainless Steel Pipes is installed in the building, users will be free of heavy maintenance because it is designed for a minimum 100 years of service with minimum maintenance.

Primegold Stainless Steel Pipes, fitting and tools provide advantages to the user like easy installation in place of restricted accessibility in few seconds because of crimping tools, saves time and money, installation is very fast and

### Easy Installation

Due to hydraulic or electro-mechanical pressing tools, installation of Stainless Pipe and Fittings are easy. No welding or threading of the pipe is require for installation.

### Weight

With the help of press fitting tools, pipes are joined by pressing instead of threaded joints. So, thickness of the wall is reduced. Stainless Steel Pipe is made up of high strength material, therefore is able to hold up more stress than GI. In addition to this, the corrosion resistance of stainless steel significantly increases the life of the system.

### Earthquake Resistant

Earthquake programme conducted by Japanese Stainless Steel Association's (JSSA) on a structure to stimulate earthquake found Stainless Steel bears up earthquakes.



### Life

Stainless Steel plumbing system are in harmony with nature, conserve energy, and easy in maintenance. As per the \* CBRI report Primegold Stainless Steel Pipes has more than 100 years life with minimum maintenance.

### Tolerate High Pressure of Liquids and Gasses

Stainless Steel Pipe is made-up of high strength material which can take the pressure upto 10-12 bars or 250 psi.

### Smoother Bore

Due to low coefficient of friction, it provides lower pumping cost and almost insignificant loss of pressure.

### Fire Risk

Without using any fire protection stainless steel pipes can be installed in fire risk areas, because it is non-flammable.

### Environmental Benefit

Supply of water through stainless steel is quality wise better for drinking because stainless steel is corrosion free and will not cause contamination.

### Recyclable

It is easily recycled and their alloy content is highly valued. For the recycling process ferrous material are used, which produce on an average 60% recycled content.

### Length

Primegold Stainless Steel Pipes are available in Indian market in a comfortable length of 3 meters.

\* as compare to the pipe



# Properties of Primegold Steel Pipes

## Mechanical Properties

	Tensile Strength (kg/mm <sup>2</sup> )	Elongation (%)
Carbon Steel	35.5 (<=30)	46.4 (<=30)
Unplasticised PVC	5.3	53
Heat Resistance Unplasticised PVC	5.3	100
Stainless Steel	73.6 (<53)	47.5 (<=35)

## Physical Properties

	Specific Gravity	Av. Coefcient of Thermal Expansion 10 <sup>-6</sup> /k 0-100°C	Conductivity (cal/cm-sec°C) 0-100°C	Specific Heat (cal/g°C) 0-100°C	Electric Resistivity (μ-cm) Room Temp.	Young's Modulus	Magnetism
Carbon Steel	7.86	11.6	0.142	.115	14.2	21,000	Yes
Unplasticised PVC	1.43	70	0.12×10	0.035	<=10×10 <sup>14</sup>	-	No
Heat Resistance Unplasticised PVC	1.56	70	0.11×10	.25	<=10×10 <sup>14</sup>	-	No
Stainless Steel	7.93	17.3	0.039	0.12	72	19,700	No

## Thermal Expansion

The expansion coefficient of AISI 316l (no. 1.4404) stainless steel in the range of temperature from +20 upto +200°C is 1.65 10<sup>-6</sup> /K. A pipe is subject to temperature variation, the expansion of the pipe depend on temperature and pipe material quality.

## Expansion of Pipes of Different Materials

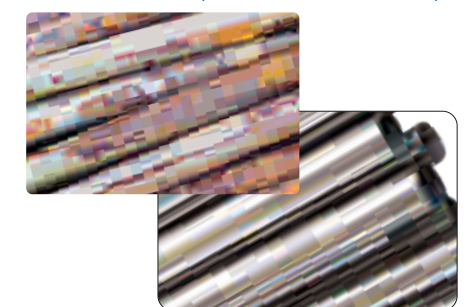
Under given table is indicating value compared with the expansion coefficient of other

12	Pe (Plastic)
8	Pvc (Plastic)
2.98	Zink
2.83	Lead
2.4	Aluminum
1.7	90/10 Copper-Nickel
1.65	Copper
1.65	Stainless Steel
1.1	Carbon Steel
0.9	Cast Iron

S.S. 316L Grade Standard	Pipe	Fittings
Grade	AISI-316L	AISI-316L
Standard	JIS-3448	JWWAG-116

\*Suitable for Drinking water as per IS 10500  
Maximum Chloride level upto 1000 ppm

## Salt Spray Test Comparison



# Application of Primegold Stainless Steel Plumbing System



## Drinking Water

Primegold latest technology introduce Stainless Steel plumbing system is a safe and beneficial system in all application for drinking water.

## Heating/Cooling

Primegold press fittings are ideal to use in hot/cold water system, easy to install with guarantee of a perfect seal. For higher working temperature, Brown colour o-ring that resist temperature close to 200°C is available.

## Compressed Air

Primegold press fittings are ideal for compress air system with a maximum operating pressure of 6 bars.

## Fire Protection

Primegold press fittings can bear pressure upto

## SPECIAL APPLICATION OF 316 L

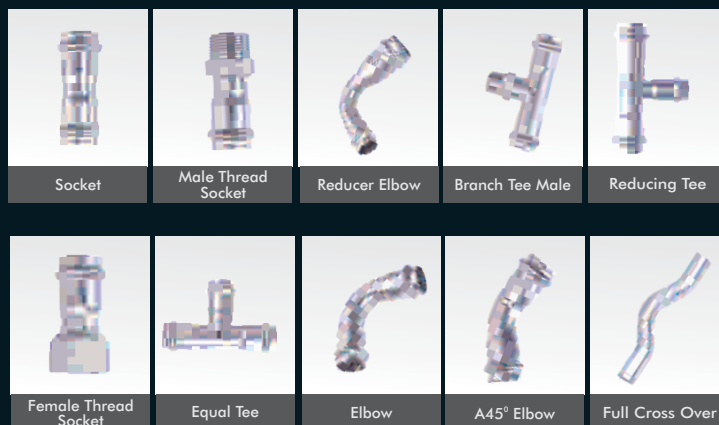
### Non Portable Water

Primegold 316L can be used other than portable water such as chemical/ drainage system.

### Naval Construction

It can also be used in naval construction, where installation and firmness is necessary, for example in the internal tracts of ships to convey refrigerated water, water for sanitary uses or firefighting system.

# 316 L Grade Fittings & Crimping Tools



# Pipe and Fitting Range

Size	OD (in mm)	Thickness (in mm)
1/2"	15.88	0.80
3/4"	22.22	1.00
1"	28.58	1.00
1 1/4"	34.00	1.20
1 1/2"	42.70	1.20
2"	48.60	1.20
2 1/2"	60.50	1.50
3"	88.90	2.00

\* Pipe as per JIS 3448



## EPDM detail for Water Plumbing \*

Material	Percentage	Function
EPDM Rubber	32.00%	
Filling (Calcium Carbonate)	16.00%	Stabilize, avoid D-shaper of rubber
Reinforce (N330, N550)	31.20%	Provide crack resistance
Softener (Paraffine Oil No.-300)	15.20%	Avoiding penetration due to moisture
Accelerator	01.12%	Provide high physical property
Vulcanizer resistance	00.64%	Provide weather resistance and ageing resistance
Other	03.84%	To give shape



## Other EPDM Detail\*

Material	Colour	Temp.	Function	Usage
Fluoronrubber		Brown	-30°C - 170°C	16Steam
high temperature hot water				



## Crimping Tool

Crimping Rage	Cu16-43mm <sup>2</sup>
Crimping Force	16T
Crimping Type	Hexagon
Crimping	
Stroke	20 mm
Length	Approx. 500mm



\* Prior Information required for special purpose EPDM