



# Stainless Steel 904L Flanges

Prepared for :

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Statement of Confidentiality:

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# Introduction

Duplex Supply Inc. are the suppliers of Stainless Steel 904L Flanges over the past decade. We are one of the in-competitive brands in alloy industry. We go with the saying “Customer is king” thus we make our Clients buying feel worth. Today, our industry is filled with high volume but low-quality suppliers which are below the line with what the industry requires. Because of such situations, it results in lapse of the quality of goods and hence, the entire project. We also look after it that our industrial Hazards are dumped appropriately and not polluting the environment also we have such procedures in factory by which the harm-full chemicals are directly ventilated which doesn't harms environment and houses located around our factory. We present customers in various countries for all size demand. We have always kept our Vision clear which serves best in acquiring our mission. Stainless Steel 904L Flanges that we supply are of fine quality materials. We modify the changes required in industry with changing time and keep getting superior Control over the quality of our product. The main aim of this organization is to provide commodities of determined quality, in addition to making our client's buying experience world-class and a memorable one. Today our firm is one of the admirable Organization in Industry, Which makes us secluded in such a Competitive Industry. Our Product Reliability and performance has made us one of the top brands. Because of such service our clients recommend us to other prospectors which is more than enough to prove our distinction in steel industry. Duplex Supply Inc. Works in consideration of Clients, Environment and best Quality we do no compromise in these matters.



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# Product & Application

A flange is a forged or a cast ring of a metal designed to connect sections of pipe or join pipe to a pressure vessel, pump or any other integral flanges assembly. Stainless Steel 904L Flanges are connected to each other by bolting and joined to the piping system by welding or threading. Basic types of flanges are Stainless steel flanges, Alloy Flanges, Carbon flanges, etc.

Flanges are designed to following pressure rates:  
150lb,300lb,400lb,600lb,900lb,1500lb and 2500 lb

Stainless Steel 904L Flanges have variety of applications in the following industries:

- Oil & Gas
- Petrochemical Refineries
- Pipeline Transmission
- Pulp And Paper Manufacturing
- Research & Development
- Plumbing
- Submarines

The most common facings machined on Stainless Steel 904L Flanges are:

1. Raised face, 1/16 inch for 150lb and 300lb 1/4th inch for 400lb and heavier
2. Flat face, for 150lb and 300lb only, other may be flat face on request.
3. Ring type joint, may be applied to all pressure ratings.

Various types of Stainless Steel 904L Flanges are as follows:

- Weld neck flange
- Slip on flange
- Socket weld flange
- Threaded Flange
- Lap Joint Flange
- Blind Flange

Special pipeline Stainless Steel 904L Flanges:

- Orifice Flange
- Long Weld neck Flange
- Reducing Flange
- Expander Flange
- Nipo Flange
- Nozzle Flange
- Weldo Flange
- Spades and ring spacer
- Spectacle Flange



# Flange Facing

## 1. Raised Face

Raised Face is the most applied flange facing type and easy to identify. Gasket surface is raised above the bolting plane. The principle of raised face is to establish more pressure on a smaller gasket area the thereby increase the pressure containment capability of the joint. As per ANSI/ASME B16.5, flanges designed under pressure class 300 lbs has 1.6mm raised face height and 6.4mm for flanges over 400 lbs and 2500 lbs pressure class.

## 2. Flat Face (FF)

Flat Face Flanges have gasket surface in the same plan that of the bolting surface. Mostly flat facing is applied on flanged ends which are produced by castings or fiber glass.

Flat Face flanges are never to be bolted against a raised face or any other. If required, the raised face should be removed prior to installing. Failing to which will result in damage and shut down of the process.

## 3. Tongue & Groove (T&G)

Like Male-Female, Tongue & Groove Stainless steel 904L Flanges also must be matched too. One flange has a raised ring called as Tongue machined into the face while the mating flange has a matching depression or the groove. Prominently found on flanged pump covers and valve bonnets. Also used for high temperature and high pressure applications. None of the facing should be inter-joined to create any flange joint.

## 4. Ring Type Joint (RTJ)

Ring Type Joint have grooves cut into their faces to accommodate a steel ring gasket between two similar RTJ facing and form a tight seal when the bolt is tighten. An RTJ Flange may have a raised face with a ring groove but it does not serve as any part of the sealing assembly. Ring Type Joint Stainless steel 904L flanges are applied for high pressure high temperature application with “initial line contact” mechanism served by the metallic ring gaskets.

## 5. Male & Female (M&F)

Male & Female Grooved Flanges must be matched. One flange has an area that extends beyond the normal flange face, which is male joint. The other flange or mating flange has a matching depression or groove machined into its face to create the locking mechanism. Male Female Joint Flanges are commonly used for high pressure and high temperature services namely Heat Exchanger & Boiler assemblies.



# Materials

Principal Design Features	904L is an austenitic stainless steel designed for moderate to high corrosion resistance. Its low carbon content improves cleanliness and weld strength.
Applications	Utility scrubber assemblies, acid and fertilizer production equipment.
Machinability	Slow speeds and positive feeds will minimize this alloy's tendency to work harden and glaze. Use chip breakers where possible to overcome problems with long draggy chips.
Welding	Most common fusion and resistance methods may be employed. For maximum corrosion resistance, it is recommended to use filler metals of equal or higher alloy content.
Hot Working	Hot work should proceed after uniform heating to 2000-2200 F. Do not work the material at less than 1800 F. Full annealing should follow any hot work to retain maximum ductility and corrosion resistance.
Cold Working	Although higher forces are required, 904L will respond in a similar fashion to other austenitic stainless steels like 304, 316 or 317. Most common operations can be successfully performed.
Annealing	1920-1990 F (1050-1090 C), rapid cooling.
Hardening	This alloy does not respond to heat treatment. It may only be hardened by cold reduction.

- Wiring in electrostatic precipitators
  - Oil refinery components
  - Seawater cooling devices
  - Gas scrubbing plants
  - Pulp and paper processing industries
  - Acetic, phosphoric and sulphuric acid processing plants
- This material is then used to make Stainless steel 904L flanges



# Quality

Duplex Supply Inc. strongly has characteristic Quality control over all our products and our esoteric work quality and product quality makes us one of the top manufacturers in Industry. We provide Best Quality Stainless Steel 904L Flanges. Quality is our peak concern. We sustain high Quality Standards through our Committed Personnel and Sound Infrastructure. Not even a single fitting is left without a 3 layer inspection of chemical test, mechanical test, visual inspection, dimension inspection, pressure test, gauge test and conformity to the order. Quality Assurance System is beacons by Axioms that support our work culture which hooks in respect, self-administration, imaginative and self-articulation. Duplex Supply Inc. is backed by all the possible certifications of a world class mill including ISO 9001:2008, ISO 14001:2007, OHSAS 18001: 2004 & CE-PED 97/23/EC. We are also members of various renowned agencies and Chambers of Commerce including MASSMA, EEPC, FICCI, FIEO, Indian Merchants Chamber etc.

We are Highly Concerned about our customer's expectations.



We Strain To always act with probity and Honesty.

We Aim To be Paramount in our Industry.



We do our absolute best to esteem our commitments.

We are delighted to be saturated with loads of order 50 days schedule ahead of time. Every single piece of our product is attached with test certificates and authentication certificate of our Quality Product. Day by Day we keep moving to improve Quality of our products for our client. We also welcome any third party inspection from an agency nominated by the customer to comply with NACE 3.2 Certification if required by customer at an extra costs satisfaction. Our Quality Management systems and work plans ensures pursuance of total Quality Management .We never compromise in terms of Quality of Stainless Steel 904L Flanges and also for our other products. We follow stringent Quality Norms and ethics by monitoring each production process which leads in supreme product quality. With years of experience in manufacturing we offer High Quality, Lower cost and Best service. Quality Assurance begins with understanding Customer's needs and is continued till the customer is completely convinced with the delivery of products and services. Stainless Steel 904L Flanges is one of the rough and tough product due to its great quality. We efficiently fulfil customer's needs in terms of Cost, Quality and Delivery.



# Why Clients Choose us ?

Our clients have their trust in us and our Products because Duplex Supply Inc. is the most popular vendor of Stainless Steel 904L Flanges. We uniformly export our products to all the 5 continents in the world. Stainless Steel 904L Flanges are supplied majorly in Middle Eastern countries. Our all products are of marvelous quality. We have always followed saying of "Customer is king" for us and their satisfaction is what we aim for. Product replacement warranty is given. Our products can sustain high pressure. As of 2015, we stocked 500 tons of Stainless Steel 904L Flanges, highest in the country. With Duplex Supply Inc. you get un-comparable buying experience of products made from best raw materials. We execute both small and bulk orders. Every 4 months a 3rd party inspection is conducted.

## Customer is king

Duplex supply Inc. furnishes MTC with EN10204 NACE 3.1, NACE 3.2 specifications. All clients are provided with a copy of the same. Duplex Supply Inc. have the distributor in more than 15 countries. With ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007 certificate We are majestic manufacturer and exporter of Stainless Steel 904L Flanges. Duplex Supply Inc. has emerged to become the most trusted company in several European, African and gulf based companies.

No compromises are made even when it comes to the packing of our products for sea as well as air transport. Also, the raw material taken for manufacturing is of the highest grade. Our specialized logistic team focuses on delivering the first model, which provides for instant dispatch against the receipt of bank transfer copy. At competitive pricing, Duplex Supply Inc. has become the ultimate destination of Stainless Steel 904L Flanges buyers Duplex Supply Inc. is looking forward to providing you with your specialty metal needs. Also the Customization we do on personal demand of customers gets us client satisfaction and our high quality products with flexible pricing makes us admired by our clients our clients feel delighted in buying our products and consumer satisfaction in itself is the biggest achievement for our firm.



# Technical Details

Chemical Composition, %											
	C	Mn	Si	P	S	Cr	Mo	Ni	N	Fe	Cu
Min	-	-	-	-	-	19	4	23	-	-	1
Max	0.02	2	1	0.045	0.035	23	5	28	0.15	Bal	2

Mechanical Properties	
UTS Min (MPA)	490
Yield Min (MPA)	220
Elongation MIn (%)	35
Hardness Max (HRB)	90
Heat Treatment	1090 - 1175°C



# Production



# Packaging & Documentation

## Production of Stainless steel 904L Flanges:

The production Raw material is subject to heat treatment for optimum use of dye for processes ahead. Then the flanges are made as per dimensions specified in the ANSI Standards with hub or without addition of the hub. Then the flanges are machines and finished followed by marking. Process of flanges is as follows.

Production process of Stainless steel 904L Flanges includes Flange Face Finishing process which has following steps:

### 1. Stock Finish

Most widely used among any flange face finish and practically suitable for flanges under all ordinary service conditions. Under bolting compression, the soft face from a gasket will embed into this finish, which helps create a seal and a high level of friction is generated between the mating surfaces.

### 2. Spiral Serrated

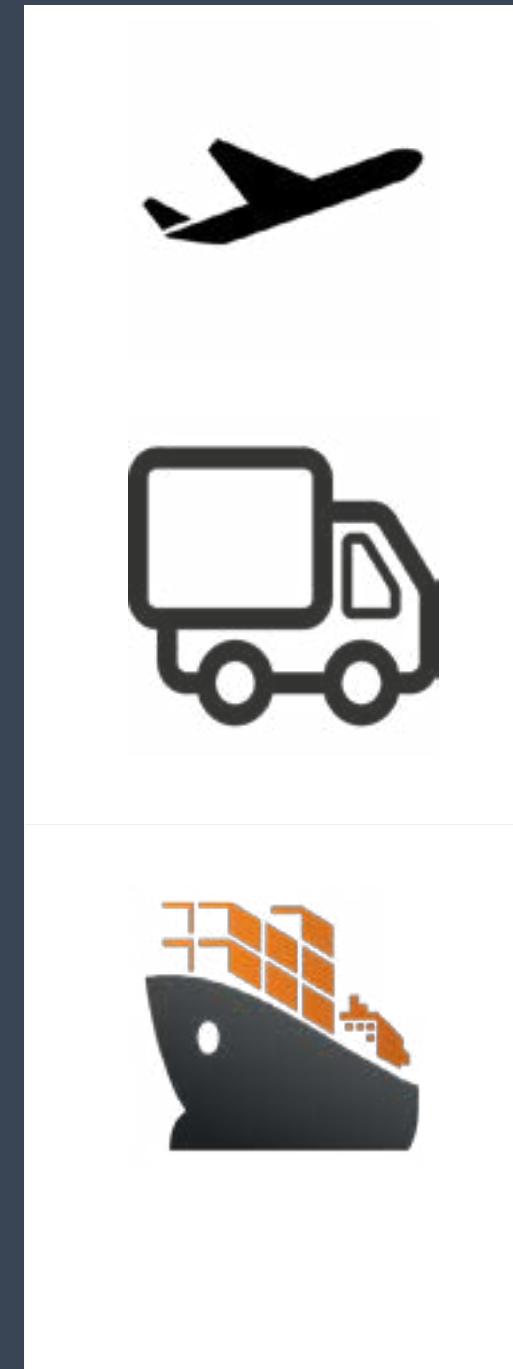
Spiral serrated finish is a continuous or photographic spiral groove but it differs from the stock finish in that the groove typically is generated using a 90-deg tool which creates a “V” geometry with 45 Degree angled serration in Stainless steel 904L Flanges.

### 3. Concentric Serrated

As the name suggest, concentric serrated finish comprised of concentric grooves. A 90 Degree angle tool is used and serrations are spaced evenly across the faces of Stainless steel 904L Flanges.

### 4. Smooth Finish

Smooth finish shows no visual apparent tool markings. These finishes are typically utilized for gaskets with metal facings such as double jacketed flat steel and corrugated metal. The smooth surfaces mate to create a seal and depend on the flatness of the opposing faces to effect a tight seal. This is typically achieved by having the gasket contact surface formed by a continuous spiral groove.



Duplex Supply Inc. provide the certificate of origin legalized/attested by the chamber. Also, a commercial invoice including HS code is provided. Our product packing lists which come with the product includes a number of boxes, net weight, and gross weight. We provide test certificate certifying NACE MRO103, NACE MR0175 during the delivery of Stainless steel 904L Flanges to our Clients,



Along with this, a raw material test report is provided as well. Our laboratory reports that are NABL approved also is provided to our loyal customers. Other reports like raw material reports, heat treatment charts and letter of guarantee is also provided by Duplex Supply Inc. Our stainless steel 904L Flanges are packaged in such a way that no damage is caused during the time of delivery. We provide a free sample kit for all clients against purchase order copy for quality approval free of cost. Request your free sample kit now and get your personalized orders at tip of your We offer price basis depending on your requirements. It can be based on previous works, FOB Nhava sheva, CFR, CIF, CPT your destination port or your door to door delivery duty which can be paid or unpaid finger by ordering it online.





# About Duplex Supply Inc.

Duplex Supply Inc. is a privately held stockiest supplier and manufacturer of various alloy and metal products, the head office is located in Mumbai. DSI is committed to provide merit quality serviceability to all its customers with the minimal lead time.

Duplex supply Inc. provides shipping for all over global Customers. DSI has made noteworthy impact in metal Industry. With Duplex Supply Inc. you get un-comparable buying experience of products made from best raw materials. Duplex Supply Inc. has emerged to become the most trusted company in Indian market and in several European, African and gulf based companies. Duplex Supply Inc. is backed by all the possible certifications of a world class mill including ISO 9001:2008, ISO 14001:2007, OHSAS 18001: 2004 & CE-PED 97/23/EC.

**“Your wish we Accomplish, You Demand we Deliver”**



## OUR MISSION

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Our Aim is At Business Excellence through Higher business ethics and standards, Optimum use of resources, Spirit of Entrepreneurship.



## OUR PRECISION

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We are very Accurate from our Production System to our Delivery System we handle all our goods very precisely. We precisely fulfill all our promises to the clients and make sure that they have no complaints regarding our products.



## OUR VISION

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To provide best Quality products and service to our Clients and fulfilling their demands beyond their expectations and to be globally esteemed organization.



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# We Look Forward to Hearing From You...

After knowing about all the information above mentioned regarding our products we look forward a hearing from you regarding any Queries and Orders we are delighted to serve all our customers the existing ones and also we welcome our new customer orders. We assure that our products will never disenchant you.



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