



**BHANSALI**  
Inc.



An ISO 9001:2008 Company  
Certificate No. 8510000115114



**Stainless Steel Bars**



## Stainless Steel Bright Bars (Cold Drawn)

### Applications :

Machined Components, Pump Shafts, Valves, Fasteners, Machine Tools, Dairy Equipments, Surgical & Medical Parts, Threaded Bars, Studs, Bolts, Pins, Hinges and Handles.

Condition	Cold Drawn & Polished	Cold Drawn, Centreless Ground & Polished	Cold Drawn, Centreless Ground and Polished (Strain Hardened)
Grades	201, 201Cu, 202, 202Cu, 303, 304, 304L, 310, 316, 316L, 321, 409Ti, 410, 420, 420B, 416, 430, 431, 430F, 630 (17-4 PH) & others		304, 304L, 316, 316L
Diameter (Size)	2mm to 5mm 1/8" to 3/16"	6mm to 25mm 1/4" to 1"	10mm to 40mm 3/8" to 1-1/2"
Diameter Tolerance	h9 (Din 671), h11 ASTMA 484	h9 (Din 671) ASTMA 484	h9 (Din 671), h11 ASTMA 484
Length	3 upto 7 meter 12 upto 24 feet	3 upto 7 meter 12 upto 24 feet	3 upto 7 meter 12 upto 24 feet
Length Tolerance	-0/+200mm or +100mm or +50mm -0"/+1 feet or +4" or 2" And as per customer requirement	-0/+200mm or +100mm or +50mm -0"/+1 feet or +4" or 2" And as per customer requirement	-0/+200mm -0"/+1 feet And as per customer requirement



- We can give Chamfering of 30 or 45 degrees on one or both the ends with our dedicated chamfering machine.
- For Strain-Hardened Bars, we can supply in B8(304) and B8M(316) in Class1 and Class2.



Peeling Machines

## Stainless Steel Bright Bars (Peeled/Turned)

### Applications :

Machined Components, Fittings, Pump Shafts, Valves, Seals, Spindles, Fasteners, Machine Tools, Dairy Equipments, Threaded Bars, Studs, Shackles, Swivels, Screw Stoppers, Parts of Printing Press.

Condition	Peeled, Centreless Ground & Polished	Peeled & Polished	Peeled (Rough Turned)	Forged, Rough Turned
Grades	201, 201Cu, 202, 204Cu, 303, 304, 304L, 310, 316, 316L, 321, 409Ti, 410, 420, 420B, 416, 430, 431, 430F, 630 (17-4 PH) & others			303, 304, 304L, 316, 316L, 410, 416, 420, 431
Diameter (Size)	25mm to 85mm 1" to 3-1/4"	85mm to 140mm 3-1/4" to 4-3/4"	25mm to 140mm 1" to 5-1/2"	150mm to 400mm 6" to 16"
Diameter Tolerance	h9 (Din 671) (ASTM A 484)	h11	K12/K13 (Din 1013)	-0mm/+3mm (-0"/+0.12")
Length	3 upto 7 meter 12 upto 22 feet	3 upto 7 meter 12 upto 22 feet	3 upto 7 meter 12 upto 22 feet	3 upto 6 meter 12 upto 20 feet
Length Tolerance	-0/+200mm or +100mm or +50mm -0"/+1 feet or +4" or 2" And as per customer requirement	-0/+200mm or +100mm or +50mm -0"/+1 feet or +4" or 2" And as per customer requirement	-0/+1000mm or 500mm -0"/+3 feet or +2 feet And as per customer requirement	-0/+2 meter- -0/+6 feet



Polishing & Straightening



Hex & Square Polishing Machine

## Stainless Steel Hexagon & Square Bars

**Applications :** Ball Valves, Needle Valves, Filter Valves, Connectors, Couplings, Plugs, Hose Ends, Manifolds, Nuts, Bolts

Type	Cold Drawn and Polished (Squares)	Cold Drawn and Polished (Hexagons)
Grades	304, 304L, 316, 316L	304, 304L, 316, 316L
Diameter (Size)	5mm to 40mm (1/4" to 1-1/2")	10mm to 40mm (3/8" to 1-1/2")
Diameter Tolerances	h11 (ASTMA 484)	h11 (ASTMA 484)
Length	3/4/6 meter (12/14ft/20feet)	3/4/6 meter (12/14ft/20feet)
Length Tolerance	-0/+500mm (-0"/+2 feet)	-0/+500mm (-0"/+2 feet)



## Stainless Steel Threaded Bars

**Applications :** Ground Anchors, Resin Anchors, Rock Bolts, Tie Bars, Roof and Hanger Bolts.



Thread Rolling Machine

Condition	Cold Drawn, Threading
Grades	304, 304L, 316, 316L
Diameter (Size)	M8 to M40 (5/16" to 1-1/2")
Threading Method	Thread Rolling
Thread Condition	Fully Threaded
Thread Type	ANSI B1.1 Class 2A Fit
Length	2/3/4 meter (6/12ft)
Length Tolerance	-0/ +200 mm (-0"/+ 8")



## Stainless Steel Precision Bars

**Applications :** Piston Rods, Pump Shafts, Boat Shafts, Cylinder Shafts, Precision Machined Parts, Automotive Components & Others.

Condition	Cold Drawn, Centreless Ground & Polished	Peeled, Centresless Ground & Polished
<b>Grades</b>	303, 304, 304L, 316, 316L, 410, 416, 420, 430F, 431, 630 (17-4 PH) & others	
<b>Diameter (Size)</b>	6mm to 25mm (1/4" to 1")	25mm to 85mm (1" to 3-1/4")
<b>Surface Finish</b>	Upto Rms-12 max. Upto Ra 0.2 max	Upto Rms-12 max. Upto Ra 0.2 max
<b>Diameter Tolerance</b>	h7, h8, f7, f8 Half of ASTM A484	h7, h8, f7, f8 Half of ASTM A484
<b>Straightness</b>	0.5 mm per meter TIR (0.0015 inch per feet)	
<b>Out of Roundness</b>	Half of Diameter Tolerance	Half of Diameter Tolerance
<b>Length</b>	3 upto 7 meter (12 upto 22 feet)	3 upto 7 meter (12 upto 22 feet)
<b>Length Tolerance</b>	-0/+50mm or +20mm or +10mm -0/+2" or 1" or 1/2"	-0/+50mm or +20mm or +10mm -0/+2" or 1" or 1/2"
<b>Heat Treatment</b>	Annealed/Quench & Tempered	Annealed/Quench & Tempered

Superior Surface Finish, Diameter Tolerance & Straightness is achieved by additional processes, such as Straightening, Roller Burnishing and Centreless Grinding.

Precision Bars are 100% inspected for diameter tolerance, out of roundness, surface roughness & straightness by specially designed instruments & gauges.

Ultrasonic Inspection is done to ensure bars are free from internal defects. Bars are packed in strong plywood boxes with each bar protected with distance rings to avoid scratches.





## Stainless Steel Improved Machining Bars

**Applications :** Precision Components, Machined & Turned Parts, Automotive Components.

Condition	Cold Drawn, Centreless Ground & Polished	Peeled, Centresless Ground & Polished
Grades	303EHS, 416XM (Sulphur 0.30 to 0.35) 304, 304L, 316, 316L (Sulphur Min 0.015) 430F, 1.4404 (Sulphur 0.27 to 0.31)	
Diameter (Size)	6mm to 25mm (1/4" to 1")	25mm to 85mm (1" to 3-1/4")
Diameter Tolerance	h9 (Din 671) ASTM A 484	h9 (Din 671) ASTM A 484
Length	3 upto 7 meter (12 upto 22 feet)	3 upto 7 meter (12 upto 22 feet)
Length Tolerance	-0/+200mm or +100mm or +50mm -0"/+1 feet or +4" or 2"	-0/+200mm or +100mm or +50mm -0"/+1 feet or +4" or 2"

We offer special grades of Stainless Steel Bars with Improved Machinability. These grades undergo special melting process, Calcium-Silica (Casi) Treatment and High Sulphur Contents are key characteristic of these grades.

During Machining of components these grades result in increased productivity, better tool life and excellent chip breakage.



## Grades – Chemical Composition and Equivalent Standards

Stainless steel is essentially a low carbon steel which contains chromium at 10% or more by weight. It is this addition of chromium that gives the steel its unique stainless, corrosion resisting properties. The corrosion resistance and other useful properties of the steel are enhanced by increased chromium content and the addition of other elements such as molybdenum, nickel and nitrogen.

AISI ASTM	Equivalent EN/DIN	C % Max	Mn % Max	Si % Max	S % Max	P % Max	Cr % Max	Ni % Max	Mo % Max	Others %
201	-	0.15	5.50-7.50	1.00	0.030	0.060	16.00-18.00	3.50-5.50	-	-
201Cu		0.10	8.00-8.50	1.00	0.030	0.080	14.00-16.00	1.00-1.50		Cu: 1.50-2.00
202	-	0.15	7.50-10.00	1.00	0.030	0.060	17.00-19.00	4.00-6.00	-	-
204Cu	1.4597	0.10	7.00-8.50	1.00	0.030	0.060	16.00-18.00	1.25-2.00	-	Cu: 2.00-3.50
303	1.4305	0.15	2.00	1.00	0.15 Min.	0.045	17.00-19.00	8.00-10.00	-	-
303EHS	1.4305	0.15	2.00	1.00	0.30-0.35	0.045	17.00-19.00	8.00-10.00	-	-
304	1.4301	0.07	2.00	1.00	0.030	0.045	18.00-20.00	8.00-11.00	-	-
304L	1.4307	0.03	2.00	1.00	0.030	0.045	18.00-20.00	8.00-12.00	-	-
310S	1.4845	0.08	2.00	1.50	0.030	0.045	24.00-26.00	19.00-22.00	-	-
316	1.4401	0.07	2.00	1.00	0.030	0.045	16.50-18.00	10.00-14.00	2.00-3.00	-
316L	1.4404	0.03	2.00	1.00	0.030	0.045	16.50-18.00	10.00-14.00	2.00-3.00	-
316Ti	1.4571	0.08	2.00	1.00	0.030	0.045	16.50-18.00	10.00-14.00	2.00-3.00	Ti: Min (5xC% to 0.70)
317LN	1.4438	0.03	2.00	1.00	0.030	0.045	18.00-20.00	11.00-15.00	3.00-4.00	N: 0.10-0.22
321	1.4541	0.08	2.00	1.00	0.030	0.045	17.00-19.00	9.00-12.00	-	Ti: Min (5xC%)
409Ti	1.4512	0.08	1.00	1.00	0.030	0.040	10.50-11.75	0.50	-	Ti: 6xC% - 0.75 max
410	1.4006	0.15	1.00	1.00	0.030	0.040	11.50-13.50	-	-	-
416	1.4005	0.15	1.25	1.00	0.15 Min.	0.040	12.00-14.00	-	-	-
416XM	1.4005	0.15	1.25	1.00	0.30-0.35	0.040	12.00-14.00	-	-	-
420	1.4021	0.15 Min.	1.00	1.00	0.030	0.040	12.00-14.00	-	-	-
420B	1.4028	0.26-0.35	1.00	1.00	0.030	0.040	12.00-14.00	-	-	-
430	1.4016	0.12	1.00	1.00	0.030	0.040	16.00-18.00	-	-	-
430L	1.4016	0.03	1.00	1.00	0.030	0.040	16.00-18.00	-	-	-
430F	-	0.12	1.25	1.00	0.15 Min.	0.060	16.00-18.00	-	-	-
430FDN	1.4104	0.10-0.17	1.50	1.00	0.15-0.35	0.040	15.50-17.50	-	1.50-2.50	-
431	1.4057	0.20	1.00	1.00	0.030	0.040	15.00-17.00	1.25-2.50	-	
174-PH	1.4542	0.070	1.00	1.00	0.030	0.040	15.00-17.50	3.00-5.00	-	CU:3.00-5.00%, Cb:0.15-0.45%

\* We can also give customised chemistry as per customer requirement



## Quality Assurance

Quality Assurance At Bhansali starts with understanding the Customers Requirement and continues till the customer is completely satisfied with the delivery of products and services. Quality Control procedures are well defined and thoroughly implemented.

**Incoming Inspection :** Incoming Raw Materials are the foundation for the final product. We make sure that we start with the best raw materials. Our suppliers are well-informed with our quality requirements.

Raw Materials are inspected for:

- Chemical & Mechanical Properties
- Surface Quality

**In-Process Inspection :** In-Process Quality Control Procedures are defined to the minutest details. These procedures enable operators, supervisors and quality control inspectors to produce the best quality products. Our Production team is at the core of the quality assurance system.

In-process Materials are inspected for:

- Dimensional properties such as tolerance, lobing, out-of-roundness, length, straightness
- Inprocess Mechanical Properties such as Tensile, Elongation, Yield, Reduction of Area, Hardness at Core.
- Surface Finish

**Finished Goods Inspection :** The quality assurance team in the finished goods department – we call them “ Bhansali’s Internal Customer”. They inspect materials from the customer’s perspective. Our products comply with relative international standards such as ASTM, DIN, EN, BS, AMS, ASME, QQS, MIL, JIS, NACE and others. Some of the related specifications are ASTM A193 / A276 / A320 / A479 / A582 & EN 10088-3. Test certifications comply with Euronorm EN 10204 3.1B / DIN 50049 3.1B.

Finished Goods are inspected for:

- Surface Finish
- Final Mechanical Properties
- Mercury Contamination, Macro and Micro Properties, Inter Granular and Corrosion Properties
- Packing, Color Coding, Marking



## Quality Policy

At Bhansali Inc., We believe in long term business relationship with the customers and ongoing customer satisfaction by supplying consistent quality product through effective involvement of all employees and continual improvement of process





We are exporting

our products to **industries** like :

- Pumps
- Valves
- Seals
- Machine Tools
- Automotive Components
- Machinery
- Fittings
- Forgings
- Surgical Appliances
- Fasteners
- Oil Plants
- Nuclear Plants
- Aviation

**END USER INDUSTRY**



An ISO 9001:2008 Company  
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