

D. H. Exports Pvt. Ltd.

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Introduction

D.H. EXPORTS made its inroad in the manufacturing and export industry in the year 2003. The house engages in Stainless Steel, Bars in round, hexagon, square and flats. The company embarked on its humble journey with the aim to make a mark of its own in the flourishing industry of steel bar manufacturing. Since its inception, the company has faced gigantic challenges and despite such fierce competitions, our products and services have stood the test of times.

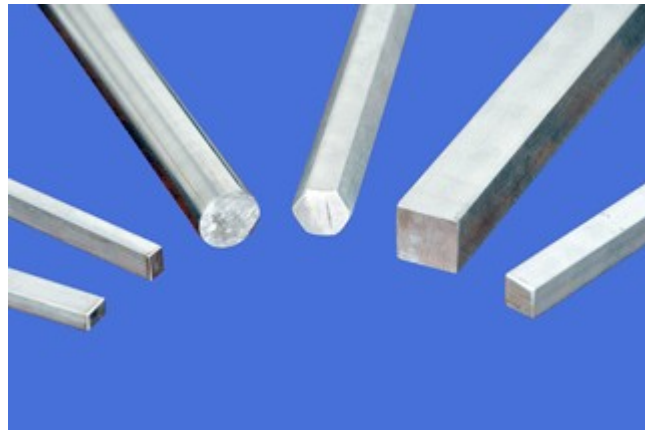
Profile

Modern facilities, advanced technology, innovative thinking and timely deliveries have always been the basis for D. H. Exports' success in producing and selling Stainless Steel and Alloy Steel Bright Bars.

The company manufactures and supplies finished Stainless Steel in the domestic as well as international market, reaching clientele across the globe, through experienced hands of its management, spanning over 25 years in this industry.

The company is one of the Indias premier bright steel processing house with a capacity of about 12,000 MT per annum having modern and efficient plant and equipments, having appropriate technology to position itself in the international arena.

In order to serve its customers more efficiently, the marketing department continuously liaises with production and administrative department, allowing timely deliveries with right quality. The company is associated with M/s. Macro Bars And Wires (India) Pvt. Ltd. manufacturer and exporter of stainless steel wires.



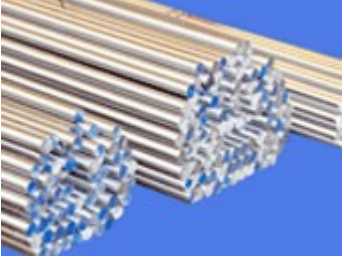
Advisory Panel

- Mr. Dhawalchand Kanugo having over 35 years of experience in Stainless Steel business.
- Mr. Kiran Jangla having over 31 years of experience in the Bright Bar market in both domestic and international
- Mr. Hiten Jangla having over 28 years of experience in the domestic and international stainless steel market.


Product

- Round Bars
- Square Bars
- Hexagonal Bars
- Flat Bars


ROUND BARS

	Execution	MM	Inches	ISO Tolerance
	Cold Drawn and Polish	2.50 – 75.00	1/8" – 3.00"	h8-h9-h10-h11, ASTMA-484
	Cold Drawn and Ground	8.00 – 75.00	5/6" – 2.50"	h8-h9-h10-h11
	Peeled and Polished	40.00 – 150.00	1.50" – 6.00"	h11, ASTMA-484 h11-DIN 1013
	Peeled and Ground	20.00 – 50.00	3/4" – 2.00"	h9-h10-h11, ASTMA-484

HEXAGONAL BARS

	Execution	MM	Inches	ISO Tolerance
	Cold Drawn	4.00 – 40.00	3/16" – 1. 1/2"	h11
	Polished and Ground	5.00 – 36.00	3/16" – 1. 1/2"	h11

SQUARE BARS

	Execution	MM	Inches	ISO Tolerance
	Cold Drawn	3.50 – 40.00	3/16" – 1. 1/2"	h11
	Polished and Ground	5.00 – 40.00	3/16" – 1. 1/2"	h11

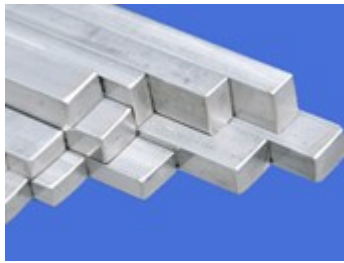
All the above Products are available in Alloy Steel, Stainless Austenitic Steel, Ferritic Steel as well as Martensitic Steel Grades.

DRAWN FLAT BARS

S.S. Flat Bars have over a period gained tremendous importance as it is now the most preferred material in Architectural Structures, Building Frames and Structures, Decorative Hardware and also for various general purposes for shaft keys and special purpose applications.

DH manufactures a wide range of flat bars in variety of sizes, thickness, grades and finish suited to critical applications. These are produced to international specifications, maintaining close dimensional tolerances and required mechanical properties.

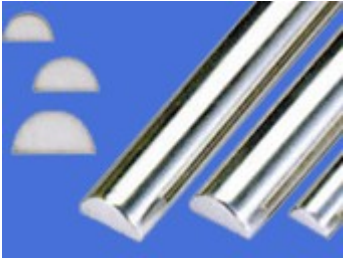
Technical Specification:

	SIZES	GRADES	FINISH
	6.00 X 4.00	AISI-410 / 420 / 430 / 304 / 316 / 201 / 204Cu	Cold drawn
	6.10 X 4.10		
	6.50 X 4.10		
	6.60 X 4.10		
	8.00 X 6.00		
	8.10 X 6.10		
	10.00 X 6.00		
	10.00 X 8.00		
	10.10 X 8.10		
	12.00 X 5.00		
	12.00 X 6.00		
	12.00 X 8.00		
	12.10 X 8.10		
	12.00 X 10.00		
	12.10 X 10.10		

HALF ROUND BARS

Most commonly used for Hardware purpose are very popular through out the world.

Technical Specification:

	SIZES	GRADES
	12mm – 25mm	AISI-201, 204Cu, 304, 316

PSQ – Pump Shaft Quality under product

DH produces PSQ bars in both Austenitic as well as Martenistic grades.

Austenitic stainless steels are most commonly used. Austenitic stainless steel pump shafting is not magnetic; due to its high nickel and chromium composition, it is extremely resistant to corrosion. In addition, austenitic stainless steel pump shafting provides excellent mechanical properties. Heat treatment cannot be used to harden austenitic stainless steel pump shafting, although it can be hardened considerably by cold working.

Grades Available in Austenitic Steel:-

AISI-304
AISI-316
17-4PH

Martensitic stainless steels were designed as a type of stainless steel alloy that could be hardened by heat treatment and would be corrosion resistant - although not as corrosion resistant as austenitic or ferritic stainless steels. Martensitic stainless steel pump shafting is highly machinable and is known for being wear resistant.

Grades Available in Martenistic Steel:-

AISI-410
AISI-416
AISI-420

DH produces PSQ bars with superior finish and straightness tolerance by additional process using modern techniques and state-of-art machineries and equipments including special finishing machines to give a smooth and mirror finish surface. Thus wear-free running of the impellers is ensured. DH also provides chamfering at 30 – 45 degrees as per customer

requirements.

The bars thus produced undergo stringent quality and inspection test in order to ensure the exact technical requirements are adhered during the production as per O.E.M. specifications.

Thereafter the bars are wrapped in HDPE sheets and then stuffed inside export quality wooden boxes as per the specific requirements of the customer. DH also provides other types of packing like tube packing of each bar, putting 3-4 rubber / plastic 'O' rings throughout each bar as per specific requirement from their customers. The details of such packing are precisely explained in our 'Packing' segment under this website.

Specification:

Size Range	Diameter Tol.	Ovality	Straightness	Length	Surface
10mm – 70mm	h9, h8	1/2 the diameter tolerance	Upto 0.5mm per 1 meter	2.5 meters – 6 meters	Smooth / Mirror Finish

Common application of PSQ Bars:-

The PSQ bars are commonly used at following Industry levels:-

- Pneumatic and Hydraulic Cylinder Shafts
- Textile Machinery Shafts
- Piston Shafts
- Precision Shafting

- Chemical Pump Shafts

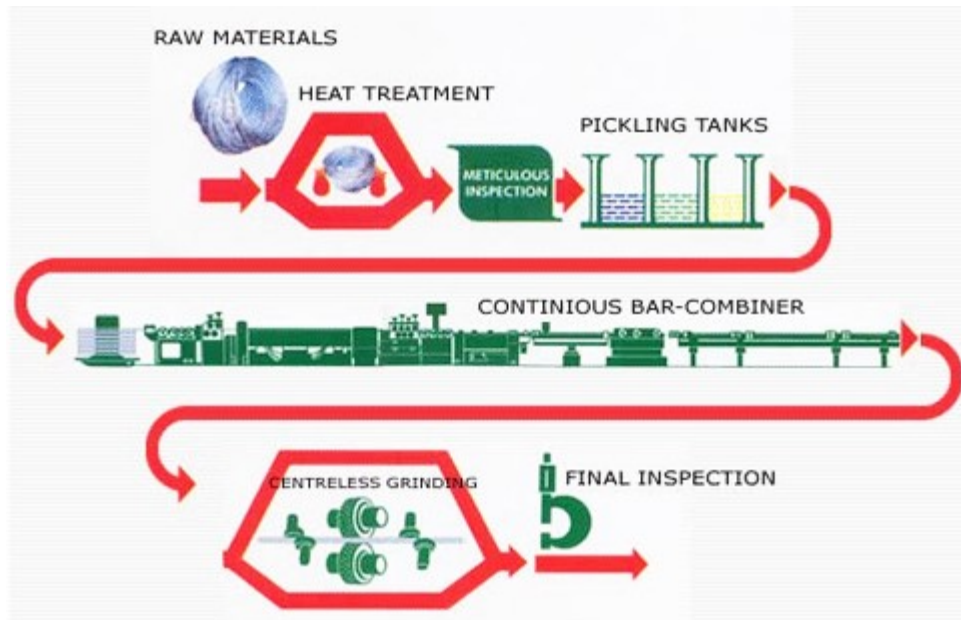
Process

D.H.Exports Pvt. Ltd. commits to satisfy its customers by manufacturing and supplying consistent quality of bright bars, drawn, peeled and ground products to domestic and international markets as per customer requirements.

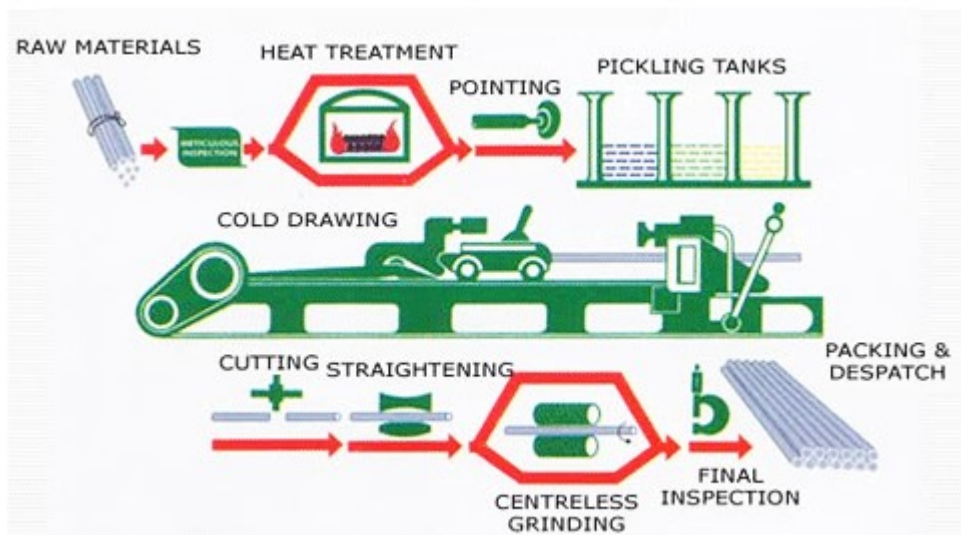
The organisation shall strive for excellence by:

- Promoting efficiency at every level of operation
- Meeting all applicable statutory and regulatory requirements.
- Continually improving the effectiveness of Quality Management System and endeavoring to achieve Total Customer Satisfaction

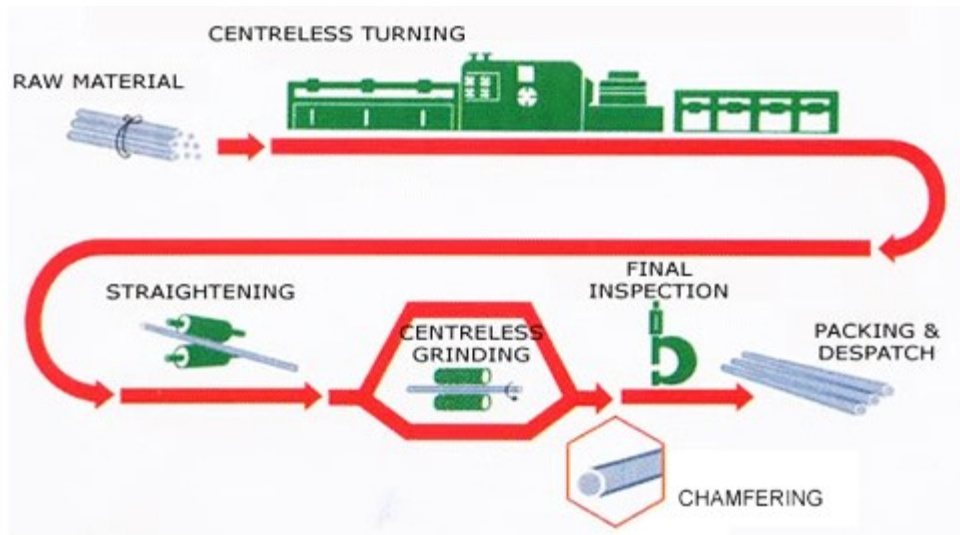
Production Process Of Cold-Drawing On Continuous Bar-Combiner



Cold-Drawing Of Steel Bars



Turning (Peeling), Grinding (Centreless) Of Steel Bars



Annealing



Drawing



Chamfering



Inspection

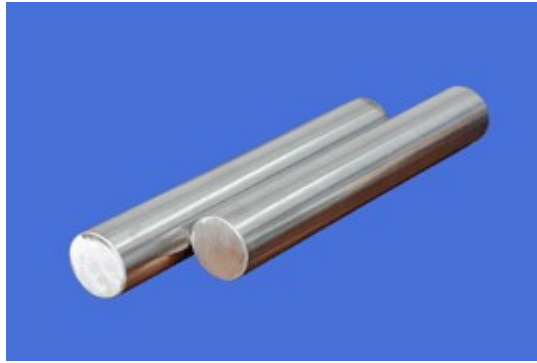


Packing

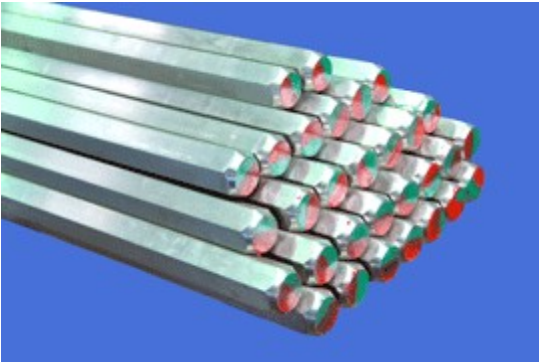
Gallery



Square Bars



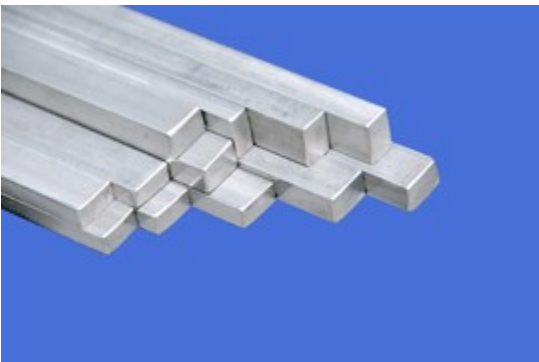
Round Bars



Hex Bars Chamfered



Hex Bars



Flat Bars



Bright Bars in all Shapes

Quality

At D. H., quality encompasses all process carried within the organisation right from sourcing raw material and also including qualified vendors for supply of spares and consumables that support the final product.

D.H. is committed to satisfy its customers by manufacturing and supplying consistent quality of Bright Bars, drawn, peeled and ground products to domestic and international markets as per customer requirements.

D.H. has been certified by TUV for its ISO 9001-2000 quality policies.

Even though D.H. is ISO 9001-2000 certified company; it strives to exceed standards set by these agencies. With this objective D.H. is promoting efficiency at each level of operations by meeting all applicable statutory and regulatory requirements. Thus continually improving the effectiveness of Quality Management System and endeavoring to achieve

Total Customer Satisfaction.

Advantages offered by DH:

- Made from pretested steel.
- Assured mechanical properties, excellent machinability and better yield strength.
- Assured defect-free surface as well as internal soundness, required micro structure and consistent quality.
- Close dimensional accuracy.
- Available in specified length with close tolerance on length too.
- Ground Bars are totally free from lobing and out of roundness which ensures no finishing for parts.
- Assured chemical composition and all metallurgical properties required for making any Original Equipment.
- Each supply of our Bright Bar is guaranteed by D. H. Exports's Test Certificate of quality.



Chemical Info

GRADE		% C	% Si	% Mn	% P	% S	% Ni	% Cr	% Cu	Others	Comparison		Application
AISI	DIN	MAX	MAX	MAX *	MAX	MAX *					B.S.	JIS	
201		0.15	1.00	7.00 - 9.00	0.100	0.03	0.40 - 1.00	14.00 - 16.00	1.50 - 2.50			SUS 201	Furniture and decorative items, baskets & architectural products.
202		0.15	1.00	7.50 - 10.00	0.060	0.03	4.00 - 6.00	17.00 - 19.00	1.50 - 2.50			SUS 202	Shafts, Grills and Racks
204 Cu	1.4597	0.09	1.00	6.50 - 8.50	0.060	0.03	1.50 - 3.00	16.00 - 17.00	2.00 - 3.00			SUS 204Cu	
302	1.4312	0.15	1.00	2.00	0.045	0.03	8.00 - 10.00	17.00 - 19.00			302S25	SUS 302	Precision Components & Shafts
303	1.4305	0.15	1.00	2.00	0.200	0.15 - 0.30	8.00 - 10.00	17.00 - 19.00		Mo = 0.60 max	303S31	SUS 303	
303 Cu		0.15	1.00	2.00	0.150	0.10 MIN	6.00 - 10.00	17.00 - 19.00		Cu = 2.50 - 4.00	303S30		
304	1.4301	0.08	1.00	2.00	0.045	0.03	8.00 - 10.50	18.00 - 20.00			304S15	SUS 304	General all purpose, Kitchen Equipments, Food Production facilities
304 L	1.4306	0.03	1.00	2.00	0.045	0.03	8.00 - 12.00	18.00 - 20.00		N = 10ppm max	304S11	SUS 304L	
310	1.4841	0.25	1.50	2.00	0.045	0.03	19.00 - 22.00	24.00 - 26.00			310S24	SUH 310	Heat Exchangers, Gas Turbines
310 S	1.4845	0.08	1.50	2.00	0.045	0.03	19.00 - 22.00	24.00 - 26.00				SUS 310S	
316	1.4401	0.08	1.00	2.00	0.045	0.03	10.00 - 14.00	16.00 - 18.00		Mo = 2.00 - 3.00	316S16	SUS 316	Anticorrosion parts, valves and components in Petro Chemical and Dying Industry.
316 L	1.4404	0.03	1.00	2.00	0.045	0.03	10.00 - 14.00	16.00 - 18.00		Mo = 2.00 - 3.00 &	316S11	SUS 316L	
										N = 10ppm max			
316 Ti	1.4571	0.08	1.00	2.00	0.045	0.03	10.00 - 14.00	16.00 - 18.00		Mo = 2.00 - 3.00 &	320S31		Anti Corrosion parts, Car Mufflers
										Ti= 5x(C+N) min to 0.70			
321	1.4541	0.08	1.00	2.00	0.045	0.03	9.00 - 12.00	17.00 - 19.00		Ti= 5x(C+N) min to 0.70	321S31	SUS 321	Aircraft Engine, Vent Pipes, Heat exchanger
630 / 17-4PH	1.4542	0.07	1.00	1.00	0.040	0.03	3.00 - 5.00	15.00 - 17.50					Shafts, Advanced Mold

* Maximum unless otherwise indicated

GRADE		% C	% Si	% Mn	% P	% S	% Ni	% Cr	% Cu	Others	Comparison		Application
AISI	DIN	MAX	MAX	MAX *	MAX	MAX *					B.S.	JIS	
430	1.4016	0.12	1.00	1.00	0.040	0.03	0.50	16.00 - 18.00			430S15	SUS430	Kitchen Equipments, Material for Construction
430 F		0.12	1.00	1.25	0.060	0.15 MIN		16.00 - 18.00				SUS 430F	Components, Nozzle for Fuel Injection
430 F	1.4104	0.10 - 0.17	1.00	1.50	0.040	0.15 - 0.35	0.50	15.50 - 17.50		Mo = 0.20 - 0.60			
	1.4105	0.08	1.50	1.50	0.040	0.15 - 0.35		16.00 - 18.00		Mo = 0.20 - 0.60			

* Maximum unless otherwise indicated

Chemical Information

GRADE		% C	% Si	% Mn	% P	% S	% Ni	% Cr	% Cu	Others	Comparison		Application
AISI	DIN	MAX	MAX	MAX *	MAX	MAX *					B.S.	JIS	
403	1.4024	0.15	0.05	1.00	0.040	0.03		11.50 - 13.00			420S29	SUS 403	Shafts, Shaft keys, OA Devices
410	1.4006	0.15	1.00	1.00	0.040	0.03		11.50 - 13.50			410S21	SUS 410	
416	1.4005	0.15	1.00	1.25	0.060	0.15 MIN		12.00 - 14.00			416S21	SUS 416	Machined Components for various industry levels, Various Shafts
420	1.4021	0.15	1.00	1.00	0.040	0.03		12.00 - 14.00			420S37	SUS 420J1	
420 B	1.4028	0.26 - 0.35	1.00	1.50	0.040	0.03		12.00 - 14.00			420S45	SUS 420J2	
420 C	1.4034	0.43 - 0.50	1.00	1.00	0.040	0.03		12.50 - 14.00					
431		0.20	1.00	1.00	0.040	0.03	1.25 - 2.50	15.00 - 17.00			431S29	SUS 431	Marine shafts, Aircraft parts
431	1.4057	0.12 - 0.22	1.00	1.50	0.040	0.03	1.50 - 2.50	15.00 - 17.00					

* Maximum unless otherwise indicated

Any other stainless steel grade can be produced upon request and giving complete technical specification.

Stainless Steel Bolting Material (As Per Astm A19 3 & Astm A320 Specification)

(CARBIDE SOLUTION TREATED & STAIN HARDENED BARS)

Mechanical Requirement (Mpa) (minimum)

GRADE	%C	%Mn	%Si	%P	%S	%Ni	%Cr	SIZE (Inch)	Tensile Strength	0.2% Yield Strength	% ELO	% RA	Hardness BHN
	MAX	MAX	MAX	MAX	MAX								
B8 / 304	0.08	2.00	1.00	0.045	0.03	8.00-10.5	18.00-20.00	BELOW 3/4"	860	690	12	35	321
Class II								3/4"to1" incl	795	550	15	35	321
								1"to1.1/4" incl	725	450	20	35	321
								1.1/4"to1.12" incl	690	345	28	45	321
B8M / 316	0.08	2.00	1.00	0.045	0.03	10.00-14.00	16.00-18.00	BELOW 3/4"	760	665	15	45	321
Class II						%Mo= 2.00-3.00		3/4" to 1" incl	690	550	20	45	321
								1"to1.1/4"incl	655	450	25	45	321
								1.1/4"to1.1/2" incl	620	354	30	45	321
(CARBIDE SOLUTION TREATED)								SIZE (Inch)	Tensile	Yield	%ELO	% RA	HARDNESS
									Strength	Strength			BHN
B8/304 & B8M/316 Class I								ALL SIZES	515	205	30	50	223
A2-70 /								Less than M20	700	450	0.4 D		
A4-70								Between M20 - M30	500	250	0.4 D		
A4-80								Less than M20	800	600	0.3 D		

**QUENCHED & TEMPERED ALLOY STEEL
(For Fasteners Application)**

Mechanical Requirement (Mpa) (minimum)

GRADE	%C	%Mn	%Si	%P	%S	%Cr	%Mo	Size (in)	Tensile Strength	0.2% Yield Strength	% ELO	% RA	Hardness BHN
				MAX	MAX								
B7	0.37-	0.65-	0.15-	0.035	0.04	0.75-1.20	0.15-0.25	upto 2.12" incl	860	720	16	50	321
A193	0.49	1.10	0.35					over 2.12" to 4 incl	795	655	16	50	302
B16	0.36-	0.45-	0.15-	0.035	0.04	0.80-1.15	0.50-0.65	upto 2.12" incl	860	725	18	50	321
A193	0.47	0.07	0.35					upto 2.12" incl	860	725	18	50	321
	% V = 0.25-0.35					%AI=0.015 MAX							
L7	0.38-	0.75-	0.15-	0.035	0.04	0.80-1.10	0.15-0.25	upto 2.1/2"incl	860	720	16	50	321
A320	0.48	1.00	0.35			IMPACT PROPERTIES : Average of Thre=27J Min; One specimen = 20J Min (test Temp.-101°C)							

Quenched & Tempered Carbon Steel (For Fasteners Application) As Per Iso-898-1

GRADE	%C	%Mn	%Si	%P	%S	%Cr	%Mo	Size (in)	Tensile Strength	0.2% Yield Strength	% ELO	% RA	Hardness BHN
				MAX	MAX								
8.8	0.25-	0.6	-	0.035	0.035	-	-	upto 16.0min incl	800	640	12	-	238-304
	0.55	min						over 16.0 mm	830	660	12	-	342-318
NOTE : We Can Supply Other Property Class of ISO-898-1 Specification									IMPACT PROPERTIES : 30J Min				

Spheroidised Annealed + Phosphate Coated & Cold Drawn Ball Bearing Quality Wire / Drawn & Ground Bars

GRADE	%C	%Mn	%Si	%P	%S	%Cr	%Mo	BARS, WIRE SIZE, COIL WEIGHT	Compasiron of International Standard			
				MAX	MAX			& MECHANICAL PROPERTIES AS	AISI	DIN	B.S	JIS
SAE	0.98-	0.25-	0.20-	0.025	0.025	0.25	1.30-1.60	PER CUSTOMERS REQUIREMENT				
52100	1.10	0.45	0.35					MICRO & INCLUSION RATING AS	52100	100Cr6	534A99	SUJ2
	0=15ppm		%Cu=0.35 MAX			%Mo=0.15-0.25		PER ASTM A295 SPECI.	660	12	-	342-318

Technical Info

TOLERANCES Permissible Variation in Size of Cold Finished Round Bars		
Specified Size, in (mm)	Permissible Variation from Specified Size in (mm)	
	Over	Under
1/16 to 5/16 (1.50 to 8.00) excl.	0.001 (0.03)	0.001 (0.03)
5/16 to 1/2 (8.00 to 13.00) excl.	0.0015 (0.04)	0.0015 (0.04)
1/2 to 1 (13.00 to 25.00) excl.	0.002 (0.05)	0.002 (0.05)
1 to 1 1/2 (25.00 to 38.00) excl.	0.0025 (0.06)	0.0025 (0.06)
1 1/2 to 4 (38.00 to 100.00) excl.	0.003 (0.08)	0.003(0.08)

Permissible Variation in Size of Cold Finished Hexagonal and Square Bars			
Specified Size, in (mm)	Permissible Variation from Specified Size in (mm)		
	Over	Under	
1/8 to 5/16 (2.50 to 8.00) excl.	0	0.002 (0.05)	
5/16 to 1/2 (8.00 to 13.00) excl.	0	0.003 (0.08)	
1/2 to 1 (13.00 to 25.00) incl.	0	0.004 (0.10)	
Over to 2 (25.00 to 50.00) incl.	0	0.006 (0.15)	
Over 2 to 3 (50.00 to 75.00) incl.	0	0.008 (0.20)	
Over 3 (75.00 mm)	0	0.010 (0.25)	

DIN TOLERANCE					
Size range	h7	h8	h9	h10	h11
3.00-6.00 mm	0.00 / -0.012	0.00 / -0.018	0.00 / -0.030	0.00 / -0.048	0.00 / -0.075
6.01-10.00 mm	0.00 / -0.015	0.00 / -0.022	0.00 / -0.036	0.00 / -0.058	0.00 / -0.090
10.01-18.00 mm	0.00 / -0.018	0.00 / -0.027	0.00 / -0.043	0.00 / -0.070	0.00 / -0.110
18.01-30.00 mm	0.00 / -0.021	0.00 / -0.033	0.00 / -0.052	0.00 / -0.084	0.00 / -0.130
30.01-50.00 mm	0.00 / -0.025	0.00 / -0.039	0.00 / -0.062	0.00 / -0.100	0.00 / -0.160
50.01-180.00 mm	0.00 / -0.030	0.00 / -0.046	0.00 / -0.074	0.00 / -0.120	0.00 / -0.190
80.01-120.00 mm	0.00 / -0.035	0.00 / -0.054	0.00 / -0.087	0.00 / -0.140	0.00 / -0.220
120.01-180.00 mm	0.00 / -0.025	0.00 / -0.039	0.00 / -0.062	0.00 / -0.100	0.00 / -0.160

Packing

All the material produced is packed in high density polythene sheets to preserve their defect-free surface during handling

and transportation. The bars are first strapped by signode-straps, bundled in thin plastic sheets and thereafter wrapped in HDPE thus giving dual protection to the material. The material is packed in bundles of 500 / 1000 kgs (1100/2200 lbs). For small sizes, the material is tied up with wooden batons and then wrapped in HDPE so as to maintain straightness of the bars.

Besides the above standard packing, we also supply material in following packing as per specific requirement of the customer:-

- Tubing / casing of each bar in plastic foil (popularly known as Tube Packing) and then such bars wrapped together in HDPE bundles. This packing is provided for sizes above 12mm diameter.
- Several rubber / plastic 'O' rings are inserted in each bar to avoid surface dents and scratches generated from bar to bar contact during transition. This packing is provided for sizes above 12mm diameter.
- Two strong material lifting straps are wrapped around bundles of about 1000 kgs so that unloading of the bundles is easy from box containers. (Refer to bundle tiding photo available)
- Wooden box packing.



Bundle Packing



Wooden box Packing



Tube Packing



Ring Packing



Steel cage Packing



Siling tied to Bundles

Applications

1) Automobile Sector

- Tie Rods
- Auto Buckles
- Hooks
- Automobile Gears
- Axle / Cam Shafts
- Automotive Valves
- Auto Body Building Parts
- Auto Transmission Parts
- Components

2) Agricultural Sector

- Pump Shafts for Submersible Pumps
- Agricultural Implements
- Agricultural Tools and Equipments

3) Construction Sector

- Re-inforcement Bars
- Masonary Support
- Restraint Fixings
- Tension Systems
- Shear Load Connectors
- Boilers
- Pressure Vessels
- Heavy Fabrications

4) Hardware / Architectural Material

- Bolts
- Studs
- Hooks
- Chains
- Fillers
- Clamp Pins
- Handels
- Stands
- Suspension Clamps
- Tension Rod
- Sanitary Fittings and Accessories
- Decorative Furnitures and Fittings

5) Medical and Surgical Instruments / Equipments

- Autoclave Equipments
- Bio Medical Instruments
- Cardiology Equipments
- Dental Ophthalmic Equipments
- Operation Theatre Equipments
- Orthopedic Implants
- Surgical Tools
- Scientific Equipments

- General Surgical Products

6) Kitchen & Dinning

- Owen Grills
 - Barbeque rods
 - Holders and hooks
 - Stands and Racks
-
- Crockery

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