

VAHIN
INDUSTRIES

STAINLESS STEEL BARS

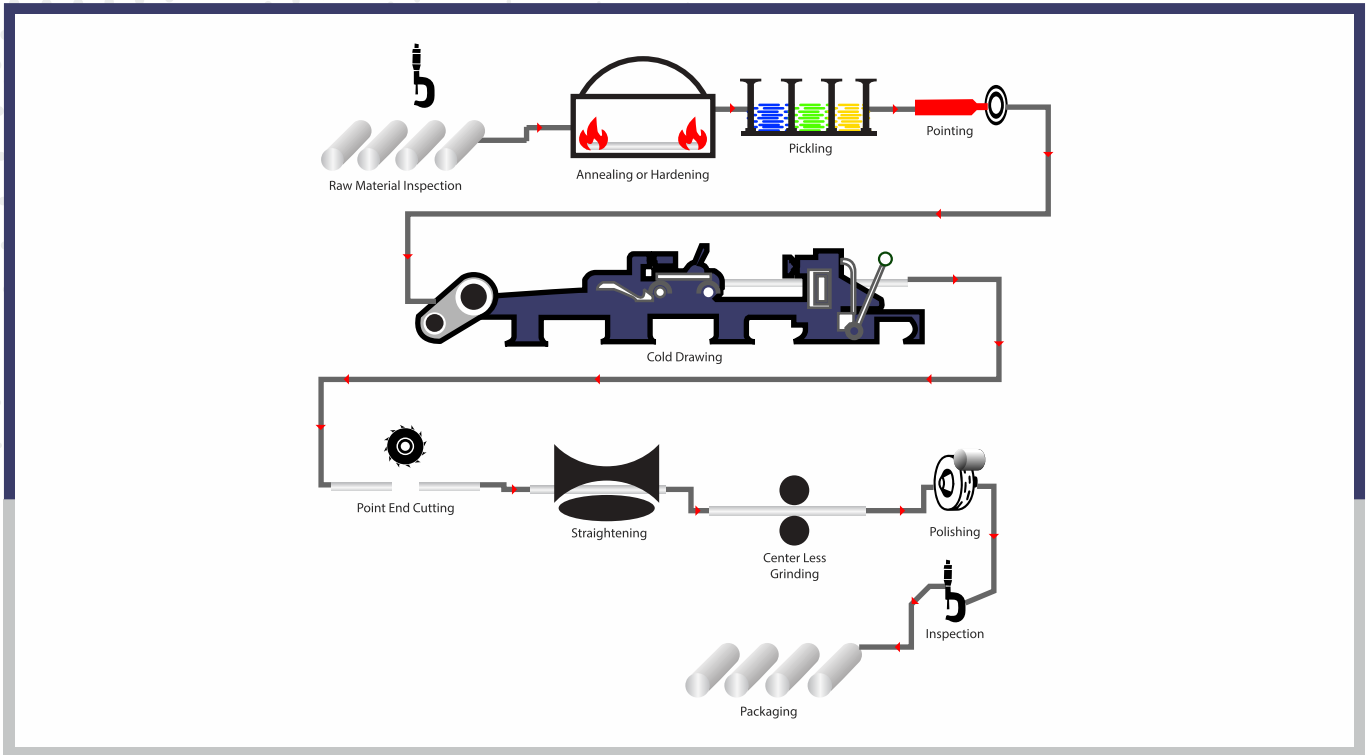
BRIGHT ROUND BARS | BRIGHT SQUARE BARS | BRIGHT HEX BARS



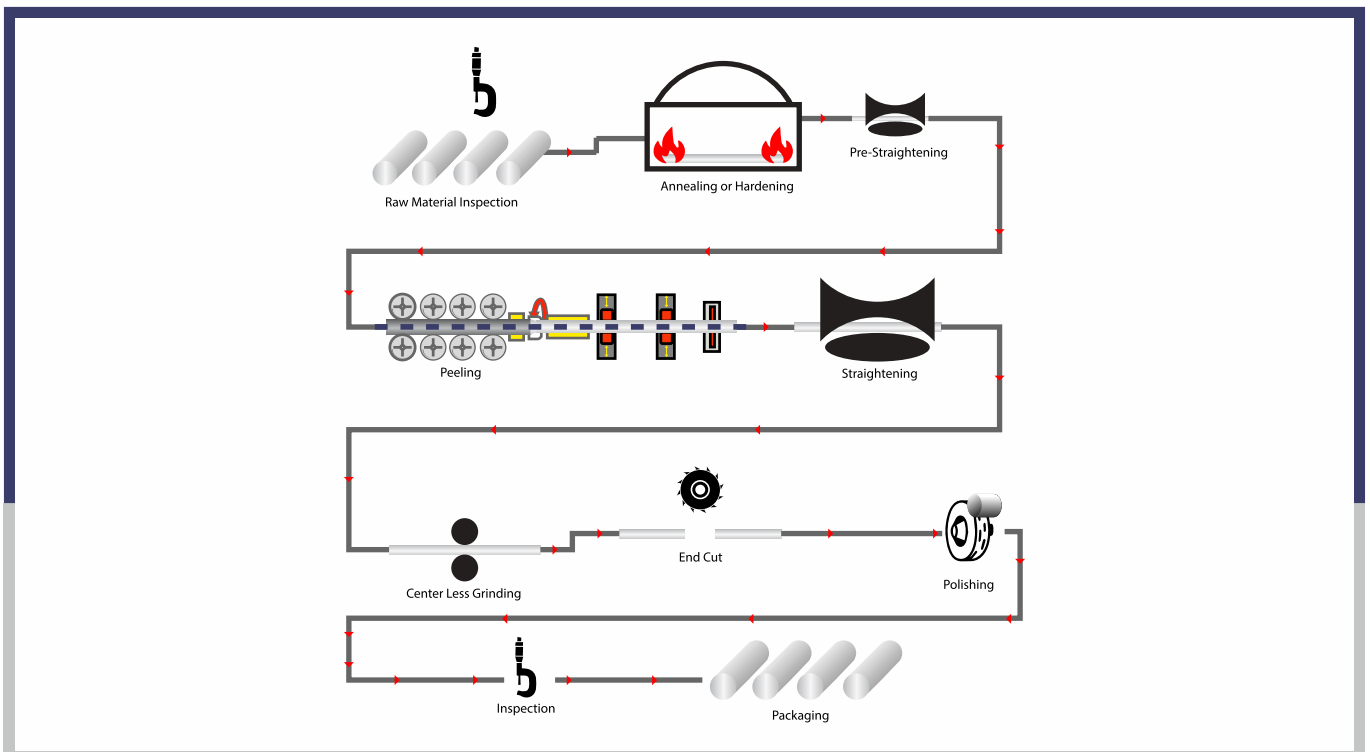
C O M P A N Y P R O F I L E

Founded in the year 2017, we “Vahin Industries” are a dependable and famous manufacturer of a broad range of Steel Bars and Stainless Steel Bars. Which is located in Ahmedabad (Gujarat, India). We provide these products in diverse specifications to attain the complete satisfaction of the clients. Further, our strong logistic support makes sure that these products are delivered within the promised time-frame. Under the supervision of “BEST QUALITY TEAMS” we have gained huge clientele in our country.

Bright Bar Process Chart



Peeled Bright Bar Process Chart



Stainless Steel Bright Round Bars



Vahin Industries is a leading stainless steel bright round bar manufacturer in India. The quality manufacturing process helps us to gain our reputation as top notch stainless steel bright round bars exporters in India. Our products are available in various grades including stainless steel 201, 202, 204CU, 302, 302HQ, 303EHS, 304, 304HC, 304L, 309, 310, 310S, 316, 316L, 316TI, 321, 17-4PH, 15-5PH & 410, 420, 431 & etc. to cater the requirements of energy sector, aerospace, oil & gas and other industries.

Size Range	4 mm - 100mm (3/16 inch - 4 inch)
Size Tolerance	h8, h9, h10, h11, k12, k13, A-484, EN-10060, DIN-1013, etc.
Length	2 meters - 8 meters (8 feet to 26 feet)
Chamfering	Available in 30, 35 & 60 degree through fully automatic both-end chamfering machine
Crack Test	Magnetic Particle Inspection (MPI)
Ultrasonic Test	100% tested though digital ultrasonic flaw detector, as per ASTM A-388, EN 1030 8 (class 1 to 4), API 6A/ISO 10423:2003-PSL 3, SEP 1920:1984 (class A, B, C) MIL STD 2154
Length Tolerance	Available in special cut to length bars in tolerance - 0/+10mm (-0 +0.5inch)
Straightness	Up to 0.25 mm / meter TIR (0.0015 inch / feet)
Surface Finish	Centerless Ground & Belt Polished up to Ra value 0.2 um (12 RMS) & 240 - 320 Grit Polished
Heat Treatment	Annealed, Solution Annealed, Quenched & Tempered (QT), Double Ageing/ Double Tempering
Grades	201,202,204Cu, 302,303,304,304HC, 304L,309,310,310S,316,316L,316Ti, 321, 17-4ph, 15-5ph, 410,416,420,430,430F etc.

Stainless Steel Bright Hex Bars



Vahin Industries is one of the prominent leader in manufacturing and exporting stainless steel hex bars. Stainless steel bright hex bars are mainly used for manufacturing nuts, hex bolts, valves, hose ends, etc. Our stainless steel bright hex bars are of high quality and durability because we use premium quality raw material in our advanced manufacturing process. Our stainless steel bright hex bars comes in 3 to 6 meter lengths or as per customer requirement. We provide stainless steel bright hex bars that meet the international quality standards.

Hexagon Sizes	12 mm - 45 mm (1/2" - 1 3/4")
Size Tolerance	h11
Length	2-6 meters (8 to 20 feet)
Chamfering	Available in 30, 45 & 60 degree though fully automatic both-end chamfering machine
Ultrasonic Test	100% tested through digital ultrasonic flaw detector, as per ASTM A-388, EN 10308 (class 1 to 4), API 6A/ISO 10423:2003-PSL 3, SEP 1920:1984, MIL STD 2154
Length Tolerance	Available n special cut to length bars in tolerance -0/+10mm (-0+0.5 inch)
Surface Finish	Cold drawn condition and Belt polished condition
Grades	DIN: 1.4305, 1.4307, 1.4404, 1.4571, 1.4541, 1.4512, 1.4006, 1.4005, 1.4021, 1.4104

Stainless Steel Bright Square Bars



Vahin Industries is one of the manufacturers and exporters of various grades stainless steel bright square bar. We have years of experience in exporting our stainless steel bright square bars and other stainless steel products. Vahin Industries provides stainless steel bright square bars which comes in cold drawn and polished finishing, so we can customize square bar length as per client's requirements.

Square Sizes	12 mm - 40 mm (1/2" - 1 1/2")
Size Tolerance	h11
Length	2-6 meters (8 to 20 feet)
Chamfering	Available in 30, 45 & 60 degree though fully automatic both-end chamfering machine
Ultrasonic Test	100% tested through digital ultrasonic flaw detector, as per ASTM A-388, EN 10308 (class 1 to 4), API 6A/ISO 10423:2003-PSL 3, SEP 1920:1984, MIL STD 2154
Length Tolerance	Available n special cut to length bars in tolerance -0/+10mm (-0+0.5 inch)
Surface Finish	Cold drawn condition and Belt polished condition
Grades	DIN: 1.4305, 1.4307, 1.4404, 1.4571, 1.4541, 1.4512, 1.4006, 1.4005, 1.4021, 1.4104

STAINLESS STEEL BRIGHT BARS

Vahin Industries precision quality stainless steel bars are famous for our top quality machinability as they are made using the most advanced and uniquely designed production lines that gives consistent mechanical and chemical fact as per client's requirement.



Quality Assurance Device



Grade With Chemical Composition

Type	Grades			Reference Chemistry (%)			
	EN Name	EN Number	ASTM	C (max)	Si (max)	Mn (max)	P (max)
A	X12CrMnNiN17-7-5	1.4372	201	0.15	1.00	5.50-7.50	0.045
U	X12CrMnNiN18-9-5	1.4373	202	0.15	1.00	7.50-10.50	0.060
S		1.4597	204 Cu	0.10	2.00	6.5-8.5	0.040
T		Nitronic 50	XM-19	0.06	1.00	4.00-6.00	0.045
E	X12CrNi18-5	1.4310	301	0.05-0.15	1.00	2.00	0.045
N	X8CrNiS18-9(3)	1.4305	303	0.15	1.00	2.00	0.200
I	X5CrNi18-10	1.4301	304	0.08	1.00	2.00	0.045
T	X2CrNi18-9	1.4307	304 L	0.03	1.00	2.00	0.045
I			308	0.08	1.00	2.00	0.045
C	X15CrNiSi20-12	1.4828		0.20	1.50	2.00	0.045
			309	0.20	1.00	2.00	0.045
A			310	0.25	1.50	2.00	0.045
U	X5CrNiMo17-12-2	1.4401	316	0.08	1.00	2.00	0.045
S	X3CrNiMo17-13-3	1.4436	316	0.05	1.00	2.00	0.045
T	X2CrNiMo17-12-2	1.4404	316 L	0.03	1.00	2.00	0.045
E	X2CrNiMo18-14-3	1.4435	316 L	0.03	1.00	2.00	0.045
N	X6CrNiMoTi17-12-2	1.4571	316 Ti	0.08	1.00	2.00	0.045
I			317	0.08	0.10	2.00	0.045
T	X6CrNiTi18-10	1.4541	321	0.08	1.00	2.00	0.045
I	X8CrNiTi18-10	1.4878	321 H	0.1	1.00	2.00	0.045
C	X6CrNiNb18-10	1.4550	347	0.08	1.00	2.00	0.045
					0.50		
F		1.4003	403	0.015		1.00	0.040
E	X2CrTi12	1.4512	409	0.03	1.00	1.00	0.040
R			429	0.12	1.00	1.00	0.040
R	X6Cr17	1.4016	430	0.12	1.00	1.00	0.040
I			430F	0.12	1.00	1.50	0.040
T	X3CrNb17	1.4511	430LNB	0.05	1.00	1.00	0.040
I							
C							
M	X12Cr13	1.4006	410	0.08-0.15	1.00	1.00	0.040
A	X6Cr13		410S	0.08	1.00	1.00	0.040
R		1.4005	416	0.06-0.15	1.00	1.50	0.040
T	X20Cr13	1.4021	420	0.16-0.25	1.00	1.00	0.040
E	X30Cr13	1.4028	420 B	0.26-0.35	1.00	1.50	0.040
N	X39Cr13	1.4031		0.36-0.42	1.00	1.00	0.040
S	X46Cr13	1.4034	420 C	0.43-0.50	1.00	1.00	0.040
I	X39CrMo17-1	1.4122		0.33-0.45	1.00	1.50	0.040
T		1.4104		0.10-0.17	1.00	1.50	0.040
I		1.4057	431	0.12-0.22	1.00	1.50	0.040
C	X3CrNiMo13-4	1.4313	F6-NM	0.05	0.70	1.50	0.040
	X4CrNiMo16-5-1	1.4418		0.06	0.70	1.50	0.040
P	X5CrNiCoNb16-4	1.4542	63/17-4PH	0.07	1.00	1.00	0.040
H	X7CrNiAl17-7	1.4568	631-17-7PH	0.09	0.70	1.00	0.040
	X2CrNiMoN22-5-3(6)	1.4462	2205(F51)	0.030	1.00	2.00	0.035
Duplex	X2CrNiM23-4(9)	1.4362	2304	0.030	1.00	2.00	0.035
	X2CrNiMoN25-7-4(9)	1.4410	2507 (F53)	0.030	0.80	1.20	0.035

Composition

	S (max)	N	Cr	Mo	Ni	Others
	0.015	0.05-0.25	16.00-18.00		3.50-5.50	
	0.030	0.25 max	17.00-19.00		4.00-6.00	
	0.030		16.00-18.00	1.0 max	2.00 max	Cu- 2.00-3.00
	0.030	0.20-0.40	20.50-23.50	1.50-3.00	11.50-13.50	Cb-0.10-0.30,V-0.10-0.30
	0.030	0.11 max	16.00-19.00	0.8 max	6.00-9.50	
	0.15-0.35	0.11 max	17.00-19.00		8.00-10.00	Cu<1.00
	0.030		18.00-20.00		8.00-11.00	
	0.030		18.00-20.00		8.00-12.00	
	0.015		19.00-21.00		10.00-12.00	
	0.030	0.11	19.00-21.00		11.00-13.00	
	0.030		22.00-24.00		12.00-15.00	
	0.030		22.00-24.00		19.00-22.00	
	0.030	0.10	16.00-18.00	2.00-3.00	10.00-14.00	
	0.015	0.11	16.50-18.50	2.50-3.00	10.50-13.00	
	0.030		16.00-18.00	2.00-3.00	10.00-14.00	
	0.030	0.11	17.00-19.00	2.50-3.50	12.50-15.00	
	0.030	0.10	16.00-18.00	2.00-3.00	10.00-14.00	Ti:min:5(C+N);max:0.70
	0.030	0.10 max	18.00-20.00	3.00-4.00	11.00-15.00	
	0.030		17.00-19.00		9.00-12.00	Ti:min:5(C+N);max:0.70
	0.015		17.00-19.00		9.00-12.00	Ti:min:5(C+N);max:0.80
	0.030		17.00-19.00		9.00-12.00	Cb:min:(10xC);max1.10
	0.030		11.50-13.00			
	0.015		10.50-12.50		0.75 max	Ti:min:(6x(C+N));max:0.65
	0.030		14.00-16.00			
	0.030		16.00-18.00			
	0.15-0.35		16.00-18.00			
	0.030		16.00-18.00			Nb:min:(12xC);max:1.00
	0.030		11.50-13.50			
	0.030		11.50-13.50		0.6 max	
	0.15-0.35		12.0-14.0	0.60 Max		
	0.015		12.00-14.00			
	0.030		12.00-14.00			
	0.015		12.50-14.50			
	0.015	0.020	12.50-14.50			
	0.015	0.020	15.50-17.50	0.80-1.30	1.00	
	0.15- 0.35		16.0-18.0	0.20-0.60		
	0.030		15.0-17.0		1.50-2.50	
	0.015	0.020	12.00-14.00	0.30-0.70	3.50-4.50	
	0.015	0.020	15.00-17.00	0.80-1.50	4.00-6.00	
	0.03		15.00-17.50	0.6	3.00-5.00	Cu:3.00-5.00;Nb:min:(5xC);max:0.45
	0.015		16.00-18.00		6.50-7.80	Al:0.70-1.50
	0.015	0.08-0.20	21.00-23.00	2.50-3.50	4.50-6.50	
	0.015	0.5-0.20	22.00-24.00	0.10-0.60	3.50-5.50	Cu:0.10-0.60
	0.015	0.24-0.35	24.00-26.00	3.00-5.00	6.00-8.00	Cu: 0.5 max

Formula & Basic Information About Stainless Steel

- 1. Weight of S.S. Round Bar**
 $\text{Dia (mm)} \times \text{Dia (mm)} \times 0.006232 = \text{Wt. Per. Mtr.}$
 $\text{Dia (mm)} \times \text{Dia (mm)} \times 0.0019 = \text{Wt. Per. Feet}$
- 2. Weight of S.S. Hexagonal Bar**
 $\text{Dia (mm)} \times \text{Dia (mm)} \times 0.00680 = \text{Wt. Per. Mtr.}$
 $\text{Width (mm)} \times \text{Dia (mm)} \times 0.002072 = \text{Wt. Per. Feet}$
- 3. Weight S.S. Square Bar**
 $\text{Dia (mm)} \times \text{Dia (mm)} \times 0.00788 = \text{Wt. Per. Mtr.}$
 $\text{Dia (mm)} \times \text{Dia (mm)} \times 0.0024 = \text{Wt. Per. Feet}$
- 4. Weight S.S. Flate Bar**
 $\text{Width (mm)} \times \text{Thick (mm)} \times 0.00798 = \text{Wt. Per. Mtr.}$
 $\text{Width (mm)} \times \text{Thick (mm)} \times 0.00243 = \text{Wt. Per. Feet}$
- 5. Weight of Conversion of Mtr to Feet**
 $\text{Wt of 1 Mtr. } 3.2808 = \text{Wt.Per Feet.}$
- 6. Pitting resistance equivalent number (PREN) is a measurement of the corrosion resistance of satainless steel containing nickel. Exact testing procedures are specified in the ASTM G48 standard. [1] in general: the higher PREN-value, the more corrosion resistant the steel.**
 $\text{PREN} = 1 \times \%Cr + 3.3 \times \%Mo + 16 \times \%N \text{ (w/w)}$
 $\text{PREN-value} \geq 40 \text{ for duplex steels is called for in the DIN EN ISO 15156}$

7. Carbon Equivalent Number:

$$\text{CE} = \%C + \frac{\%Mn}{6} + \left(\frac{\%Cr + \%Mo + \%V}{5} \right) + \left(\frac{\%Cu + \%Ni}{15} \right)$$

Carbon equivalent (CE)	Weldability
Up to 0.35	Excellent
0.36-0.40	Very good
0.41-0.45	Good
0.46-0.50	Fair
Over 0.50	Poor

7. Ferrite Numbers:-

Simple calculation method presented by Avesta Sheffield. The formula for Avesta Ferrite Number FNA assumes parallel lines of constant ferrite numbers.

$$\text{Creq} = Cr + 1.5 Si + Mo + 2 Ti + 0.5 Co$$

$$\text{FNA} = 3.34 \text{ Creq} - 2.46 \text{ Nieq} - 28.6$$

9. 1 ksi = 6.89475908677537 mpa



Applications





VAHIN
INDUSTRIES

Mfg: S.S. BRIGHT ROUND BARS & EXPORTER

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