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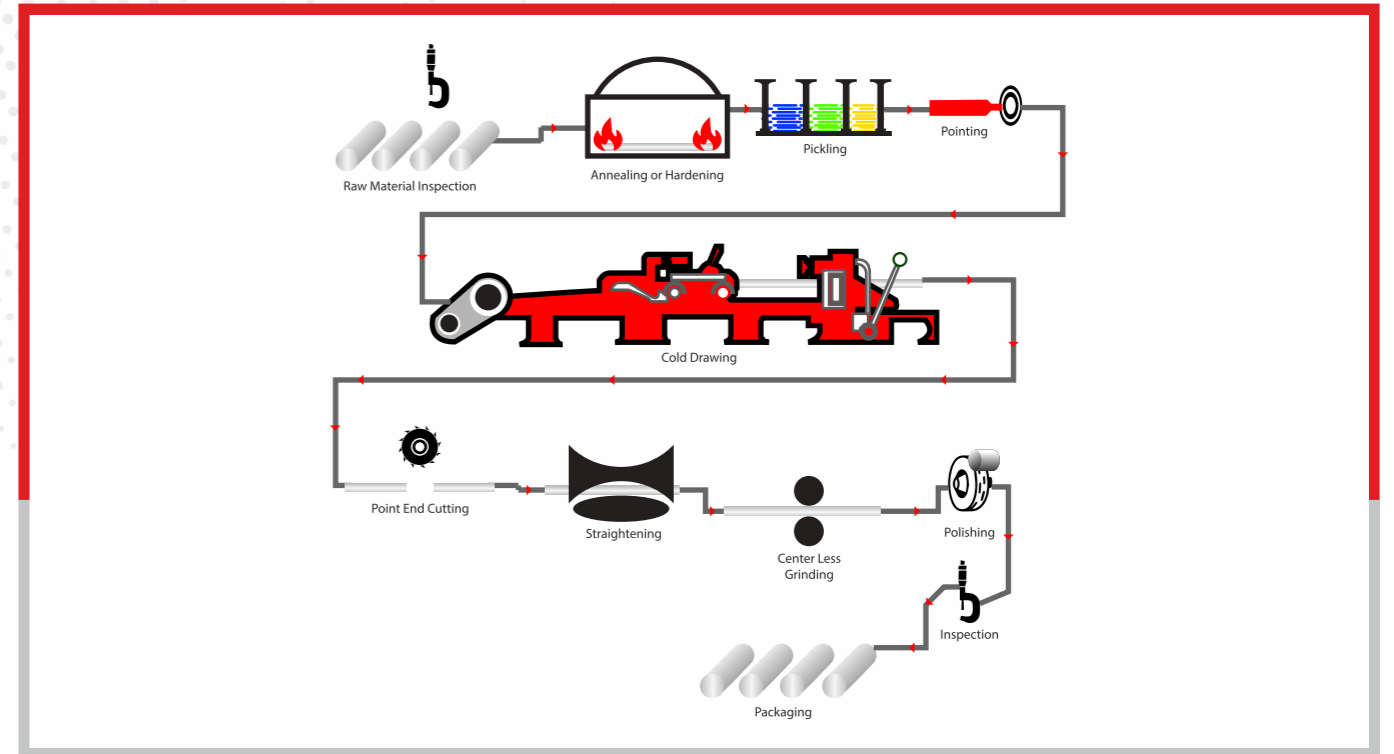
STAINLESS STEEL BARS

BRIGHT ROUND BARS | BRIGHT SQUARE BARS | BRIGHT HEX BARS

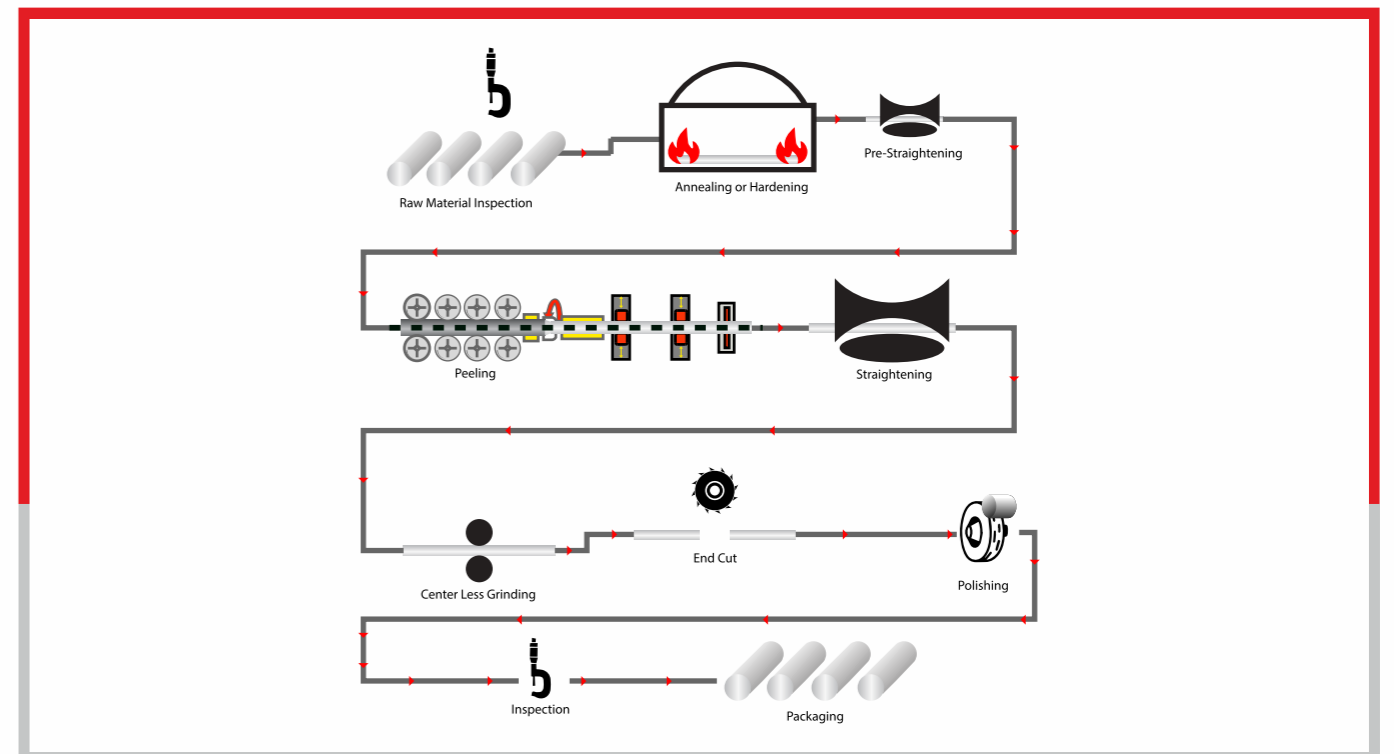


Process Chart

Bright Bar Process Chart



Peeled Bright Bar Process Chart

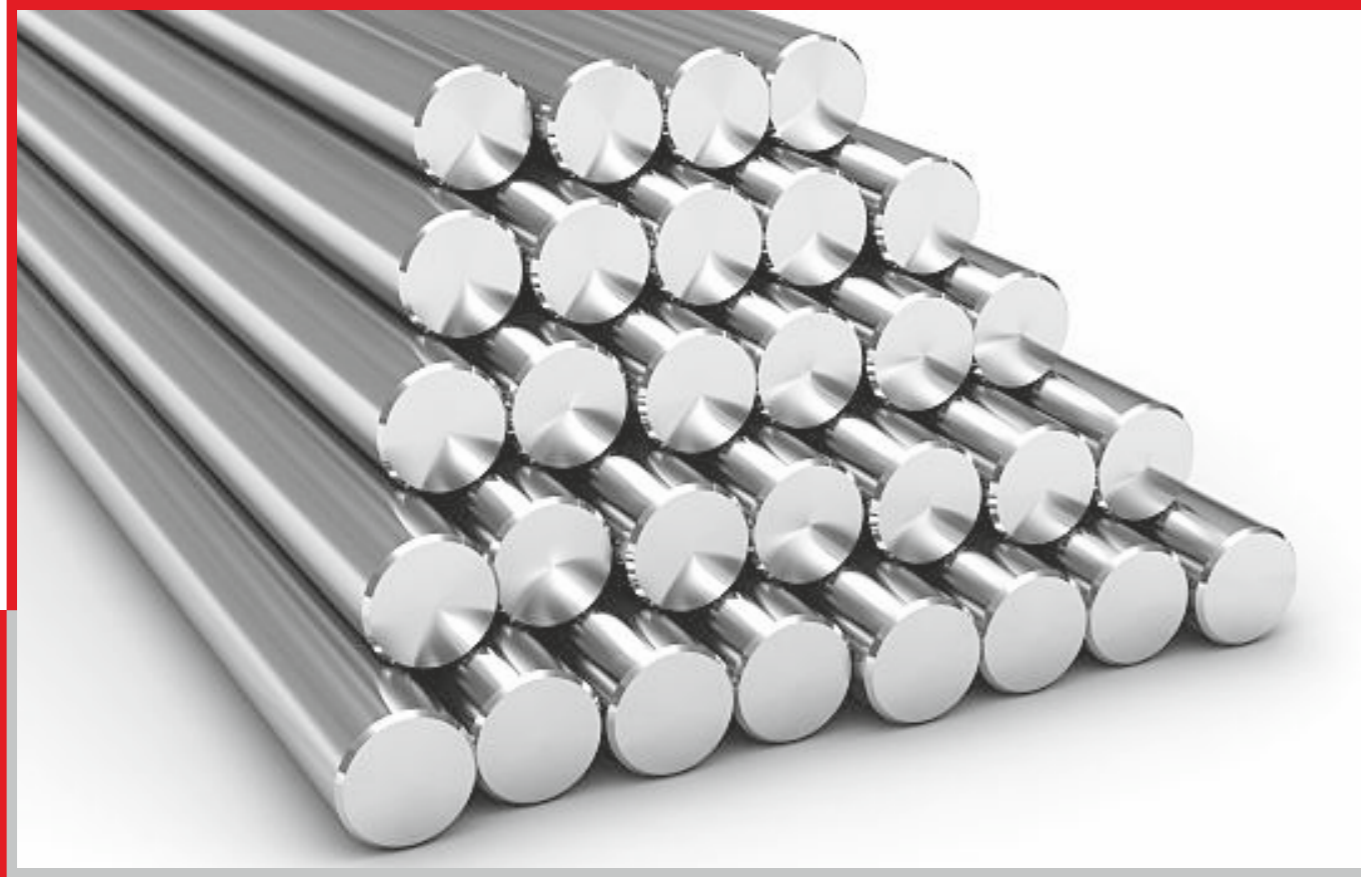


COMPANY PROFILE

Founded in the year 2017, we “Vivin Steel 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.



Stainless Steel Bright Round Bars



Vivin Steel 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 through 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



Vivin Steel 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



Vivin Steel Industries is one of the manufacturers and exporters of various grades of stainless steel bright square bar. We have years of experience in exporting our stainless steel bright square bars and other stainless steel products. Vivin Steel 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

Vivin Steel 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

 Micrometer	 Dial Gauge	 Universal Testing Machine	 Hardness Testing Machine
 Surface Table	 Rad Check Meter		
 Ultra Sonic Testing Machine	 Portable Hardness Tester	 PMI Machine	 Vernier Caliper



Grade With Chemical Composition

Type	Grades			Reference Chemistry (%)									
	EN Name	EN Number	ASTM	C (max)	Si (max)	Mn (max)	P (max)	S (max)	N	Cr	Mo	Ni	Others
A	X12CrMnNiN17-7-5	1.4372	201	0.15	1.00	5.50-7.50	0.045	0.015	0.05-0.25	16.00-18.00		3.50-5.50	
U	X12CrMnNiN18-9-5	1.4373	202	0.15	1.00	7.50-10.50	0.060	0.030	0.25 max	17.00-19.00		4.00-6.00	
S		1.4597	204 Cu	0.10	2.00	6.5-8.5	0.040	0.030		16.00-18.00	1.0 max	2.00 max	Cu- 2.00-3.00
T		Nitronic 50	XM-19	0.06	1.00	4.00-6.00	0.045	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
E	X12CrNi18-5	1.4310	301	0.05-0.15	1.00	2.00	0.045	0.030	0.11 max	16.00-19.00	0.8 max	6.00-9.50	
N	X8CrNiS18-9(3)	1.4305	303	0.15	1.00	2.00	0.200	0.15-0.35	0.11 max	17.00-19.00		8.00-10.00	Cu<1.00
I	X5CrNi18-10	1.4301	304	0.08	1.00	2.00	0.045	0.030		18.00-20.00		8.00-11.00	
T	X2CrNi18-9	1.4307	304 L	0.03	1.00	2.00	0.045	0.030		18.00-20.00		8.00-12.00	
I			308	0.08	1.00	2.00	0.045	0.015		19.00-21.00		10.00-12.00	
C	X15CrNiSi20-12	1.4828		0.20	1.50	2.00	0.045	0.030	0.11	19.00-21.00		11.00-13.00	
			309	0.20	1.00	2.00	0.045	0.030		22.00-24.00		12.00-15.00	
A			310	0.25	1.50	2.00	0.045	0.030		22.00-24.00		19.00-22.00	
U	X5CrNiMo17-12-2	1.4401	316	0.08	1.00	2.00	0.045	0.030	0.10	16.00-18.00	2.00-3.00	10.00-14.00	
S	X3CrNiMo17-13-3	1.4436	316	0.05	1.00	2.00	0.045	0.015	0.11	16.50-18.50	2.50-3.00	10.50-13.00	
T	X2CrNiMo17-12-2	1.4404	316 L	0.03	1.00	2.00	0.045	0.030		16.00-18.00	2.00-3.00	10.00-14.00	
E	X2CrNiMo18-14-3	1.4435	316 L	0.03	1.00	2.00	0.045	0.030	0.11	17.00-19.00	2.50-3.50	12.50-15.00	
N	X6CrNiMoTi17-12-2	1.4571	316 Ti	0.08	1.00	2.00	0.045	0.030	0.10	16.00-18.00	2.00-3.00	10.00-14.00	Ti:min:5(C+N);max:0.70
I			317	0.08	0.10	2.00	0.045	0.030	0.10 max	18.00-20.00	3.00-4.00	11.00-15.00	
T	X6CrNiTi18-10	1.4541	321	0.08	1.00	2.00	0.045	0.030		17.00-19.00		9.00-12.00	Ti:min:5(C+N);max:0.70
I	X8CrNiTi18-10	1.4878	321 H	0.1	1.00	2.00	0.045	0.015		17.00-19.00		9.00-12.00	Ti:min:5(C+N);max:0.80
C	X6CrNiNb18-10	1.4550	347	0.08	1.00	2.00	0.045	0.030		17.00-19.00		9.00-12.00	Cb:min:(10xC);max1.10
					0.50								
F		1.4003	403	0.015		1.00	0.040	0.030		11.50-13.00			
E	X2CrTi12	1.4512	409	0.03	1.00	1.00	0.040	0.015		10.50-12.50		0.75 max	Ti:min:(6x(C+N));max:0.65
R			429	0.12	1.00	1.00	0.040	0.030		14.00-16.00			
R	X6Cr17	1.4016	430	0.12	1.00	1.00	0.040	0.030		16.00-18.00			
I			430F	0.12	1.00	1.50	0.040	0.15-0.35		16.00-18.00			
T	X3CrNb17	1.4511	430LNB	0.05	1.00	1.00	0.040	0.030		16.00-18.00			Nb:min:(12xC);max:1.00
I													
C													
M	X12Cr13	1.4006	410	0.08-0.15	1.00	1.00	0.040	0.030		11.50-13.50			
A	X6Cr13		410S	0.08	1.00	1.00	0.040	0.030		11.50-13.50		0.6 max	
R		1.4005	416	0.06-0.15	1.00	1.50	0.040	0.15-0.35		12.0-14.0	0.60 Max		
T	X20Cr13	1.4021	420	0.16-0.25	1.00	1.00	0.040	0.015		12.00-14.00			
E	X30Cr13	1.4028	420 B	0.26-0.35	1.00	1.50	0.040	0.030		12.00-14.00			
N	X39Cr13	1.4031		0.36-0.42	1.00	1.00	0.040	0.015		12.50-14.50			
S	X46Cr13	1.4034	420 C	0.43-0.50	1.00	1.00	0.040	0.015	0.020	12.50-14.50			
I	X39CrMo17-1	1.4122		0.33-0.45	1.00	1.50	0.040	0.015	0.020	15.50-17.50	0.80-1.30	1.00	
T		1.4104		0.10-0.17	1.00	1.50	0.040	0.15- 0.35		16.0-18.0	0.20-0.60		
I		1.4057	431	0.12-0.22	1.00	1.50	0.040	0.030		15.0-17.0		1.50-2.50	
C	X3CrNiMo13-4	1.4313	F6-NM	0.05	0.70	1.50	0.040	0.015	0.020	12.00-14.00	0.30-0.70	3.50-4.50	
	X4CrNiMo16-5-1	1.4418		0.06	0.70	1.50	0.040	0.015	0.020	15.00-17.00	0.80-1.50	4.00-6.00	
P	X5CrNiCoNb16-4	1.4542	63/17-4PH	0.07	1.00	1.00	0.040	0.03		15.00-17.50	0.6	3.00-5.00	Cu:3.00-5.00;Nb:min:(5xC);max:0.45
H	X7CrNiAl17-7	1.4568	631-17-7PH	0.09	0.70	1.00	0.040	0.015		16.00-18.00		6.50-7.80	Al:0.70-1.50
	X2CrNiMoN22-5-3(6)	1.4462	2205(F51)	0.030	1.00	2.00	0.035	0.015	0.08-0.20	21.00-23.00	2.50-3.50	4.50-6.50	
Duplex	X2CrNiM23-4(9)	1.4362	2304	0.030	1.00	2.00	0.035	0.015	0.5-0.20	22.00-24.00	0.10-0.60	3.50-5.50	Cu:0.10-0.60
	X2CrNiMoN25-7-4(9)	1.4410	2507 (F53)	0.030	0.80	1.20	0.035	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**
 Dia (mm) X Dia (mm) X 0.006232 = Wt. Per. Mtr.
 Dia (mm) X Dia (mm) X 0.0019 = Wt. Per. Feet
- 2. Weight of S.S. Hexagonal Bar**
 Dia (mm) X Dia (mm) X 0.00680 = Wt. Per. Mtr.
 Width (mm) X Dia (mm) X 0.002072 = Wt. Per. Feet
- 3. Weight S.S. Square Bar**
 Dia (mm) X Dia (mm) X 0.00788 = Wt. Per. Mtr.
 Dia (mm) X Dia (mm) X 0.0024 = Wt. Per. Feet
- 4. Weight S.S. Flate Bar**
 Width (mm) X Thick (mm) X 0.00798 = Wt. Per. Mtr.
 Width (mm) X Thick (mm) X 0.00243 = Wt. Per. Feet
- 5. Weight of Conversion of Mtr to Feet**
 Wt of 1 Mtr. 3.2808 = Wt.Per Feet.
- 6. Pitting resistance equivalent number (PREN) is a measurement of the corrosion resistance of stainless 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.**

$$PREN = 1 \times \%Cr + 3.3 \times \%Mo + 16 \times \%N \text{ (w/w)}$$
 PREN-value ≥ 40 for duplex steels is called for in the DIN EN ISO 15156

7. Carbon Equivalent Number:

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

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.

$$Creq = Cr + 1.5 Si + Mo + 2 Ti + 0.5 Co$$

$$FNA = 3.34 Creq - 2.46 Nieq - 28.6$$

9. 1 ksi = 6.89475908677537 mpa



Applications

