PASCO®

PASARGAD ALLOY STEEL COMPLEX

PRODUCTIONS

www.pascosteel.com

Date of Issue: 2024

Introduction

Pasargad Alloy Steel Industries Complex a privately held (PJS) company, was established in south east of Shiraz city; Fars province as a fully-furnished integrated steelmaking complex, incorporating all relevant stages of steel making value added chain from collecting iron ore run-of-mine to producing various types of alloy steel in compliance with the international standards, in a surface area extended in three million square meters. Achievement of our goals, is possible by continuous innovation, optimum allocation of the resources, environmentally adaptable and friendly methods for steel production, application of best ethical practices and standards in the industry, recruitment of the most capable workforce and continuously investing on our human capital resources in various aspects, and maximizing return on the investment.

The factory design concept from the very first, was to receive iron ore from local mines nationwide and further processing of run-of-mine by crushing, iron ore concentration, converting iron ore concentrate to pellet, reducing pellet to sponge iron (DRI), melting DRI through EAF, and converting molten steel to various types of alloy steel through secondary metallurgy. The main activities of Pasco are the production of billets and blooms, types of steel shafts of special alloys, steel coils and seamless pipes. Today, Pasco is taking steps towards growth and excellence by producing special products in the field of dimensions and features desired by customers.

Different sections and steel grades would be produced according to the qualitative requirements of technical conditions based on standard specifications and explicit customer's wishes.

General Characteristics Of The Company:

Site Information
Location: Shiraz-Iran (68 Kilometres South East of Shiraz Central)
Available ground: 3,000,000 m2

Geographical Conditions
Altitude from sea level: 1,589 meters
Distance from nearest Seaport : Bandar Abbas 530 Km

Ownership
PASCO is the largest steel producer in private sector.

Market
To Provide raw material for steel long product down stream industry in Iran and export market.

Number Of Staff
2800 employees in Operation phase and
1600 employees in Expansion Project
~ 15,000 person indirect jobs.

Cont

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Type of Products

Besides the standard dimensions listed below, PASCO is meets the dimensional tolerances according to international standards and customer requirements:

Continuous Cast Billet

Billet Format (mm)	Minimum Lengths (mm)	Maximum Lengths (mm)	Tolerances (mm)
Sq 150 × 150	4000	12000	±50
Sq 200 × 200	4000	12000	±50



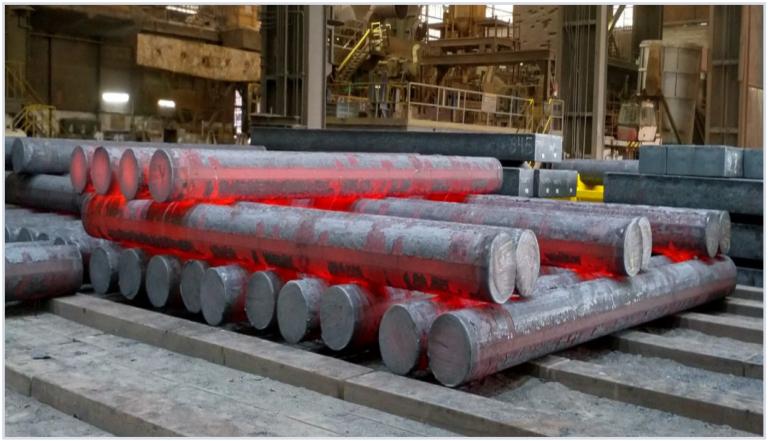
Cast Ingot

Ingot Dimension (mm)	Ingot Weight (ton)
Polygonal-diameter(1435-1130mm) Height (2275mm)	25
Octagonal-diameter(1050-820) Height(1900)	10



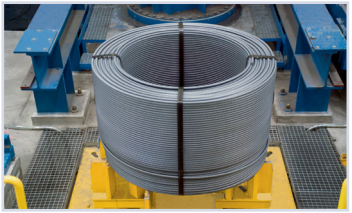
Continuous Cast Bloom

Bloom Format (mm)	Minimum Lengths (mm)	Maximum Lengths (mm)	Length Tolerances (mm)	Cross Section Tolerances	Maximum Concavity of Face	Maximum Rhomboidity	Maximum Twisting	Maximum Curvature
Sq 200 × 400	4000	12000	±60	±2%	±2	2.5%	0.8%	0.5%
Sq 220 × 220	4000	12000	±50	±2%	±2	2.5%	0.8%	0.5%
Sq 270 × 330	4000	12000	±60	±2%	±2	2.5%	0.8%	0.5%
Sq 280 × 380	4000	12000	±60	±2%	±2	2.5%	0.8%	0.5%
Round Ø 250-450	4000	6500	±60	±2%	-	2.5%	-	0.5%
Round Ø 250-450	4000	12000	±60	±2%	±2	2.5%	0.8%	0.5%



Wire Rod Coil & Bar In Coil

Format (mm)	Coil Weight (ton)	Inner Coil Dimension (mm)	Outer Coil Dimension (mm)	Height Coil Dimension (mm)
Round Ø 5.5-16	2.1-3	580	1250	2000
Round Ø 17-60	2.1-3	850	1350	2000



Rolled Billet (Semifinished)

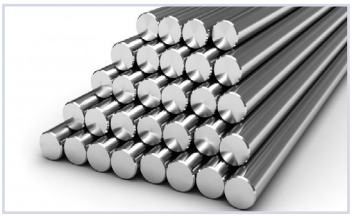
Final Format (mm)	Minimum Lengths (mm)	Maximum Lengths (mm)	Tolerances (mm)
Sq & Round 80-200	3000	12000	±50



SBQ Bar

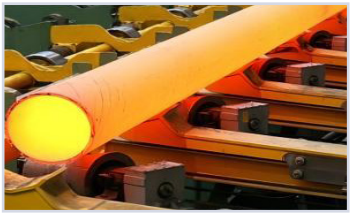
Format (mm)	Minimum Lengths (mm)	Maximum Lengths (mm)	Tolerances (mm)
Ø 30-100	3000	12000	±50





Seamless Pipe

Outer Diameter (mm)	Outer Diameter (inch)	Thickness (mm)	Maximum Lengths (mm)
60-194	2 1/2 - 7 3/4	4.5-20	12000

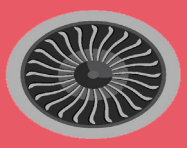


Grades & Applications

Bearing Steel

Key Properties:

- high hardness -high hardening capacity
- high strength
- Resistance to Static fatigue & Durability



Bearing steel is special steel featuring high wear resistance and rolling fatigue strength. High-carbon chromium bearing steel, engineering steel and some types of stainless steel and heat resistant steel are used as materials of bearings. grades require annealing before transformation, thermo-mechanical rolling for fine grain size distribution represents an advantage in terms of reducing annealing time.

Selection Of Established Bearing Steel

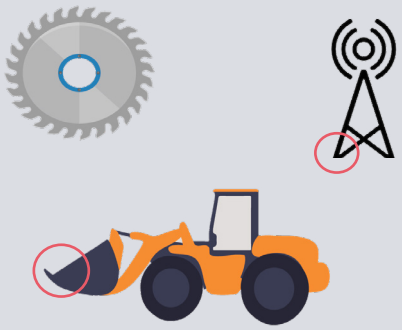
Name	Material NO.	Analysis								
		C	Si	Mn	P	S	Cr	Ni	Cu	Mo
100Cr6	1.3505	0.95-1.10	0.15-0.35	0.-0.45	Max 0.025	Max 0.015	1.35-1.60	Max 0.20	Max 0.20	Max 0.080
100CrMo7	1.3537	0.90-1.05	0.20-0.40	0.25-0.45	Max 0.030	Max 0.025	1.65-1.95	Max 0.30	Max 0.30	0.15-0.25

We can produce other grades according to your order

Spring Steel

Key Properties:

- high strength
- high elastic limit and a low modulus
- high Resilience
- high yield strength
- high resistance to fatigue



Spring steel refers to steel due to the elasticity in the quenched and tempered condition, and specifically for the manufacture of springs and elastic components. Spring steel depends on its ability to elastically deform, i.e., within the prescribed range, the ability to withstand a certain elastic deformation so that the load does not occur in the permanent deformation after the load is removed.

Selection Of Established Spring Steel

Name	Material NO.	Analysis								
		C	Si	Mn	P	S	Cr	Ni	V	Mo
55Cr3	1.7176	0.52-0.59	0.25-0.50	0.70-1.10	Max 0.030	Max 0.03	0.70-1.00			
51CrV4	1.8159	0.47-0.55	Max 0.40	0.70-1.10	Max 0.035	Max 0.035	0.90-1.20		0.10-0.25	
52CrMoV4	1.7701	0.48-0.56	0.15-0.40	0.70-1.00	Max 0.030	Max 0.03	0.90-1.20		0.07-0.15	0.15-0.25
60SiCr7	1.7108	0.55-0.66	1.50-1.80	0.70-1.00	Max 0.035	Max 0.035	0.20- 0.40			
54SiCr6	1.7102	0.50-0.58	1.20-1.60	0.50-0.80	Max 0.025	Max 0.025	0.50- 0.80			
38Si7	1.5023	0.35-0.42	1.50-1.80	0.50-0.80	Max 0.030	Max 0.030				
65Mn4	1.1240	0.60-0.70	0.25-0.50	0.90-1.20	Max 0.035	Max 0.035				
52SiCrNi5	1.7117	0.49-0.56	1.20-1.50	0.70-0.90	Max 0.025	Max 0.025	0.70- 1.00	0.50- 0.70		
CK75	1.1248	0.70-0.80	0.15-0.35	0.60-0.80	Max 0.035	Max 0.035				
CK67	1.1231	0.65-0.72	0.15-0.35	0.60-0.90	Max 0.035	Max 0.035				

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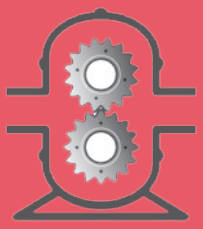
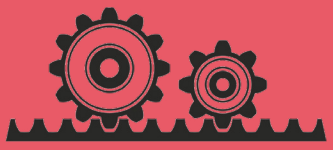
Gear Steel

Key Properties:

- toughness
- high elongation
- high reduction in area
- wear resistance
- high machining
- resistance to shock
- toughness





Gear materials are subjected to multiple load cycles during operation, and gear teeth experience high surface contact stresses, high bending stresses, typically in the root area, and potential sliding wear forces as the teeth move in and out of mesh. The contact stresses and bending stresses produce long-term fatigue damage.

Selection Of Established Gear Steel

Name	Material NO.	Analysis							
		C	Si	Mn	P	S	Cr	Ni	Mo
16MnCr5	1.7131	0.14-0.15	0.15-0.40	1.00-1.30	Max 0.035	Max 0.035	0.80-1.10		
34CrNiMo6	1.6562	0.30-0.38	Max 0.40	0.50-0.80	Max 0.035	Max 0.035	1.30-1.70	1.30-1.70	0.15-0.30
18CrNiMo6-7	1.6587	0.15 - 0.21	Max 0.40	0.50- 0.90	Max 0.025	Max 0.035	1.50- 1.80	1.40- 1.70	0.25 - 0.35
34CrMo4	1.7220	0.30-0.37	Max 0.40	0.60-0.90	Max 0.035	Max 0.035	0.90-1.20		0.15-0.30
18CrNi8	1.5920	0.15-0.20	0.15-0.40	0.40-0.60	Max 0.035	Max 0.035	1.80-2.10	1.80-2.10	

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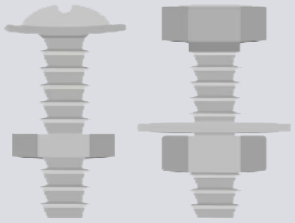
Cold Heading Steel

Key Properties:

- tensile stress
- elongation
- resistance to corrosion



The cold heading is a generic term describing the continuous productions of fasteners of parts by upsetting from wire or wire rod in the coil form. The operation is carried out on specially designed horizontal presses equipped with means of feeding wire from coil, straightening, cutting to length and thence finally forming fastener in one or more blows. The presses range from relatively simple machines equipped with a single punch and die, forming the part in a single blow, to complex multi-die / punch machines with integral means for transferring the part through the die sequence.
The process originated in the fastener industry, being originally used to upset the end of a cut-off length of wire to form a rivet or blank for a wood screw or machine screw.

Ductility and strength required for cold heading are obtained by a wide range of low carbon, alloyed and boron grades produced according to international standards.

Selection Of Established Cold Heading Steel

Name	Material NO.	Analysis									
		C	Si	Mn	P	S	Cr	Ni	Cu	Mo	B
SAE10B21		0.18-0.23	0.15-0.30	0.60-0.90	Max 0.030	Max 0.050					0.0005-0.0030
SAE10B35		0.32-0.38	0.15-0.30	0.60-0.90	Max 0.030	Max 0.050					0.0005-0.0030
SAE10B38		0.35-0.42	0.15-0.30	0.60-0.90	Max 0.030	Max 0.050					0.0005-0.0030
36CrNiMo4	1.6511	0.32-0.40	Max 0.40	0.50-0.80	Max 0.35	Max 0.35	0.90-1.20	0.90-0.12		0.15-0.30	
37MnB5	1.5538	0.35- 0.40	Max 0.30	1.15- 1.45	Max 0.025	Max 0.025	Max 0.30		Max 0.25		0.0008-0.0050

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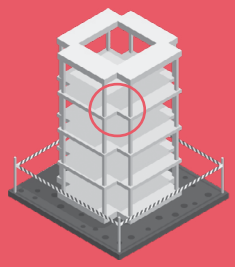
Alloyed Structural Steel

Key Properties:

- corrosion resistance
- hardness
- strength
- wear resistance
- toughness



Alloy structural steels are widely employed in engineering industry for parts. They have a more favorable set of mechanical properties than carbon steel (both static and dynamic loads) in operation. The alloying elements strengthen the ferrite, which is the chief constituent in the structure of these steels; increase the hardenability, refine the grain size; and increase the resistance to softening on heating to moderate temperatures. The principal alloying elements in structural steels are chromium , nickel, and manganese.

Tungsten, molybdenum, vanadium, and titanium are not usually employed as independent additions, they are added in conjunction with chromium, nickel and manganese.

Selection Of Established Alloyed Structural Steel

Name	Material NO.	Analysis								
		C	Si	Mn	P	S	Cr	Ni	B	Mo
42CrMo4	17225	0.38-0.45	Max 0.40	0.60-0.90	Max 0.035	Max 0.035	0.90-1.20			0.15-0.30
50CrMo4	17228	0.46-0.54	Max 0.40	0.50-0.80	Max 0.035	Max 0.035	0.90-1.20			0.15-0.30
30CrNiMo8	1.6580	0.26-0.34	Max 0.40	0.30-0.60	Max 0.035	Max 0.035	1.80-2.20	1.80-2.20		0.30-0.50
35CrMo4	10407	0.32-0.37	0.20-0.40	0.60-0.80			0.90-1.10			
50MnSi4	1.5131	0.45-0.53	0.70-1.00	0.90-1.20	Max 0.035	Max 0.035				
38MnB5	1.5532	0.36-0.42	max 0.40	1.15-1.45	Max 0.035	Max 0.040			0.0008-0.0050	

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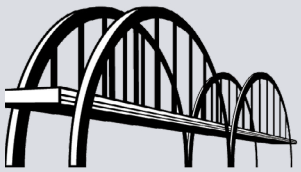
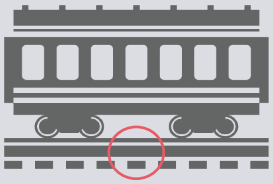
Micro-Alloyed Structural Steel

Key Properties:

- High-strength
- resistance to atmospheric corrosion





The term microalloyed steel refers to a group of steel products alloyed, or enhanced, by the addition of small amounts of various other elements. These alloying elements, which serve to improve the physical and working characteristics of the steel, include vanadium, molybdenum, and boron. Microalloyed steels fall, in terms of cost and performance, between carbon and low alloy varieties. They offer many benefits, such as superior weldability, uniform hardness, and excellent resistance to metal fatigue and wear.

Among the few disadvantages of microalloyed steel products are ductility and toughness values lower than quenched and tempered (Q&T) steel varieties.

Selection Of Established Micro-Alloyed Structural Steel

Name	Material NO.	Analysis									
		C	Si	Mn	P	S	Cr	Al	V	Mo	N
38MnVS6	1.7220	0.34-0.41	0.15-0.80	1.20-1.60	Max 0.025	0.020-0.060	Max 0.30		0.080-0.20	Max 0.080	0.010-0.020
15MnV5	1.5213	0.12-0.18	0.30-0.60	1.10-1.40	Max 0.035	Max 0.035		Min 0.030	0.10-0.20		
19MnVS6	1.5217	0.15-0.22	0.15-0.8	1.20-1.60	Max 0.025	0.020-0.060	Max 0.30		0.08-0.20	Max 0.080	0.010-0.020
30MnVS6	1.1302	0.26-0.33	0.15-0.80	1.20-1.60	Max 0.025	0.020-0.060	Max 0.30		0.08-0.20	Max 0.080	0.010-0.020
38MnVS6	1.1303	0.34-0.41	0.15-0.80	1.20-1.60	Max 0.025	0.020-0.060	Max 0.30		0.080-0.200	Max 0.080	0.010-0.020
46MnVS3	1.1305	0.42-0.49	0.15-0.80	0.60-1.00	Max 0.025	0.020-0.060	Max 0.3		0.080-0.20	Max 0.080	0.010-0.020

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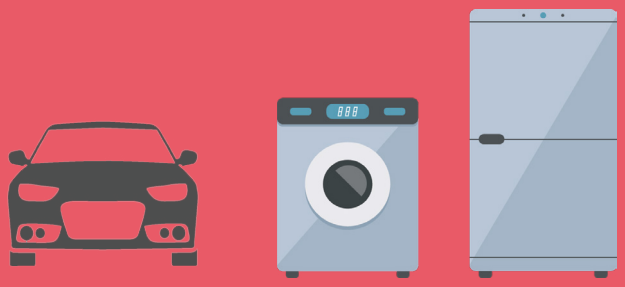
Free Cutting Steel

Key Properties:

- machinability
- face turning
- drilling
- reaming



Free cutting steels also known as free machining steels are those steels which form small chips when machined. This increases the machinability of the material by breaking the chips into small pieces, thus avoiding their entanglement in the machinery. This enables automatic run of the equipment without human interaction. Free cutting steels with lead also allow for higher machining rates. As a thumb rule, free cutting steel normally costs 15 % to 20 % more than the standard steel. However this is made up by increased machining speeds, larger cuts, and longer tool life.

Selection Of Established Free Cutting Steel

Name	Material NO.	Analysis					
		C	Si	Mn	P	S	Pb
11SMnPb30	1.0718	Max 0.14	Max 0.05	0.90-1.30	Max 0.110	0.270-0.330	0.20-0.35
11SMn30	1.0715	Max 0.14	Max 0.05	0.90-1.30	Max 0.110	0.270-0.330	
9SMn28	1.0715	Max 0.14	Max 0.05	0.90-1.30	Max 0.100	0.240-0.320	
38SMnPb28	1.0761	0.35-0.40	Max 0.40	1.20-1.50	Max 0.060	0.240-0.330	0.15-0.35
44SMn28	1.0762	0.40-0.48	Max 0.40	1.30-1.70	Max 0.060	0.240-0.330	

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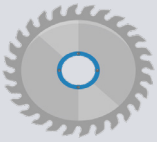
Tool Steel

Key Properties:

- wear resistance
- heat resistance
- toughness



Tool steel is a carbon and alloy steel that has ideal characteristics including high hardness, abrasion resistance, a good ability to retain its shape, even in higher temperatures. Tool steel is commonly used in injection molding where resistance to abrasion is an important criterion. Its toughness also gives it non-deforming properties, allowing it to hold a cutting edge at various temperatures. Depending on the grade of tool steel it is also a popular choice for the manufacture of hand tools, cutting tools, and more.

Tool steel is generally used in a heat-treated state. Many high carbon tool steels are also more resistant to corrosion due to their higher ratios of elements such as vanadium and niobium. Because of this, tool steel is often used for high-strength or wear-resistant applications.

Selection Of Established Tool Steel

Name	Material NO.	Analysis								
		C	Si	Mn	P	S	Cr	Ni	V	Mo
X40CrMoV5-1	1.2344	0.37-0.43	0.90-1.20	0.30-0.20	Max 0.030	Max 0.030	4.80-5.50		0.90-1.10	1.20-1.50
X20Cr13	1.4021	0.16-0.25	Max 1.00	Max 1.50	Max 0.040	Max 0.03	12.00-14.00			
X160CrMoV 12 1	1.2379	1.45-1.75	0.10-0.40	0.15-0.45	Max 0.030	Max 0.030	11.00-13.00		0.35-0.65	0.70-1.00
X210Cr 12	1.2080	1.90-2.20	0.10-0.40	0.15-0.45	Max 0.030	Max 0.030	11.00-12.00			
X210CrW 12 1	1.2436	2.00-2.30	0.10-0.40	0.15-0.45	Max 0.030	Max 0.030	11.00-13.00	0.80-1.10		
60WCrV7	1.2550	0.55-0.65	0.50-0.70	0.15-0.45	Max 0.030	Max 0.030	0.90-1.20	1.80-2.1	0.100-0.200	

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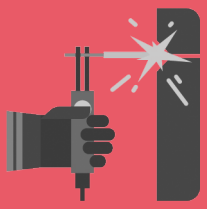
Welding Steel

Key Properties:

- strength
- hardness
- ductility
- fracture toughness



Steel welding grades are developed to guarantee coherent chemical and mechanical properties between the welded joint and the base metal.

The grade analysis is a determining factor, especially :

1.in obtaining the required mechanical properties: carbon, manganese and alloying elements such as vanadium or niobium;

2.for toughness or corrosion resistance: nickel, chromium or molybdenum.

3.depending on the welding process and the protection used (shielding gas or flux): carbon, silicon, aluminium or titanium to limit the risk of welded joint oxidation;

4.residual content such as copper, chromium and tin… are tightly controlled to avoid cracks prompted by phosphorus, sulphur and hydrogen;

5.special processes have been developed to achieve

Selection Of Established Welding Steel

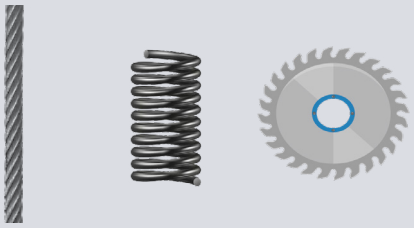
Name	Material NO.	Analysis								
		C	Si	Mn	P	S	Cr	Ni	Cu	Mo
SG2	1.5125	0.06-0.13	0.70-1.00	1.30-1.60	Max 0.025	Max 0.025	Max 0.15	Max 0.15	Max 0.030	Max 0.15
SG3	1.5130	0.06-0.13	0.80-1.20	1.60-1.90	Max 0.025	Max 0.025	Max 0.15	Max 0.15	Max 0.030	Max 0.15
SWRY11		Max 0.09	Max 0.03	0.35-0.65	Max 0.020	Max 0.023				
SWRM6	1.0314	Max 0.08		Max 0.60	Max 0.040	Max 0.040				
SWRM8	1.0313	Max 0.1		Max 0.60	Max 0.040	Max 0.040				
RST34	1.0034	Max 0.17	0.03-0.30	0.20-0.50	Max 0.080	Max 0.050				
Stainless Steel 316	1.4401	Max 0.08	Max 1.00	1.25-2.00	Max 0.040	Max 0.030	16.00-18.00	10.00-14.00	Max 0.750	2.00-3.00
Stainless Steel 304	1.4307	Max 0.15	Max 1.00	Max 2.00	Max 0.045	Max 0.030	18.00-20.00	8.00-10.50	Max 1.00	Max 1.00

We can produce other grades according to your order

High Carbon Steel

Key Properties:

- high strength and resistance properties
- ductility without breaking
- steel memory



The high-carbon steels contain carbon from 0.60% to 2.00%, and this group of steel is very difficult to weld, as they readily enter the hard and brittle martensite phase, as the steel cools from welding. The primary use of this type of steel is cutting tools, springs, and abrasion-resistant components, which are less likely to be welded but sometimes are.

Selection Of Established High Carbon Steel

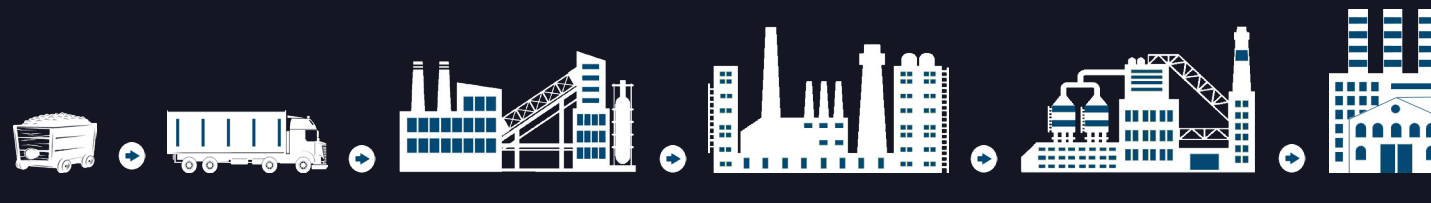
Name	Material NO.	Analysis								
		C	Si	Mn	P	S	Cr	Ni	Al	Mo
C80D	1.0622	0.78-0.83	0.10-0.30	0.50-0.80	Max 0.035	Max 0.035	Max 0.15	Max 0.20	Max 0.010	Max 0.050
C72D	1.0617	0.70-0.75	0.10-0.30	0.50-0.80	Max 0.035	Max 0.035	Max 0.15	Max 0.20	Max 0.010	Max 0.050
C67S	1.1231	0.65-0.73	0.15-0.35	0.60-0.90	Max 0.025	Max 0.025	Max 0.40	Max 0.40		Max 0.100
C60	1.0601	0.57-0.65	Max 0.40	0.60-0.90	Max 0.045	Max 0.045	Max 0.40	Max 0.40		Max 0.100

We can produce other grades according to your order

PASARGAD

STEEL COMPLEX

OVERVIEW



Making
n ton/ Year

SBQ
0.45 Million ton/ Year

WRM
0.45 Million ton/ Year

Seamless
0.15 Million ton/ Year

Rolling

Heat Treatment

DownStream Process

Transportation

Customers

Delivery Condition

PASCO works interdisciplinary to continually improve the properties and broaden applications of steel. This includes the development of new and product-optimised engineering steels, and constant advancement of the production, inspection and testing processes. For this aim initial product from other PASCO's unit should be heat or post treated.

- ## As Rolled

- ## Heat Treated **(Coming Soon...)**

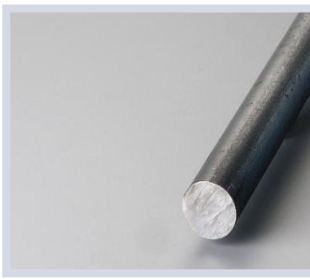
Type Of Heat Treatment:

- Soft Annealing (+A)
- Spheroidized Annealing (+AC)
- Normalizing (+N)
- Annealing for cold shearing (+S)
- Stress relief Annealing (+SR)
- Quench/Tempering (+QT)
- Treated to be in hardness range (+TH)
- Treated to obtain ferrite-pearlite structure in the hardness range (+FP)

- ## Black Bar (Shot Blasted + NDT) **(Coming Soon...)**

End Finishes

- Abrasively cut
- Chamfered
- Sawn and deburred
- Special finishes by arrangement



Flaw Detection

- Identity inspection
- Surface crack inspection
- Internal inspection (ultrasonic testing)

Surface Finish

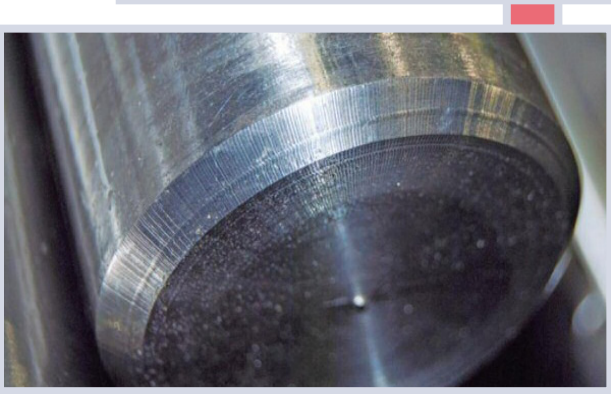
- Rolled
- Shot-blasted

Straightness

- As rolled
- Straightened to 1 millimeter
- Tighter tolerance by arrangement

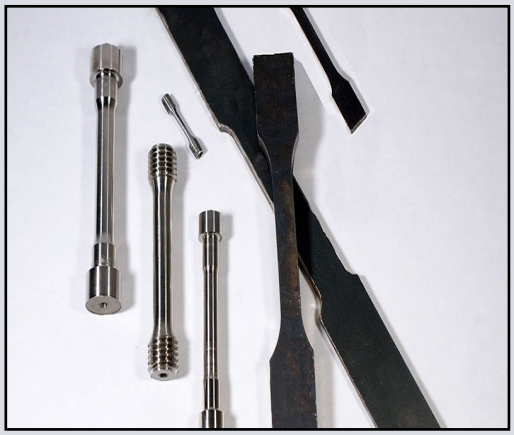
Delivery condition

PASCO STEEL COMPLEX



Quality Assurance Of Products With Quality Control Tests

Tensile Test



Tensile test is performed at different temperature to calculate the mechanical properties of rolled products such as yield strength, tensile strength, elongation and reduction area.

According to: ASTM E21, ASTM E8, ISO 6892-1, ISO 6892-2

Impact Test

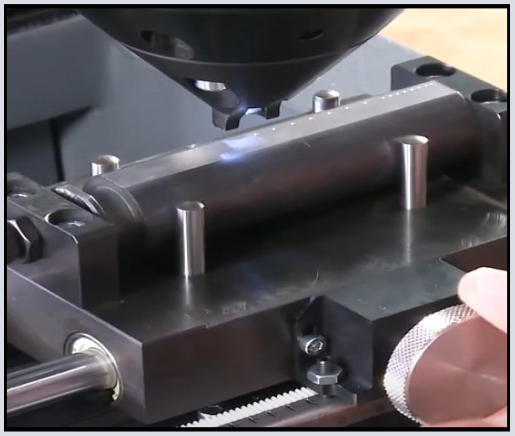
The Charpy impact test, is a standardized high strain rate test which determines the amount of energy absorbed by a material during fracture. Absorbed energy is a measure of the material's notch toughness. The parameters of absorbed energy, lateral expansion and percentage shear fracture are determined by this test.
According to: ASTM E21, ISO 148

Hardness Test

Hardness is a measure of the resistance to localized plastic deformation induced by either mechanical indentation. Hardness test is done by Rockwell, Vickers and Brinell methods.

According to: ISO 6508-1, ISO 6506-1, ISO 6507-1, ASTM E18, ASTM E10, ASTM E92, ISIRI 7809, ISIRI 7810, ISIRI 7811

Jominy Test



Hardenability is the ability to form martensite in steels and harden their structure after heat treatment. Hardenability is one of the properties affecting the weldability of steels. Hardenability of iron alloys is measured by Jominy test.

According to: ASTM A255, ISO 642

Bend And Rebend Test

The bend and Rebend test are used to determine the quality of metals or welding against plastic deformation.

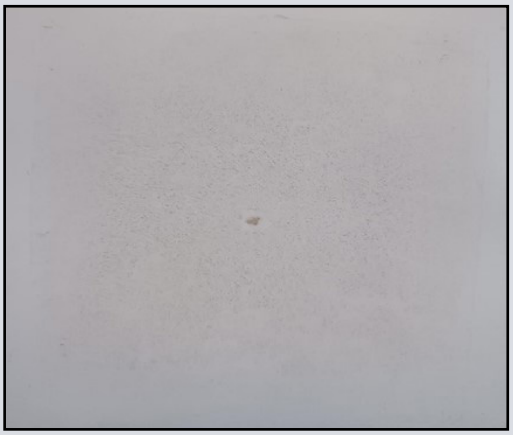
According to: EN ISO 15630-1, ISIR 3132

Macro Etch Test

Macro etching test is used to check the type of solidification and defects created in steel with low magnification. This test is used to evaluate the structure of all steel and alloy products.

According to: GOST R50228, ASTM E381

Sulfur Print Test



This test is used to check the distribution of sulfur in the sections of manufactured products with sulfur content between 0.01 and 0.40% by weight.

According to: ASTM E1180, ISO 4968

Clean Test

The cleanliness test examines the types of impurities formed such as aluminum oxides, silicon, calcium, iron, manganese and their complex compounds or other impurities such as sulfides, nitrides, etc. in rolled products.

According to:
ASTM E45, DIN 50602, ISO 4967, EN 10247

ONH Test

This test is to determine the amount of oxygen, nitrogen and hydrogen in the melting and casting process.

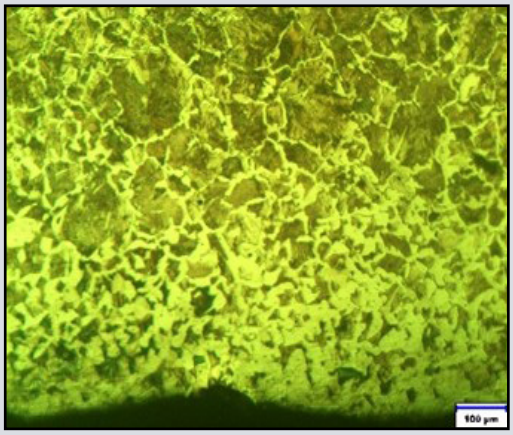
According to: EN ISO 14284

Metallography

The microstructure of steels, including the determination of grain size, phase and formed structure, is performed using metallographic tests.

According to: ASTM E112

Decarburization Test



Decarbonization test is used to determine the reduction of carbon percentage on the surface of rolled products.

According to: ASTM E1077, ISO 3887

Spectrometry

Spectrometry test is used to identify and measure the percentage of elements in products.

According to: ASTM E415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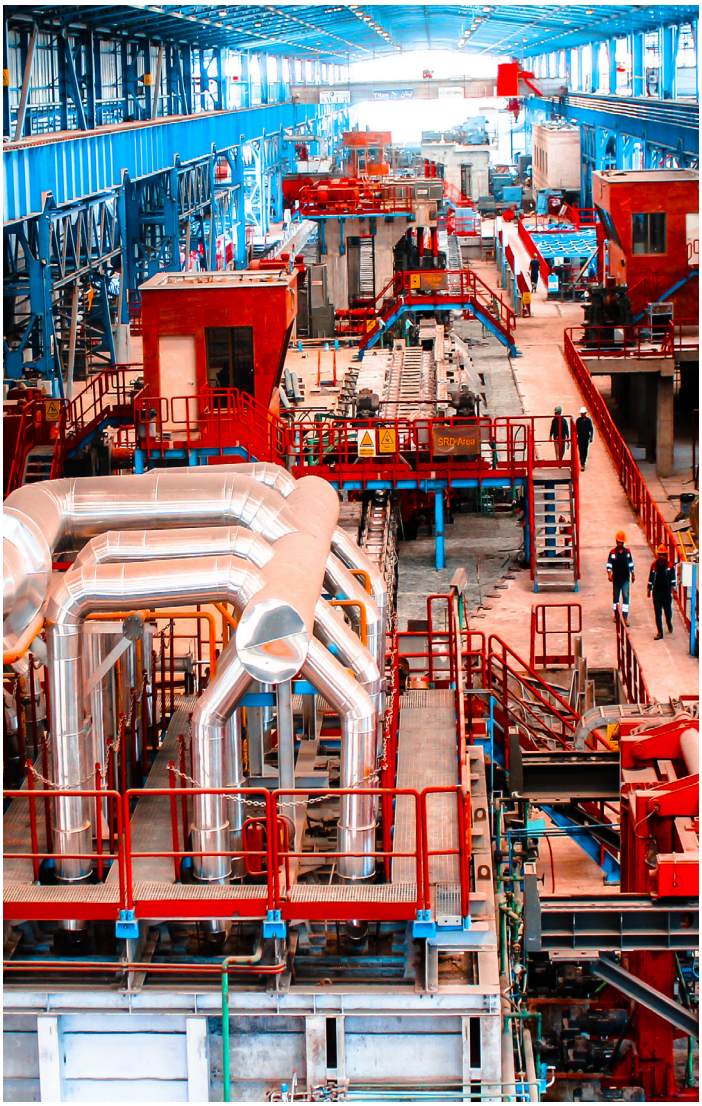
FUCHS



ISO 9001:2015

ISO 14001:2015

ISO 45001:2018

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