

**HITECH** FERROUS & NON FERROUS  
INDIA PRIVATE LIMITED



*Quality Cold Heading Wire  
into Next Generation*



## *Company Profile*

*Established in the year 2009, at Ghaziabad, Uttar Pradesh (India), we, "Hitech Ferrous & Non Ferrous India Private Limited. known for manufacturing, supplying a broad collection of CHQ Wires, Trim Wires, Carbon Steel Wires, Alloy Steel Wire Rod etc. We fabricate these products with the help of our expert personnel as per the defined industry standards. about Periodically upgraded manufacturing equipment and the infusion of the latest technological strategies in the manufacturing processes have enabled us to produce Industrial wires that can be trusted upon. With a team of experienced engineers and manufacturing experts from the manufacturing industry, we have been able to manufacture Industrial wires of the finest quality.*

## *Our Vision*

*At the Systematic group, we want to ensure total commitment to grow multifold by expanding our global footprint and being the most socially responsible steel industry globally.*

- People: Be a great place for people to work in and inspire them to give their best.*
- Productivity: Be reliable, efficient, fast-moving, and lean.*
- Partners and Profit: Deliver sustainable value to the stakeholders. Create a winning network of customers and suppliers.*

## *Our Mission*

*Our Mission is to facilitate growth of our employees, customers and all our stakeholders.*

*We aim to:*

- Take proactive initiatives to facilitate our employees' professional development and general well being.*
- Invest on regular training programs to constantly add value and improve employees' competencies.*
- Provide excellent products, services, and solutions to our customers.*
- Create sustainable value for our stakeholders and adhere to good corporate governance Policies.*
- Anticipate and embrace change.*



# Steel wire for cold heading

C.H.Q. Wire (steel wire for cold heading & forging) produced by Hitech guarantees its quality and excellent processing feature through such processes as oxidation coating, precise wire drawing, heat treatment of raw materials by hot roll so that bolts, nuts and screw products are easy for cold forging. The steel wire is secured with its outstanding process and other quality features to be used for sophisticated parts linking with automobile, machinery, electronics, aircrafts, etc.



● ● ● **Classification of Standard**

## 1) JIS Specification

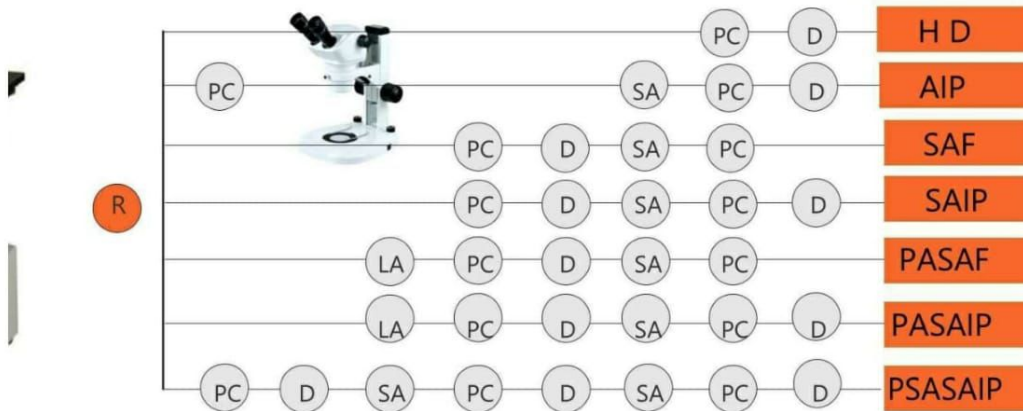
Designation	Symbol of indication	Material	Application
Low Carbon Steel Wire Rod	SWRM	SWRM 6/10	Screw, Wire nail, coupling wire
Carbon Steel Wire Rod for Machine Structure use	S X X C	S10C, S15C, S20C	Hoxagon Bolt and Nut, Shaft
		SWRCH 6A/8A	Electronic wire, Screw
		SWRCH 10A/12A	Bolt and Nut
Carbon Steel Wire Rod for Cold Heading and Cold Forging	SWRCH	SWRCH 18A/22A	Tapping Screw
		SWRCH 25K	Bolt and Nut
		SWRCH 38K	Bolt and Nut
Chromium Steel Wire Rod	SCr	SCr 420	High-tensile Bolt for Construction
		SCM 415/420	High-tensile parts (Piston pin)
		SCM 435/440	High-tensile Bolt and Nut for Automobile
Nickel Chromium-molybdenum Steel Wire Rod	SNCM	SNCM 220	High-tensile Bolt for Aircraft
		SNCM 420	
Manganese Steel Wire Rod for Machine Structure Use	SMn	SMn 443	Socket-head Bolt
High Carbon Chromium-Bearing Steel Wire Rod	SUJ	SUJ2	Roller and Bearing

## 1) AISI Specification

	Designation	Symbol of indication	Material	Application
Carbon Steel	Sulfur Additive free Carbon Steel (Maximum Mn 1.00%)	10 X X	AISI 1010	Bolt and Nut
			AISI 1050	
	Phosphorus and Sulfur Free-Cutting Steel	12 X X	AISI 1212	Parts and Cutting
Alloy Steel	Sulfur additive free Carbon Steel (maximum Mn 1.00% Over)	15 X X	AISI 1541	High-tensile Bolt
	Manganese Steel	13 X X	AISI 1340	High-tensile Bolt
	Molybdenum Steel	40 X X	AISI 4037	Socket-head bolt
	Chromium-molybdenum Steel	41 X X	AISI 4135	High-tensile Bolt and Nut For Automobiles
			AISI 4140	
	Chromium Steel	51 X X	AISI 5120	High-tensile Bolt for Construction
	Nickel Chromium-molybdenum Steel	87 X X	AISI 8740	High-tensile Bolt for Aircraft
Bearing Steel	5 X X X	AISI 52100	Roller and Ball-bearing	
Additive Steel	Born Additive Steel	X X B X X	AISI 10B21	High-tensile Bolt
			AISI 51B20	
Plumbum Additive Steel	X X L X X	AISI 12L14	Bolt for Cutting	

## Processing chart

### Manufacturing diagram



R	Wire Rod
PC	Pickling & Coating Coating
D	Drawing
LA	Low Temperatur Annealing
RA	Regular Annealing
SA	Spheroidized Annealing

HD	Hard Drawn
SA Rod	Spheroidized Annealed Rod
AIP	Annealed In Process
SAPP	Spheroidized Annealed Pickled & Phosphate Coated
SAF	Spheroidized Annealed at Finished Size
SAIP	Spheroidized Annealed in Process
PASAF	Pre-Annealed SAF
PASAIPC	Pre-Annealed SAIP
PSASAIP	Doubled Spheroidized Annealed in Process

***(I) PICKLING - Pickling is a process in which an acid solution is used to removed oxide scale from stell.***

***We have 9 tank phosphating process for best quality products In order to achieve the highest product quality, and achievable production rates, while ensuring environmental friendly operation.***



**(ii) DRAWING - Wire drawing is a metal working process used to reduce for cross section of a wire by pulling the wire through drawing dies.**

**We have Machine 40 inches inverted bull block, 36 inches inverted bull block and 36 ×30 ×24 bull block series.**

**We are doing 2mm to 40mm.**





**(iii) ANNEALING - Annealing is softening process for metal that reduce internal strain caused by work hardening and facilitates recrystallization and grain growth when metal are formed our process strain hardening occurs decreasing ductility and increasing hardness dishardening leaves metal brittle often causing, cracking or breaking during successive operations.**

**Bell type Electric Heating Annealing Furnaces is widely used for spheroidized annealing in controlled atmosphere.**



## QC TEST LABORATORY

### Lab Equipments

- UTM Machine (400KN)
- Rockwell Hardness Tester
- Metallurgical Microscope with Image Analyzer
- Stereo Zoom Microscope
- Double Disk polishing Machine
- Belt Grinder
- Molding Machine
- Vernier Caliper
- Micrometer
- Upsetting Machine
- Cutting Machine
- Muffle Furnace





## QC TEST LABORATORY



# JIS Specification

## Carbon Steel Wire Rod For Cold Heading

Symbol of indication	Chemical Composition (%)					
	C	Si	Mn	P (Max)	S(Max)	Al (Max)
SWRCH 6A	0.08 max	0.10 max	0.60 max	0.030	0.035	0.02
SWRCH 8A	0.10 max	0.10 max	0.60 max	0.030	0.035	0.02
SWRCH 10A	0.08-0.13	0.10 max	0.30-0.60	0.030	0.035	0.02
SWRCH 12A	0.10-0.15	0.10 max	0.30-0.60	0.030	0.035	0.02
SWRCH 15A	0.13-0.18	0.10 max	0.30-0.60	0.030	0.035	0.02
SWRCH 16A	0.13-0.18	0.10 max	0.60-0.90	0.030	0.035	0.02
SWRCH 18A	0.15-0.20	0.10 max	0.60-0.90	0.030	0.035	0.02
SWRCH 19A	0.15-0.20	0.10 max	0.70-1.00	0.030	0.035	0.02
SWRCH 20A	0.18-0.23	0.10 max	0.30-0.60	0.030	0.035	0.02
SWRCH 22A	0.18-0.23	0.10 max	0.70-1.00	0.030	0.035	0.02
SWRCH 10K	0.08-0.13	0.10-0.35	0.30-0.60	0.030	0.035	-
SWRCH 12K	0.10-0.15	0.10-0.35	0.30-0.60	0.030	0.035	-
SWRCH 15K	0.13-0.18	0.10-0.35	0.30-0.60	0.030	0.035	-
SWRCH 16K	0.13-0.18	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 17K	0.15-0.20	0.10-0.35	0.30-0.60	0.030	0.035	-
SWRCH 18K	0.15-0.20	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 20K	0.18-0.23	0.10-0.35	0.30-0.60	0.030	0.035	-
SWRCH 22K	0.18-0.23	0.10-0.35	0.70-1.00	0.030	0.035	-
SWRCH 24K	0.19-0.25	0.10-0.35	1.35-1.65	0.030	0.035	-
SWRCH 25K	0.22-0.28	0.10-0.35	0.30-0.60	0.030	0.035	-
SWRCH 27K	0.22-0.28	0.10-0.35	1.20-1.50	0.030	0.035	-
SWRCH 30K	0.27-0.33	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 33K	0.30-0.36	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 35K	0.32-0.38	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 38K	0.35-0.41	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 40K	0.37-0.43	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 41K	0.38-0.44	0.10-0.35	1.35-1.65	0.030	0.035	-
SWRCH 43K	0.40-0.46	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 45K	0.42-0.48	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 48K	0.45-0.51	0.10-0.35	0.60-0.90	0.030	0.035	-
SWRCH 50K	0.47-0.53	0.10-0.35	0.60-0.90	0.030	0.035	-

Pickling & Coating

Low Temperature Annealing

Specification

## JIS Specification

### Carbon Steel Wire Rod For Cold Heading

Symbol of indication	Chemical Composition (%)				
	C	Si	Mn	P (Max)	S(Max)
S 10C	0.18-0.13	0.15-0.35	0.30-0.60	0.030	0.035
S 12C	0.10-0.15	0.15-0.35	0.30-0.60	0.030	0.035
S 15C	0.13-0.18	0.15-0.35	0.30-0.60	0.030	0.035
S 17C	0.15-0.20	0.15-0.35	0.30-0.60	0.030	0.035
S 20C	0.18-0.23	0.15-0.35	0.30-0.60	0.030	0.035
S 22C	0.20-0.25	0.15-0.35	0.30-0.60	0.030	0.035
S 25C	0.22-0.28	0.15-0.35	0.30-0.60	0.030	0.035
S 28C	0.25-0.31	0.15-0.35	0.60-0.90	0.030	0.035
S 30C	0.27-0.33	0.15-0.35	0.60-0.90	0.030	0.035
S 33C	0.30-0.36	0.15-0.35	0.60-0.90	0.030	0.035
S 35C	0.32-0.38	0.15-0.35	0.60-0.90	0.030	0.035
S 38C	0.35-0.41	0.15-0.35	0.60-0.90	0.030	0.035
S 40C	0.37-0.43	0.15-0.35	0.60-0.90	0.030	0.035
S 43C	0.40-0.46	0.15-0.35	0.60-0.90	0.030	0.035
S 45C	0.42-0.48	0.15-0.35	0.60-0.90	0.030	0.035
S 48C	0.45-0.51	0.15-0.35	0.60-0.90	0.030	0.035
S 50C	0.47-0.53	0.15-0.35	0.60-0.90	0.030	0.035
S 53C	0.50-0.56	0.15-0.35	0.60-0.90	0.030	0.035
S 55C	0.52-0.58	0.15-0.35	0.60-0.90	0.030	0.035
S 58C	0.56-0.61	0.15-0.35	0.60-0.90	0.030	0.035



# JIS Specification

## Alloy Steel

Specification

Symbol of		Chemical Composition (%)							
Class	C	Si	Mn	P	S	Ni	Cr	Mo	
SNCM	SNCM 220	0.17-0.23	0.15-0.35	0.60-0.90	0.030 Max	S 0.030 Max	0.40-0.70	0.40-0.65	0.15-0.30
	SNCM 240	0.38-0.43		0.70-1.00			0.40-0.70	0.40-0.65	0.15-0.30
	SNCM 415	0.12-0.18		0.40-0.70			1.60-2.00	0.40-0.65	0.15-0.30
	SNCM 420	0.17-0.23		0.40-0.70			1.60-2.00	0.40-0.65	0.15-0.30
	SNCM 431	0.27-0.35		0.60-0.90			1.60-2.00	0.60-1.00	0.15-0.30
	SNCM 439	0.36-0.43		0.60-0.90			1.60-2.00	0.60-1.00	0.15-0.30
	SNCM 447	0.44-0.50		0.60-0.90			1.60-2.00	0.60-1.00	0.15-0.30
	SNCM 616	0.13-0.20		0.80-1.20			2.80-3.20	1.40-1.80	0.40-0.60
	SNCM 625	0.20-0.30		0.35-0.60			3.00-3.50	1.00-1.50	0.15-0.30
	SNCM 630	0.25-0.35		0.35-0.60			2.50-3.50	2.50-3.50	0.50-0.70
SNCM 815	0.12-0.18	0.30-0.60	4.00-4.50	0.70-1.00	0.15-0.30				
Scr	Scr 415	0.13-0.18	0.15-0.35	0.60-0.85	0.030 Max	0.030 Max	0.25 Max	0.90-1.20	Cu 0.30 Max
	Scr 420	0.18-0.23							
	Scr 430	0.28-0.33							
	Scr 435	0.33-0.38							
	Scr 440	0.38-0.43							
	Scr 445	0.43-0.48							
SCM	SCM 415	0.13-0.18	0.15-0.35	0.60-0.85	0.030 Max	0.030 Max	Ni 0.025 Max	0.90-1.20	0.15-0.30
	SCM 418	0.16-0.21		0.60-0.85				0.90-1.20	
	SCM 420	0.18-0.23		0.60-0.85				0.90-1.20	
	SCM 421	0.17-0.23		0.70-1.00				0.90-1.20	
	SCM 430	0.28-0.33		0.60-0.85				0.90-1.20	
	SCM 432	0.27-0.37		0.30-0.60				1.00-1.50	
	SCM 435	0.33-0.38		0.60-0.85				0.90-1.20	
	SCM 440	0.38-0.43		0.60-0.85				0.90-1.20	
	SCM 445	0.43-0.48		0.60-0.85				0.90-1.20	
	SCM 822	0.20-0.25		0.60-0.85				0.90-1.20	

## Bearing Steel

Designation	Chemical Composition (%)							Others
	C	Si	Mn	P	S	Cr	Mo	
SUJ 1	0.95-1.10	0.15-0.35	0.50 Max	0.025 Max	0.025 Max	0.90-1.20	0.08 max	Cu: 0.20 max.
SUJ 2	0.95-1.10	0.15-0.35	0.50 Max	0.025 Max	0.025 Max	1.30-1.60	0.08 max	
SUJ 3	0.95-1.10	0.40-0.70	0.90-1.15	0.025 Max	0.025 Max	0.90-1.20	0.08 max	Ni : 0.25 max.
SUJ 4	0.95-1.10	0.15-0.35	0.50 Max	0.025 Max	0.025 Max	1.30-1.60	0.10-0.25	
SUJ 5	0.95-1.10	0.40-0.70	0.90-1.15	0.025 Max	0.025 Max	0.90-1.20	0.10-0.25	

## AISI(SAE) Specification

### Carbon Steel

Steel Designation AISI or SAE	UNS Number	Chemical Composition (%)			
		C	Mn	P-Max	S-Max
1005	G 10050	0.06 max	0.35 max		
1006	G 10060	0.08 max	0.25-0.40		
1008	G 10080	0.10 max	0.30-0.50		
1010	G 10100	0.08-0.13	0.30-0.60		
1012	G 10120	0.10-0.15	0.30-0.60		
1013	G 10130	0.11-0.16	0.50-0.80		
1015	G 10150	0.13-0.18	0.30-0.60		
1016	G 10160	0.13-0.18	0.60-0.90		
1017	G 10170	0.15-0.20	0.30-0.60		
1019	G 10190	0.15-0.20	0.70-1.00		
1020	G 10200	0.18-0.23	0.30-0.60		
1021	G 10210	0.18-0.23	0.60-0.90		
1022	G 10220	0.18-0.23	0.70-1.00		
1023	G 10230	0.20-0.25	0.30-0.60		
1025	G 10250	0.22-0.28	0.30-0.60		
1026	G 10260	0.22-0.28	0.60-0.90		
1029	G 10290	0.25-0.31	0.60-0.90		
1030	G 10300	0.28-0.34	0.60-0.90		
1035	G 10350	0.32-0.38	0.60-0.90		
1037	G 10370	0.32-0.38	0.70-1.00	0.040	0.050
1038	G 10380	0.35-0.42	0.60-0.90		
1039	G 10390	0.37-0.44	0.70-1.00		
1040	G 10400	0.37-0.44	0.60-0.90		
1042	G 10420	0.40-0.47	0.60-0.90		
1043	G 10430	0.40-0.47	0.70-1.00		
1044	G 10440	0.43-0.50	0.30-0.60		
1045	G 10450	0.43-0.50	0.60-0.90		
1046	G 10460	0.43-0.50	0.70-1.00		
1049	G 10490	0.46-0.53	0.60-0.90		
1050	G 10500	0.48-0.55	0.60-1.90		
1053	G 10530	0.48-0.55	0.70-1.00		
1055	G 10550	0.50-0.60	0.60-0.90		
1060	G 10600	0.55-0.65	0.60-0.90		
1065	G 10650	0.60-0.70	0.60-0.90		
1069	G 10690	0.65-0.75	0.40-0.70		

## AISI(SAE) Specification

### Carbon Steel

Steel Designation AISI or SAE	UNS Number	Chemical Composition (%)			
		C	Mn	P-Max	S-Max
1513	G 15130	0.10-0.16	1.10-1.40		
1522	G 15220	0.18-0.24	1.10-1.40		
1524	G 15240	0.19-0.25	1.35-1.65		
1526	G 15260	0.22-0.29	1.10-1.40		
1527	G 15270	0.22-0.29	1.20-1.50		
1536	G 15360	0.30-0.37	1.20-1.50	0.040	0.050
1541	G 15410	0.36-0.44	1.35-1.65		
1548	G 15480	0.44-0.52	1.10-1.40		
1551	G 15510	0.45-0.56	0.85-1.15		
1552	G 15520	0.47-0.55	1.20-1.50		
1561	G 15610	0.55-0.65	0.75-1.05		
1566	G 15660	0.60-0.71	0.85-1.15		





# AISI(SAE) Specification

## Alloy Steel

Steel Designation AISI or SAE	UNS Number	Chemical Composition (%)							
		C	Mn	P-Max	S-Max	Si	Ni	Cr	Mo
1330	G 13300	0.28-0.33	0.60-1.90				-	-	-
1335	G 13350	0.33-0.38	0.60-1.90				-	-	-
1340	G 13400	0.38-0.43	0.60-1.90				-	-	-
1345	G 13450	0.43-0.48	0.60-1.90				-	-	-
4023	G 40230	0.20-0.25	0.70-0.90				-	-	0.20-0.30
4024	G 40240	0.20-0.25	0.70-0.90				-	-	0.20-0.30
4027	G 40270	0.25-0.30	0.70-0.90				-	-	0.20-0.30
4028	G 40280	0.25-0.30	0.70-0.90				-	-	0.20-0.30
4032	G 40320	0.30-0.35	0.70-0.90				-	-	0.20-0.30
4037	G 40370	0.35-0.40	0.70-0.90				-	-	0.20-0.30
4042	G 40420	0.40-0.45	0.70-0.90				-	-	0.20-0.30
4047	G 40470	0.45-0.50	0.70-0.90				-	-	0.20-0.30
4118	G 41180	0.18-0.23	0.70-0.90				-	0.40-0.60	0.08-0.15
4130	G 41300	0.28-0.33	0.40-0.60				-	0.80-1.10	0.15-0.25
4135	G 41350	0.33-0.38	0.70-0.90				-	0.80-1.10	0.15-0.25
4137	G 41370	0.35-0.40	0.70-0.90				-	0.80-1.10	0.15-0.25
4140	G 41400	0.38-0.43	0.75-1.00				-	0.80-1.10	0.15-0.25
4142	G 41420	0.40-0.45	0.75-1.00				-	0.80-1.10	0.15-0.25
4145	G 41450	0.43-0.48	0.75-1.00				-	0.80-1.10	0.15-0.25
4147	G 41470	0.45-0.50	0.75-1.00				-	0.80-1.10	0.15-0.25
4150	G 41500	0.48-0.53	0.75-1.00				-	0.80-1.10	0.15-0.25
4161	G 41610	0.56-0.64	0.75-1.00				-	0.70-0.90	0.25-0.35
4320	G 43200	0.17-0.22	0.45-0.65	0.035	0.040	0.15	1.65-2.00	0.40-0.60	0.20-0.30
4340	G 43400	0.38-0.43	0.60-0.80			0.35	1.65-2.00	0.70-0.90	0.20-0.30
4422	G 44220	0.20-0.25	0.70-0.90				-	-	0.35-0.45
4427	G 44270	0.24-0.29	0.70-0.90				-	-	0.35-0.45
4617	G 46170	0.15-0.20	0.45-0.65				1.65-2.00	-	0.20-0.30
4620	G 46200	0.17-0.22	0.45-0.65				1.65-2.00	-	0.20-0.30
4626	G 46260	0.24-0.29	0.45-0.65				0.70-1.20	-	0.15-0.25
4720	G 47200	0.17-0.22	0.50-0.70				0.90-1.20	0.35-0.55	0.15-0.25
4815	G 48150	0.13-0.18	0.40-0.60				3.25-3.75	-	0.20-0.30
4817	G 48170	0.15-0.20	0.40-0.60				3.25-3.75	-	0.20-0.30
4820	G 48200	0.18-0.23	0.50-0.70				3.25-3.75	-	0.20-0.30
5115	G 51150	0.13-0.18	0.70-0.90				-	0.70-0.90	-
5117	G 51170	0.15-0.20	0.70-0.90				-	0.70-0.90	-
5120	G 51200	0.17-0.22	0.70-0.90				-	0.70-0.90	-
5130	G 51300	0.28-0.33	0.70-0.90				-	0.80-1.00	-
5132	G 51320	0.30-0.35	0.60-0.80				-	0.75-1.00	-
5135	G 51350	0.33-0.38	0.60-0.80				-	0.80-1.05	-
5140	G 51400	0.38-0.43	0.70-0.90				-	0.70-0.90	-



**HITECH**  **FERROUS & NON FERROUS**  
INDIA PRIVATE LIMITED  
MANUFACTURER OF FERROUS & NON FERROUS WIRE

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