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Wire Rod

线材





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■ 线材简介

宝钢股份宝钢分公司高速线材轧机于1999年3月投产，目前年生产量约57万吨。产品规格 $\phi 5.0$ - $\phi 26.0$ mm。主要产品品种有帘线钢、弹簧钢、冷镦钢、桥梁缆索用镀锌钢丝、高碳钢和焊接用钢等。

线材原料采用高炉铁水和优质废钢，经过转炉或电炉及精炼工序的纯净钢冶炼技术生产，确保钢质纯净。钢坯精整线对钢坯表面存在缺陷进行清理，确保钢坯表面质量。随着

2008年5月电炉大方坯连铸投产，线材原料水平得到大幅度改善，将进一步提升线材实物质量。

线材生产线的主要设备从美国摩根公司引进，单线无扭连续生产，最大轧制速度为120m/s。采用控制轧制和控制冷却工艺，通过对冷却水箱水量和斯太尔摩线冷却速度的控制可获得产品所期望的组织 and 性能。为保证产品表面质量和尺寸精度，在精轧机组和减径机组后分别设置了影像探伤仪和测径

仪，产品尺寸精度可达0.1mm。

宝钢分公司质量管理采用一贯质量管理方式，对产品系列从原料入厂直至产品出厂进行以质量为中心的全过程最优化控制，并借助先进的质量控制方法不断改进产品质量。

宝钢分公司生产的汽车用帘线钢、弹簧钢、冷镦钢以及桥梁缆索用镀锌钢丝在国内知名企业和重大工程中广泛获得应用，多次获得上海市和国家科技进步奖。



Introduction to Wire Rod

The high-speed wire rod mill of Baosteel Branch (the largest branch of Baosteel Co., Ltd) began production in March 1999 and rolls plain rod from 5.0mm to 26mm with production capacity of up to 570,000 tonnes per year. The major products involve wire rod for tire cord, spring steel wire rod, steel wire rod for cold heading and cold forging, galvanized wire for bridge cables, high carbon steel wire rod, wire rod for welding, etc.

Raw materials for wire rod include blast furnace hot metal and high quality scraps. Refining processes after BOF or EAF ensures the cleanliness of steel. The flaws are cleaned up on the billet conditioning line in order to obtain high surface quality.

With the commissioning of new continuous bloom casting process in May 2008, the practical quality could be further upgraded due to the great improvement of the raw materials for wire rod.

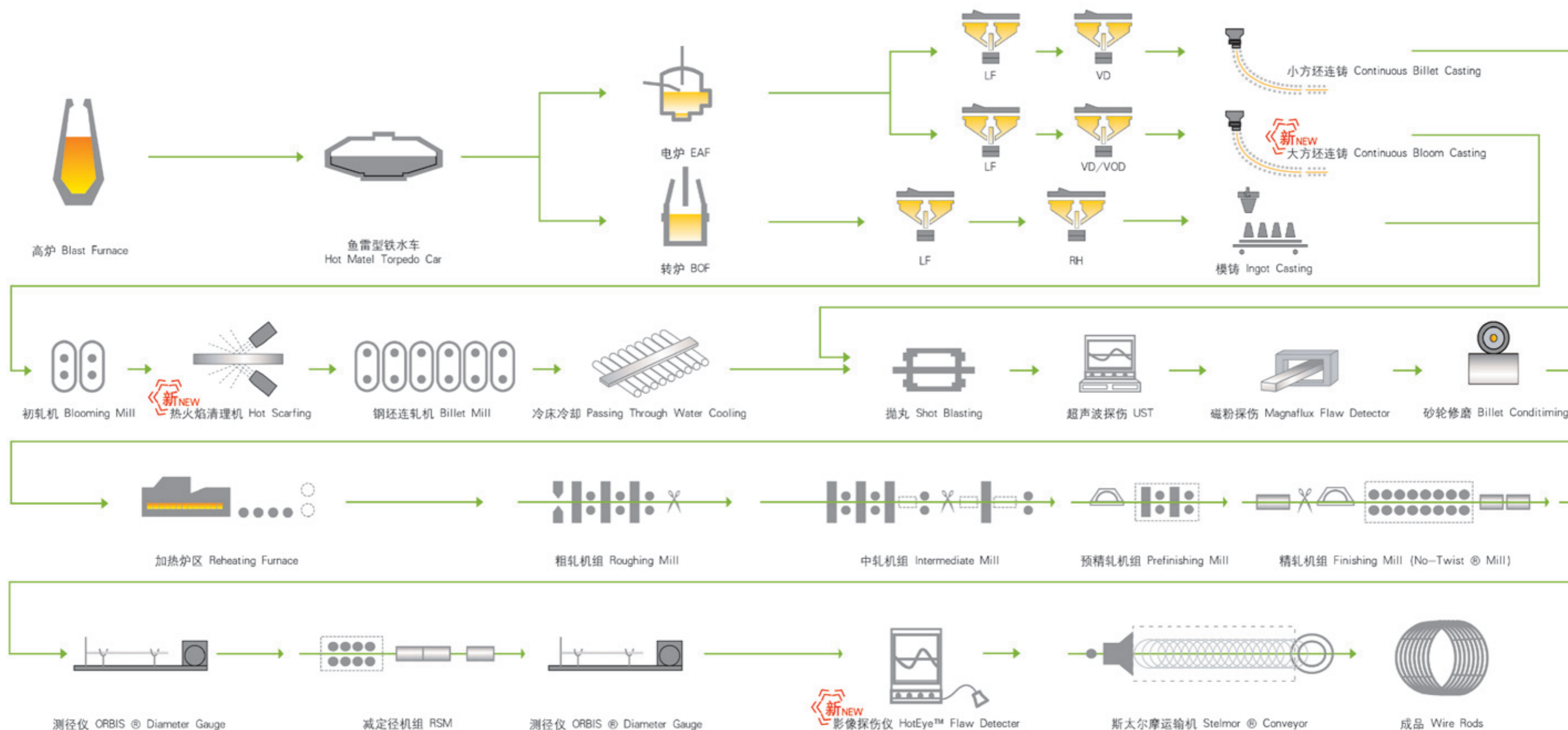
The main rolling equipments of mill are supplied by Morgan Construction Company and the rolling line is single-strand with maximum finishing speed of 120 meters per second. Perfect microstructures and mechanic properties are gained through controlling water boxes and Stelmor Cooling System. In order to ensure accurate diameter with a tolerance of ± 0.1 mm and high surface quality, one HotEye flaw detector and two ORBIS diameter gauges are located after the No-Twist Finishing

Mill and Reducing/Sizing Mill.

Integrating Quality Control is applied throughout the entire manufacturing processes from the handling of raw materials to the delivery of finished products to guarantee full customer satisfaction. At each stage of production from steelmaking to rolling of wire rod, improvements of product quality are ensured.

Top quality wire rod products manufactured are put into use widely in many well-known domestic enterprises and local key projects. These products have also won lots of honors in Shanghai as well as numerous national science and technology progress awards were given to the company in honor of these products.

Process Flowchart
生产工艺流程图



Available Steel Grades
产品牌号

1.1、焊接用钢盘条 (Q/BQB 511) Wire Rod for Core Wire of Covered Electrodes (Q/BQB 511)

牌号 Grade	化学成份 (成品) % Chemical Composition (Finished Product) %					
	C	Si	Mn	P	S	其它 Others
SWRY11	≤0.09	≤0.03	0.35-0.65	≤0.020	≤0.023	Cu:≤0.20
ER70S-6	0.06-0.15	0.80-1.15	1.40-1.85	≤0.025	≤0.035	
H10Mn2	≤0.12	≤0.05	1.50-1.90	≤0.035	≤0.035	
BH10Mn2G	≤0.17	≤0.05	1.80-2.20	≤0.030	≤0.030	Ni:≤0.30, Cr:≤0.20
H08MnA	≤0.10	≤0.05	0.80-1.10	≤0.030	≤0.030	
H08Mn2SiA	≤0.11	0.70-0.95	1.80-2.10	≤0.030	≤0.030	
BH08MnMoTiB	≤0.11	≤0.25	1.40-1.60	≤0.030	≤0.030	Mo:0.30-0.60, Ti:0.03-0.08 B:0.004-0.008
BH08Mn2E	≤0.10	≤0.07	1.50-1.90	≤0.025	≤0.020	Ni:≤0.25, Cu:≤0.20, Cr:≤0.20
BH08MnNiA	≤0.10	0.35-0.60	1.20-1.60	≤0.025	≤0.025	Cu:≤0.20, Cr:≤0.20 Ni:0.30-0.60
H08MnSiCuCrNi	≤0.10	0.35-0.65	0.90-1.30	≤0.025	≤0.025	Cu, Cr, Ni:0.20-0.50

1.2、焊接用钢盘条 (协议) Wire Rod for Core Wire of Covered Electrodes (Agreement)

牌号 Grade	化学成份 (成品) % Chemical Composition (Finished Product) %					
	C	Si	Mn	P	S	其它 Others
ER70S-G	≤0.10	0.65-0.85	1.40-1.60	≤0.025	0.008-0.020	Ti:0.08-0.25, Cu:≤0.10, TAL:≤0.10
BH550NQ-II	≤0.10	≤0.60	1.2-1.60	≤0.025	≤0.020	Cu:0.10-0.40, Cr:0.40-0.80 Ni:0.20-0.60, Ti:0.035-0.080
BH600-II	≤0.10	≤0.70	1.30-1.60	≤0.020	≤0.012	Ni:0.20-0.38, Mo:0.20-0.38 Ti:0.05-0.12, Cu:≤0.12 Cr:≤0.12, TAL:≤0.020
BH700-II	≤0.11	≤0.70	1.50-1.80	≤0.020	≤0.012	Ni:0.60-0.90, Mo:0.20-0.38 Ti:0.08-0.16, Cu:≤0.12 Cr:0.10-0.30, TAL:≤0.020
BH500J-III	0.08-0.15	≤0.20	1.80-2.20	≤0.020	≤0.012	Ni:0.08-0.25
BH500NH3-III	≤0.11	≤0.25	1.20-1.50	≤0.020	≤0.012	Ni:0.28-0.46, Mo:0.10-0.30 Ti:0.02-0.08, Cu:0.05-0.20 Cr:0.66-0.90, TAL:≤0.020
ER55-D2-Ti	0.05-0.10	0.40-0.80	1.20-1.60	≤0.025	≤0.025	Ti:0.05-0.15, Mo:0.20-0.35 Cu:≤0.20
BH70GX-III	0.06-0.10	0.15-0.35	1.50-1.70	≤0.015	≤0.005	Ti:≥0.081, B:35-65 ppm Cu:≤0.10, Mo:0.30-0.40 N:≤80 ppm
ER80S-B2	≤0.12	0.60-0.90	1.00-1.50	≤0.025	≤0.020	Mo:0.45-0.65, Cr:1.00-1.20 Ni:≤0.25, Cu:≤0.15
ER69-3	≤0.12	0.40-0.80	1.25-1.80	≤0.020	≤0.020	Mo:0.20-0.55, Ti:≤0.20 Ni:0.60-1.10, TAL:≤0.10, Cu:≤0.35
BH08Mn2SiTiB	≤0.10	0.55-1.10	1.65-1.95	≤0.025	≤0.009	Cu:≤0.10, N:≤80 ppm Ti:0.08-0.18, B:0.0035-0.0060

2、低碳钢盘条 (Q/BQB 513) Low Carbon Steel Wire Rod (Q/BQB 513)

牌号 Grade	化学成份% Chemical Composition %				
	C	Si	Mn	P	S
SWRM6	≤0.08	≤0.03	≤0.60	≤0.035	≤0.035
SWRM6-1*	≤0.06	≤0.03	≤0.60	≤0.035	≤0.035
SWRM8	≤0.10	≤0.03	≤0.60	≤0.035	≤0.035
SWRM10	0.08-0.13	≤0.03	0.30-0.60	≤0.035	≤0.035
SWRM12	0.10-0.15	≤0.03	0.30-0.60	≤0.035	≤0.035
SWRM15	0.13-0.18	≤0.03	0.30-0.60	≤0.035	≤0.035
SWRM17	0.15-0.20	≤0.03	0.30-0.60	≤0.035	≤0.035
SWRM20	0.18-0.23	≤0.03	0.30-0.60	≤0.035	≤0.035

注 Notes: * 按照协议供货

* According to the technical agreement reached by the Sellers and the Buyers.

3.1、高碳钢盘条 (Q/BQB 512) High Carbon Steel Wire Rod (Q/BQB 512)

牌号 Grade	化学成份% Chemical Composition %				
	C	Si	Mn	P	S
SWRH32	0.29-0.36	0.15-0.35	0.30-0.60	≤0.030	≤0.030
SWRH42A	0.39-0.46	0.15-0.35	0.30-0.60	≤0.030	≤0.030
SWRH42B	0.39-0.46	0.15-0.35	0.60-0.90	≤0.030	≤0.030
SWRH47A	0.44-0.51	0.15-0.35	0.30-0.60	≤0.030	≤0.030
SWRH47B	0.44-0.51	0.15-0.35	0.60-0.90	≤0.030	≤0.030
SWRH52A	0.49-0.56	0.15-0.35	0.30-0.60	≤0.030	≤0.030
SWRH52B	0.49-0.56	0.15-0.35	0.60-0.90	≤0.030	≤0.030
SWRH57A	0.54-0.61	0.15-0.35	0.30-0.60	≤0.030	≤0.030
SWRH57B	0.54-0.61	0.15-0.35	0.60-0.90	≤0.030	≤0.030
SWRH62A	0.59-0.66	0.15-0.35	0.30-0.60	≤0.030	≤0.030
SWRH62B	0.59-0.66	0.15-0.35	0.60-0.90	≤0.030	≤0.030

3.2、高碳钢盘条 (Q/BQB 512) High Carbon Steel Wire Rod (Q/BQB 512)

牌号 Grade	化学成份% Chemical Composition %				
	C	Si	Mn	P	S
SWRH67A	0.64-0.71	0.15-0.35	0.30-0.60	≤0.030	≤0.030
SWRH67B	0.64-0.71	0.15-0.35	0.60-0.90	≤0.030	≤0.030
SWRH72A	0.69-0.76	0.15-0.35	0.30-0.60	≤0.030	≤0.030
SWRH72B	0.69-0.76	0.15-0.35	0.60-0.90	≤0.030	≤0.030
SWRH77A	0.74-0.81	0.15-0.35	0.30-0.60	≤0.030	≤0.030
SWRH77B	0.74-0.81	0.15-0.35	0.60-0.90	≤0.030	≤0.030
SWRH82A	0.79-0.86	0.15-0.35	0.30-0.60	≤0.030	≤0.030
SWRH82B	0.79-0.86	0.15-0.35	0.60-0.90	≤0.030	≤0.030
SWRH90A*	0.87-0.92	0.15-0.35	0.30-0.60	≤0.025	≤0.025

注 Notes: * 按照协议供货

* According to the technical agreement reached by the Sellers and the Buyers.

4、针布钢丝盘条 (BZJ 570) Wire Rod for Card Clothing (BZJ 570)

牌号 Grade	化学成份% Chemical Composition %							
	C	Si	Mn	P	S	Cr	V	Nb
B72BNbV	0.69-0.74	0.15-0.25	0.50-0.70	≤0.025	≤0.025	0.20-0.40	0.08-0.15	0.04-0.08

5、预应力钢丝钢绞线盘条 (Q/BQB 514) Wire Rod for PC Strands (Q/BQB 514)

牌号 Grade	化学成份% Chemical Composition %						其它 Others
	C	Si	Mn	P	S		
SWRH82B-1	0.79-0.86	0.15-0.35	0.60-0.90	≤0.025	≤0.025	Cr:0.13-0.22	
SWRH82B-2	0.79-0.86	0.15-0.35	0.60-0.90	≤0.025	≤0.025	Cr:0.13-0.23 V:0.04-0.09	

6、钢纤维盘条 (Q/BQB 518) Wire Rod for Steel Fiber (Q/BQB 518)

牌号 Grade	化学成份% Chemical Composition %									
	C	Si	Mn	P	S	Cu	Cr	Ni	Al	N
B04XW	≤0.06	≤0.05	0.20-0.50	≤0.035	≤0.035	≤0.10	≤0.10	≤0.10	≤0.04	≤80 ppm



7、预应力钢棒盘条 (Q/BQB 515) Wire Rod for Prestressed Steel Bars (Q/BQB 515)

牌号 Grade	化学成份% Chemical Composition %						
	C	Si	Mn	P	S	Cu	B
B30MnB	0.27-0.35	0.20-0.50	0.70-1.00	≤0.030	≤0.030	≤0.20	0.0010-0.0050
B30Si2Mn	0.27-0.35	1.55-1.85	0.65-0.95	≤0.030	≤0.030	≤0.20	-
B30MnSi	0.25-0.33	0.60-0.90	0.90-1.30	≤0.030	≤0.030	≤0.20	-

8、合金结构钢盘条 (协议) Alloy Steel Wire Rod for Machine Structural Use (Agreement)

牌号 Grade	化学成份% Chemical Composition %						
	C	Si	Mn	Cr	P	S	其它 Others
B20Cr2MoNi	0.17-0.23	0.15-0.30	0.40-0.60	1.80-2.10	≤0.015	≤0.010	Ni:0.15-0.25 Mo:0.15-0.25 Al:0.02-0.05 Cu:≤0.30
20CrMnMo	0.17-0.23	0.17-0.37	0.90-1.20	1.10-1.40	≤0.035	≤0.035	Mo:0.20-0.30 Cu:≤0.30, Ni:≤0.30

9、桥梁缆索镀锌钢丝用盘条 (Q/BQB 521) Wire Rod for Bridge Main Cables (Q/BQB 521)

牌号 Grade	化学成份% Chemical Composition %						其它 Others
	C	Si	Mn	P	S		
B82MnQL	0.79-0.86	0.12-0.32	0.60-0.90	≤0.025	≤0.025		Cr:≤0.20, V:≤0.040 Cu:≤0.20
B87MnQL	0.85-0.91	0.12-0.32	0.60-0.90	≤0.025	≤0.025		Cr:0.10-0.25, V:0.02-0.06 Cu:≤0.10

10、钢帘线盘条 (协议) Wire Rod for Tire Cord (Agreement)

牌号 Grade	化学成份% Chemical Composition %					
	C	Si	Mn	P	S	P+S
B72LX	0.70-0.76	≤0.30	0.40-0.60	≤0.020	≤0.015	≤0.30
B82LX	0.80-0.85	≤0.30	0.40-0.60	≤0.020	≤0.015	≤0.30



11、弹簧钢盘条 (Q/BQB 516) Spring Steel Wire Rod (Q/BQB 516)

牌号 Grade	化学成份% Chemical Composition %					
	C	Si	Mn	P	S	其它 Others
65Mn	0.62-0.70	0.17-0.37	0.90-1.20	≤0.035	≤0.035	Cr:≤0.25, Ni:≤0.25, Cu:≤0.25
60Si2MnA	0.56-0.64	1.60-2.00	0.60-0.90	≤0.030	≤0.030	Cr:≤0.35, Ni:≤0.35, Cu:≤0.25
B55SiCr	0.51-0.59	1.40-1.60	0.60-0.80	≤0.025	≤0.025	Cr:0.60-0.80 Ni:≤0.25, Cu:≤0.20
60Si2CrA	0.56-0.64	1.40-1.80	0.40-0.70	≤0.020	≤0.020	Cr:0.70-1.00
60Si2CrVAT*	0.56-0.64	1.40-1.80	0.40-0.70	≤0.020	≤0.020	Cr:0.90-1.20, V:0.10-0.20 Ni:≤0.35, Cu:≤0.20
50CrVA	0.46-0.54	0.17-0.37	0.50-0.80	≤0.025	≤0.025	Cr:0.80-1.10, V:0.10-0.20 Ni:≤0.25, Cu:≤0.150
B55SiCrV	0.51-0.59	1.20-1.60	0.60-0.80	≤0.025	≤0.025	Cr:0.60-0.80, V:0.15-0.25 Cu:≤0.12

注 Notes: * 按照协议供货

* According to the technical agreement reached by the Sellers and the Buyers.

12.1、碳素冷镦钢盘条 (Q/BQB 517) Carbon Steel Wire Rod for Cold Heading and Cold Forging (Q/BQB 517)

牌号 Grade	化学成份% Chemical Composition %					
	C	Si	Mn	P	S	其它 Others
SWRCH6A	≤0.08	≤0.10	≤0.60	≤0.030	≤0.035	Al ₁ ≥0.02
SWRCH8A	≤0.10	≤0.10	≤0.60	≤0.030	≤0.035	Al ₁ ≥0.02
SWRCH10A	0.08-0.13	≤0.10	0.30-0.60	≤0.030	≤0.035	Al ₁ ≥0.02
SWRCH12A	0.10-0.15	≤0.10	0.30-0.60	≤0.030	≤0.035	Al ₁ ≥0.02
SWRCH15A	0.13-0.18	≤0.10	0.30-0.60	≤0.030	≤0.035	Al ₁ ≥0.02
SWRCH16A	0.13-0.18	≤0.10	0.60-0.90	≤0.030	≤0.035	Al ₁ ≥0.02
SWRCH18A	0.15-0.20	≤0.10	0.60-0.90	≤0.030	≤0.035	Al ₁ ≥0.02
SWRCH19A	0.15-0.20	≤0.10	0.70-1.00	≤0.030	≤0.035	Al ₁ ≥0.02
SWRCH20A	0.18-0.23	≤0.10	0.30-0.60	≤0.030	≤0.035	Al ₁ ≥0.02
SWRCH22A	0.18-0.23	≤0.10	0.70-1.00	≤0.030	≤0.035	Al ₁ ≥0.02
SWRCH35A*	0.32-0.37	0.15-0.35	0.60-0.90	≤0.030	≤0.035	
SWRCH38A*	0.35-0.41	-	0.60-0.90	≤0.030	≤0.030	
SWRCH40A*	0.37-0.43	-	0.60-0.90	≤0.030	≤0.035	
SWRCH45A*	0.42-0.48	-	0.60-0.90	≤0.030	≤0.035	

注 Notes: * 按照协议供货

* According to the technical agreement reached by the Sellers and the Buyers.



12.2. 碳素冷镦钢盘条 (Q/BQB 517) Carbon Steel Wire Rod for Cold Heading and Cold Forging (Q/BQB 517)

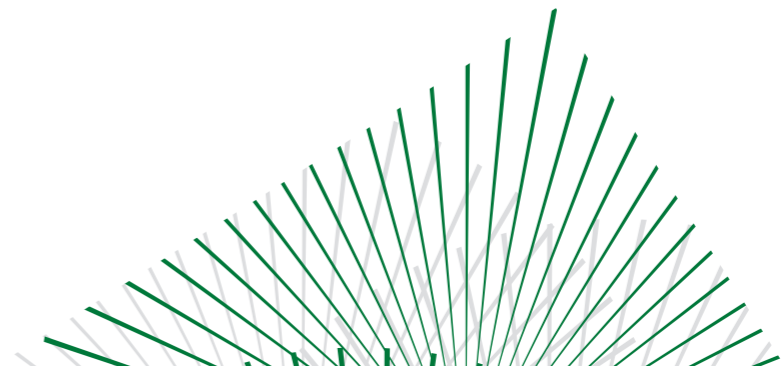
牌号 Grade	化学成份% Chemical Composition %					
	C	Si	Mn	P	S	其它 Others
SWRCH10K	0.08-0.13	0.10-0.35	0.30-0.60	≤0.030	≤0.035	—
SWRCH15K	0.13-0.18	0.10-0.35	0.30-0.60	≤0.030	≤0.035	—
SWRCH17K*	0.15-0.20	0.10-0.35	0.30-0.60	≤0.030	≤0.035	—
SWRCH20K	0.18-0.23	0.10-0.35	0.30-0.60	≤0.030	≤0.035	—
SWRCH25K	0.22-0.28	0.10-0.35	0.30-0.60	≤0.030	≤0.035	—
SWRCH30K	0.27-0.33	0.10-0.35	0.60-0.90	≤0.030	≤0.035	—
SWRCH35K	0.32-0.38	0.10-0.35	0.60-0.90	≤0.030	≤0.035	—
SWRCH38K	0.35-0.41	0.10-0.35	0.60-0.90	≤0.030	≤0.035	—
SWRCH40K	0.37-0.43	0.10-0.35	0.60-0.90	≤0.030	≤0.035	—
SWRCH45K	0.42-0.48	0.10-0.35	0.60-0.90	≤0.030	≤0.035	—
SWRCH50K	0.47-0.53	0.10-0.35	0.60-0.90	≤0.030	≤0.035	—
ML15*	0.13-0.18	≤0.10	0.30-0.60	≤0.030	≤0.035	—
ML15Al	0.12-0.19	≤0.07	0.30-0.60	≤0.030	≤0.030	Al ₁ ≥0.02
ML35	0.32-0.38	0.05-0.20	0.30-0.60	≤0.030	≤0.030	—

注 Notes: * 按照协议供货

* According to the technical agreement reached by the Sellers and the Buyers.

12.3. 冷镦用超低碳钢盘条 (协议) Extra Low Carbon Steel Wire Rod for Cold Forging (Agreement)

牌号 Grade	化学成份% Chemical Composition %					
	C	Si	Mn	P	S	其它 Others
B-CH1T	≤0.010	—	≤0.35	≤0.030	≤0.035	Ti: ≥0.06
B-CH1A	≤0.015	—	≤0.35	≤0.030	≤0.030	—



12.4、低合金冷锻钢盘条 (Q/BQB 517) Low Alloy Steel Wire Rod for Cold Heading and Cold Forging (Q/BQB 517)

牌号 Grade	化学成份% Chemical Composition %					
	C	Si	Mn	P	S	其它 Others
ML15MnVB*	0.14-0.19	≤0.30	1.20-1.60	≤0.030	≤0.030	V:0.07-0.12 B:0.005-0.0035
ML20MnVB	0.19-0.24	≤0.30	1.20-1.60	≤0.030	≤0.030	V:0.07-0.12 B:0.0005-0.0035
ML20MnTiB	0.17-0.24	≤0.30	1.30-1.60	≤0.030	≤0.030	Ti:0.04-0.10 B:0.0005-0.0035
10B21	0.18-0.23	≤0.10	0.70-1.00	≤0.030	≤0.035	B:≥0.005
10B30*	0.28-0.34	0.15-0.35	0.70-1.00	≤0.030	≤0.035	B:≥0.0005
SCM435	0.33-0.38	0.15-0.35	0.60-0.85	≤0.030	≤0.030	Cr:0.90-1.20 Mo:0.15-0.30
ML42CrMo*	0.38-0.45	≤0.30	0.50-0.80	≤0.030	≤0.030	Cr:0.90-1.20 Mo:0.15-0.30
50BV30*	0.27-0.33	≤0.10	0.70-1.00	≤0.030	≤0.035	Cr:0.30-0.50 V:0.10-0.50 B:0.0005-0.0040
40ACr*	0.40-0.44	≤0.10	0.60-0.90	≤0.030	≤0.030	Cr:0.30-0.45 Al _i ≥0.01

注 Notes: *按照协议供货

* According to the technical agreement reached by the Sellers and the Buyers.

Comparison of Steel Grades
线材相近牌号对照

品名	宝钢企业标准 Q/BQB	中国国家标准或行业标准 GB或YB	日本工业标准 JIS	美国汽车工程师协会 SAE	美国国家标准协会 AISI	美国材料试验协会 ASTM	美国焊接协会 AWS
焊接用钢盘条 Wire Rod for Welding	Q/BQB 511: SWRY11	GB/T 3429:	JIS G3503: SWRY11				AWS A5.18: ER70S-6
	ER70S-6	H11Mn2SiA					
	H10Mn2	H10Mn2					
	H08MnA H08Mn2SiA	H08MnA H08Mn2SiA					
高碳钢盘条 High Carbon Steel Wire Rod	Q/BQB 512: SWRH32	GB/T 4354:	JIS G3506: SWRH32			ASTM 510	
	SWRH42A~SWRH82A	30~80	SWRH42A~SWRH82A	1030~1080	1030~1080		
	SWRH42B~SWRH82B	40Mn~60Mn	SWRH42B~SWRH82B				
低碳钢盘条 Low Carbon Steel Wire Rod	Q/BQB 513: SWRM6~SWRM20	GB/T 701: Q195~Q235C	JIS G3505: SWRM6~SWRM20	1005~1020	1005~1020	ASTM 510	
弹簧钢盘条 Spring Steel Wire Rod	Q/BQB 516: 60Si2CrA	GB/T 1222: 60Si2CrA	JIS G4801: SUP6	9260	9260	ASTM 689	
	60Si2MnA	60Si2MnA	SUP12	9254	9254		
	B55SiCr	YB/T5365:55SiCrA					
	65Mn	GB/T 1222:65Mn					
冷锻钢盘条 Wire Rod for Cold Heading	Q/BQB 517: SWRCH6A~SWRCH22A	GB/T6478: M108A1~ML25	JIS G3507-1: SWRCH6A~SWRCH22A	1005~1050	1005~1050	ASTM 510	
	SWRCH10K~SWRCH50K	M125Mn~ML35Mn	SWRCH10K~SWRCH50K				
	SCM435	ML35CrMo	JIS G 4053:SCM435	4137	4137		
	ML20MnTiB	ML20MnTiB					

Sizes and Tolerances 产品规格及偏差

产品规格 Available Sizes

规格范围 Size Range (mm): 5.0-26.0

直径 Diameter			直径 Diameter		
毫米 mm	英寸 inch	(毫米 mm)*	毫米 mm	英寸 inch	(毫米 mm)*
5.0			13.5	17/32	13.49
5.5	7/32	5.56	14.0	35/64	13.89
6.0**	15/64	5.95	14.5**		
6.5			15.0	19/32	15.08
7.0	9/32	7.14	15.5**	39/64	15.48
7.5**	19/64	7.54	16.0		
8.0	5/16	7.94	17.0	43/64	17.07
8.5**			18.0		
9.0	23/64	9.13	19.0	3/4	19.05
9.5**	3/8	9.53	20.0		
10.0	25/64	9.92	21.0	53/64	21.03
10.5**			22.0		
11.0	7/16	11.11	23.0	29/32	23.02
11.5**	29/64	11.51	24.0		
12.0	15/32	11.91	25.0	63/64	25.00
12.5			26.0		
13.0	33/64	13.10			

注 Notes: * 括号内的数值是由相近英寸规格转换成毫米数。
* Figures in parentheses indicate figures converted from inches to mm.
** 如订购这些规格, 请先联系确认。
** When ordering these sizes, please contact us.

尺寸允许偏差 Size Tolerances

尺寸允许偏差与宝钢企业标准 Q/BQB 501 相一致。

The size tolerance shall conform to those described in Q/BQB 501.

缺省按 A 级精度交货, 可以协商按 B 级精度或 C 级精度交货。

If out of stock, things can be delivered according to A Class tolerances, Sizes manufactured according to B Class tolerances or C Class tolerances are available subject to negotiations.

允许偏差 Tolerance Specifications (mm)

直径 Diameter	A级精度 A Class tolerance		B级精度 B Class tolerance		C级精度 C Class tolerance	
	直径允许偏差 Tolerance	不圆度 Out-of-round	直径允许偏差 Tolerance	不圆度 Out-of-round	直径允许偏差 Tolerance	不圆度 Out-of-round
D ≤ 10.0	±0.30	≤0.36	±0.20	≤0.24	±0.15	≤0.18
10.0 < D ≤ 14.5	±0.40	≤0.48	±0.25	≤0.30	±0.20	≤0.24
14.5 < D ≤ 26.0	±0.50	≤0.60	±0.30	≤0.36	±0.25	≤0.30

卷重范围 Coil Weight Range (kg): 1,900-2,400

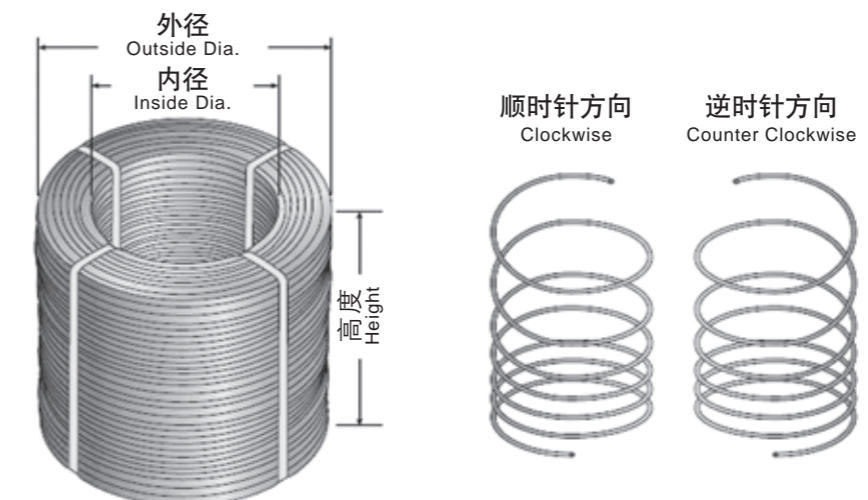
盘卷最大外径 Coil Outside Diameter Max. (mm): 1,250

盘卷最小内径 Coil Inside Diameter Min. (mm): 850

线圈旋转方向 Direction of Rotation: Counter Clockwise

盘卷最大高度 Coil Height Max. (mm): 1,800

旋转方向 Direction of Rotation





宝钢高线自投产以来，产品已经广泛应用于国家重点建设工程、汽车、油田、矿山及输气管道等。

- 预应力钢丝及钢绞线已应用于上海浦东的磁悬浮工程、秦山核电站、润扬大桥、苏通大桥等国家重点工程建设；
- 冷镦钢已应用于一汽红旗轿车、桑塔纳轿车、二汽汽车等汽车制造用及造桥用螺栓、螺母；
- 焊接用钢已应用于西气东输、南浦大桥、芜湖大桥、证券大厦等重点工程；
- 弹簧钢已应用于轿车及摩托车用弹簧；
- 高碳钢已应用于录井钢丝、电梯钢丝绳、油田用钢丝绳、航空用钢丝绳、矿山用钢丝绳等领域；
- 钢帘线已大批量被国内、国外钢帘线厂使用于子午线轮胎制造。



Since the start of production, Baosteel's High-speed Wire Rod Mill has got its products widely applied in the state key construction projects, automobile, oil field, ore mine and gas transmission pipeline.

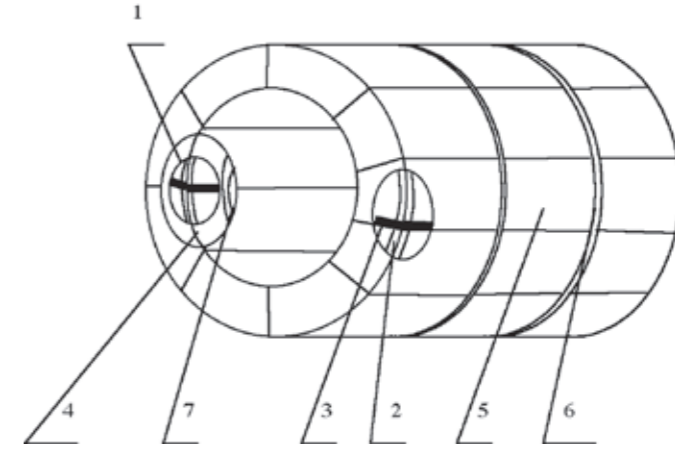
- The prestressed wire rod and strand has used in such state key projects as Shanghai Pudong Maglev, Qinshan Nuclear Power Station, Runyang Bridge and Sutong Bridge.
- The cold heading steel products have been made as bolt and nut supplied to First Automobile Corp, Volk Wagon and Second Automobile Corp for car manufacturing and to the bridge construction.
- The welding steel wire rod has used in the key construction project: "gas transmission from west to east", Nanpu Bridge, Wuhu Bridge and Securities Buildings.
- Spring steel wire rod has been used for automobile suspension system or valves.
- High carbon steel wire rod has been widely used for all kind of wires and ropes for oil field, elevator, mine and aviation.
- Wire rod for tire cord has been used to reinforce the durability of automobile tires by many famous manufacturers such as Bekaert and Michelin.

Packaging and Marking
包装与标志

1.1、包装标准 Packaging Specifications

包装类型 Packaging Type	包装方式基准 Basis for Packaging	包装材料追加组合 Additional Material Mix for Packaging							推荐范围 Recommended Applications
		0	1	3	5	6	7		
A 普通包装 Normal Packaging	盘条 + 径向捆带 (4道) Wire Rod + Steel Bands (4 positions)	+纸护角 +pasteboard for side-ring protection	+覆膜编织带 +precoated braid	+纸护角 + 覆膜编织带 +pasteboard for side-ring protection +precoated braid	+纸护角 + 覆膜编织带 +pasteboard for side-ring protection +precoated braid	+纸护角 + 防锈纸 + 薄膜 +pasteboard for side-ring protection +rust-proofing paper +adhesive membrane	+覆膜编织带 + 薄膜 +precoated braid +adhesive membrane	短途、中途及一般用途产品 For short distance transportation or for general purposed products	
	盘条 + 径向捆带 (4处8道) Wire Rod + Steel Bands (8 positions)	+纸护角 +pasteboard for side-ring protection	+覆膜编织带 +precoated braid	+纸护角 + 覆膜编织带 +pasteboard for side-ring protection +precoated braid	+纸护角 + 覆膜编织带 +pasteboard for side-ring protection +precoated braid	+纸护角 + 防锈纸 + 薄膜 +pasteboard for side-ring protection +rust-proofing paper +adhesive membrane	+覆膜编织带 + 薄膜 +precoated braid +adhesive membrane	出口、中途、远途及高附加值产品 For export, long distance transportation or for high value-added products	
B 加强包装 Reinforced Packaging	盘条 + 径向捆带 (4处8道) Wire Rod + Steel Bands (8 positions)	+纸护角 +pasteboard for side-ring protection	+覆膜编织带 +precoated braid	+纸护角 + 覆膜编织带 +pasteboard for side-ring protection +precoated braid	+纸护角 + 覆膜编织带 +pasteboard for side-ring protection +precoated braid	+纸护角 + 防锈纸 + 薄膜 +pasteboard for side-ring protection +rust-proofing paper +adhesive membrane	+覆膜编织带 + 薄膜 +precoated braid +adhesive membrane	出口、中途、远途及高附加值产品 For export, long distance transportation or for high value-added products	

1.2、包装示意图 Packaging Descriptions



1, 2 - 纸护角 Pasteboard for Side-Ring Protection 3 - 捆带 Flat Steel Band 4 - 防锈纸 Rust-Proofing Paper
5 - 覆膜编织带或薄膜 Precoated Braid or Adhesive Membrane 6, 7 - 胶带 Adhesive Tape

1.3、典型包装样式 Examples of Typical Packaging Type



1.4、标牌 Tag



Certifications
认证



Certificate of Registration
ENVIRONMENTAL MANAGEMENT SYSTEM - ISO 14001:2004

This is to certify that:
Baoshan Iron & Steel Co., Ltd. 宝山钢铁股份有限公司
Fujin Road 中国
Baoshan District 上海
Shanghai 宝山区
201900 富锦路
China 邮编: 201900

Holds Certificate No: **EMS 83746**
and operates an Environmental Management System which complies with the requirements of ISO 14001:2004 for the following scope:
The production of iron and steel and related supporting system.

For and on behalf of BSI:
Liu Molyuan
Managing Director, BSI Management Systems (China), Liu Molyuan
Originally registered: 19/04/2004 Latest Issue: 16/06/2007 Expiry Date: 16/06/2010

Page: 1 of 2

This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract. An electronic certificate can be authenticated www.bsi-global.com/ClientDirectory.
Printed copies can be validated at www.bsi-global.com/ClientDirectory or telephone +86 10 65137000.
Further certifications regarding the scope of this certificate and the applicability of ISO 14001:2004 requirements may be obtained by consulting the organization. This certificate is valid only if provided original copies are in complete set.
China Headquarters: Floor 20 East Ocean Center, No. 24A Jiangqianmen Street, Beijing 100004, P. R. China.
BSI China is a subsidiary of British Standards Institution.

EMS 83746

Registered Activities
Co., Ltd. The production of iron and steel and related supporting system.
Co., Ltd. lan Road The design and manufacture of cold rolling steel products.

Originally registered: 19/04/2004 Latest Issue: 16/06/2007 Expiry Date: 16/06/2010

Page: 2 of 2

This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract. An electronic certificate can be authenticated www.bsi-global.com/ClientDirectory.
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Further certifications regarding the scope of this certificate and the applicability of ISO 14001:2004 requirements may be obtained by consulting the organization. This certificate is valid only if provided original copies are in complete set.
China Headquarters: Floor 20 East Ocean Center, No. 24A Jiangqianmen Street, Beijing 100004, P. R. China.
BSI China is a subsidiary of British Standards Institution.



Certificate of Registration
OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM

This is to certify that:
Baoshan Iron & Steel Co., Ltd. 宝山钢铁股份有限公司
Fujin Road 中国
Baoshan District 上海
Shanghai 宝山区
201900 富锦路
China 邮编: 201900

Holds Certificate No: **OHS 83733**
and operates an Occupational Health and Safety Management System which complies with the requirements of OHSAS 18001:1999 for the following scope:
The production of iron and steel and related supporting system.

For and on behalf of BSI:
Liu Molyuan
Managing Director, BSI Management Systems (China), Liu Molyuan
Originally registered: 27/06/2004 Latest Issue: 16/06/2007 Expiry Date: 16/06/2010

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Further certifications regarding the scope of this certificate and the applicability of OHSAS 18001:1999 requirements may be obtained by consulting the organization. This certificate is valid only if provided original copies are in complete set.
China Headquarters: Floor 20 East Ocean Center, No. 24A Jiangqianmen Street, Beijing 100004, P. R. China.
BSI China is a subsidiary of British Standards Institution.

OHS 83733

Registered Activities
Co., Ltd. The production of iron and steel and related supporting system.
Co., Ltd. lan Road The design and manufacture of cold rolling steel products.

Originally registered: 27/06/2004 Latest Issue: 16/06/2007 Expiry Date: 16/06/2010

Page: 2 of 2

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Printed copies can be validated at www.bsi-global.com/ClientDirectory or telephone +86 10 65137000.
Further certifications regarding the scope of this certificate and the applicability of OHSAS 18001:1999 requirements may be obtained by consulting the organization. This certificate is valid only if provided original copies are in complete set.
China Headquarters: Floor 20 East Ocean Center, No. 24A Jiangqianmen Street, Beijing 100004, P. R. China.
BSI China is a subsidiary of British Standards Institution.



Certificate of Registration

QUALITY MANAGEMENT SYSTEM-ISO 9001:2000

This is to certify that:
Baoshan Iron & Steel Co., Ltd.
 Fujin Road
 Baoshan District
 Shanghai
 201900
 China

Holds Certificate No: **PM 79107**
 and operates a Quality Management System which complies with the requirements of ISO 9001:2000 for the following scope:

The design and manufacture of steel products (including steel sheet, steel coils, billet, tube blank, hot and cold rolled sheet coils, seamless tubes, welded tubes, electric steel and heavy plate) for various application to customer's requirements.
 The manufacture of iron and conversion to steel ingots & slabs.
 The conversion of slabs to hot rolled sheet & coils.
 The cold processing of sheet and coils including galvanizing and color coating.
 The conversion of tube blanks to seamless tubes including pipe couplings & tool joints.

For and on behalf of BSI:

Liu Mo Yuan
 Managing Director, BSI Management Systems (China), Liu Mo Yuan
 Originally registered: 07/18/2002 Latest issue: 25/01/2007





Page 1 of 2

Originally registered: 07/18/2002 Latest issue: 25/01/2007

Page: 2 of 2

This certificate relates to the Management System, not to the products or services of the certified organization. This certificate does not provide the certified organization with immunity from legal requirements. This certificate remains the property of BSI and shall be returned immediately upon request. This certificate does not expire. To check its validity contact BSI Management Systems Certification at telephone: +44 1633 555889 or visit <http://www.bsi.com/Client/Directory>. Further information regarding the scope of this certificate and the applicability of ISO 9001:2000 requirements may be obtained by contacting the organization. This certificate is valid only if printed original copies are in complete set. China Headquarters: Floor 20 East Ocean Center, No. 24A Jiangmenwan Street, Beijing 100024, P. R. China. BSI China is a subsidiary of British Standards Institution.



Test Report

No. SH802862/CHEM Date: Mar. 21, 2008 Page 1 of 5

公司名称: 上海宝山钢铁股份有限公司
 Company Name: SHANGHAI BAOSHAN IRON & STEEL CO., LTD.
 地址: 上海同济路 1800 号
 Address: 6/F, 1800 TONGJI RD, BAOSHAN, SHANGHAI, CHINA


样品名称: 线材
 TYPE OF PRODUCT: HOT ROLLED STEEL WIRE ROD
 SGS 柜号: 18880228.7
 SGS 单号: 10680228.7

收件日期(SAMPLE RECEIVED): Mar. 10, 2008
 测试日期(TESTING DATE): Mar. 10 to 13, 2008, Mar. 18 to 21, 2008

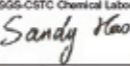
Test Requested/测试要求: (1) In accordance with the RoHS Directive 2002/95/EC, and its amendment directives
 参照 RoHS 指令 2002/95/EC 及其修正案
 (2) To determine the PFOS (Perfluorooctane Sulfonate) and PFOA (Perfluorooctanoic Acid) content of the submitted samples.
 测定所供样品的全氟辛基磺酸盐(PFOA)和全氟辛酸(PFOA)的含量


试验方法/测试标准: 见后页
 Test method/测试标准: Please refer to next page

Signed for and on behalf of
SGS-CSTC Chemical Laboratory



 Eka Zhang
Section Manager

Signed for and on behalf of
SGS-CSTC Chemical Laboratory


 Sandy Hao
Lab Manager




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Test Report

No. SH802862/CHEM Date: Mar. 21, 2008 Page 2 of 5

Method: (1-1) With reference to IEC 62321/2nd CDV (11/95/CDV) for Cadmium content. Analysis was performed by ICP.
 参照 IEC 62321/2nd CDV (11/95/CDV), 用 ICP 测定镉的含量
 (1-2) With reference to IEC 62321/2nd CDV (11/95/CDV) for Lead content. Analysis was performed by ICP and AAS.
 参照 IEC 62321/2nd CDV (11/95/CDV), 用 ICP 和 AAS 测定铅的含量
 (1-3) With reference to IEC 62321/2nd CDV (11/95/CDV) for Mercury content. Analysis was performed by ICP.
 参照 IEC 62321/2nd CDV (11/95/CDV), 用 ICP 测定汞的含量
 (1-4) With reference to IEC 62321/2nd CDV (11/95/CDV) for Hexavalent Chromium by spot test / Colorimetric Method.
 参照 IEC 62321/2nd CDV (11/95/CDV), 采用点滴法/比色法测定六价铬的含量
 (2) With reference to EPA 3540C: 1996. Analysis was performed by High Performance Liquid Chromatograph-Mass Spectrometer (HPLC-MS).
 参照 EPA 3540C: 1996 方法, 采用 HPLC-MS 测试。



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宝山钢铁股份有限公司
http://www.baosteel.com

BAOSHAN IRON & STEEL CO.,LTD.
http://www.baosteel.com

销售中心
Sales Center

地址:上海宝山同济路1800号
邮编:201900
电话:021-26645369
传真:021-26649555

宝钢服务热线
Baosteel Service Hot-line

800-820-8590
021-26648888

宝钢在线
http://www.baosteel.net.cn

国内贸易分公司

上海宝钢钢材贸易有限公司 电话: 021-50509696 (转) 传真: 021-68404618	广州宝钢南方贸易有限公司 电话: 020-38730020 传真: 020-38730037	天津宝钢北方贸易有限公司 电话: 022-84905800 (转) 传真: 022-84905806	成都宝钢西部贸易有限公司 电话: 028-85335388 传真: 022-85335680
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亚澳地区 Asia and Australia

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HOWA TRADING CO., LTD.
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FAX: 0081-3-3237-9203

宝和通商首尔事务所
HOWA TRADING CO., LTD., SEOUL OFFICE
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FAX: 0082-2-5080891

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FAX: 0061-8-94810536

宝钢新加坡贸易有限公司
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FAX: 0065-63336819

越南代表处
VIETNAM REPRESENTATIVE OFFICE
TEL: 0084-8-9100126
FAX: 0084-8-9100124

欧非地区 Europe and Africa

宝钢欧洲贸易有限公司
BAOSTEEL TRADING EUROPE GMAH
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FAX: 0049-40-41994130

宝钢西班牙有限公司
BAOSTEEL ESPANA, S.L.
TEL: 0034-93-4119325
FAX: 0034-93-4119330

中东代表处
BAOSTEEL MIDDLE EAST REPRESENTATIVE OFFICE
TEL: 00971-4-8810788
FAX: 00971-4-8810789

宝钢意大利钢材集散中心有限公司
BAOSTEEL ITALIA DSTRIBYTION CENTTER SPA
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FAX: 0039-010-5308874

美洲地区 America

宝钢美洲贸易有限公司
BAOSTEEL AMERICA INC.
TEL: 001-201-4571144
FAX: 001-201-4570909

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