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STEEL, FOREVER!

WONCHANG
원창스틸(주)

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CEO GREETING

“Customer reliability is our top and foremost priority”

Our promise :

1. Top quality steel sheet-delicate difference in characteristics of materials determine the quality level of your products
2. Just in time delivery
3. Good price

Our mission : Make out Our client's success by our products.

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As engineers, We have great prides in our experiences, -over 40 years lives with iron & steel- in our passions for high technology.
World top class Auto parts, machinery parts & steel tools are made of our steel sheets.

Do not hesitate to contact us when you need best fitting steel sheets for your high quality products and any requests for your new project will be welcomed.
Our technology team is your solution.
Thank you.

Dong-Hee Lee
Chief Engineering Officer & C.E.O

HISTORY & CERTIFICATIONS

2005

01 Wonchang Steel established

2006

04 Converted company to a corporation as Wonchang Steel Co.,Ltd.

Bought factory site in Cheonbuk Industrial Complex, Gyeongju city, Gyeongbuk province

2007

04 Began export and import of steel overseas

09 Moved head office and machining factory

12 Operated small sheer line

2008

07 Began import and distribution of heavy section, hot rolling, square pipe, section steel and pipes

CERTIFICATIONS

Patent certified (Sharing system equipped with deflectable labeller)

Top business by Small and Medium Business Promotion Corporation

Business administration innovative small and medium business (Main-Biz)

2010

03 Newly constructed factory within Cheonbuk Industrial Complex, Gyeongju city, Gyeongbuk province

05 Operated cold rolling reversing mill line, 2 units of small slitter line and 2 units of annealing line

2012

12 Added 1 unit of small slitter line and 2 units of annealing line

2013

07 Proceeded with rationalization of small slitter, cold rolling mill line

Quality management system for ISO9001

Venture company by Small and Medium Business Administration Promotion Corporation

Recognized for its department dedicated to research and development

Family-friendly company

Inno-Biz

MANUFACTURING PROCESS

ANNEALING LINE
SKIN PASS LINE
SLITTER LINE
SHEAR LINE
PACKING LINE

PRESENT STATE OF INSTALLATION

4HI- REVERSING MILL

Format	4HI- Reversing Mill
Product	General steel, high tension steel, special steel
Coil Weight	3TON MAX : IN DIA - Ø400, Ø508 OUT DIA - Ø1500
Machined measu-rement	Thickness : General steel - 0.2T ~ 4.0T Special steel - 0.2T ~ 2.0T
	Width : 100 ~ 300 max

SLITTER LINE

Format	#1 Slitter Line
Product	PO, CR, HGI, CGI, EGI, SUS
Weight	Max 8 tons
Machined measu-rement	Thickness : 0.2T ~ 4.5T
	Width : 11 ~ 600mm max
	Outer diameter(Inlet, outlet) : 1,800mm max
	Inner diameter(inlet) : (Ø400, Ø508) (outlet) : (Ø400, Ø508)

Format	#2 Slitter Line
Product	PO, CR, HGI, CGI, EGI, SUS
Weight	Max 5 tons
Machined measu-rement	Thickness : 0.2T ~ 1.2T
	Width : 7 to 400mm max
	Outer diameter (Inlet, outlet) : 1,600mm max
	Inner diameter(inlet) : (Ø400, Ø508) (outlet) : (Ø400, Ø508)

SHEAR LINE

Format	Shear Line
Product	PO, CR, HGI, CGI, EGI, SUS
Weight	Max 8 tons
Machined measu-rement	Thickness : 1.5T ~ 7.0T
	Length : 800 to 3,000mm
	Width : 100 to 600mm max
Piler	Weight : Max 5 tons / Height : 500mm

ANNEALING LINE

Format	Annealing Line(#1,2 Base)	
Size	Class	COIL
	Coil Size	Ø1,500
	Weight	3ton
	Capacity	12ton

Format	Annealing Line(#3,4 Base)	
Size	Class	COIL
	Coil Size	Ø1,550
	Weight	3ton
	Capacity	18ton

AVAILABLE SIZE

LOW CARBON STEEL

(Unit : mm)

※ SLT CRM
※ Detailed size is subject to separate discussion

HIGH CARBON AND SPECIAL STEEL

(Unit : mm)

※ SLT CRM
※ Detailed size is subject to separate discussion

TOLERANCE

THICKNESS

(Unit : mm)

Thickness		Assurance	
		Width 160 max	Width 160~299
WONCHANG STEEL	0.20~0.39	± 0.025	± 0.03
	0.40~0.59	± 0.035	± 0.04
	0.60~0.79	± 0.04	± 0.045
	0.80~0.99	± 0.04	± 0.05
	1.00~1.24	± 0.05	± 0.05
	1.25~1.59	± 0.05	± 0.06
	1.60~1.99	± 0.06	± 0.07
	2.00~2.49	± 0.07	± 0.08
	2.50~3.14	± 0.08	± 0.09
	3.15~	± 0.09	± 0.1

WIDTH

(Unit : mm)

Thickness		Assurance	
		0~200	201~450
WONCHANG STEEL	0.20~0.59	± 0.1	± 0.1
	0.60~1.19	± 0.2	± 0.2
	1.20~3.99	± 0.2	± 0.2

CAMBER

(Unit : mm)

Width		Tolerance
WONCHANG STEEL	8 ~59	8 / 2,000
	60~300	4 / 2,000

※ Detailed SPEC is subject to separate discussion

APPLICATIONS COLD ROLLED STEEL

CARBON TOOL STEELS

SK120MCR4

SK120M

- Razor Blade
- Cutlery

SK95M

- Measuring tape
- Razor Blade
- Pen points
- Wind-up springs
- Springs
- Cutlery
- Knitting needles

SK85M MO

SK85M

- Measuring tape
- Gauges
- Springs
- Cutlery
- Knitting needles
- Round saws
- Office-equipment parts

SK75M

- Clutch parts
- Cutlery
- Washers
- Springs

SPRING STEELS

50CRV4

SUP 10M

- Springs

Cr-Mo STEELS

SCM 415M

- Chain parts
- Thompson blades

SCM 435M

- Chain parts
- Office-equipment parts

Ni-Cr-Mo STEELS

SNCM 220M

- Recliner
- Car Door

SPCC

- Machinery parts

SPCD

- Machinery parts

SPCE

- Machinery parts

S 10CM

- Door latch

S 15CM

- Door latch

S 20M

- Friction plates
- Separate plates
- Slide Rail

S30CM

- Retainers

S35CM

- Office-equipment parts
- Friction plates

S45CM

- Clutch parts
- Chain parts
- Retainers
- Washers

S50CM

- Measuring tape
- Office-equipment for cameras
- Chain parts
- Springs
- Clutch parts
- Washers
- Safety buckles

S55CM

- Springs
- Safety Shoes
- Can openers
- Thompson blades
- Office-equipment for cameras

S60CM

- Chain parts
- Hand saws for woodworking
- Safety Shoes
- Springs
- Office-equipment parts
- Washers

S65CM

- Safety Shoes
- Clutch parts
- Springs
- Washers

S70CM

- Washers
- Hand saws for woodworking
- Office-equipment parts
- Springs

S75CM

- Clutch parts
- Washers
- Springs

SKS 5M

- Cutlery
- Round saws
- Band saws for woodworking and lumbering

SKS 51M

- Cutlery
- Round saws
- Band saws for woodworking and lumbering

SPFC 540M

- Chassis
- Door parts

SPFC 590M

- Chassis
- Safety seat belt parts

SYMBOL & CHEMICAL COMPOSITION

Classification	Symbol					
	KS	GB	JIS	DIN	BS	SAE/ AISI
High Carbon Steel Strip	S30C	30	S30CM	Ck30	-	1030
	S35CM	35	S35CM	Ck35	-	1035
	S45CM	45	S45CM	Ck45	-	1045
	S50CM	50	S50CM	Ck50	-	1050
	S55CM	55	S55CM	Ck55	-	1055
	S60CM	60	S60CM	Ck60	CS60	1060
	S65CM	65	S65CM	Ck65	-	-
	S70CM	-	S70CM	Ck75	CS70	1070
	S75CM	-	S75CM	-	CS80	1074
	S85CM	-	S85CM	-	-	-
Carbon Tool Steel Strip	SK2M (SK120M)	T12	SK2M	C125W2	BW1C	-
	SK3M (SK105M)	T10	SK3M	C105W2	BW1B	1095
	SK4M (SK95M)	-	SK4M	-	-	1086
	SK5M (SK85M)	-	SKS5M	-	-	-
	SK6M (SK75M)					
	SK7M (SK65M)					
	SK5M Mo	T8	SK5M	-	-	-
	SK2M Cr4	-	SK2M Cr4	-	-	-
Alloy Tool Steel Strip	SKS2M					
	SKS5M	-	SKS55M	-	-	-
	SKS7M					
	SKS51M	-	SKS51M	-	-	-
Nickel Chromium Steel Strip	SNC415M	-	SNC415M	-	-	-
	SNC631M	-	SNC631M	-	-	-
	SNC836M	-	SNC836M	-	-	-
Nickel Chromium Molybdenum	SNCM220M	-	SNCM220M	-	805A20/ 805M20	8615/ 8620
Manganese Steel Strip	SMn420M	-	SMn420M	-	120M19/ 150M19	1522
	SMn433M	-	SMn433M	-	120M36/ 150M36	1536
Chromium Molybdenum Steel Strip	SCM415M	15CrMo	SCM415M	15CrMo	1502-620	-
	SCM420M	-	SCM420M		708M20	-
	SCM430M	-	SCM430M	-	708A30	4130
	SCM435M	35CrMo	SCM435M	34CrMo	708A37/ 709A37	4135
	SCM440M	-	SCM440M	42CrMo	708A40/ 709M40	4140/ 4142
Spring Steel Strip	SUP6M	-	SUP6M	-	250A53	-
	SUP9M	-	SUP9M	55Cr3	527A60	-
	SUP10M	50CrV4	SUP10M	50Crv4	En47	6150
	SAE1552					

Chemical Composition									
C	Si	Mn	P	S	Cu	Ni	Cr	Ni+ Cr	Specific usage
0.27~0.33	0.15~0.35	0.60~0.90	0.030 MAX	0.035 MAX	0.30 MAX	0.20 MAX	0.20 MAX	0.35 MAX	Retainer Washer Clutch Parts
0.32~0.38	0.15~0.35	0.60~0.90	0.030 MAX	0.035 MAX	0.30 MAX	0.20 MAX	0.20 MAX	0.35 MAX	Chain Parts
0.42~0.48	0.15~0.35	0.60~0.90	0.030 MAX	0.035 MAX	0.30 MAX	0.20 MAX	0.20 MAX	0.35 MAX	Spring
0.47~0.53	0.15~0.35	0.60~0.90	0.030 MAX	0.035 MAX	0.30 MAX	0.20 MAX	0.20 MAX	0.35 MAX	Umbrella Rib
0.52~0.58	0.15~0.35	0.60~0.90	0.030 MAX	0.035 MAX	0.30 MAX	0.20 MAX	0.20 MAX	0.35 MAX	Can Opner
0.55~0.65	0.15~0.35	0.60~0.90	0.030 MAX	0.035 MAX	0.30 MAX	0.20 MAX	0.20 MAX	-	Saw Blade
0.60~0.70	0.15~0.35	0.60~0.90	0.030 MAX	0.035 MAX	0.30 MAX	0.20 MAX	0.20 MAX	-	Shoe Shank
0.65~0.75	0.15~0.35	0.60~0.90	0.030 MAX	0.035 MAX	0.30 MAX	0.20 MAX	0.20 MAX	-	Camera Parts
0.70~0.80	0.15~0.35	0.60~0.90	0.030 MAX	0.035 MAX	0.30 MAX	0.20 MAX	0.20 MAX	-	Automobile Parts
0.80~0.90	0.15~0.35	0.70~1.00	0.030 MAX	0.035 MAX	0.30 MAX	0.20 MAX	0.20 MAX	-	etc.
1.15~1.25	0.10~0.35	0.10~0.50	0.030 MAX	0.030 MAX	0.25 MAX	0.25 MAX	0.30 MAX	-	Spring
1.00~1.10	0.10~0.35	0.10~0.50	0.030 MAX	0.030 MAX	0.25 MAX	0.25 MAX	0.30 MAX	-	Saw Blade
0.90~1.00	0.10~0.35	0.10~0.50	0.030 MAX	0.030 MAX	0.25 MAX	0.25 MAX	0.30 MAX	-	Stationery Knife
0.80~0.90	0.10~0.35	0.10~0.50	0.030 MAX	0.030 MAX	0.25 MAX	0.25 MAX	0.30 MAX	-	Clock Spring
0.70~0.80	0.10~0.35	0.10~0.50	0.030 MAX	0.030 MAX	0.25 MAX	0.25 MAX	0.30 MAX	-	Knitting Needle
0.60~0.70	0.10~0.35	0.10~0.50	0.030 MAX	0.030 MAX	0.25 MAX	0.25 MAX	0.30 MAX	-	Clutch Part
0.80~0.90	0.35 MAX	0.50 MAX	0.030 MAX	0.030 MAX	-	-	0.20 MAX	-	etc.
0.17~1.23	0.15~0.25	0.35~0.5	0.020 MAX	0.050 MAX	-	-	0.30 MAX	-	
1.00~1.10	0.35 MAX	0.50 MAX	0.030 MAX	0.030 MAX	0.25 MAX	0.25 MAX	0.50~1.00	-	Saw Blade
0.75~0.85	0.35 MAX	0.50 MAX	0.030 MAX	0.030 MAX	0.25 MAX	0.25 MAX	0.20~0.50	-	Stationery Knife
1.10~1.20	0.35 MAX	0.50 MAX	0.030 MAX	0.030 MAX	0.25 MAX	0.70~1.30	0.20~0.50	-	etc.
0.75~0.85	0.35 MAX	0.50 MAX	0.030 MAX	0.030 MAX	0.25 MAX	1.30~2.00	0.20~0.50	-	
0.12~0.18	0.15~0.35	0.35~0.65	0.030 MAX	0.030 MAX	0.30 MAX	2.00~2.50	0.20~0.50	-	Machinery Parts
0.27~0.35	0.15~0.35	0.35~0.65	0.030 MAX	0.030 MAX	0.30 MAX	2.50~3.00	0.60~1.00	-	etc.
0.32~0.40	0.15~0.35	0.35~0.65	0.030 MAX	0.030 MAX	0.30 MAX	3.00~3.50	0.60~1.00	-	
0.17~0.23	0.15~0.35	0.60~0.90	0.030 MAX	0.030 MAX	0.30 MAX	0.40~0.70	0.40~0.65	-	Recliner
0.17~0.23	0.15~0.35	1.20~1.50	0.030 MAX	0.030 MAX	0.30 MAX	0.25 MAX	0.30 MAX	-	Chain Parts Safety Buckle
0.30~0.36	0.15~0.35	1.20~1.50	0.030 MAX	0.030 MAX	0.30 MAX	0.25 MAX	0.30 MAX	-	etc.
0.13~0.18	0.15~0.35	0.60~0.85	0.030 MAX	0.030 MAX	0.30 MAX	0.25 MAX	0.90~1.20	-	Chain Parts Typewriter Parts Calculator Parts
0.18~0.23	0.15~0.35	0.60~0.85	0.030 MAX	0.030 MAX	0.30 MAX	0.25 MAX	0.90~1.20	-	Safety Buckle
0.28~0.33	0.15~0.35	0.60~0.85	0.030 MAX	0.030 MAX	0.30 MAX	0.25 MAX	0.90~1.20	-	Machinery Parts
0.33~0.38	0.15~0.35	0.60~0.85	0.030 MAX	0.030 MAX	0.30 MAX	0.25 MAX	0.90~1.20	-	Cutter
0.38~0.43	0.15~0.35	0.60~0.85	0.030 MAX	0.030 MAX	0.30 MAX	0.25 MAX	0.90~1.20	-	etc.
0.56~0.64	1.50~1.80	0.70~1.00	0.035 MAX	0.035 MAX	0.30 MAX	-	-	-	Plate Spring Clock Spring
0.52~0.60	0.15~0.35	0.60~0.95	0.035 MAX	0.035 MAX	0.30 MAX	-	0.65~1.95		Toy Spring
0.47~0.55	0.47~0.55	0.60~0.95	0.035 MAX	0.035 MAX	0.30 MAX	-	0.80~1.10		Special Spring etc.
0.46~0.55	1.20~1.55	0.15~0.30	0.040 MAX	0.050 MAX	-	-	-		

MECHANICAL PROPERTIES

JIS G4051 / JIS G4401 / JIS G3301 / JIS G3113

Material		Classification	Mechanical Properties			
			YS(kg/mm²)	TS(kg/mm²)	EL(%)	Hv
JIS G4051	S35CM- S	High Carbon Steel	29~34	39~45	30~35	170 MAX
	S35CM- R		62~90	67~95	2~6	170~250
	S45CM- S		30~36	43~51	32~37	140~162
	S45CM- R		65~100	68~105	3~9	200~300
	S50CM- S		32~45	44~55	24~35	150~175
	S50CM- R		68~105	69~110	3~8	220~360
	S55CM- S		33~46	45~59	20~35	150~180
	S55CM- R		70~109	70~130	3~8	220~380
	SCM415	Chrome Molybdenum Steel	32~45	55~70	18.00	187.00
	SCM430		55~85	70~95	15~25	200~240
	SCM435		56~104	70~115	12~20	220~300
JIS G4401	SK85CM- S	Carbon Tool Steel	42~48	53~70	10~25	160~190
	SK95CM- S		42~55	55~73	8~24	160~195
	SK105CM- S		43~60	57~75	7~24	170~195
JIS G3301	SPFC 540M- R	High Tension Steel	54~67	64~68	10~20	200~220
	SPFC 590M- R		56~67	65~70	10~20	210~230
JIS G3113	SAPH310	Automotive Structural Steel	28~32	34~40	38~45	110~120
	SAPH370		30~36	36~48	35~42	120~140
	SAPH400		32~38	40~50	34~40	150~170
	SAPH440		34~40	50~60	26~35	155~175

JIS G3141

Classification	Symbol	Temper Grade		Tension Test		Hardness (HV)
		Symbol	Distinction	TS(kg/mm²)	Eolngation(%)	
Commercial Quality	SPCC (SCP1)	A	As Annealed	28min	34min	105 MAX
		SB	Skin Passed	28min	32min	110 MAX
		8B	1 / 8 Hard	30~42	25min	95~130
		4B	1 / 4 Hard	38~50	10min	115~150
		2B	1 / 2 Hard	45~60		135~185
		B	Full Hard	56min		170min
Drawing Quality	SPCD (SCP2)	SB	As Annealed	28min	34min	105 MAX
			Skin Passed			
Deep-Drawing Quality	SPCE (SCP3)	SB	As Annealed	28min	36min	105 MAX
			Skin Passed			
	SPCEN	SB	As Annealed	28min	36min	105 MAX
			Skin Passed			

CHALLENGE ON THE BASIS OF " PASSION"

AND REALIZE OUR DREAM ON THE BASIS OF " CREATIVITY"

WONCHANG

WONCHANG
원창스틸(주)

경상북도 경주시 천북면 천북산단로 66
66, Cheonbuksandan-ro, Cheonbuk-myeon, Gyeongju-si, Gyeongsangbuk-do, Korea
TEL. +82-54-774-9600 FAX. +82-54-746-8600

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