

Cold Rolled Stainless Steel Strip

Heat Treated Steel Strip



# SEIN METAL

Best business partner

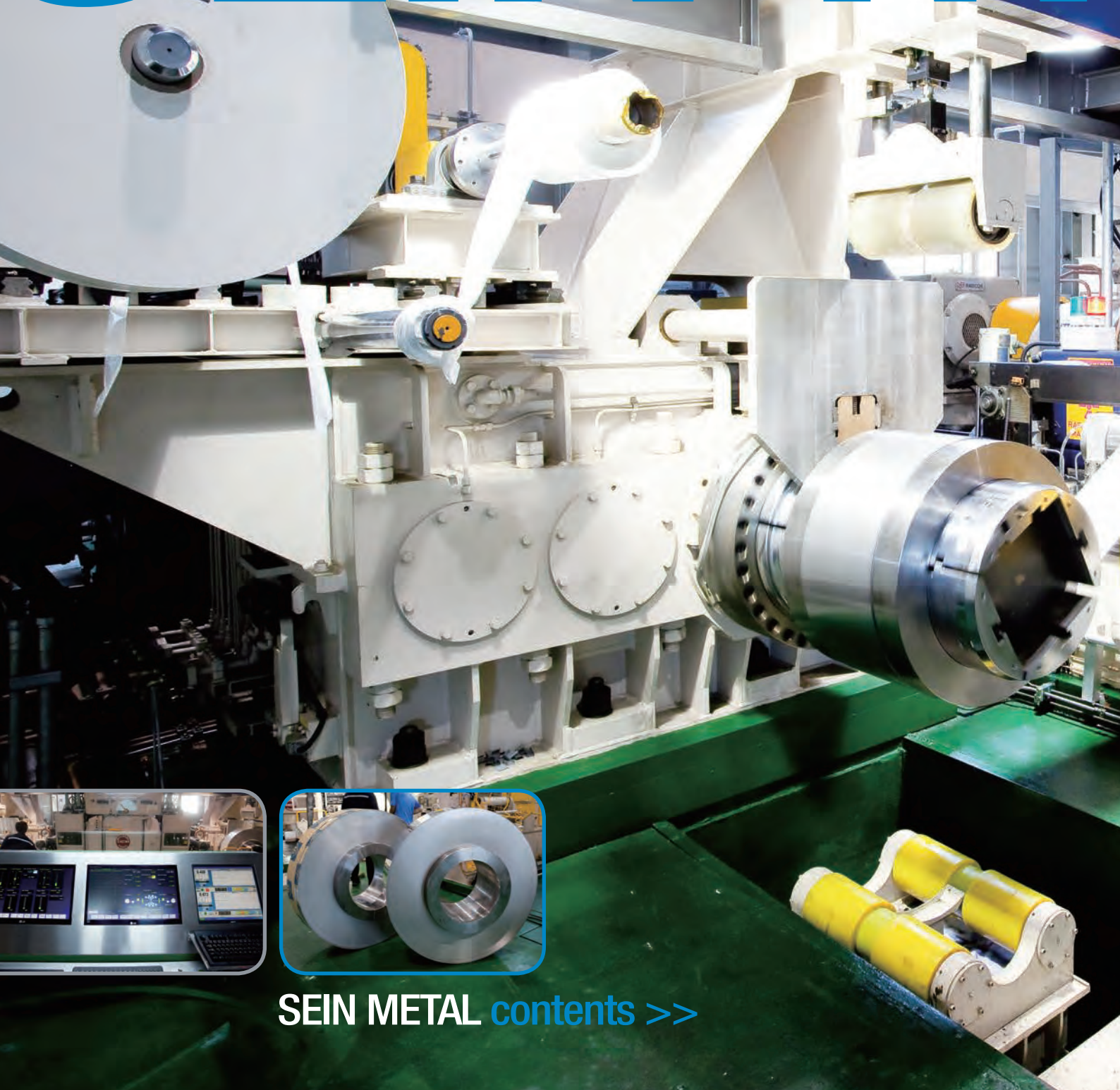




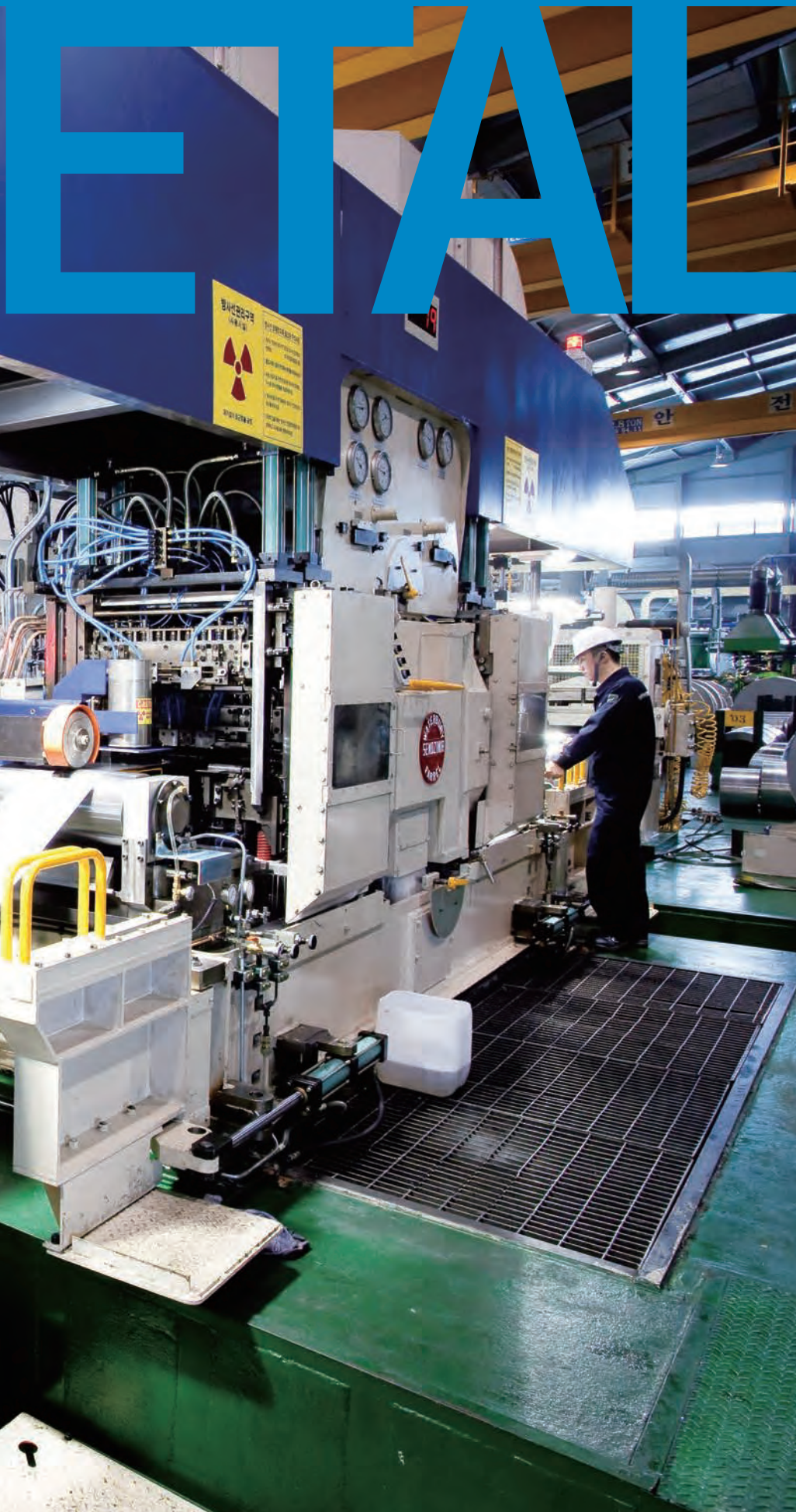
Will do the best to be your best partner

**SEIN METAL**

# SEIN M



SEIN METAL [contents >>](#)



# REAL

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SEINMETAL CO.,LTD was established in 1984,we have been making every effort to be better supplies and provide the field of IT, Electronics& communication, Automobile industry, industrial goods, leisure industry, and other various industry with materials that are stainless steel and related in the state of the art products.





저희(주)세인금속은 1984년 창립하여 그동안 보다 나은 제품을 납품하고자 최선의 노력을 다 해왔으며 IT, 전자 정보 통신, 자동차산업, 산업용품, 레저산업분야 등 다양한 산업분야에 스테인레스 및 첨단제품에 관련된 원소재를 공급 하고 있습니다.

# CEO MESSAGE



## OPEN AND ABOVEBOARD ADMINISTRATION

### 합리적이고 투명한 경영

SEINMETAL CO.,LTD will be an growing enterprise that capital and labor are satisfied with through rationality and will be a company that leads customer satisfaction by supply of product has high quality at a price will ensure our competitiveness.

최고의 품질과 최상의 품질을 갖춘 제품을 경쟁력 있는 가격으로 적시에 납품하여 고객의 만족을 극대화 하는 기업으로 남음과 동시에 합리적이고 투명한 경영을 통하여 노사가 만족하는 기업으로 더욱더 발전하는 (주)세인금속이 되겠습니다.

## ENVIRONMENTAL-FRIENDLY

### 자연과 하나가 되는 친환경 프로젝트

SEINMETAL CO.,LTD has been building the firm foundations to produce high quality product through production process with safety first ,furthermore we will carefully consider our products are going to be environmental-friendly.

저희(주)세인금속은 언제나 안전을 우선하는 생산과정을 통하여 안전하고 양질의 제품을 생산하기 위한 확고한 기반을 구축하고 있으며 더 나아가 친환경 프로젝트의 기준을 마련하여 자연과 하나가 되기 위하여 최선의 노력을 다하겠습니다.

(주)세인금속 대표이사 오연근  
SEINMETAL CO.,LTD. CEO YEON GEUN OH

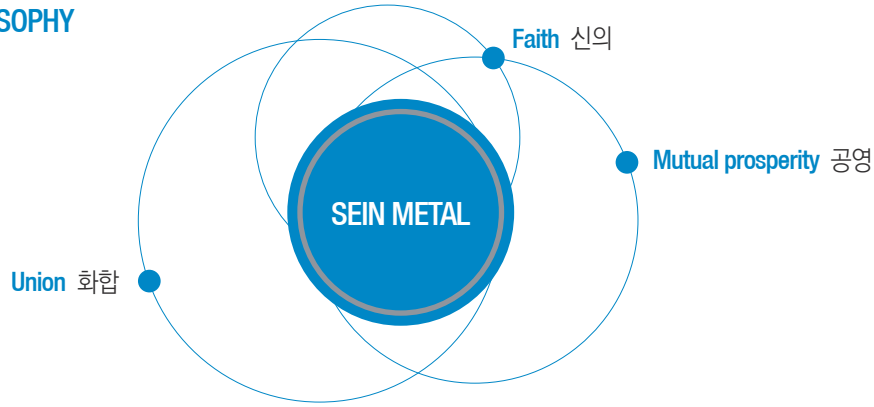
# ABOUT COMPANY

## ORGANIZATION





## MANAGEMENT PHILOSOPHY



## HISTORY OF COMPANY

<p><b>1984</b> April</p> <p><b>1997</b> November</p> <p><b>1999</b> January</p> <p><b>1999</b> May</p> <p><b>2001</b> November</p> <p><b>2002</b> February</p>	<p>Established The Company In Seoul 세인금속 설립</p> <p>Moved To Pucheon City Installed Slitter 2 부천시이전 Slitter 2 증설</p> <p>Juridical Person Conversion 세인금속 법인전환</p> <p>Installed a 4 High Rolling Non-Reverse Mill 4단 냉간압연기 증설</p> <p>Capital Increased Into 250 Million Won 자본금 2억5천만원</p> <p>Moved To Incheon City 인천광역시 남동공단 이전</p> <p>Installed 6 High Rolling Reversing Mill 6단 냉간압연기 증설</p> <p>SUS De-greasing line And Loop-Slitter 2 탈지라인 증설 및 Loop-Slitter 2기증설</p>
<p><b>2005</b> April</p> <p><b>2007</b> September</p> <p><b>2008</b> December</p> <p><b>2009</b> February</p> <p>June</p>	<p>Certificate Of Approval (ISO 9001) 품질경영시스템 인증취득</p> <p>Installed a Hardening&amp;Tempering LINE &amp; Tempering 경화열처리라인 증설</p> <p>Grinding Machine for Coil Surface 코일 그라인딩 라인 증설</p> <p>Install Tension Leveling Line 텐션레벨라 증설</p> <p>Install B/A Line (Bright Annealing) B/A라인 증설</p> <p>SUS De-greasing ling (alkali) 세척라인 증설</p> <p>INNO-BIZ company 기술혁신 (INNO-BIZ)기업</p> <p>Venture company 벤처기업</p>
<p><b>2010</b> April</p> <p>May</p> <p>June</p>	<p>Installed more Tension Leveling Line 텐션레벨라 추가증설</p> <p>Installed 20-High SENDZIMIR MILL 20단 압연기 증설</p> <p>Establish the laboratory affiliated by the coporate 기업부설연구소 설립</p>



QUALITY MANAGEMENT SYSTEM CERTIFICATE  
품질경영시스템 인증서



PROMISING COMPANY ACCREDITATION  
유망중소기업선정서



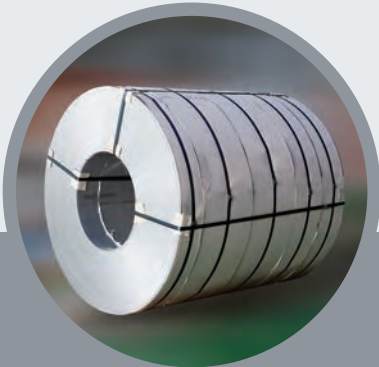
VENTURE COMPANY  
벤처기업확인서



INNOBIZ COMPANY  
기업혁신형 중소기업



# MANUFACTURING PROCESS



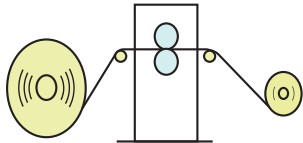
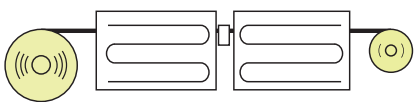
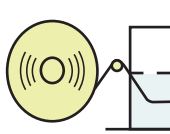
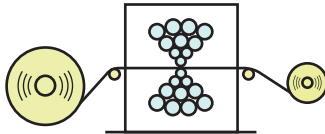
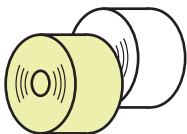
Mother Coils



Rolling Mill



Remov



Quenching & Tempering

Coil Grinding

Packing and





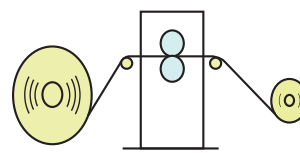
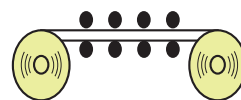
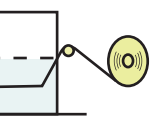
Removal of Oil



Bright Annealing



Tension Levelling



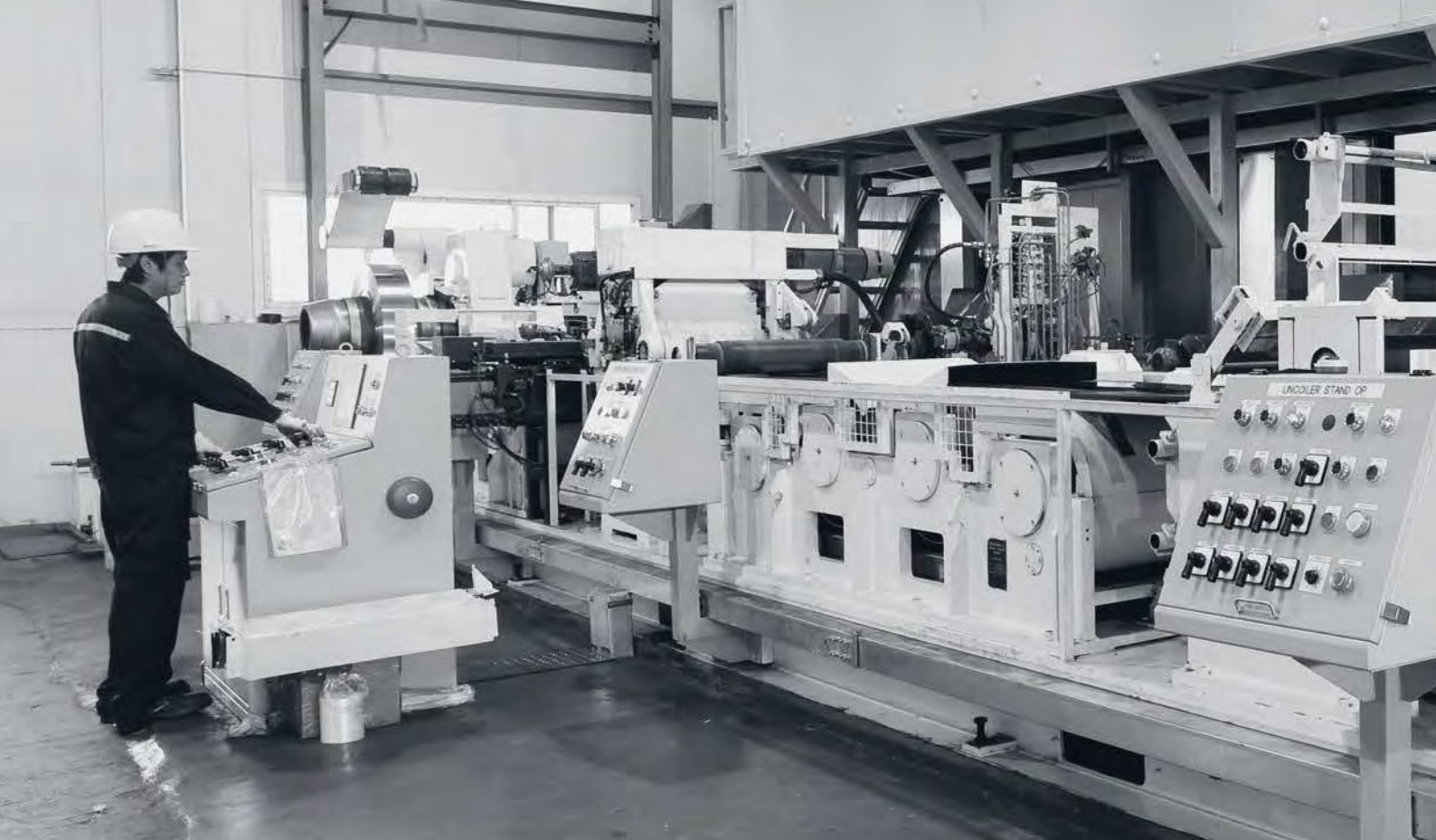
Final shipping

Inspection

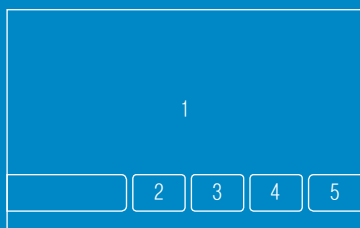
Slitting



# EQUIPMENT



## SEIN METAL Equipment >>



- 1 Tension Leveller
- 2 Rolling Mill
- 3 Bright Annealing
- 4 Loop slitter
- 5 Traversing Spooler



# MENT



# APPLICATION

# **AUTOMOBILE PARTS**



APPLICATION **AUTOMOBILE PARTS** >>



## AUTOMOBILE PARTS

### 자동차산업

Our company produces material of interior, exterior and all sorts of steel springs in automobile industry. 자동차의 내외장재를 비롯하여 각종 스프링재를 생산하고 있습니다.

PRODUCT 생산제품

스테인레스강대, 탄소공구강대, 탄소강대  
Stainless Steel Strips, Carbon Steel Strips

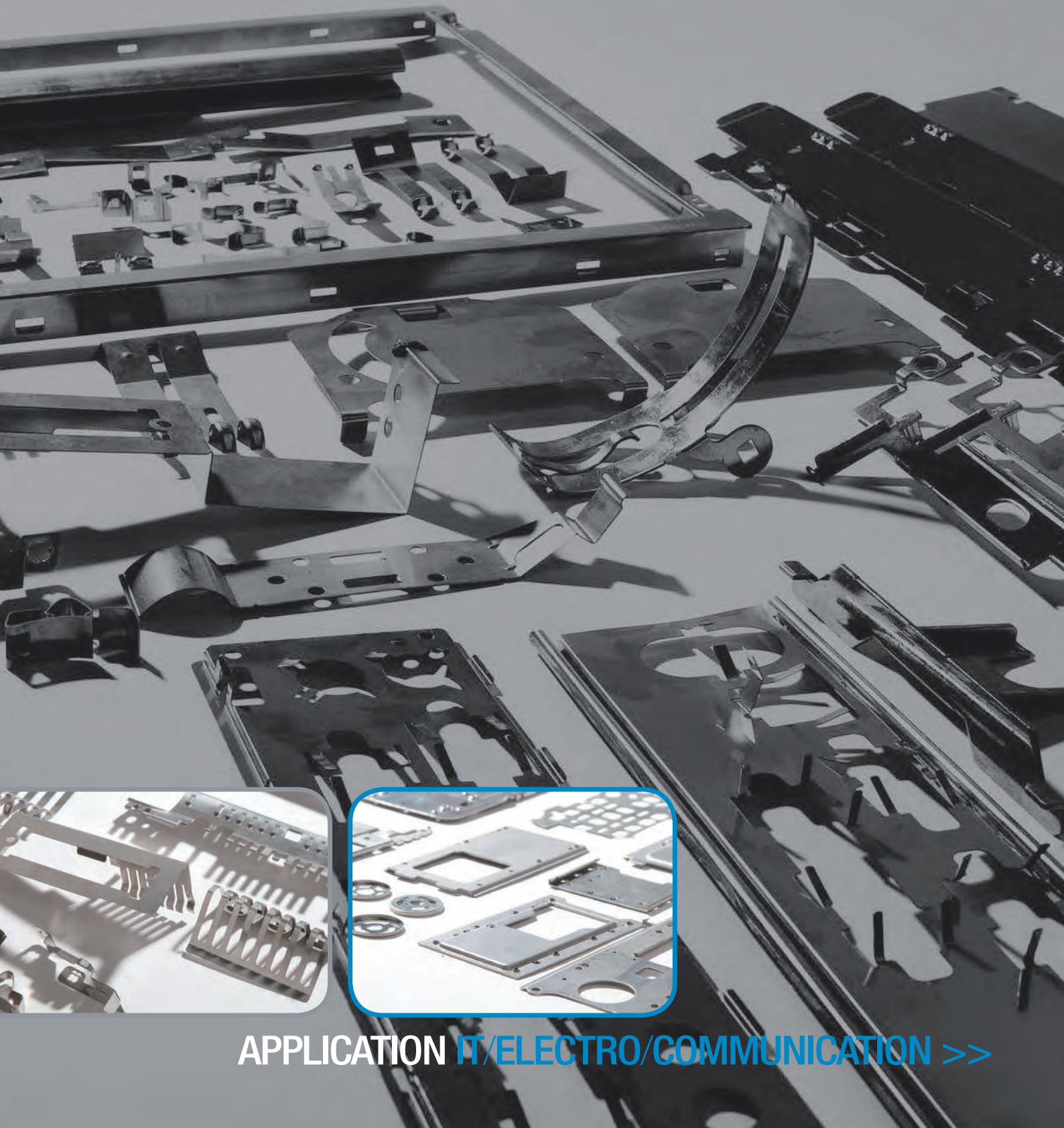
## APPLICATION

### 적용분야



Main Application		
Application	Steel Type	Characteristics
Metal Gasket Springs Brake liner holder Door frame Flexible pipe	Stainless Steel Carbon Steel	Thickness Flatness Hardness

# APPLICATION IT/ELECTRO/COMMUNICAT



APPLICATION IT/ELECTRO/COMMUNICATION >>



# TION



## IT / ELECTRO / COMMUNICATION

### IT, 전자, 정보통신

Our company produces precision plate stainless material applied in electronics & IT industry of various kinds. 각종 IT 및 전자, 정보통신 산업에 사용되는 정밀 극박판 스테인레스 원소재를 생산하고 있습니다.

PRODUCT 생산제품

SUS301, 304, 305, 420J2, 430

## APPLICATION

### 적용분야



## STEEL TYPE SELECTION

### 강종의 선택

대표강종	전원지역				도시지역				공업지역				해안지역			
	I	L	M	H	I	L	M	H	I	L	M	H	I	L	M	H
고내식성 STS	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	●
STS316	◎	◎	◎	◎	◎	◎	●	●	◎	●	●	◆	◎	●	◆	■
STS304	●	●	●	●	●	●	●	●	●	◆	◆	■	●	◆	■	■
STS430	●	●	◆	◆	●	■	■	■	◆	■	■	■	◆	■	■	■

◎ Over quality 과잉적용 / ● appropriate 적정

◆ usable if cleaned often 청소빈도 많으면 사용가능 / ■ inappropriate 부적정

I (Indoor Environment) : 옥내환경

L (Low Grade Environment) : 해당지역의 가벼운 부식환경(저온, 저습도)

M (Medium Grade Environment) : 해당지역의 일반환경

H (High Grade Environment) : 해당지역의 가장 심한 부식환경(고온, 고습도 등)

# APPLICATION

# INDUSTRY

# LEISURE&LIVING





## INDUSTRY

### 산업용품

Our company produces material applied in tools and industry machine parts.  
각종 산업에 쓰이는 기계부품 및 의료기기등에 쓰이는 각종 원자재를 생산하고 있습니다.

PRODUCT 생산제품	스테인레스강대, 탄소공구강대 Stainless Steel Strips, Carbon Tool Steel Strips
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## APPLICATION

### 적용분야



## LEISURE&LIVING

### 레저 및 생활용품

Our company produces material applied as parts of goods and medical machinery.  
레저스포츠 및 생활용품과 의료기기등에 사용되는 각종 원소재를 생산하고 있습니다.

PRODUCT 생산제품	스테인레스강대 Stainless Steel Strips
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## APPLICATION

### 적용분야



# MAIN PRODUCTS

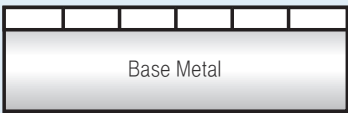
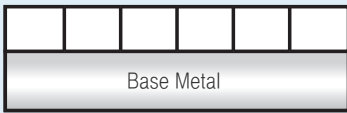
# STAINLESS STEEL

## STAINLESS PROPERTY

### 스테인리스 개요

Stainless Steel is a steel material contained around more 12wt% of Cr. It is possible to be used for various without any painting and coating for surface because it has superior corrosion resistance and beautiful surface. There is the representative steel material which is the contained elements(13Cr, 18Cr, 18Cr-8Ni steel), and the major component is to protect rust as it protects entering oxygen into metal by very thin Cr2O3 Layer(20~30μm).

스테인리스강은 약 12wt%이상의 Cr(크롬)성분을 함유한 특수강으로 표면이 미려하고 내식성이 우수하여 도장,도색등의 표면처리를 하지 않고도 다양한 용도에 사용할 수 있는 철강재료이다. 대표적으로 13Cr, 18Cr, 18Cr-8Ni강이 있으며 주 성분인 Cr이 강 표면에 매우 얇은 Cr2O3층(20~30μm)을 형성하여 금속 기지내로 침입하는 산소를 차단 시키는 부동태 피막(Passivity Layer)의 역할을 함으로서 녹이 잘 슬지 않는 특성을 갖게 한다.

Division	Stainless	Carbon
Feature	<p>Cr<sub>2</sub>O<sub>3</sub></p>  <p>Base Metal</p>	<p>Fe-Oxide층</p>  <p>Base Metal</p>
Property	There are some features which a film is very thin and accurate therefore free from the entering external oxygen. But it can rust if breaking film off in very high heat, radiation and bad surrounding.	External oxygen enters easily into the metal if having too much processing.

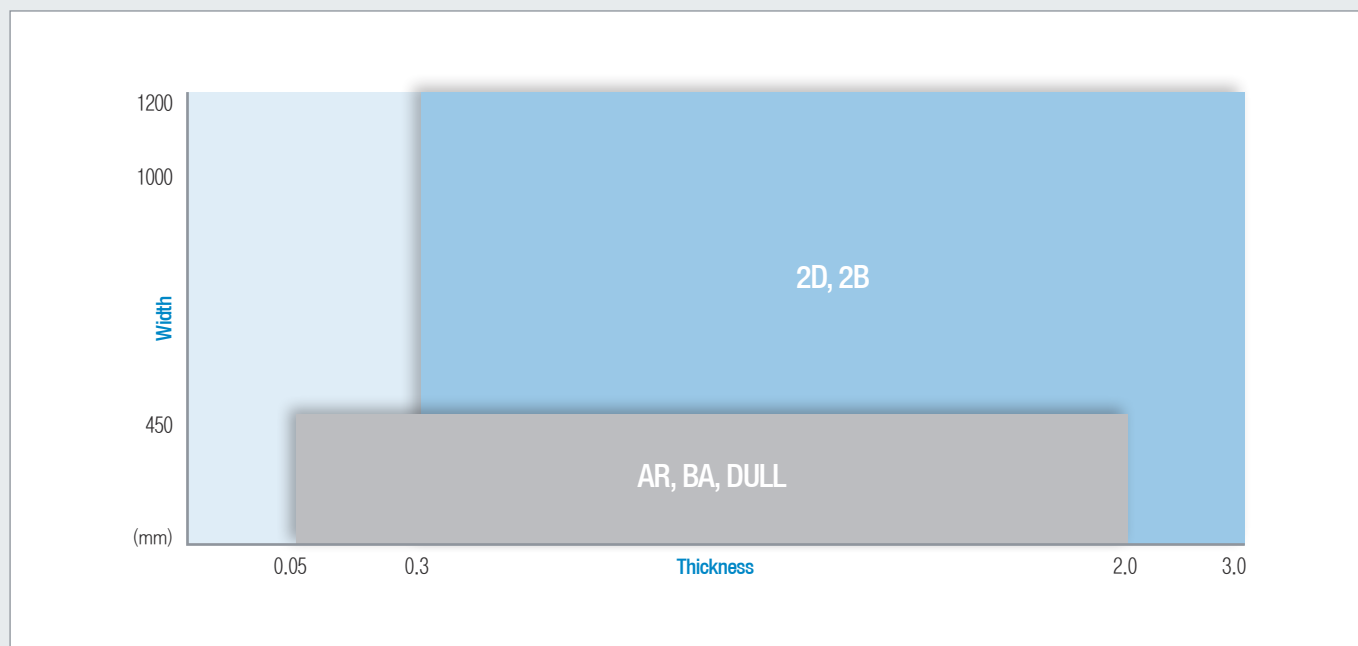
## CLASSIFICATION BY FEATURE

### 특성별 분류

특 성		大, 高, 有 ←-----→ 小, 低, 無	
물리적성질 physical properties	전기저항성 electric resistance	630, XM15J1--631, 310S, 304, 316--430, 409L, 420--Ti--Fe--Al, Cu	
	열전도성 thermal conduction	Cu, Al--Fe--430, 420, 409L--SUH21, Ti--304, 316, 310S--XM15J1	
	열팽창성 thermal expansion	Al--304, 316, Cu--309S, 310--Fe--409L, 430--420, Ti	
	자성 magnetism	Fe, FERRITE, MARTENSITE, 석출경화형-----Al	
기계적성질 mechanical properties	저온강도 Hardness in low temperature	630, 301--304, 316, 321, 347--309S, 310S--430, 436L, 444, 410L, 409L	
	상온강도 Hardness in normal temperature	420, 410, 301--DUPLEX--304, 316, 309S, 321--430, 436L, 444--410L, 409L	
	고온강도 Hardness in high temperature	310S, 309S--321, 316, 304, 301, 631--DUPLEX--430, 436L, 444, SUH21, 430--420, 410L409L	
가공성 processing properties	Drawing	304J1--304L, 305, 304--316L, 321	409L, 410L--430LX, 436L, 436J1L--430, 444
	장출성 temsibility	304J1--301L, 304, 321--316, 304L, 316L, 305	409L, 410L--430LX, 436L, 436J1L--430--444
	절삭성 cutting	416, 410F, 430F--303--420J2--430--410S, 430LX, 436J1L--444--301, 304--316, 321	
내식성 corrosion resistance	내후성 corrosion resistance	447J1, 329--444, 436L, 316-----304--430--410	
	내공식성	447J1, 329--444--316-----304, 436L--430	
	내 SCC성 resistance against stress, corrosion, crack	FERRITE-----310S--317J1--XM15J1--316--329J1--304	
	내산화, 고온부식성 oxidation resistancecorrosion in high temperature	310S, XM15J1--309S--430J1L, 430LX--321, 316, 304--430, 410L, 409L, 420J1	

## AVAILABLE SIZE RANGE

스테인리스 스틸 제조 가능 범위



## LIMIT OF THICKNESS

후(厚)허용공차

unit : mm

Thickness	Standard Tolerance	Special Tolerance
0.05 以上 ~ 0.1 (0.05 and over ~ less than 0.1)	± 0.005	+ 0 / -0.005
0.1 以上 ~ 0.2 (0.1 and over ~ less than 0.2)	± 0.008	+ 0 / -0.01
0.2 以上 ~ 0.3 (0.2 and over ~ less than 0.3)	± 0.010	+ 0 / -0.01
0.3 以上 ~ 0.4 (0.3 and over ~ less than 0.4)	± 0.012	+ 0 / -0.015
0.4 以上 ~ 0.6 (0.4 and over ~ less than 0.6)	± 0.020	+ 0 / -0.015
0.6 以上 ~ 0.8 (0.6 and over ~ less than 0.8)	± 0.025	+ 0 / -0.02

## LIMIT OF WIDTH

폭 허용공차

Thickness	Width ( less than 50 )	Width 50 ~ 300 (50and over ~ lessThan300)
0.15 ( less than 0.15 )	± 0.05	± 0.1 ~ 0.5
0.15 ( 0.15 and over )	± 0.1	± 0.1 ~ 0.5

# MAIN PRODUCTS

# STAINLESS STEEL

## MECHANICAL PROPERTIES OF STAINLESS STRIPS FOR SPRING

스프링용 스테인레스 강대의 기계적 성질

Grade	Temper	Hardness	Y/S (N/mm <sup>2</sup> )	T/S (N/mm <sup>2</sup> )	EL(%)	
SUS304-CSP	AR	1/2H	250 and over	470 and over	785 and over	6 and over
		3/4H	310 and over	665 and over	930 and over	3 and over
		H	370 and over	880 and over	1,130 and over	-
SUS301-CSP	AR	1/2H	310 and over	510 and over	930 and over	10 and over
		3/4H	370 and over	745 and over	1,130 and over	5 and over
		H	430 and over	1,030 and over	1,320 and over	-
		EH	490 and over	1,275 and over	1,570 and over	-

## CHEMICAL COMPONENT

화학성분

구분 Classification	강종 Steel type	기본조직 Basic formation							
		C	Si	Mn	P	S	Cr	Ni	기타
오스테나이트 Austenitic	301	≤0.15	≤1.00	≤2.00	≤0.045	≤0.030	16.0~18.0	6.0~8.0	
	301L	≤0.03	≤1.00	≤2.00	≤0.045	≤0.030	16.0~18.0	6.0~8.0	N≤0.20
	304	≤0.08	≤1.00	≤2.00	≤0.045	≤0.030	16.0~20.0	8.0~10.5	
	304L	≤0.03	≤1.00	≤2.00	≤0.045	≤0.030	16.0~20.0	9.0~13.0	
	304Cu	≤0.08	≤1.70	≤2.00	≤0.045	≤0.030	16.0~18.0	6.0~9.0	Cu 1.0~3.0
	305	≤0.12	≤1.00	≤2.00	≤0.045	≤0.030	17.0~19.0	10.5~13.0	
	316	≤0.08	≤1.00	≤2.00	≤0.045	≤0.030	16.0~18.0	10.0~14.0	Mo 2.0~3.0
	316L	≤0.03	≤1.00	≤2.00	≤0.045	≤0.030	16.0~18.0	12.0~15.0	Mo 2.0~3.0
	321	≤0.08	≤1.00	≤2.00	≤0.045	≤0.030	17.0~19.0	9.0~13.0	Tx 5XC%
페라이트 Ferritic	409L	≤0.03	≤1.00	≤1.00	≤0.040	≤0.030	10.5~11.7	≤0.6	Ti 6XC%~0.75
	410L	≤0.03	≤1.00	≤1.00	≤0.040	≤0.030	11.0~13.5	≤0.6	
	430	≤0.12	≤0.75	≤1.00	≤0.040	≤0.030	16.0~18.0	≤0.6	
	436L	≤0.0025	≤1.00	≤1.00	≤0.040	≤0.030	16.0~19.0	≤0.6	Mo 0.75~1.25
	444	≤0.0025	≤1.00	≤1.00	≤0.040	≤0.030	17.0~20.0	≤0.6	Mo 1.75~2.50
마르텐사이트 Martensite	410	≤0.15	≤1.00	≤1.00	≤0.040	≤0.030	11.5~13.5	≤0.6	
	420J1	0.16~0.25	≤1.00	≤1.00	≤0.040	≤0.030	12.0~14.0	≤0.6	
	420J2	0.26~0.40	≤1.00	≤1.00	≤0.040	≤0.030	12.0~14.0	≤0.6	

## MECHANICAL / PHYSICAL PROPERTY

### 스테인레스강의 기계적 / 물리적 특성

구분 Section	강종 Steel type	기본조직 basic organization								
		내력 Yield Strength	인장강도 Tensile Strength	연신율 Elongation	경도 Hardness			비중 weight	열팽창계수 Thermal Expansion Coefficient	열전도도 thermal conductivity
		(N/mm <sup>2</sup> )	(N/mm <sup>2</sup> )	(%)	H <sub>B</sub>	H <sub>RC</sub>	HV	(g/cm <sup>3</sup> )	(X-6/°C)	(X10/°C)
오스테나이트 Austenitic	301	≥ 205	≥ 520	≥ 2.00	≤ 207	≤ 95	≤ 218	7.93	16.9	16.3
	301L	≥ 215	≥ 550	≥ 2.00	≤ 187	≤ 90	≤ 200	7.93	16.9	16.3
	304	≥ 205	≥ 520	≥ 2.00	≤ 187	≤ 90	≤ 200	7.93	17.3	16.3
	304L	≥ 175	≥ 480	≥ 2.00	≤ 187	≤ 90	≤ 200	7.93	17.3	16.3
	304Cu	≥ 155	≥ 450	≥ 2.00	≤ 187	≤ 90	≤ 200	7.93	17.3	16.3
	305	≥ 175	≥ 480	≥ 2.00	≤ 187	≤ 90	≤ 200	7.93	17.3	16.3
	316	≥ 205	≥ 520	≥ 2.00	≤ 187	≤ 90	≤ 200	7.98	16	16.3
	316L	≥ 175	≥ 480	≥ 2.00	≤ 187	≤ 90	≤ 200	7.98	16	16.3
321	≥ 205	≥ 520	≥ 2.00	≤ 187	≤ 90	≤ 200	7.93	15	16.1	
페라이트 Ferritic	409L	≥ 175	≥ 360	≥ 1.00	≤ 162	≤ 80	≤ 175	7.75	11.7	24.9
	410L	≥ 195	≥ 360	≥ 1.00	≤ 183	≤ 88	≤ 200	7.75	9.9	25.1
	430	≥ 205	≥ 450	≥ 1.00	≤ 183	≤ 88	≤ 200	7.7	10.4	26.4
	436L	≥ 245	≥ 410	≥ 1.00	≤ 217	≤ 96	≤ 230	7.7	10.4	25
	444	≥ 245	≥ 410	≥ 1.00	≤ 217	≤ 96	≤ 230	7.75	11	26.8
마르텐사이트 Martensitic	410	≥ 205	≥ 440	≥ 1.00	≤ 201	≤ 93	≤ 210	7.75	9.9	24.9
	420J1	≥ 225	≥ 520	≥ 1.00	≤ 223	≤ 97	≤ 234	7.75	10.3	23.8
	420J2	≥ 225	≥ 540	≥ 1.00	≤ 235	≤ 99	≤ 247	7.75	10.3	23.8

## BENEFITS OF STAINLESS STEEL

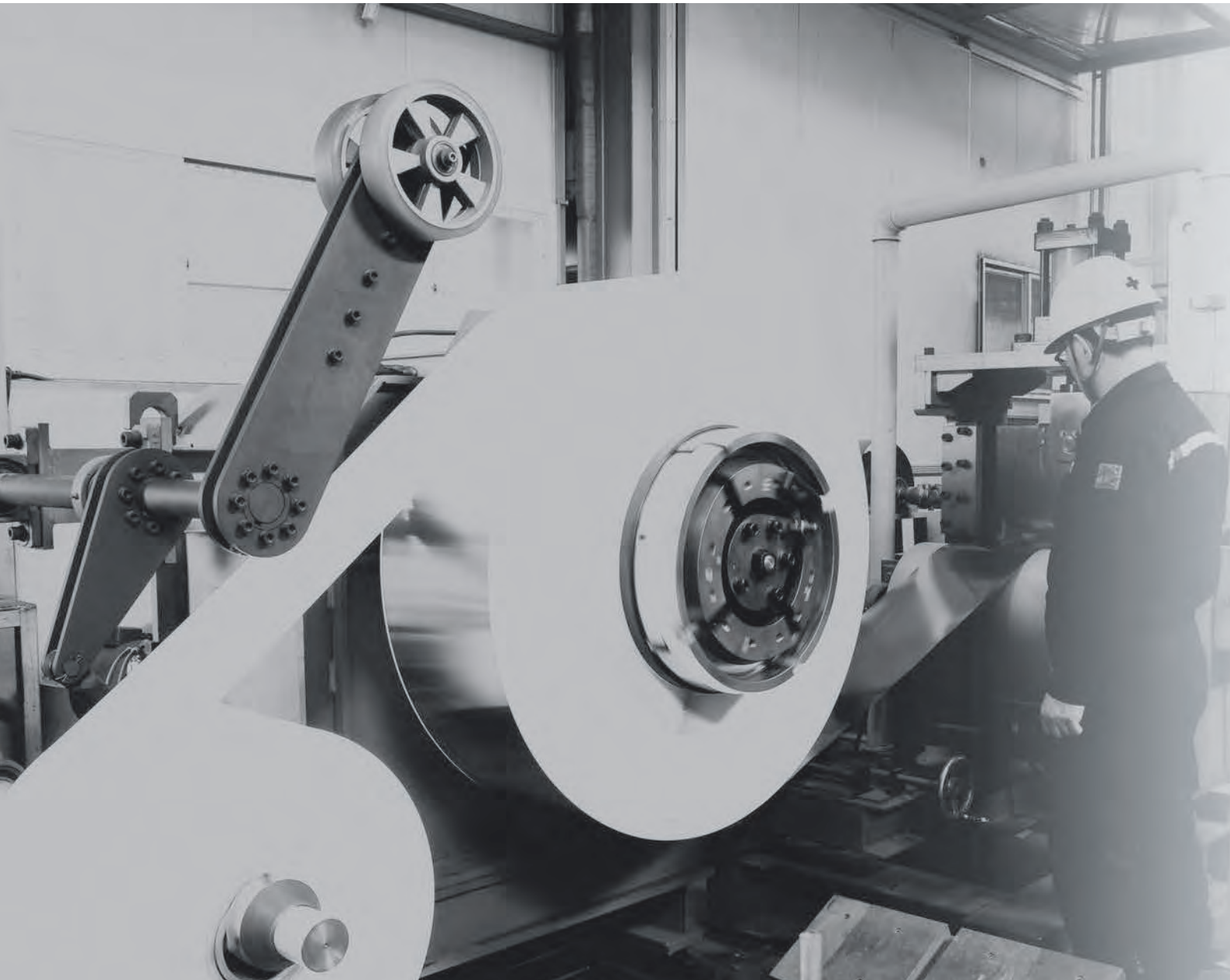
### 강종별 특성

※ 우선순위 : ● > ○ > △ > × ※ Precedence : ● > ○ > △ > ×

구분	기본조직 Basic formation			
	오스테나이트계 Austenitic	페라이트계 Ferritic	마르텐사이트계 Martensitic	
대표강종 Stand for the type of stainless steel	스테인리스 304 stainless steel 304	스테인리스 430 stainless steel 430	스테인리스 410 stainless steel 410	
대표성분 Representative Component	18Cr-8Ni	18Cr	13Cr	
품질특성 Quality Prop.	내식성 Corrosion Resistance	●	○	△
	강도 Degree of Strength	○	△	●
	크립강도 Degree of Strength for Creep	●	○	△
	저온충격치 Numerical value for striking against low temperature	●	△	×
	가공성 Good for industrial process	○	○	△
	자성 Magnetism	×	●	●
	경화성 Good for hardening	가공경화성 Good for hardening & industrial process	비소입경화성 good for hardening	소입경화성 good for hardening
용접성 Good for welding	○	△		
물리적성질 Physical Prop.	결정격자구조 Modular Structure	면심입방(FCC)	체심입방(BCC)	체심입방(BCC)
	열전도도 Thermal conductivity	△	○	○
	475°C 취성	×	●	●
	δ 취성	●	△	×
	고온취성	×	●	○

# MAIN PRODUCTS

# CARBON STEEL



**SK5-H >>**

Quenching & Tempering & Grinding & Slitting





## CHEMACAL PROPERTY

Classification	Type	Chemical composition								
		C	Si	Mn	P	S	Cu	Ni	Cr	Ni+Cr
Carbon tool steel	SK2M	1.10~1.3	0.35 MAX	0.5 MAX	0.03 MAX	0.03 MAX	0.25 MAX	0.25 MAX	0.3 MAX	-
	SK3M	1.00~1.1	0.35 MAX	0.5 MAX	0.03 MAX	0.03 MAX	0.25 MAX	0.25 MAX	0.3 MAX	
	SK4M	0.9~1.0	0.35 MAX	0.5 MAX	0.03 MAX	0.03 MAX	0.25 MAX	0.25 MAX	0.3 MAX	
	SK5M	0.8~0.9	0.35 MAX	0.5 MAX	0.03 MAX	0.03 MAX	0.25 MAX	0.25 MAX	0.3 MAX	
	SK6M	0.70~0.8	0.35 MAX	0.5 MAX	0.03 MAX	0.03 MAX	0.25 MAX	0.25 MAX	0.3 MAX	
	SK7M	0.60~0.7	0.35 MAX	0.5 MAX	0.03 MAX	0.03 MAX	0.25 MAX	0.25 MAX	0.3 MAX	
Carbon steel	S30CM	0.27~0.35	0.15~0.35	0.60~0.9	0.03 MAX	0.035 MAX	0.3 MAX	0.2 MAX	0.2 MAX	0.35 MAX
	S35CM	0.32~0.38	0.15~0.35	0.60~0.9	0.03 MAX	0.035 MAX	0.3 MAX	0.2 MAX	0.2 MAX	0.35 MAX
	S45CM	0.42~0.48	0.15~0.35	0.60~0.9	0.03 MAX	0.035 MAX	0.3 MAX	0.2 MAX	0.2 MAX	0.35 MAX
	S50CM	0.47~0.53	0.15~0.35	0.60~0.9	0.03 MAX	0.035 MAX	0.3 MAX	0.2 MAX	0.2 MAX	0.35 MAX
	S55CM	0.52~0.58	0.15~0.35	0.60~0.9	0.03 MAX	0.035 MAX	0.3 MAX	0.2 MAX	0.2 MAX	0.35 MAX
	S60CM	0.55~0.65	0.15~0.35	0.60~0.9	0.03 MAX	0.035 MAX	0.3 MAX	0.2 MAX	0.2 MAX	-
	S65CM	0.60~0.70	0.15~0.35	0.60~0.9	0.03 MAX	0.035 MAX	0.3 MAX	0.2 MAX	0.2 MAX	-
	S70CM	0.65~0.75	0.15~0.35	0.60~0.9	0.03 MAX	0.035 MAX	0.3 MAX	0.2 MAX	0.2 MAX	-



# MAIN PRODUCTS

# CARBON STEEL

## APPLICATION

S45CM	Clutch part, Machine part	클러치 부품, 체인부품
S50CM	Spring	스프링
S55CM	Machine part	기계부품
S60CM	Chain part, woodwork supplies, Blind	체인부품, 목공용품, 브라인더
S65CM	Spring, Clutch part	스프링, 클러치 부품
S70CM	Washer, Saw, Spring	와샤, 톱, 스프링
SK2M	Saw, Spring, Camera shutter	톱, 스프링, 카메라 셔트
SK3M	Saw, Spring, knife	톱, 스프링, 칼
SK4M	Spring, Gage, Saw, Needle	팬꽃이, 스프링, 게이지, 톱, 편직기 바늘
SK5M	Spring, Saw, Needle	스프링, 톱, 편직기 바늘
SK6M	Spring, Saw, Clutch part, Washer 2. Carbon steel	스프링, 톱, 클러치 부품, 와샤 2. 탄소강

## MECHANICAL PROPERTY

Symbol of temper	A			S	R	QT	
Classification	Annealed			Skin passed	Roiled	Quenching & Tempered	
Type	Hardness (Hv)	Tensile Strength (kgf/mm <sup>2</sup> )	Elongation	Hardness (Hv)	Hardness (Hv)	Hardness (Hv)	Tensile Strength (kgf/mm <sup>2</sup> )
SK2M	180-220	60-70	15Max	220Max	220-280	350-850	112-∞
SK3M	180-220	60-70	15Max	220Max	220-280	350-850	112-∞
SK4M	180-200	50-70	20Max	210Max	210-270	350-700	112-∞
SK5M	170-200	50-70	20Max	210Max	210-270	350-700	112-∞
SK6M	170-190	50-65	25Max	200Max	200-260	350-700	112-∞
SK7M	150-190	50-60	25Max	200Max	220-260	350-700	112-∞

## SURFACE FINISH

Surface Finish	Remarks
Standard Color(Dark-Blue)	Heat Treatment
White Color	Grinding After Heat Treatment
Blue or Yellow Color	Coloring AfterGrinding



