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DK DONGKUK INDUSTRIES

www.dkis.co.kr



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HISTORY

1967.9	成立大圆钢铁株式会社
1976.6	买入浦项工厂园地(开始生产铸造产品)
1990.10	浦项工厂冷轧设备完工
1999.6	东国产业(株)在韩国证券交易所(KOSDAQ Market)上市
2001.7	成立(株)东国S&C分公司
2004.1	(株)大圆钢铁(现 始兴工厂)变更名称
2004.1	(株)东国 R&S韩国证券交易所 (KOSDAQ Market)上市
2008.2	浦项工厂增设宽幅压延机(# 2 Line)
2008.4	成立现DK東信(株)
2009.8	东国S&C(株)在韩国证券交易所 (KOSDAQ Market)上市
2013.3	设立东国产业(上海)贸易有限公司(中國法人)
2013.6	浦项工厂增设最新中幅压延机设备(# 3 Line)
2014.2	设立 DongKuk Industries Japan (日本法人)
2017.7	始兴工厂微型剪切设备(Mini Shear Line)完工
2021.11	环保氢热处理设备竣工(浦项工厂)
2022.6	设立东国产业庆州工厂

开创钢铁的历史。

We are writing the history of steel.

- 1967.9 Daewonsa founded
- 1976.6 Starting casting business
- 1990.10 Installation cold rolled steel production facility, operating Pohang plant
- 1999.6 Listed on KOSDAQ
- 2001.7 Dongkuk S&C (Construction, Steel structure business) separated and founded
- 2004.1 Aquisition Shinhwa Special Steel and incorporated Changed the name into Daewon Steel Co.,Ltd.
- 2004.1 Dongkuk R&S (Refractory business) separated and founded
- 2008.2 Installation of S6-Hi cold rolling mill in Pohang plant
- 2008.4 Aquisition DK Dongshin Co.,Ltd. (Pre-Coated Metal) and incorporated
- 2009.8 Dongkuk S&C listed on KOSDAQ
- 2013.3 Dongkuk Industries China Co., Ltd. (Overseas corporation in China) founded
- 2013.6 Installation of S6-Hi newly cold rolling mill in Pohang plant
- 2014.2 Established Dongkuk Industries Japan as a local corporation
- 2017.7 Extend a new mini shear line in Siheung plant
- 2021.11 Completed Eco-friendly Hydrogen (Pb Free) Heat Treatment Facilities in Pohang Plant
- 2022.6 Established Plant in Gyeongju, Korea

东国产业 ...

1967年以大圆社为开端的东国产业集团, 为成为全球一流的冷轧特殊钢企业而不断努力。东国产业的历史在开拓中不断前进。

追求创新和改革作为企业的文化基础, 东国产业一直致力于技术投资, 注重高端产品研发, 从而形成差别化的独家市场结构, 来迎接企业更加美好的未来。

东国产业向全世界客户供应汽车发动机, 变速箱, 内部安全部件等汽车零部件生产所需的冷轧特殊钢产品。

为跨入世界一流特殊钢企业行列, 我司始终以先进的生产技术与设备, 向着生产“全球第一的冷轧特殊钢”的目标奋进。

目前, 东国产业冷轧特殊钢年总产能超过35万吨, 旗下拥有最先进设备的浦项工厂。为了以同样的理念为客户提供最优质的服务, 主要设备在浦项工厂运作, 把之前作为子公司运营的大圆钢铁, 在14年7月份进行了合并, 以东国产业始兴工厂的名义开始运营。

与此同时, 我司在美国, 中国, 日本等国家及地区设立了子公司, 为世界各地客户提供高品质产品, 保证便捷完善的售后服务。无论何时何地, 当您享受汽车行驶的舒适时, 东国产业的产品与您同在, 时刻守护您的安全。

东国产业提供不断创新的产品与客户一起, 为成为世界一流企业不断努力!

Dongkuk Industries is ...

We were established in 1967 as Daewon-sa and try to do our best to be a global leading cold rolled steel maker continuously. Our history is never-ending story.

Beyond change, we are following continuous innovation on the basis of our corporate culture without satisfaction of current position; investing our resources to develop world best quality products continuously. Our further goal will be offering new products to develop new markets and new products in the future.

We are offering cold rolled special steel products which are being used in major parts inside automobile engine, automobile transmission, vehicle safety parts etc. Our products are saving you every single day.

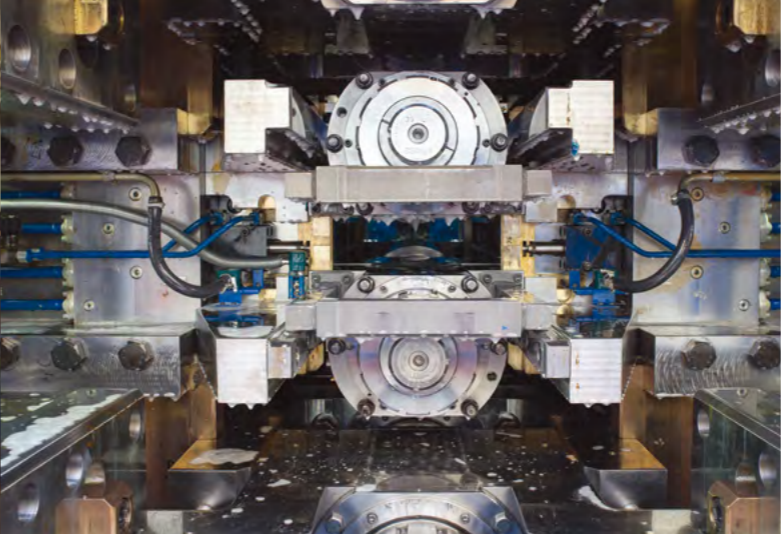
Dongkuk Industries make sure to be a "No.1 Global Cold Rolled Special Steel" with cutting edge technology, state of the art facilities as a world best global leading special steel maker.

Pohang plant is supplying 350,000 ton of cold rolled special steel yearly through state of the art facilities, Siheung plant is also offering high quality cold rolled special steel.

Despite our strong regional roots, we are globally targeted. With our overseas corporation in USA, China, and Japan, we supply our best products and services to our clients on time.

Our products are alive with you whenever you ride in your car. When you feel comfortable inside an automobile, Dongkuk's touch is saving your life.

We will be a global leading cold rolling company to supply our innovative, sustainable products to every customer in the world continuously.

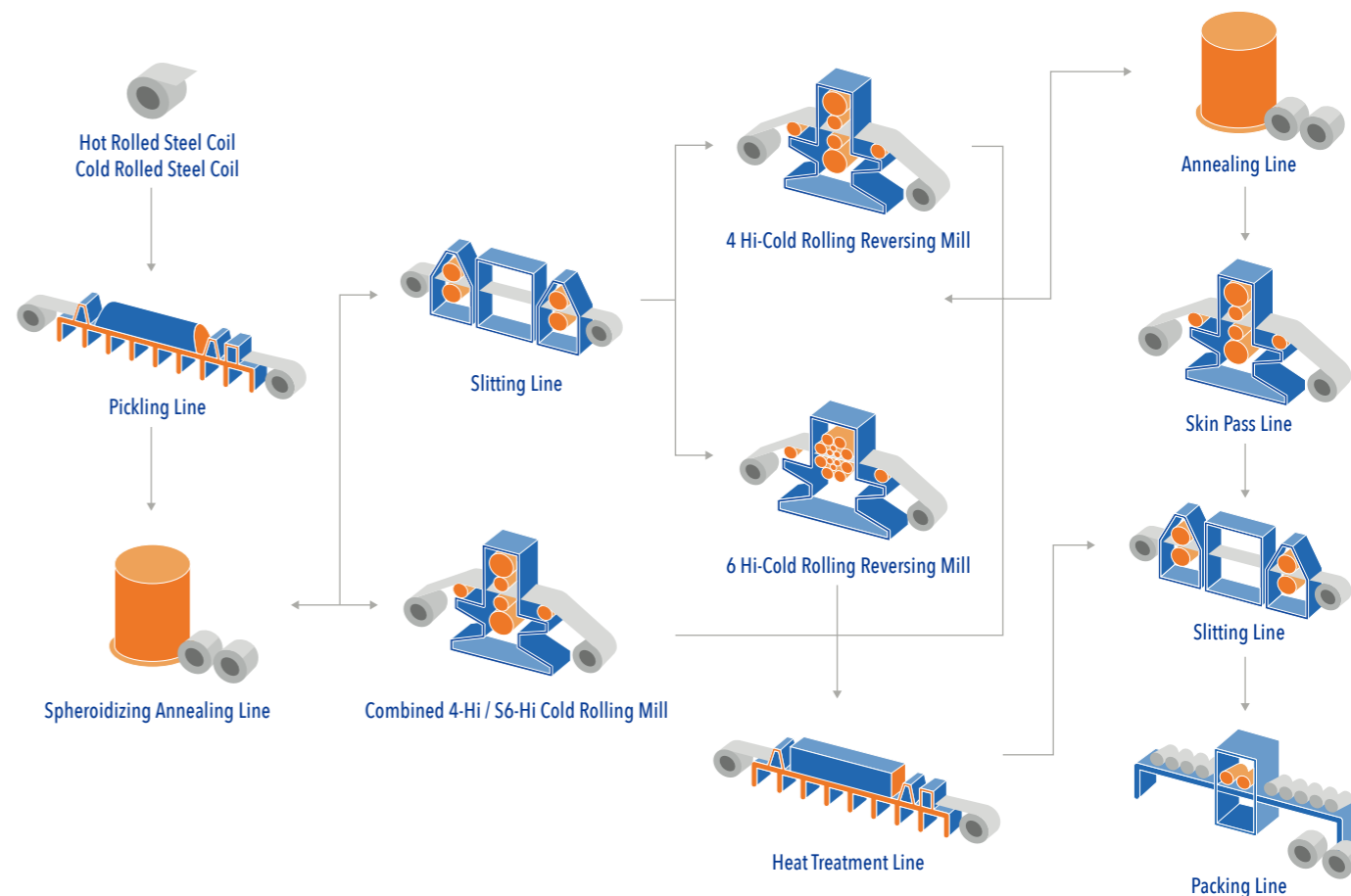


MANUFACTURING PROCESS

生产工艺

拥有可生产 10 毫米厚度高碳钢专用中、宽幅冷轧压延机，从酸洗到轧制（压延），原料剪切及成品剪切，安装可对应厚度 10mm 冷轧高碳钢产品的新生产线，对应高品质，多品种超精密冷轧特殊钢产品。

Capable of Cold Rolling 10mm in thickness of High Carbon / Alloy Steel, DONGKUK INDUSTRIES facility is equipped from Pickling & Oiling line, Batch Annealing Furnaces, Slitting Lines enabling product finishes in precision and well controlled quality standards.



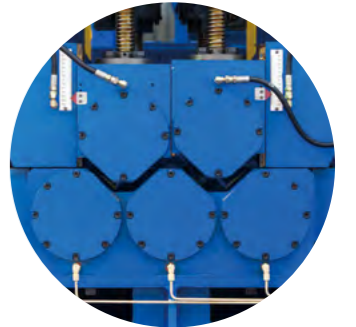


PICKLING LINE



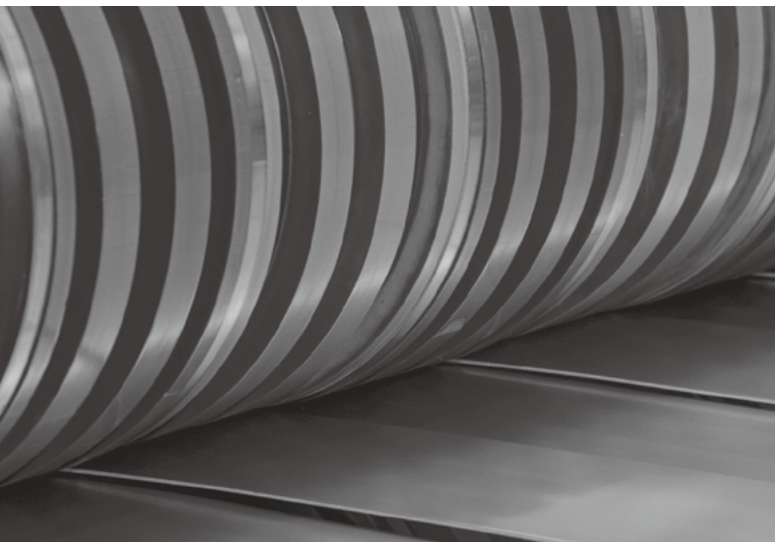
工厂酸洗线可生产 10 毫米高碳钢, 拥有物理性和化学性技术为基础的优质酸洗能力。

Pickling & Oiling line is capable of processing 10mm in thickness of High Carbon & Alloy Steel. Precision controlled physical cleaning with highly calculated chemical adhesion is carried out to reach our long practiced standards.



FACILITIES

设施



Pohang Plant		(mm)
	Pickling Line	
Thickness	1.2 ~ 10.0	
Width	600 ~ 1,350	



COLD ROLLING LINE

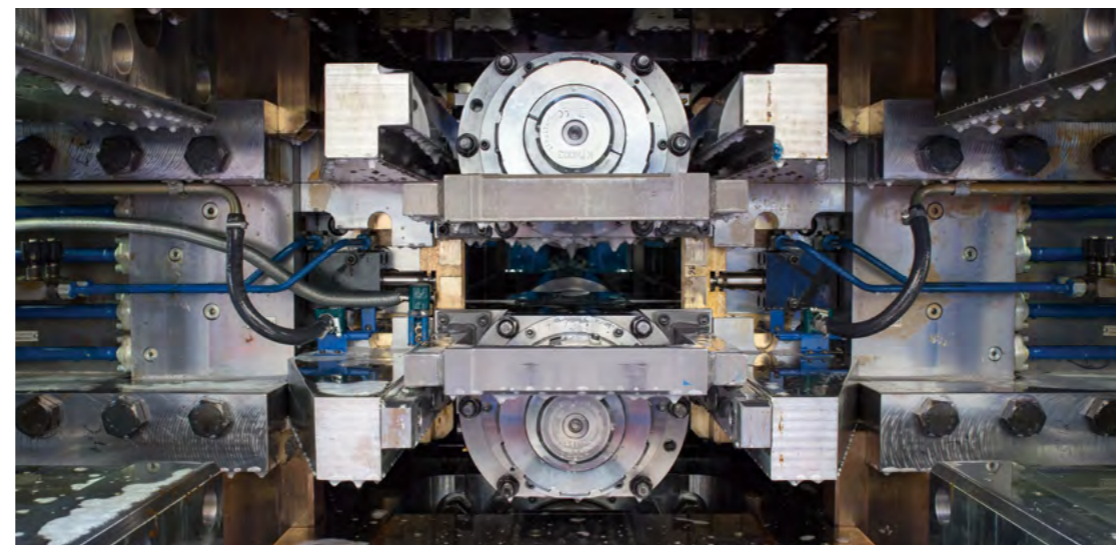


先进 S6-Hi 压延机及可生产最厚 10mm 厚度产品的 S6-Hi 冷轧压延机及 20-Hi 冷轧压延机等可满足不同顾客的多样化需求。通过精密控制的自动化压延工序进一步提高产品精密性及表面形状供应给客户。

Ranging up to 10mm in thickness, DONGKUK INDUSTRIES Cold Rolling Machines are well upgraded to provide various needs of our customers. Automated rolling process enables high-precision thickness control with minimized variation and surface cleanliness.

Pohang Plant		(mm)		
	4-Hi Mill	S6-Hi Mill	4-Hi Mill	
⊕ Thickness	0.2 ~ 6.3	0.15 ~ 8.0	0.2 ~ 10.0	
⊖ Width	150 ~ 450	600 ~ 1,320	300 ~ 650	

Siheung Plant		(mm)		
	4-Hi Mill	6-Hi Mill	20-Hi Mill	
⊕ Thickness	0.1 ~ 2.3	0.1 ~ 5.4	0.1 ~ 3.5	
⊖ Width	100 ~ 320	150 ~ 420	350 ~ 630	



SLITTING LINE



具备机器人系统的无人自动化分条线可进行 0.01mm 空隙的精密分切, 为客户提供高品质产品。

多样化的分条线及超精密分切产品线, 可生产包括自动变速箱在内的精密汽车零部件所需的冷轧特殊钢产品。

同时我司具备可分割最厚为 10mm 厚度产品的生产线, 进一步开拓冷轧特殊钢的世界之门。



Our slitting lines are being operated by automated and unmanned process in accordance with robot system and ensure high quality products up to 0.01mm close clearance for auto-vehicle parts, auto transmission etc.



Our slitting lines which ensure to slit max thickness 10mm provide a higher level of solution in cold rolled special steel industry.

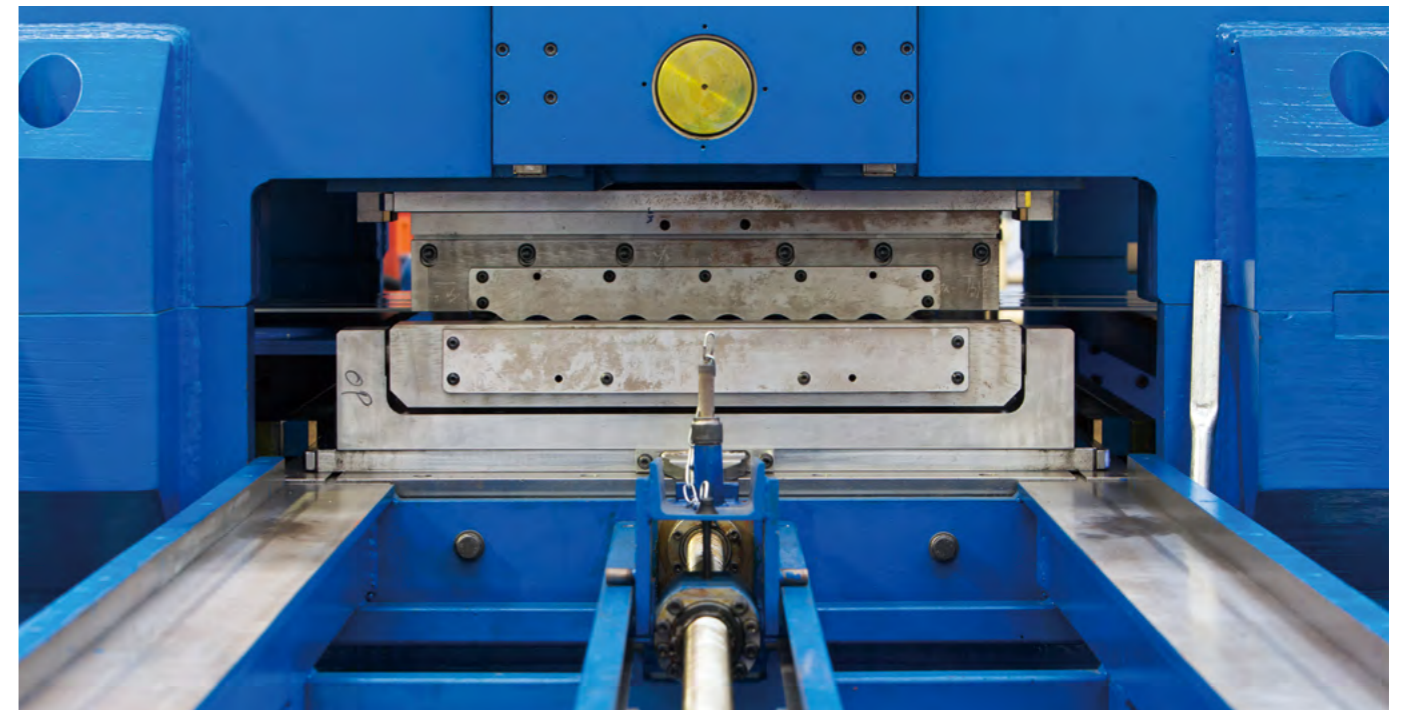
Pohang Plant (mm)			
	No.1 WSL	No.2 WSL	No.3 WSL
 Thickness	0.2 ~ 4.0	0.3 ~ 4.5	1.6 ~ 10.0
Width Entry	300 ~ 1,300	280 ~ 1,335	400 ~ 1,350
 Width Exit	60 ~ 1,300	35 ~ 1,335	190 ~ 1,350



PRODUCT SLITTING LINE

Pohang Plant (mm)				
	No.1 SSL	No.2 SSL	No.3 SSL	No.4 SSL
 Thickness	1.2 ~ 4.5	0.25 ~ 1.2	2.0 ~ 10.0	0.2 ~ 2.0
Width Entry	150 ~ 450	150 ~ 450	200 ~ 650	200 ~ 650
 Width Exit	22 ~ 450	15 ~ 450	54 ~ 650	25 ~ 650

Siheung Plant (mm)				
	No.1 SSL	No.2 SSL	No.3 SSL	No.4 SSL
 Thickness	0.11 ~ 1.2	1.0 ~ 4.5	0.05 ~ 1.2	0.3 ~ 3.0
 Width	450 max	450 max	400 max	650 max



ANNEALING LINE

我司退火线是以热传递及热效率高的氢火炉设备进行生产加工。
用世界领先的退火设备为客户生产最优的冷轧特殊钢产品。

We have outstanding Hi-conviction annealing furnaces in heat conduction, thermal efficiency which are made by famous furnace makers, supply best quality products to our customers.

Pohang Plant (mm)

	H2 Annealing Furnace
Out Diameter	Max 2,000
Base	50 base

Siheung Plant (mm)

	H2 Annealing Furnace
Out Diameter	Max 1,600
Base	14 Base



HEAT TREATMENT LINE



工厂热处理设备采用环保 H₂ (无铅) 冷却技术来生产出高端产品来满足客户需求。

可生产表面为蓝色和白色产品, 并应用形状控制系统来生产出平整度优良的高端产品。

Unlike other, DONGKUK INDUSTRIES Heat Treatment line utilizes H₂ Quenching method in mind of our customers and their environment. Nonetheless, all advanced flatness control and monitoring tools are applied for advanced quality standards.

All forms of structure is ready to be serviced, including color conditions in Blue Steel or White Steel.



Pohang Plant (mm)

	Martensite / Sorbite / Bainite
Thickness	0.1 ~ 2.5
Width	80 ~ 450





TRAVERSE WINDING LINE

为满足客户要求, 宽度为 10mm~65mm 窄带冷轧特殊材料, 可将卷尾与另一卷焊接生产为 Oscillated卷, 便于提高客户的生产效率。

Traversed winding coil means join 2 coils (width 10mm~65 mm) into one by means of modern welding technology at the end of each coil. We contribute to increase our client's productivity with our traversed winding coils.



Pohang Plant		(mm)	
	No.1 Line	No.2 Line	
 Thickness	0.3 ~ 2.5	0.5 ~ 2.0	
 Width	10 ~ 65	10 ~ 52	

PACKING & LOGISTICS

自动化包装线, 10mm 厚度产品专用生产线等方便快捷的自动化包装及物流系统, 进一步保障顾客的需求。

We have automated coil moving cars and ideal production line for thickness 10mm products, Our automated logistics system and package line guarantee smooth logistics to our customers everywhere in the world.



RESEARCH & DEVELOPMENT

研究开发



全球化竞争时代的钢铁产业, 原料, 环保绿色产业主导者 - 东国产业

东国产业作为韩国高碳钢冷轧压延市场的先导者, 通过提供有针对性的最优解决方案和值得信赖的品质, 满足国际客户提出的多样化要求, 引领冷轧压延市场的发展。

位于浦项工厂的东国产业技术研究所, 一直致力于技术投资, 注重高端产品研发。

利用多样化试验装备 (SEM, Micro显微镜), 进行严格的品质管理以及持续性的技术动向分析。

同时与客户共享高碳冷轧压延的核心技术, 热处理技术开发及改善的相关分析资料, 坚持与客户一同发展, 迎接企业更加美好的未来。

Dongkuk Industries, the Leader of Steel, Material and Eco-Friendly Industry in the Global Era of Unlimited Competition

Leading the domestic market for high carbon cold rolled steel, Dongkuk Industries has been reborn as a leader in the high carbon cold rolled steel market through tailored solutions that are optimized for the various needs of global clients and providing trustworthy quality.

Our Institute of Technology is located in the Pohang plant, which will predict and prepare for the future through strict quality control using various test equipment (SEM, digital microscope, etc.), and continuous analysis of technological trend and investment.

By providing our clients with various analyses on technological development and improvement related to key technology in high carbon cold rolled steel and heat treatment, we will write a successful story together.



QUALITY CONTROL & CERTIFICATION

认证证书

获得 IATF 16949质量系统, 给客户 提供更高的服务。拥有 ISO 14001, ISO 45001和 KOSHA-MS环境安全卫生体系认证证书。

Certified with IATF16949, our standards for quality control and sustainable management is well established. At practice, environment & safety measures are all taken into consideration with ISO14001, ISO 45001, and KOSHA-MS certifications.



IATF 16949 质量证书



ISO 14001 环境证书



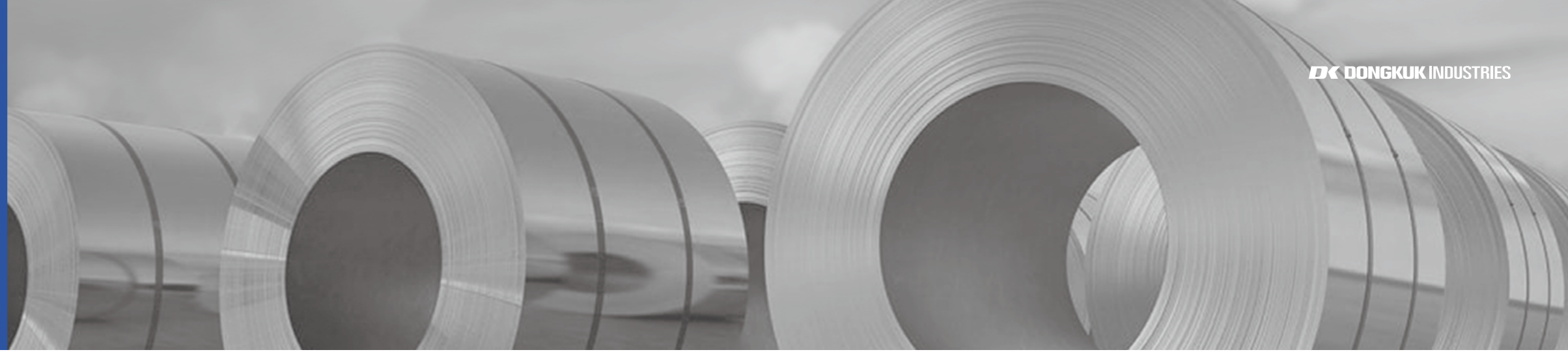
ISO 45001 环境证书



KOSHA-MS 安全证书

APPLICATIONS

产品用途



Cold Rolled Steels

冷轧钢板

- SPCC** - Machinery parts
- SPCD** - Machinery parts
- SPCE** - Machinery parts
- S10CE** - Door latch
- S15CM** - Door latch
- S20M** - Friction plate, Separate plate

Cr-Mo Steels

铬钼合金钢

- SCM 415M** - Chain parts, Thompson blades
- SCM 435M** - Chain parts, Office equipment parts

High Strength Steels

高張力鋼

- SPFC 540M** - Chassis, Door parts
- SPFC 590M** - Chassis, Seat parts

Carbon Tool Steels

碳素工具鋼

- SK2M/ SK2MCR4** - Razor blades, Cutlery
- SK3M** - Hack saws, Cutlery, Springs
- SK4M** - Measuring tape, Razor blades, Pen points, Wind-up springs, Springs, Cutlery, Knitting needles
- SK5M/ SK5M MO** - Measuring tape, Gauges, Springs, Cutlery, Knitting needles, Clutch parts, Band saws for woodworking & lumbering, Round saws, Office equipment parts
- SK6M** - Washers, Clutch parts, Cutlery, Springs

Alloy Tool Steels

合金工具鋼

- SKS 5M** - Cutlery, Round saws, Band saws for woodworking and lumbering
- SKS 51M** - Cutlery, Round saws, Band saws for woodworking and lumbering

Ni-Cr-Mo Steels

镍铬钼合金鋼

- SNCM 220M** - Recliner, Automobile door

Carbon Steels

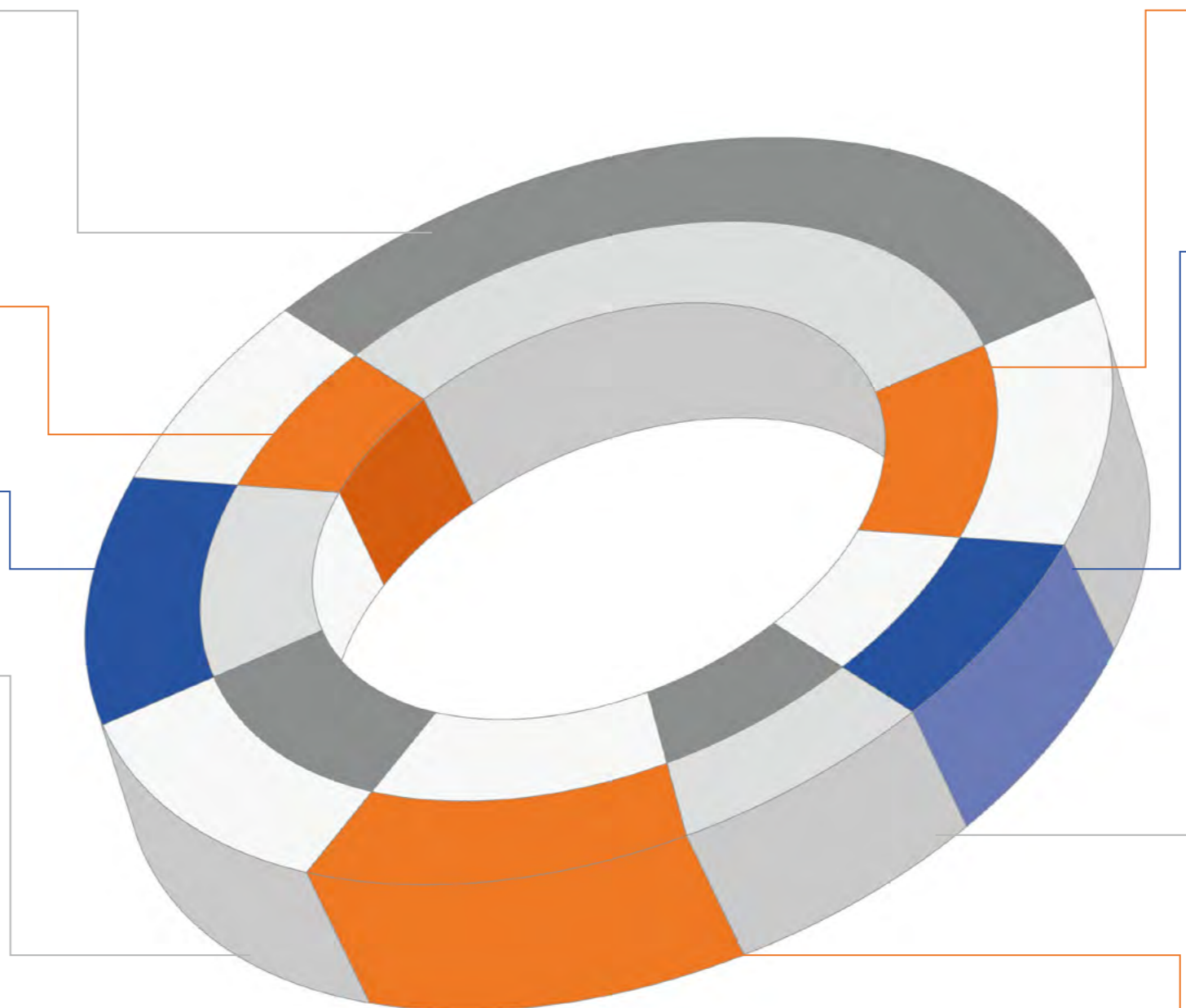
碳素鋼

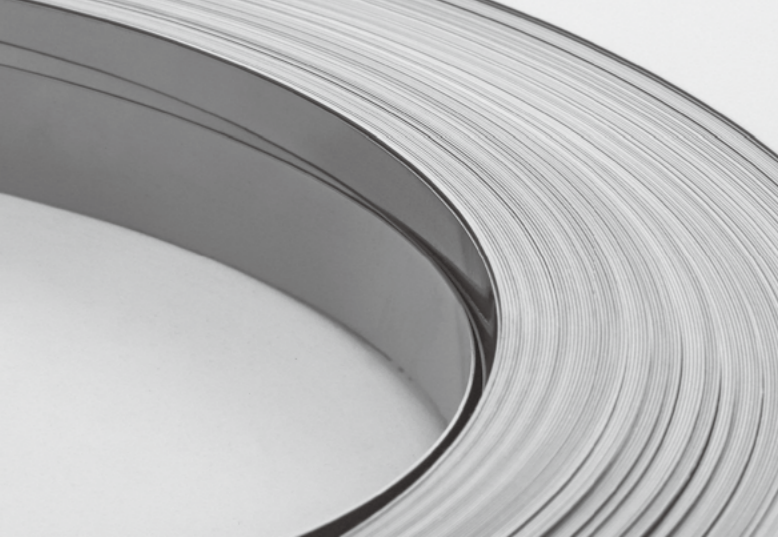
- S30CM** - Retainers
- S35CM** - Office equipment parts, Friction plates
- S45CM** - Clutch parts, Chain parts, Retainers, Washers
- S50CM** - Measuring tape, Structural parts of cameras, Chain parts, Springs, Clutch parts, Washers, Safety buckles
- S55CM** - Springs, Safety shoes, Can openers, Thompson blades, Structural parts of 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, Springs, Washers

Spring Steels

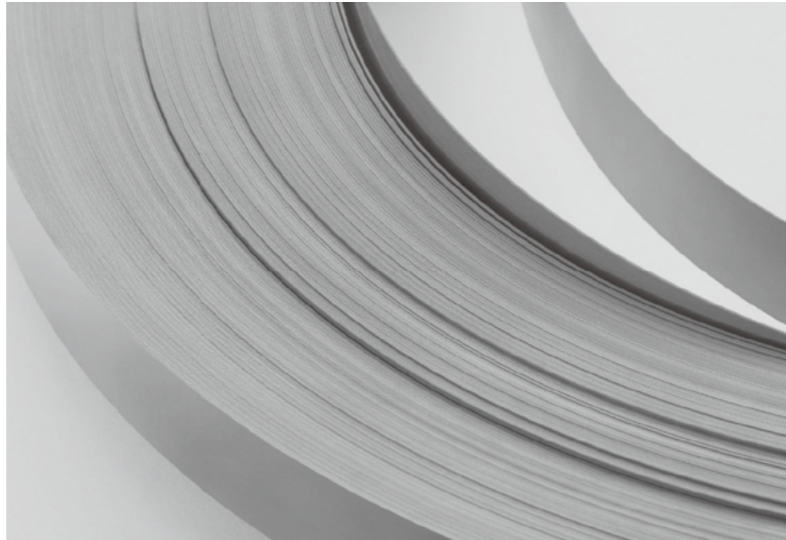
彈簧鋼

- SUP 10M** - Springs





PRODUCTS
产品



CLUTCH PARTS

- 58CrV4M
- 51CrV4M
- SNCM220M
- S50CM
- S35CM
- SCM435M
- SCM415M
- SPHC
- SCP1-1/2H-B



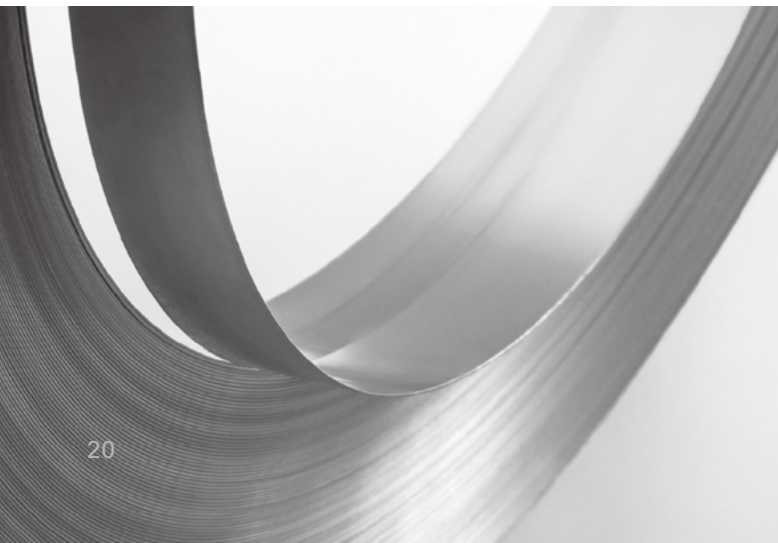
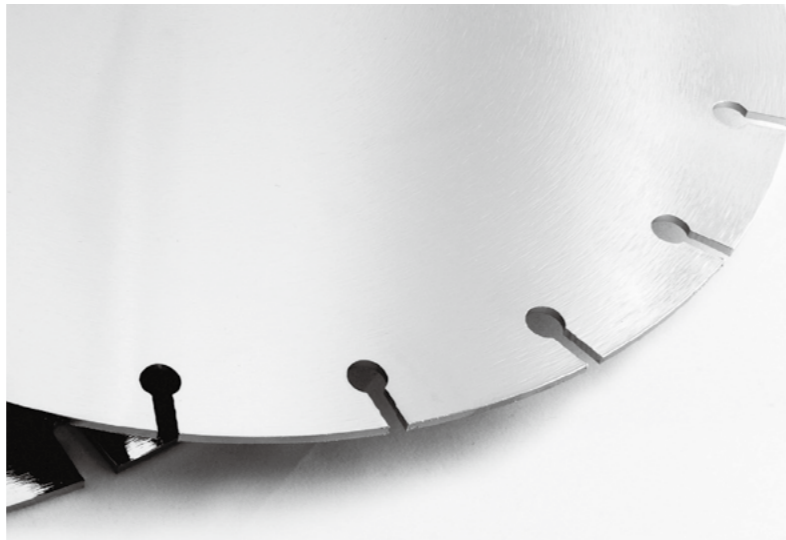
CLUTCH DIAPHRAGM

- S70CM
- SK85M



CLUTCH PEDAL

- SPFC540M
- SPFC590M
- SAPH440M

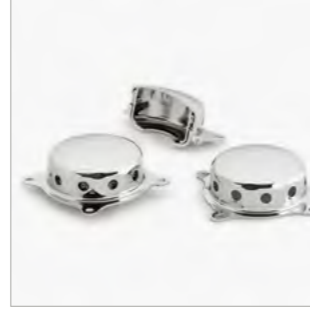


AUTOMOTIVE PARTS 汽车零部件 INTERIOR & EXTERIOR PARTS

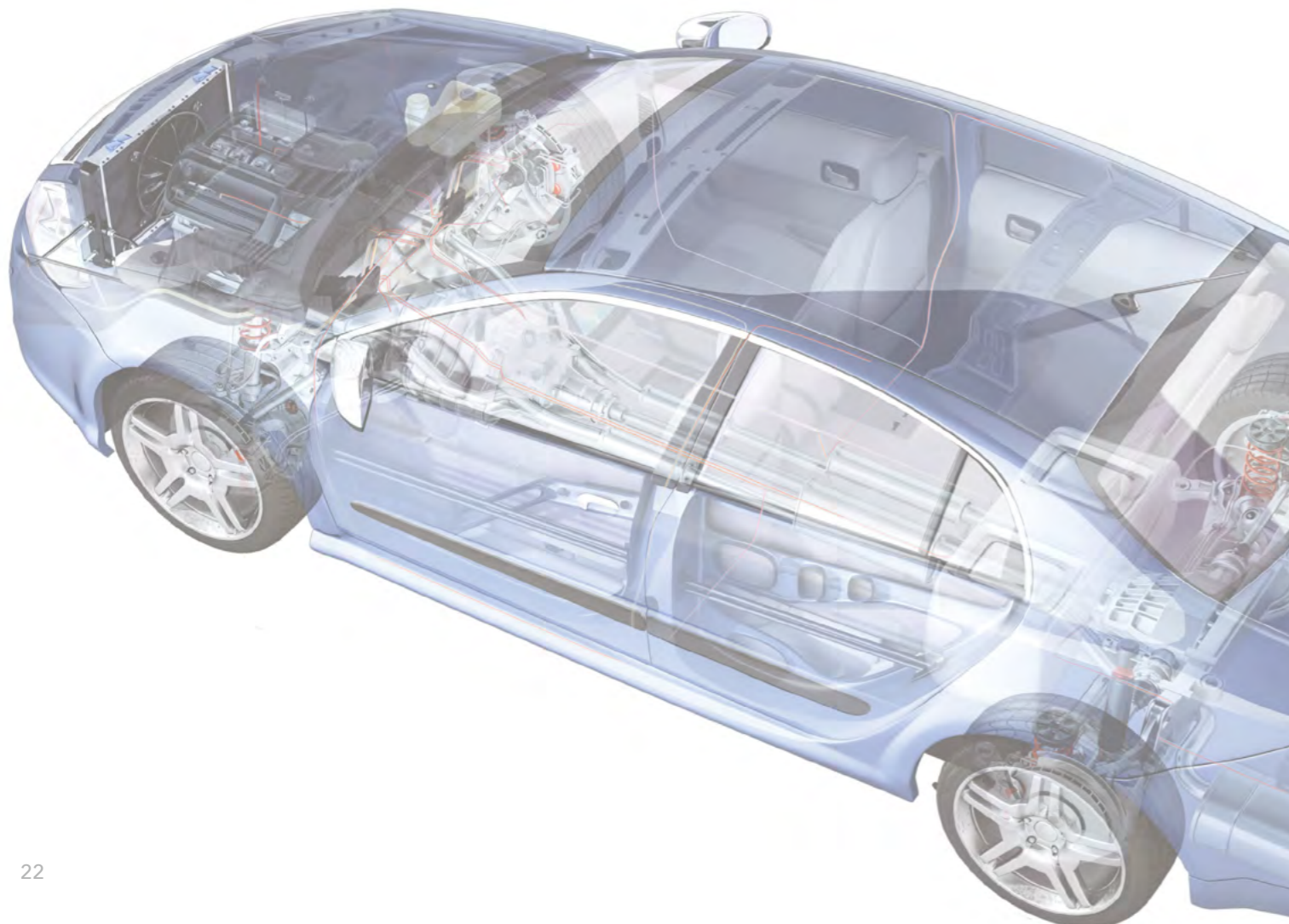
SEAT LATCH
SNCM 220M



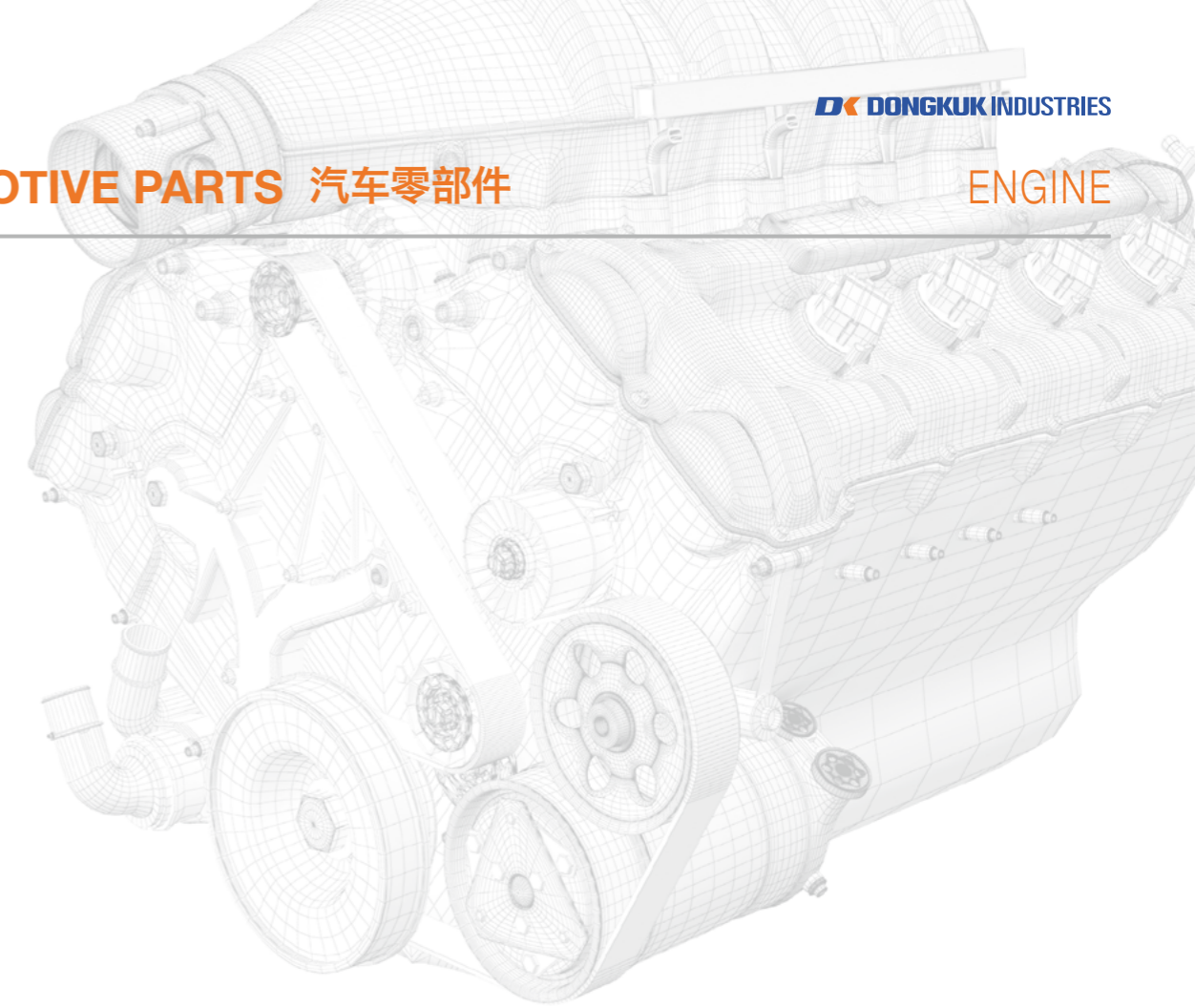
AIRBAG HOUSING
SPFC590M
SPFC540M
SPCD



DOOR LATCH
SCM435M
SCM415M
SNCM220M
S45CM



AUTOMOTIVE PARTS 汽车零部件 ENGINE



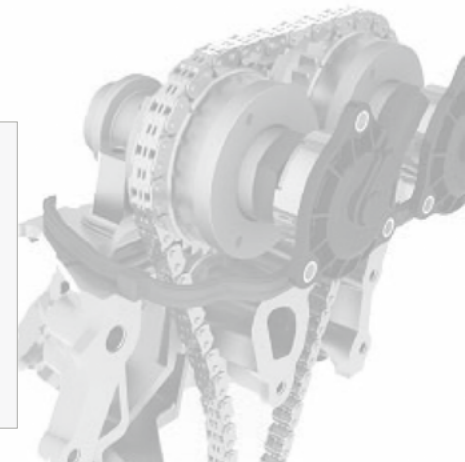
HOSE CLAMP
SK85M
S70CM
51CrV4M
SAE1074M
S60CM
S65CM



TORQUE CONVERTER
SAPH440
SPHC



TIMING CHAIN
SAE1070M
SAE1552M
SAE1050M
SAE1055M



AUTOMOTIVE PARTS 汽车零部件

TRANSMISSION



DRIVEN PLATE

SK85M
S55CM
S35CM



CLIP

SK85M
51CrV4M



DETENT SPRING

SK85M
51CrV4M



FRICTION PLATE

SAE1020M
S35CM
S45CM
SPCC-1B/2B



SEPARATE PLATE

SPCC-1B
SPCC-2B



CUSHION PLATE

SK85M



SNAP RING

SK85M
S50CM
S45CM



WASHERS

SK85M
S50CM
S45CM
S45CM
S65CM
S60CM
S70CM
SAE1074M



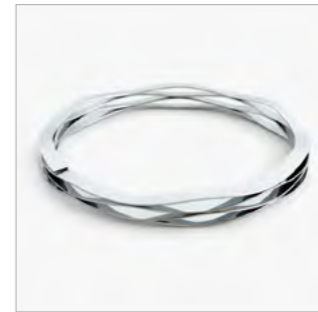
CLUSHER BLADE

SK85M
S50CM
S45CM



RETAINER RING

SK85M
SAE1070M
SAE1074M



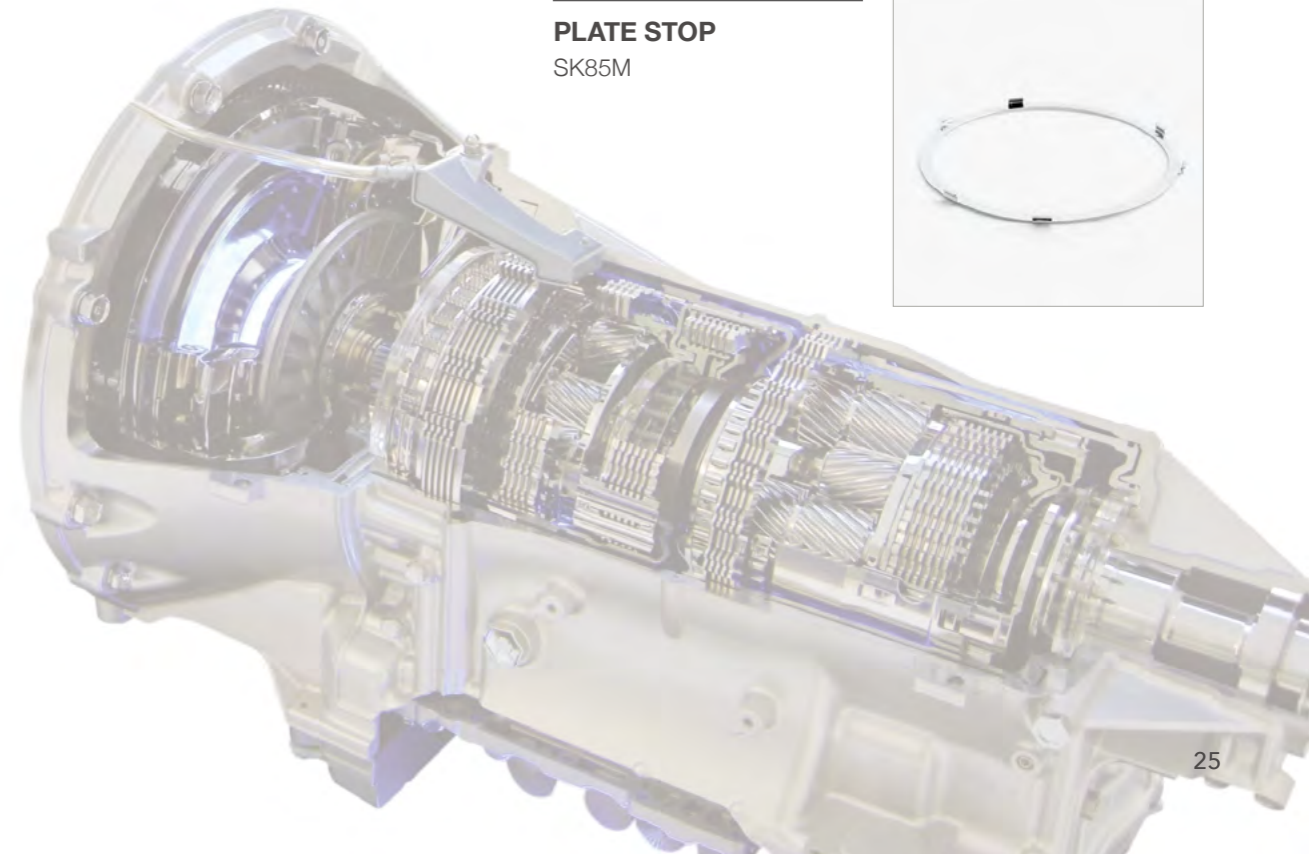
TRANSMISSION BAND

S35CM
S45CM



PLATE STOP

SK85M



AUTOMOTIVE PARTS 汽车零部件

SEAT BELT

SAFETY BELT CASE

S45CM
SPFC590M



SEAT BELT ADJUSTER

SCM430M
S55CM
SPFC780M
SPFC590M
AISI4140



TONGUE

S55CM
SAE1060M



SAFETY BELT ANCHOR & BRACKET

S45CM
S55CM



LOCK GEAR & LOCK PLATE

S45CM
S55CM



BUCKLE FRAME

SCM430M



SAFETY BELT BASE & BUCKLE

S55CM
SPFC590M
S50CM



SAFETY BELT SPRING

SK85M
SAE1078M



AUTOMOTIVE PARTS 汽车零部件

SEAT PARTS / SEAT RAIL

SEAT RECLINER

SNCM220M



**SEAT PARTS
UPPER TOOTH & LOWER TOOTH**

SNCM220M
SCM415M
S45CM
SCM435M



SEAT RAIL

SPFC590M



INDUSTRIAL PARTS 工业用产品

SHANK

SCM430M
SCM435M
SK85M



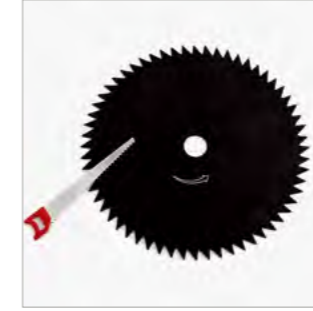
WEED KNIFE

SK85M
S70CM
SKS51M



SAW BLADE

SK95M
SK85M
SK105M



PRUNE SCISSORS

SK85M
S45CM



KNITTING NEEDLE

SK85M



HAND CUFFS

S10CM
S45CM



MACHETE

SAE1070M



SAFETY SHOES CAP

S50CM
S55CM
S70CM



MEASURING TAPE

SK85M
SK95M



CUTTER KNIFE

SK105M
SK85M
SK2Cr4M



NAIL CLIPPER

S15CM
SPC1-SB



CHAIN SAW

SAE8660M



COLD ROLLED HIGH CARBON & SPECIAL STEEL

CHEMICAL COMPOSITION

Classification	Symbol					
	KS	GB	JIS	DIN	EN	SAE/AISI
High Carbon Steel Strip JIS G 3311	S30CM	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	-	CS70	1070
	S75CM	-	S75CM	Ck75	CS80	1074
	S85CM	-	S85CM	-	-	-
Carbon Tool Steel Strip JIS G 3311	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 JIS G 3311	SKS2M	-	-	-	-	-
	SKS5M	-	SKS5M	-	-	-
	SKS7M	-	-	-	-	-
	SKS51M	-	SKS51M	-	-	-
Nickel Chromium Steel Strip JIS G 3311	SNC415M	-	SNC415M	-	-	-
Nickel Chromium Molybdenum Steel Strip JIS G 3311	SNCM220M	-	SNCM220M	-	805A20	8615
					805M20	8620
Manganese Steel Strip JIS G 3311	SMn420M	-	SMn420M	-	120M19	1527
					150M19	
	SMn433M	-	SMn433M	-	120M36	1536
					150M36	
Chromium Molybdenum Steel Strip JIS G 3311	SCM415M	15CrMo	SCM415M	15CrMo	1502-620	-
	-	-	-	16MnCr5M	-	-
	SCM420M	-	SCM420M	-	708M20	-
	SCM430M	-	SCM430M	-	708A30	4130
	SCM435M	35CrMo	SCM435M	34CrMo	708A37	4135
					709A37	
	SCN440M	-	SCN440M	42CrMo4	708A40	4140
709M40					4142	
Spring Steel Strip JIS G 3311	SUP10M	50CrV4	SUP10M	50CrV4	En47	6150
	-	51CrV4	-	51CrV4	-	-
	-	58CrV4	-	58CrV4	-	-
	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 Opener
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 Parts
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
0.17~0.23	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
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
0.14~0.16	0.10 Max	1.00~1.10	0.020 Max	0.005 Max	0.10 Max	0.10 Max	0.80~0.90	-	Engine Tappet
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,
0.47~0.55	0.40 Max	0.60~0.95	0.035 Max	0.035 Max	0.30 Max	-	0.80~1.10	-	Special Spring, etc
0.50~0.55	0.20~0.35	0.85~1.10	0.020 Max	0.010 Max	-	-	1.00~1.20	-	Special Spring, etc
0.55~0.62	0.15~0.40	0.70~1.1	0.025 Max	0.015 Max	-	-	0.90~1.20	-	Special Spring, etc
0.46~0.55	1.20~1.55	0.15~0.30	0.040 Max	0.050 Max	-	-	-	-	



FERRO-TUNGSTEN PRODUCTION PROCESS

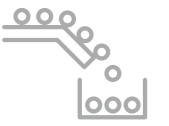
钨铁 生产过程



Drying Raw Materials



Mixing



Input Materials



Melting



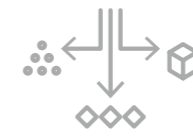
Separation of slag



Cooling



Shredding



Sorting



Packing





东国产业的钨部门主要旨在将韩国的钨铁产品商业化, 并通过不断的技术研究和原材料供应线的扩张确保生产竞争力, 以增加其在全球市场中的钨铁供应份额。

此外, 我们将继续进行制造和研究活动, 最终目标是制造用于高科技设备的高纯度钨粉。

此外, 东国产业将根据“OECD 负责任地从危险和冲突地区采购矿物的检查指南”供应原材料。

作为 TI-CMC 的成员, 我们遵守行为准则, 并根据责任矿产倡议的运营指南制定和实施内部政策。

Through intensive research and diversification of materials suppliers, DONGKUK INDUSTRIES aims to commercialize domestically produced Ferro-Tungsten. All research activities and manufacturing methods are studied to extent where DONGKUK INDUSTRIES will in future manufacture high quality Tungsten powders for advanced industries. Nonetheless, we are taking all measures to responsibly source minerals under OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. As TI-CMC Member, DONGKUK INDUSTRIES will adhere to guidelines set by TI-CMC and work under frameworks of Responsible Minerals Initiative.

什么是钨铁?

铁和钨的合金。特殊钢, 高速钢, 高强度钢等。作为关键添加剂, 用于制造军工和精密机械零件。

钨铁的主要用途

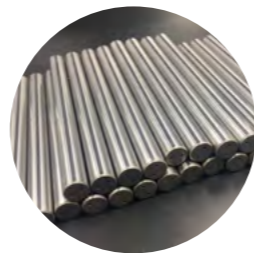
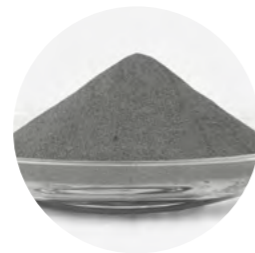
用作制造飞机, 航天器, 军用物资所用的高速钢, 耐磨钢等特种钢材的特殊组分添加剂。因此, 主要客户包括世界各地的特殊钢制造商。

What is Ferro-Tungsten?

As key additive to Special Steel making, Special Steel Makers will select fine Ferro-Tungsten to manufacture steels with high wear resistance, and heat resistance.

Usage of Ferro-Tungsten

As High Speed Steel Heat Resistant Steel, and Wear Resistant properties benefit manufacturers to use for military, aeronautics and other various special steel products. We aim to supply our finest Ferro-Tungsten to finest renowned steel makers of the world.



东国产业 钨事业部庆州工厂

庆尚北道庆州市川北面川北山团路2街116-24
电话: 82-54-271-0903

Our Tungsten Division - Gyeongju Plant

116-24, Cheonbuksandan-ro 2-gil, Cheonbuk-myeon, Gyeongju-si, Gyeongsangbuk-do, Republic of Korea
TEL. 82-54-271-0903

SPECIFICATIONS 规格

wt%	W	C	P	S	Co	Si	Mn	Sn	Cu	As	Sb	Mo	Al	size(mm)
EU (MMTA)	>75	<0.4	<0.06	<0.08	<0.5	<0.7	<0.6	<0.08	<0.15	<0.1	<0.05	<0.05	-	5 ~ 50
Japan (80C)	>75	<0.4	<0.05	<0.08	<0.5	<0.7	<0.5	<0.08	<0.15	<0.1	<0.05	<0.05	<0.2	3 ~ 30
Domestic	>75	<0.5	<0.06	<0.08	-	-	<1.0	-	-	-	-	-	-	5 ~ 50

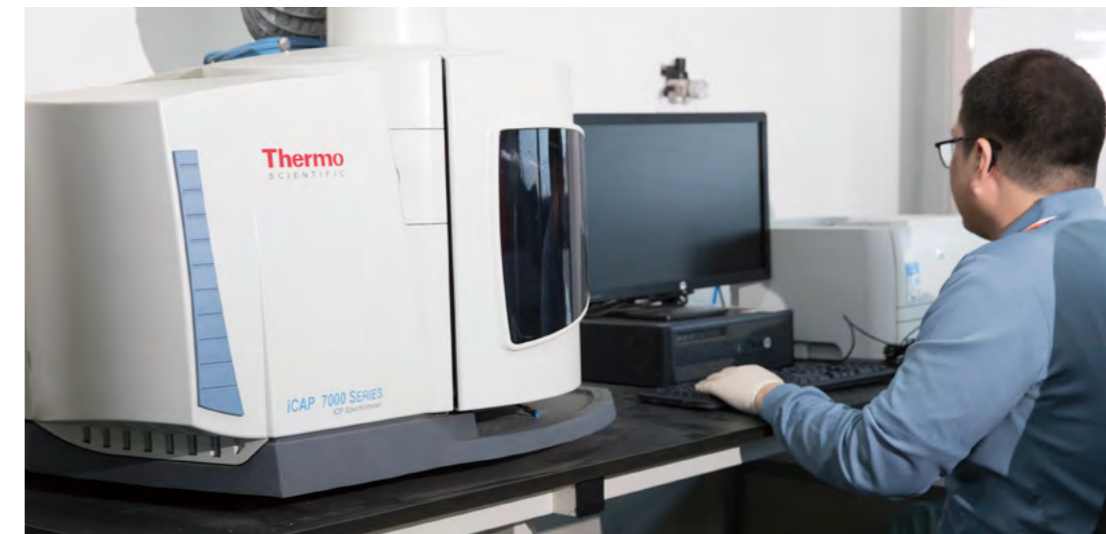


保有设备

熔化炉, 回收机, 搅拌机, 破碎机/分级机, 成分分析机, 研发用熔化炉

FACILITIES

Melting furnace, Recycling furnace, Combination machine, Crushing machine, Component analysis machine, Small melting furnace



DONGKUK R&S

东国 R&S 作为开创未来的新一轮机会, 通过企业合理化转型开拓了耐火物、精密陶瓷等专门领域, 为成为这一新行业的领导者而不断努力。

DongKuk R&S has speciality in refractory, fine ceramics as a new future opportunity of group. We are trying to do our best to be a leading company in the future.

主要事业
耐火产品, 精细陶瓷
总部
釜山广域市东莱区温泉场路107号路
10 惠媛大厦 4层
TEL +82-51-550-5050
金海工厂
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TEL +82-55-323-6589-90

Major business area
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Head office
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TEL 82-51-550-5011
Gimhae Factory
26-29, Sangdong-ro 375 beon-gil, Sangdong-myeon, Gimhae-si, Gyeongsangnam-do, Korea
TEL 82-55-323-6589-90



耐火物
- 炼铁、炼钢用耐火物: 酸性/中性/碱性
定型/不定型耐火物
- 焚化炉用耐火物: 定型/不定型耐火物
- 非铁金属用耐火物: 定型/不定型/特殊耐火物
精细陶瓷
- 氧化铝: 水/卫浴水龙头
- 高纯氧化铝坩埚
- 陶瓷管类

Refractories
- Refractories for iron & steel making : Acid / Neutral / Basic refractories, Shaped / Monolithic refractories
- Refractories for incinerator : Shaped / Monolithic refractories
- Refractories for Nonferrous metal furnace : Shaped / Monolithic / Special refractories

Fine Ceramics
- Water / sanitary faucets
- High purity alumina crucible
- Ceramic lining pipe & elbow



DONGKUK S&C

东国S&C,通过风力发电塔拓展事业, 积累了丰富的技术与经验, 凭借这些资源, 正向风力发电产业、新再生能源产业等领域发展。为应对高油价、环境污染、资源枯竭等问题, 各个国家积极采取措施构造可持续能源体系, 东国S&C将不断努力成为一个全球性环境友好型企业。

DongKuk S&C extends business segment from wind tower business to wind energy generation, new renewable energy business etc. We are trying to do our best to be a global eco- friendly company to establish sustainable energy system because of high oil price, environmental polution, resoruce exhaustion and supporting policy of government scale now.

主要事业
钢铁事业、建设事业、新再生能源事业
总部及工厂
庆尚北道浦港市南区大松路62号
TEL +82-54-285-4500

Business Area
Steel, Construction, New Renewable Energy
Head office & factory
62, Daesong-ro, Nam-gu, Pohang-si Gyeongsangbuk-do, Korea
TEL 82-54-285-4500



钢铁事业部门
钢铁事业物部门拥有配置自动化设备的5万坪规模的制作工厂, 并且通过以上累积下来的专项技术与美国钢结构协会 (AISC) 认证规格、美国电焊协会 (AWS) 认证规格等通过世界认证的品质, 每年生产6万吨以上的各种钢结构产品。

建设部门
建设部门 自1969年设立以来, 通过过去43年的海外工程、厂房、住宅、办公楼及各种土木工程的建设经验, 积累了丰富的业绩, 我们优秀的施工能力也受到了广泛的肯定。

新再生能源部门
东国S&C, 将全部技术力量和潜能集中投入到环保能源产业, 确保可替代能源领域的独自技术, 致力于发展成为在环保、新再生能源领域的最佳领导公司。为了实现这个目标, 东国S&C的新再生能源研究所在开发新技术及扩大环保事业领域的同时, 风力发电设备供应(EPC), 风力发电园区建设(WIND FARM DEVELOPMENT), 运营发电设备O&M, 太阳能发电工程等面向未来的美好挑战。

Steel Business
We have about 165,000m² factory site, 66,000 m² logistics site and supply about 60,000 MT of steel structures with 40 year know-how, quality is certified according to AISC,AWS etc.

Construction Business
Construction business has been 43 year's history since founded on 1969 in international construction, plant, housing, office facility and civil engineering etc and got recognized with excellent evaluation in construction.

New Renewable Energy Area
DongKuk S&C is trying to spend company our own abilities and potentiality which were acquired in alternative energy segment to be a eco-friendly company as our mission "World best leading company in eco-friendly, new renewable energy area". Our new renewable energy R&D section is developing new technology, extending business segment into EPC, Wind farm development, generating unit O&M business and solar energy generating business.



DK 同信, 为了实现从国内领先企业到世界领先PCM(Pre Coated Metal)专门企业的飞跃, 凭借坚强的意志和促进力不断地进行技术开发和人才培养来推动企业发展。

色泽亮丽具有多种图案和纹理样式及质地的半永久性建筑用内外装建筑用装置, 以及高品质多元化彩色钢板等。以实现世界级钢板涂装领域领先企业为目标, 致力于生产更高品质、更高满意度的产品。

DK 同信 has developed technology and employees to be a world best PCM(Pre Coated Metal) company with strong will, driving force. We offer interior and exterior construction and home appliance high quality materials with beautiful color, diverse pattern and texture to our customers. Our mission is to satisfy our customers with world best products, become a world best leading pre-coating metal company.

主要事业
 钢铁、建筑材料、海外贸易
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浦项工厂: 庆尚北道浦项市南区大松路154号
 TEL 82-54-288-0050

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 TEL 82-2-522-7870
Pohang Factory
 154 Daesong-ro, Nam-gu, Pohang-si
 Gyeongsangbuk-do, Korea
 TEL 82-54-288-0050



钢铁产业
 钢板领域的领导企业, 现代化生产流程和不断的研发来开创钢铁产业的美好未来

建筑材料领域
 基于广泛的技术和优良的经验, 专注于建筑材料及制品的生产, 在该领域不断开拓新的发展。

海外贸易领域
 卓越的产品竞争力作为基础, 在开阔海外市场方面处于领先地位, 通过出口货物的增加, 提高企业竞争力和稳定内销市场价格

Steel Industry
 DK 同信 will be a navigator in steel business as a leader with developed production process and advanced research & development.

Construction Materials
 We are leading construction industry trend with strong technical know-how, advanced construction materials, versatile new products etc.

Overseas Sales
 We are developing new customers in global market and have strong position in export, domestic markets.



Edited by Dongkuk Industries Co.,Ltd.
 Photography & Designed by Taiworks

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