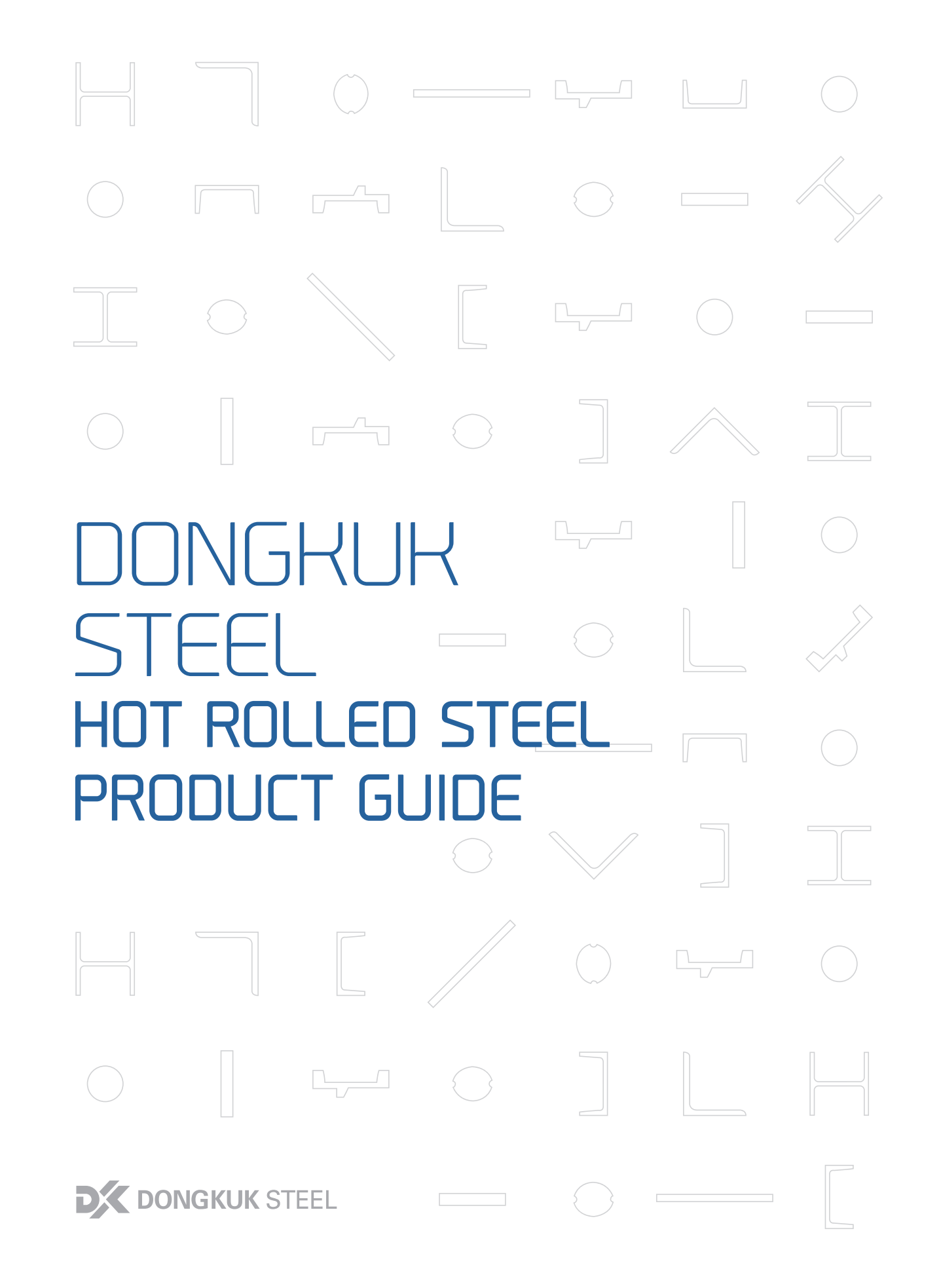




DONGKUK STEEL

HOT ROLLED STEEL PRODUCT GUIDE

철강을 다루지만 사려깊고 따뜻한 마음이 중요합니다.

제품생산에 열과 성을 다하지만

창조적인 사고와 끊임없는 연구개발이 중요합니다.

인간을 가장 먼저 생각하는 진정한 철인(Wise Man) 정신.

동국인들은 오늘도 긍지와 자부심으로 내일을 기약하고 있습니다.



MOVING FORWARD



대한민국의 성장과 발전에 힘을 더해진 동국제강.

동국제강이 철과 함께한 역사는 언제나 새로운 기록의 연속이었습니다.

업에 대한 열정과 실패를 두려워하지 않는 도전정신으로

동국제강은 앞으로 수많은 '처음'을 만들어 나가겠습니다.

Having contributed greatly to the growth and development of the nation,

The history of Dongkuk Steel has always been series of new records.

With passion for business and a spirit of challenge that does not fear failure,

Dongkuk Steel will continuously create numerous 'the FIRST' in the future.



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We Create Better Life with Steel

철로 다져가는 행복이 있습니다

약 70년 동안 대한민국 철강산업을 이끌어 온 동국제강이
이제 새로운 철강 백년대계를 만들어 갑니다.

1954년 창업 이후 오직 철강 한길만을 달려온 동국제강은 높은 기술력과 장인정신을 바탕으로
우수한 품질을 갖춘 '명품 철강'을 생산하고 있습니다.

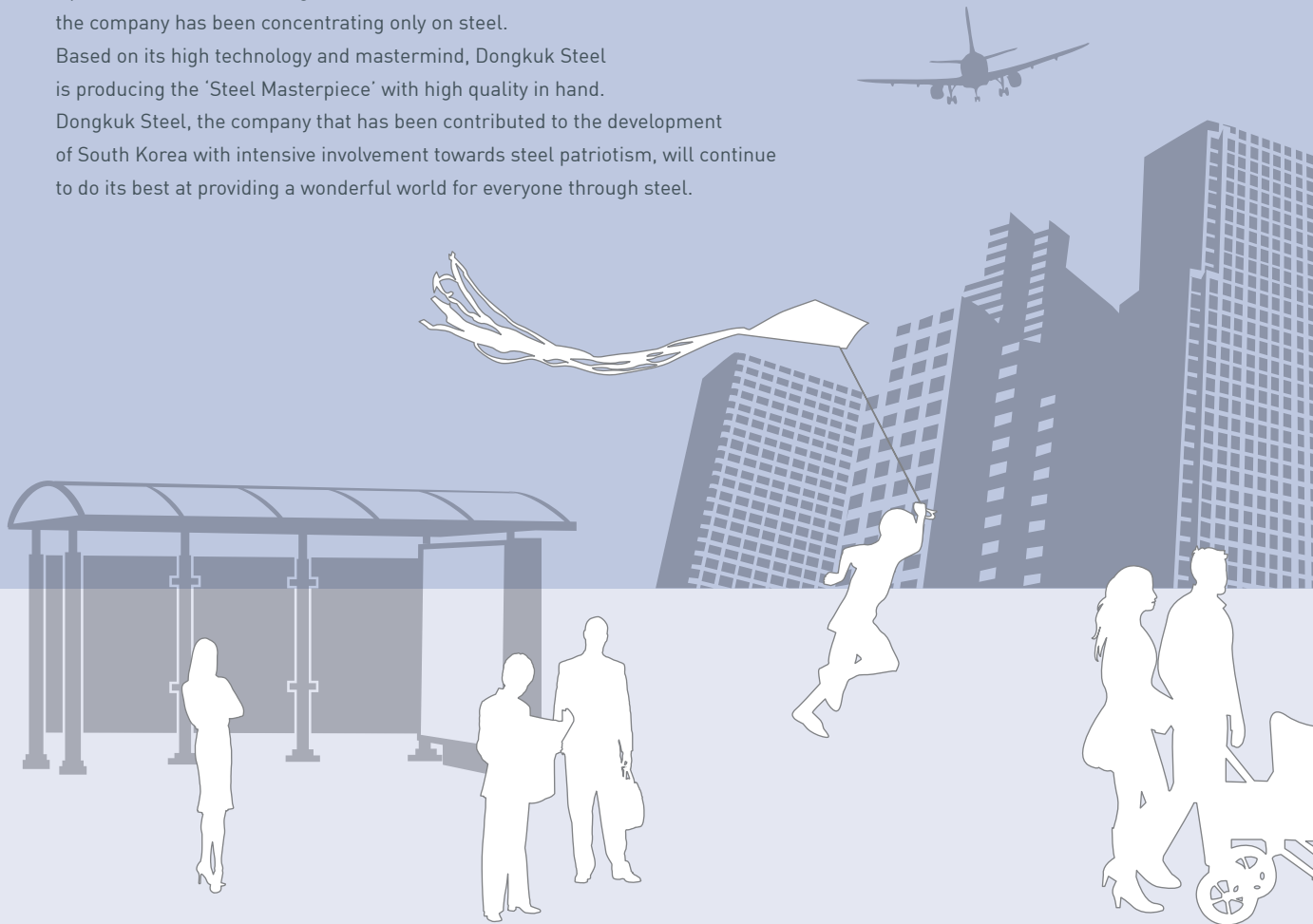
철강보국을 향한 집념으로 대한민국의 발전에 기여해 온 동국제강은 앞으로도 철을 통해
모두가 행복한 세상을 만들어가는 데 최선을 다하겠습니다.

**DONGKUK STEEL, A PIONEER IN STEEL INDUSTRY ABOUT 70 YEARS.
IS NOW CREATING A NEW FARSIGHTED STEEL BUSINESS.**

Upon establishment of Dongkuk Steel in 1954,
the company has been concentrating only on steel.

Based on its high technology and mastermind, Dongkuk Steel
is producing the 'Steel Masterpiece' with high quality in hand.

Dongkuk Steel, the company that has been contributed to the development
of South Korea with intensive involvement towards steel patriotism, will continue
to do its best at providing a wonderful world for everyone through steel.





Numbers

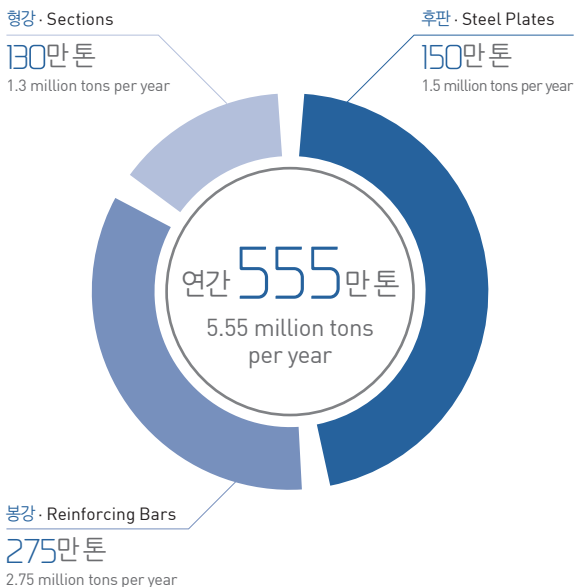
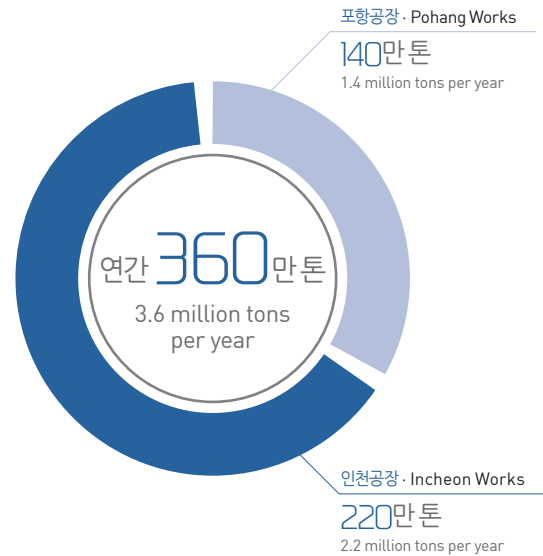
Capacities of Dongkuk Steel in numbers

동국제강의 역량, 숫자로 말하다

제강 생산량 · STEEL MAKING VOLUME

동국제강은 인천·포항공장의 전기로에서 연 360만톤의 쇳물을 생산합니다. 이 쇳물은 봉강과 형강의 반제품인 빌릿, 빔블랭크, 블룸으로 만들어집니다. 국내 최초 전기로 시대의 포문을 연 동국제강은 과감하고 지속적인 설비투자로 '명품 철강' 생산을 향한 도전을 이어가고 있습니다.

Dongkuk Steel produces 3.6 million tons of molten steel per year at the electric arc furnaces in Incheon and Pohang. This molten steel is made into billets, blooms and beam blanks, which are half finished goods for the production of reinforcing bars and sections. Being the first to operate electric arc furnaces in Korea, Dongkuk Steel continues to challenge itself, by producing the 'Best Steel Products' through decisive and consistent investment in machinery.



제품 생산량 · ROLLED PRODUCTS VOLUME

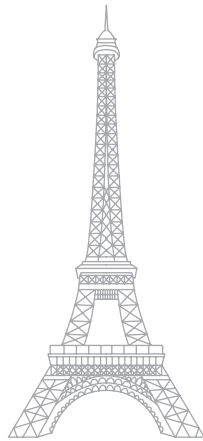
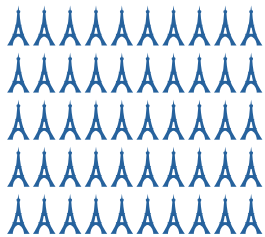
동국제강은 일반용을 비롯해 해양구조물에 쓰이는 고급 후판, 내진용 고급 봉형강 등 연 555만톤의 봉강, 형강, 후판을 생산하고 있습니다.

Dongkuk Steel produces 5.55 million tons of reinforcing bars, sections, steel plates per year. More specifically, structural steel for general use, high-class steel plates for marine structures, earthquake-resistant bar, and shaped steel.

제강 · STEEL MAKING

연간 360만 톤

3.6 million tons per year



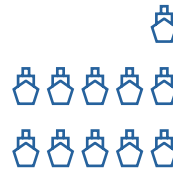
에펠탑 500개를 세울 수 있는 양

The amount equivalent to build 500 Eiffel Towers

후판 · STEEL PLATES

연간 150만 톤

1.5 million tons per year



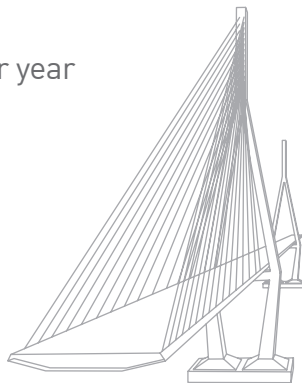
컨테이너선 110척을 건조할 수 있는 양

The amount equivalent to build 110 container ships

봉강 · REINFORCING BARS

연간 275만 톤

2.75 million tons per year



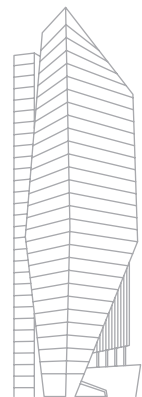
인천대교 22개를 건축할 수 있는 양

The amount equivalent to build 22 Incheon Bridge buildings

형강 · SECTIONS

연간 130만 톤

1.3 million tons per year



페럼타워급 빌딩 391개를 건축할 수 있는 양

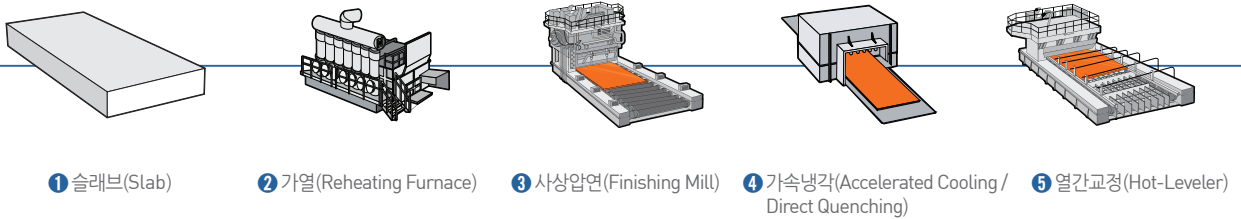
The amount equivalent to build 391 Ferrum Tower-class buildings

Process

State-of-the-art facilities to produce best products

최신 설비로 최고의 제품을 생산하다

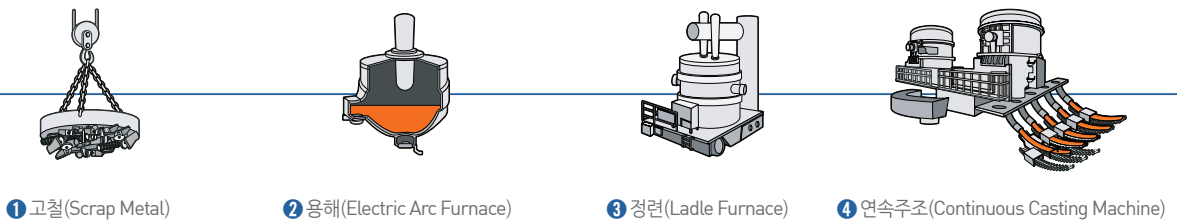
후판 · STEEL PLATES



동국제강의 주력제품 후판은 일반적으로 두께 6 mm 이상의 두꺼운 강판을 말하며, 슬래브를 원재료로 만듭니다. 주로 건축, 교량, 선박, 해양구조물 등으로 사용됩니다. 동국제강은 1971년 국내 최초로 후판을 생산했으며, 일반강에서부터 고장력, TMCP, 열처리, 해양구조물 등 고급강에 이르는 모든 제품을 생산하고 있습니다.

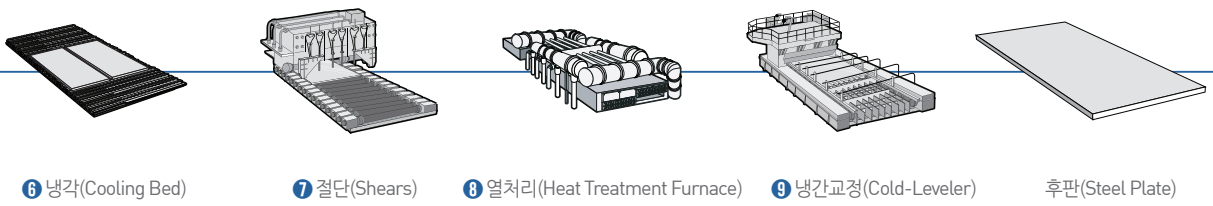
Steel plates, generally plates thicker than 6 mm, are Dongkuk Steel's anchor product, and use slabs as raw material. Steel plates are mainly used for construction, bridges, ships and marine structures, etc. Dongkuk Steel started the production of steel plates in 1971 for the first time in Korea and offers a wide range of steel plates from those for general use to high-quality products such as TMCP and Normalized for ship building and marine structures.

제강 / 연주 · STEEL MAKING / CASTING



동국제강은 직류 전기로와 트윈베셀(Twin Vessel) 전기로에 이어 친환경 에코아크(Eco-Arc)전기로를 국내 최초로 선보였습니다. 에코아크 전기로는 에너지 효율 극대화 및 이를 통한 온실가스 배출 저감효과에 초점을 맞춘 혁신적인 전기로 제강 공법으로, 기존 전기로 공법보다 에너지 사용량을 30% 줄일 수 있고, 투입되는 원료(철스크랩) 선택의 폭을 넓힐 수 있습니다.

After having installed and operated direct current electric arc furnaces and Twin Vessel electric arc furnaces, Dongkuk Steel introduced the environment-friendly Eco-Arc electric arc furnace for the first time in Korea. Designed to maximize energy efficiency and reduce greenhouse gas emission, the Eco-Arc is an innovative electric arc furnace wherein energy use can be reduced by 30% compared to conventional electric arc furnaces, and can also be charged with a wider range of raw materials (scrap metal).

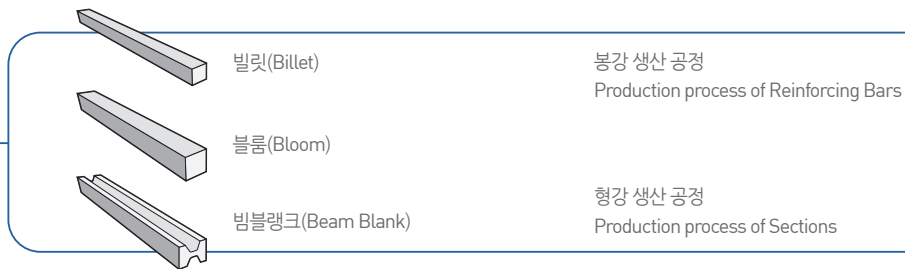


멀픽(Mulpic) : 멀픽(Mulpic)은 고급강재인 정밀제어 열가공처리(TMCP : Thermo Mechanical Control Process) 제품을 만들기 위한 설비입니다. 압연된 제품을 가속냉각(ACC : Accelerated Cooling)하거나 또는 직접담금질(DQ : Direct Quenching) 처리하여 보다 단단한 고품질 제품 생산이 가능합니다.

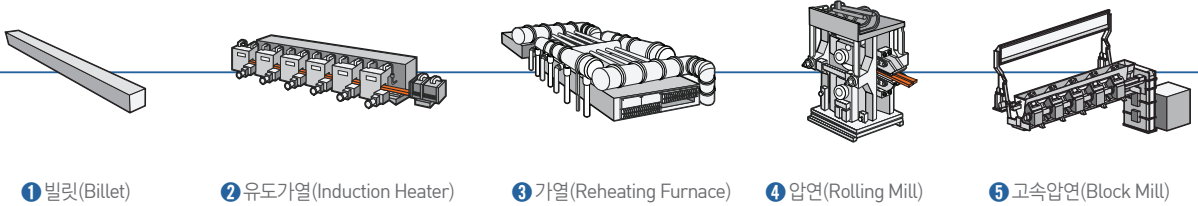
열처리로(Heat Treatment Furnace) : 열처리로(Heat Treatment Furnace)는 압력용기, 압력보일러용강재, 풍력 타워, API강재 등 고급열처리강재 생산을 위해 필요한 첨단 설비입니다.

Accelerated Cooling and Direct Quenching : The Mulpic is the facility required for producing Thermo Mechanical Control Process (TMCP) products. The production of higher-quality and more rigid products is possible through accelerated cooling (ACC) or direct quenching (DQ) of the rolled products.

Heat Treatment Furnace : The heat treatment furnace is the sophisticated facility required for producing high-quality heat treated products for pressure vessels, wind towers, and API steel plates.



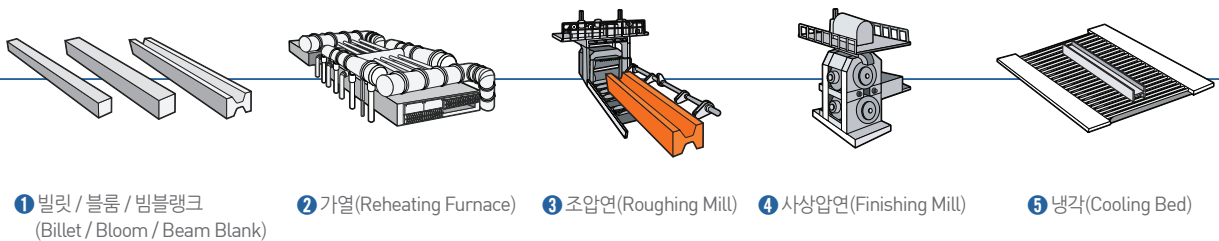
봉강 · REINFORCING BARS



봉강(철근 콘크리트용 봉강 또는 철근)은 콘크리트 부착력이 뛰어나 토목 및 건축구조용으로 수요처가 광범위한 제품입니다. 동국제강은 D 10mm에서 D 57mm까지 다양한 규격의 일반 및 고장력, 고충빌딩용 초고장력 봉강을 생산하고 있습니다. 국내 최초로 내진용 봉강의 KS 규격 인증을 취득하여 시장을 선도해 가고 있습니다.

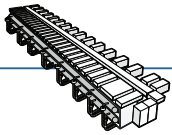
Since Bar steel(bar steel for concrete reinforcement or reinforcing bars) can be easily attached to concrete, it is widely used for civil works and construction. Dongkuk Steel produces bar steel with a variety of specifications ranging from D10mm up to D57mm for applications starting from general use to high-tensile bar steel, and ultra-tensile bar steel for sky scrapers. Dongkuk Steel is also leading the market by having successfully established KS(Korean Standards) specifications for earthquake-resistant bar steel for the first time in Korea.

형강 · SECTIONS



동국제강은 H형강을 비롯하여 ㄱ형강, ㄷ형강, 평강, 프로파일 등 다양한 형강 제품을 생산합니다. H형강은 건축물의 기둥, 보 및 교량 건설에 사용됩니다. 일반형강은 단면형상에 따라 ㄱ형강, ㄷ형강, 평강, 프로파일 등이 있으며 선박, 철탑 및 기계 등의 부자재로 널리 쓰입니다.

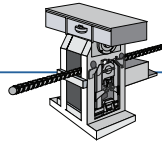
Dongkuk Steel produces many different types of sections such as H-beams, Equal and Unequal Angles, Channels, Flat Bars, Profiles, etc. H beams are used for columns and beams of buildings and bridges. General Sections include Equal and Unequal Angles, Channels, Flat Bars and profiles, and are used widely as subsidiary materials for ship building, transmission towers, and machinery.



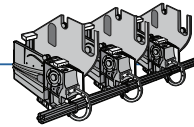
6 수냉(Water Quenching Line)



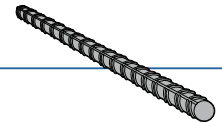
7 냉각(Cooling Bed)



8 절단(Cold Shear)



9 결속(Binding Machine)



봉강(Reinforcing Bar)



인덕션히터(Induction Heater) : 빌릿이 가열로에 들어가기 전 예열하는 설비입니다. 빌릿 온도를 500℃로 올려주며 Hot Charge시에는 생략됩니다.

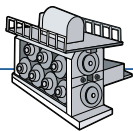
블락밀(Block Mill) : 블락밀은 슬릿라인에서 빠르게 움직이는 봉강(10, 13, 16, 19mm)을 고속 압연하는 설비입니다.

트윈채널(Twin Channel) : 봉강을 냉각상 위에 정확히 안착시키는 설비로 주로 소형봉강 생산에 사용됩니다. 국내에서는 동국제강이 최초 도입한 설비로 제품의 품질향상에 큰 역할을 합니다.

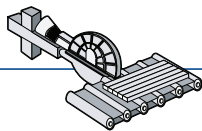
Induction Heater : The equipment in which billets are preheated before being loaded into the reheating furnace. The billets are heated up to 500℃. This step is skipped for hot charged.

Block Mill : The equipment for high-speed rolling of bar steel(10, 13, 16, 19mm) that are rolled at high speed.

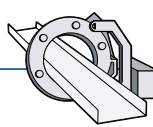
Twin Channel : The equipment that precisely places bars on the cooling bed and is mainly used for the production of small diameter bars. The equipment was introduced by Dongkuk Steel for the first time in Korea, and helps improving the quality of the product.



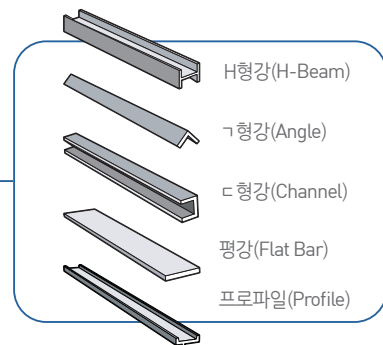
6 교정(Roller Straightner)



7 절단(Cold Saw)



8 결속(Binding Machine)



스탠드드 익스체인지(Standard Exchange) : 동국제강은 워킹빔 방식의 가열로와 조압연 · 사상압연 등 2개의 압연공정을 채택, 압연기술을 최적화 했습니다. 특히 회전속도가 각기 다른 직렬방식의 텐덤밀(Tandem Mill)과 롤(Roll) 교체시간을 최소화하기 위해 국내 최초로 스탠드드 익스체인지 방식을 도입, 생산효율을 극대화하고 다품종, 다규격 제품생산의 기틀을 마련했습니다.

Standard Exchange : Dongkuk Steel has installed a walking beam type reheating furnace, and optimized the rolling process by dividing it into roughing and finishing rolling. The finishing rolling mill is a Tandem type mill which is installed with the Standard Exchange method for the first time in Korea to minimize roll change time. Due to this method Dongkuk Steel could maximize its productivity and manufacture a variety of products with different sizes and specifications with one Section Mill.

Network

Mecca of Korea's steel industry, producing premium products

프리미엄 제품을 생산하는 한국 철강산업의 메카

본사 · HEAD OFFICE



미래를 향한 자신감, 페럼타워

페럼타워는 국내 최초 민간철강기업인 동국제강의 자부심과 글로벌 철강메이커로의 성장을 상징합니다. 페럼타워는 지상 28층, 지하 6층으로 초고속 정보 통신, 빌딩 자동화가 도입된 최첨단 인텔리전트 빌딩입니다. 웅장하고 세련된 건물 외관과 함께 건물 내부에는 사람중심의 따뜻한 이미지를 구현하고 있습니다. 'Ferrum'은 라틴어로 '철(Ferro)'을 의미하는 자연어이자 화학기호 'Fe(Iron)'의 어원이며, 접두어 'Fer'은 '강함' '불꽃'을 의미합니다. 동국제강 임직원들은 '변화와 성장'의 구심점 페럼타워에서 열정을 다해 더 큰 꿈을 향한 힘찬 도약을 준비합니다.

Ferrum Tower: representing self-confidence toward the future

Ferrum Tower symbolizes the pride of Dongkuk Steel, the first private steel company in Korea, and its ambition to grow to a global steel company. Rising 28 stories above the ground(6 basement floors), Ferrum Tower is a sophisticated intelligent building wherein high-speed information and technology systems and a fully automatic building management system have been installed. Along with the splendid, polished outside look of the building, a warm people-oriented image is perfectly embodied in the inside the building. Ferrum' is a natural language meaning 'iron(Ferro)' in Latin; it is also the origin of the chemical symbol 'Fe (Iron)'; the prefix 'Fer' means 'strong' or 'flame.' The employees of Dongkuk Steel are making preparations for a strong take-off toward a bigger dream with passion and energy with Ferrum Tower, the central point of 'change and growth.'

최첨단 인텔리전트 빌딩

- 총 연면적 55,700㎡
- 동국제강 CI를 조형적으로 형상화
- 페럼타워 앞에 세워진 철 조형물 37.5도 ARC, 프랑스 출신 세계적인 조형작가 베르나르 브네 작품

State-of-the-art intelligent building

- Gross floor area : 55,700㎡
- The CI of Dongkuk Steel has been formatively embodied.
- 37.5-degree ARC, the iron sculpture in front of Ferrum Tower, done by world-renowned French sculptor Bernar Venet

포항공장 · POHANG WORKS



전통과 기술력이 집중한 생산기지

포항공장은 철강 생산 노하우와 기술력이 결집된 세계적인 철강 생산기지입니다.

1997년 형강공장, 1999년 봉강공장을 차례로 준공, 동국제강의 제2창업 시대를 열고 지속적인 설비 합리화, 최신 기술력 도입 및 개발 등 신속한 변화를 추구하고 있습니다. 포항공장의 제강공장은 국내 최초로 트윈베셀 타입 전기로를 도입했으며, 형강공장은 Tandem 방식의 단일 공장으로서 세계 최대 수준의 형강 생산가능 규격을 보유하고 있습니다. 봉강공장은 연속 압연설비(Ebros)를 통해 최대단중 3.5톤 / 최대길이 6,250m의 코일철근과 일반철근을 생산하고 있습니다.

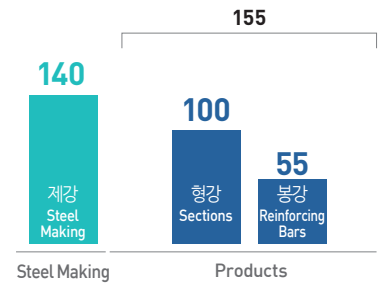
A production base with traditional and technology

Pohang Works is a world-class steel production base boasting of steel production know-how and technological power.

With the completion of the section mill in 1997, the reinforcing bar mill in 1999, it opened the era of the second foundation, it is pursuing speedy changes such as optimization of equipment, introduction and development of state-of-the-art technology, etc. The twin vessel-type electric arc furnace in Pohang was the first one to be introduced in Korea; the section mill has the largest available range of production among the tandem-type section mills in the world. The reinforcing bar mill is equipped with continuous rolling process(Ebros), producing a bar-in-coil with maximum unit weight 3.5mt, maximum length 6,250m as well as a normal reinforcing bar.

연간생산능력 Annual Production Capacity

(단위: 만톤, unit: 10,000 tons)



동국제강 제2창업의 메카

- 총 연면적 837,860㎡
- 조강생산 연간 140만톤, 제품생산 연간 155만톤
- 형강(H형강, C형강, 무늬H형강, 압연 강널말뚝), 봉강(직선, 코일철근)

The Mecca of the second foundation of Dongkuk Steel

- Gross floor area : 837,860㎡
- Annual steelmaking capacity of 1.4 million tons, annual production capacity of 1.55 million tons for steel products
- Section steel(H Beam, Channels, Angles, Sheet piles), Reinforcing bar(Bar-in-coil, Normal reinforcing bar)

인천공장 · INCHEON WORKS



친환경 설비 갖춘 봉강 전문 생산공장

동국제강 제2의 생산기지 인천공장은 봉강 전문 공장입니다.

1993년 국내 최초로 100만 톤급의 직류전기로 제강법을 도입한데 이어 제강단위 생산량 부문 세계 최대 기록을 수립한 역사를 가진 공장입니다. 2010년 10월에는 국내 최초로 에코아크(Eco-Arc) 전기로를 도입, 에너지 효율을 높이고 환경오염을 줄이는 등 친환경 사업장의 역사를 이어가고 있습니다. 2012년 6월에는 신규 압연공장을 완공하여 최고의 경쟁력을 갖춘 봉강 전문 생산공장으로 거듭났습니다. 인천공장은 오랜 경험과 기술력이 집약된 친환경 철강기지로 도약하고 있습니다.

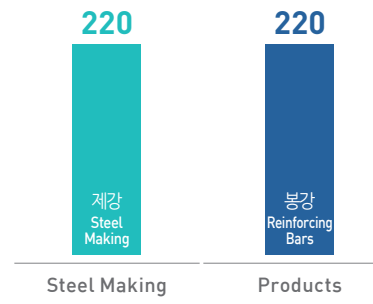
Specialized in reinforcing bar production with environment-friendly equipment

Dongkuk Steel's second production base, Incheon Works, specializes in reinforcing bar production.

Aside from having introduced the 1 million ton-class direct current electric arc furnace in 1993 for the first time in Korea, it also holds the highest record in terms of unit production volume of steelmaking. Its tradition as an environment-friendly business site includes the improvement of energy efficiency and reduction of environmental pollution, is continued with the introduction of Eco-Arc electric arc furnace in October 2010 for the first time in Korea. It was reborn as a manufacturing plant for reinforcing bars with the best competitiveness when the new rolling plant was completed in June 2012. Incheon Works is trying to become an environment-friendly steel production base boasting rich experience and technological power.

연간생산능력 Annual Production Capacity

(단위: 만 톤, unit: 10,000 tons)



최초의 정신을 잇는 제2생산기지

- 총 연면적 277,687㎡
- 조강생산 연간 220만 톤, 제품생산 연간 220만 톤
- 봉강

Second production base inheriting the pioneering spirit

- Gross floor area : 277,687㎡
- Annual steel making 2.2 million tons, Annual production capacity of 2.2 million tons for steel products
- Reinforcing bars

당진공장 · DANGJIN WORKS



최고급 후판 생산공장

2010년 준공한 당진공장은 일반 후판은 물론 특수선과 해양구조물, 초대형 선박 등에 사용되는 고급강까지 모든 제품을 생산합니다. 고급강 생산비중이 높은 만큼 당진공장은 정보기술(IT)과 철강 기술이 결합된 첨단 시설로 구성되어 있습니다. 1.2km에 이르는 생산라인은 원재료인 슬래브 가열부터 압연, 절단에 이르기까지 전 과정이 컴퓨터로 통제됩니다. 당진공장에는 원자재 및 반제품이 어디에 어떤 형태로 있는지 실시간으로 파악할 수 있는 첨단 물류시스템 'RTL(Real Time Location System)'을 적용했습니다. 또 슬래브를 1200℃까지 달군 상태에서 정확한 온도와 압력으로 수차례 압연을 반복한 뒤 이를 적절히 시점에 냉각시켜 고강도의 TMCP 후판을 만드는 '정밀 제어 시스템'도 갖추고 있습니다. 더 강하고 안전한 선박, 구조물을 위해 최고급 후판을 생산하는 당진공장은 글로벌 생산체제의 주역이 될 것입니다.

Top quality steel plate production plant

Completed in 2010, Dangjin Works is producing a wide variety of steel plates ranging from general use to high-class used for special ship, marine structures, and ultra-large ship building. With high-class steel products making up a larger portion of its portfolio, Dangjin Works is equipped with sophisticated facilities combined with advanced information technology and steel technology. The 1.2km production line is fully controlled by a computer network which controls every process from slab heating to rolling and cutting processes. It has also adopted the Real-Time Location System (RTL) to locate and check the status of raw materials and semi-finished products in real time. In addition, the plant operates a 'precision control system' to manufacture high-strength TMCP steel plates by continuously rolling slabs which are heated up to 1200℃, and then cooling them rapidly at precisely calculated temperatures to improve their physical properties. Producing the best-quality steel plates for stronger, safer ships and structures, Dangjin Works will play a leading role in the global production system.

연간생산능력 Annual Production Capacity

(단위: 만톤, unit: 10,000 tons)

150

후판
Steel
Plates

Products

후판 시장의 고급화 · 차별화 위한 전략 생산기지

- 총 연면적 687,600㎡
- 제품생산 연간 150만 톤
- 후판(고장력강과 광폭 조선용 후판, TMCP 후판, 열처리재 후판 등 고급 후판)

Strategic production base for top quality steel plate production

- Gross floor area : 687,600㎡
- Annual production capacity of 1.5 million tons
- Steel plates (high-tensile strength steel and wide steel plates for shipbuilding, TMCP steel plates, and heat-treated steel plates)

신평공장 · SINPYEONG WORKS



고객 맞춤, 다품종 중소형 형강 생산

1963년 부산 용호동에서 대규모 공장을 가동하던 동국제강은 1998년 주력공장을 포항으로 이전하면서 부산 신평동의 철근공장을 인수했습니다. 현재의 신평공장은 고부가 중소형 형강제품 개발에 주력하며 다품종 소량 맞춤 생산 전문 공장으로서 탈바꿈했습니다. 신평공장은 동국제강의 장인

정신과 열정을 느낄 수 있는 작지만 강한 공장으로, 기업의 전통과 자부심의 역사가 담겨있습니다.

Customized production for small and medium sections

Dongkuk Steel has been operating a large scale steel works in Yongho-dong, Busan since 1963. However, when Dongkuk Steel relocated its primary production plant to Pohang, it acquired a reinforcing bar mill in Shinpyeong-dong, Busan. The plant in Shinpyeong-dong started its operation with the production of 3,000 tons of reinforcing bars in January 1999, and now mainly produces small sections. The current Busan Works concentrates on developing high value-added, small and medium sections after its transformation into a customized product production plant. Sinpyeong Works is a small yet strong plant embodying the craftsmanship and passion of Dongkuk Steel and mirroring its tradition and pride.

중앙기술연구소 · R&D CENTER



기술력과 전문성 통한 세계화

동국제강 중앙기술연구소는 2005년 설립되어, 고기능·고품질 제품 개발과 친환경 공정기술 개발에 주력하고 있습니다. 중앙기술연구소는 현재 전 세계 철강분야의 지식과 정보를 집약하고 제품 개발, 신기술 창출을 위한 연구개발에 박차를 가하며 동국제강의 경쟁력을 강화해 나가고 있습니다. 글로벌

무한 경쟁시대를 향한 동국제강의 목표는 바로 '기술력'과 '세계화'입니다. 세계를 주도하는 최고의 기술력을 갖추기 위해 중앙기술연구소가 중추적인 역할을 담당합니다.

Globalization through technological power and expertise

The R&D Center was established in 2005 and has been concentrating on the development of high quality products as well as environment-friendly production process. The R&D Center is trying to further improve the competitiveness of Dongkuk Steel while collecting knowledge and information of steel sectors from all over the world and running a robust research program for product development and creation of new technologies. Dongkuk Steel is pursuing 'technological power' and 'globalization' while challenging the global competition. The R&D Center is playing a pivotal role to equip the company with top-tier technologies that can lead the global market.

연간생산능력 Annual Production Capacity

(단위: 만톤, unit: 10,000 tons)

30



Products

전통과 자부심의 뿌리, 끊임없이 변화하는 공장

- 총 연면적 18,694㎡
- 제품생산량 연간 30만 톤
- ㄱ 형강, ㄷ 형강, 원형강, 평강, 프로파일

The root of tradition and pride, the constantly evolving plant

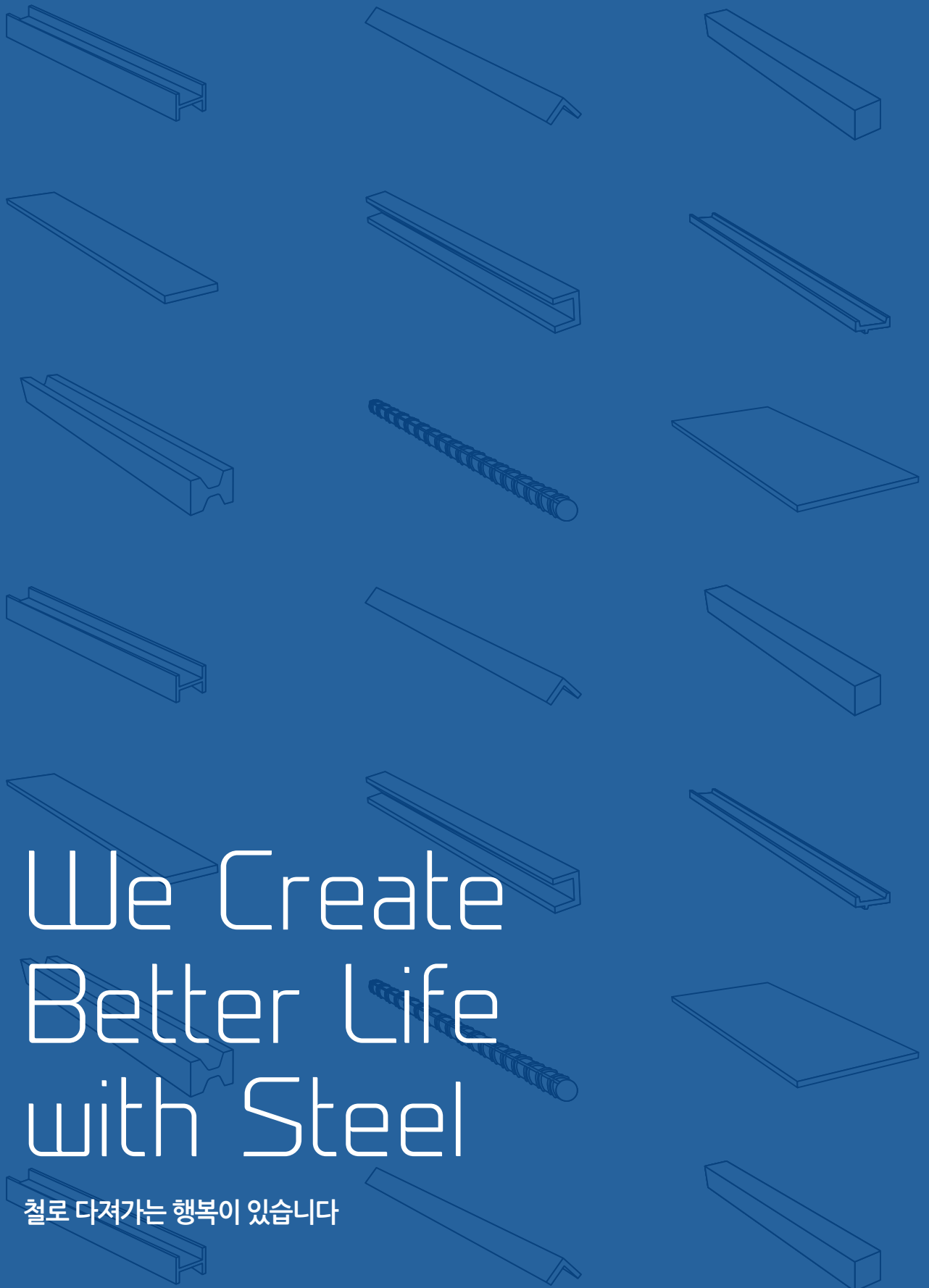
- Gross floor area : 18,694㎡
- Annual production of 300,000 tons
- Angles, Channels, Round Bar, Flat bars, Profile

원천기술개발로 부가가치제고

- 총 연면적 12,903㎡
- 연구동, 제1, 2실험동 등 3개동
- 고강도 고기능 제품 개발 (TMCP/API)
- 친환경 공정기술 개발 (Eco-Arc 등)
- 1등 제품 1등기술 도전 (내진, 원자력 봉강)
- 고객 지향적 R&D (조선사 EVI)

Enhanced value through the development of source technology

- Gross floor area : 12,903㎡
- Three buildings (Research building, Lab building 1, Lab building 2)
- Development of high-strength, and highly functional products (TMCP/API)
- Development of environment-friendly process technology (Eco-Arc, etc.)
- Development of world first-class products and technologies (earthquake-resistant, reinforcing bars for nuclear power plant)
- Customer-oriented R&D (shipbuilding company EVI)



We Create
Better Life
with Steel

철로 다져가는 행복이 있습니다

01 | 품질인증 현황

CERTIFICATE

● KS 인증

규격 Standards	규격명 Name of Standards	인증번호 Certificate No.	제품 Products	강종 Grade	사업장 Mill	인증일자 Date of Certificate
KS D 3503	일반구조용 압연강재 Rolled Steels for General Structure	9404	등변 ㄱ형강 Angles	SS275, SS315, SS410	포항공장 Pohang Works	1992.10.16
			H형강 H-Beams	SS275, SS315		
			ㄷ형강 Channels	SS275		
			평강 Flat Bars	SS275, SS315		
		96-01-012	등변 ㄱ형강, 원형강, 평강, ㄷ형강 Angles, Round Bars, Flat Bars, Channels	SS275	신평공장 Sinpyeong Works	1999.08.28
		10-0066	강판 Plates	SS275, SS315	당진공장 Dangjin Works	2010.02.10
KS D 3504	철근 콘크리트용 봉강 Deformed Bars for Concrete Reinforcement	380	이형봉강 Deformed Bars	SD300, SD400, SD500, SD600, SD700, SD400S, SD500S, SD600S, SD400W, SD500W	포항공장 Pohang Works	1968.12.26
		1372		SD300, SD400, SD500, SD600 SD400S, SD500S, SD600S SD400W, SD500W	인천공장 Incheon Works	1976.12.24
KS D 3515	용접구조용 압연강재 Rolled Steels for Welded Structures	9405	등변 ㄱ형강, 평강 Angles, Flat Bars	SM275A-B, SM355A-B	포항공장 Pohang Works	1992.10.16
			ㄷ형강 Channels	SM355A-B		
			H형강 H-Beams	SM275A-B, SM355A-B·C, SM420B·C, SM460B		
			무늬H형강 Embossed H-sections	SM275A		
		10-0067	강판 Plates	SM275A/B/C/D SM355A/B/C/D SM420A/B/C/D SM460B/C	당진공장 Dangjin Works	2010.02.10
KS D 3861	건축구조용 압연강재 Rolled Steels for Building Structure	21-0346	강판 Plates	SN275A/B/C, SN355B/C	당진공장 Dangjin Works	2021.10.13
KS D 3866	건축구조용 열간압연형강 Hot rolled steel sections for building structure	09-0400	형강 Sections	SHN275, SHN355, SHN420, SHN460	포항공장 Pohang Works	2010.04.07
KS D 3868	교량구조용 압연강재 Rolled Steels for Bridge Structures	10-0253	강판 Plates	HSB380, HSB380L HSB460, HSB460L	당진공장 Dangjin Works	2010.05.04
KS F 4603	H형강 말뚝 Steel H piles	16-0126	H형강 H-Beams	SHP275, SHP275W, SHP355W	포항공장 Pohang Works	2016.02.17
KS F 4604	열간 압연 강널말뚝 Hot rolled steel sheet piles	21-0134	-	SY300, SY400, SY300W, SY400W		2021.04.28

● CE 마크 인증 (CPD, PED)

규격 Standards	인증범위 Scope of Certificate	인증번호 Certificate No.	제품 Products	강종 Grade	사업장 Mill	인증일자 Date of Certificate
CPR	열간 압연 구조용강 Hot Rolled Products of Structural Steels	0035-CPR-A251	H형강, 등변 ㄱ형강, ㄷ형강 H-Beams, Angles, Channels	S235JR, S235JO, S275JR, S275JO, S355JR, S355JO	포항공장 Pohang Works	2006.06.28
		0035-CPR-A254	강판 Plates	S235JR/J0/J2/N/NL/M/ML S275JR/J0/J2/N/NL/M/ML S355JR/J0/J2/K2/N/NL/M/ML S420M/ML S460M/ML	당진공장 Dangjin Works	2010.04.08
PED	압력용기용 강판 Steel Plates for Pressure Purpose	01 202 ROK/ Q-10 0044	강판 Plates	P275NL1/NL2 P355N/NL1/NL2	당진공장 Dangjin Works	2010.03.30

● SIRIM 인증

규격 Standards	규격명 Name of Standards	인증번호 Certificate No.	제품 Products	강종 Grade	사업장 Mill	인증일자 Date of Certificate
MS EN 10025-2 : 2011	열간압연 형강 Hot Rolled Sections of Non-alloy Structural Steel	PC001048	H형강, ㄷ형강 H-section, Channel	S275, S355 JR-JO (AR)	포항공장 Pohang Works	2014.03.10

01 | 품질인증 현황

CERTIFICATE

● JIS 인증

규격 Standards	규격명 Name of Standards	인증번호 Certificate No.	제품 Products	강종 Grade	사업장 Mill	인증일자 Date of Certificate
JIS G 3101	일반구조용 압연강재 Rolled Steels for General Structure	CRKR17002	형강 Sections	SS400, SS490, SS540	포항공장 Pohang Works	2017.08.11
		CRKR17004	강판 Plates	SS400, SS490, SS540	당진공장 Dangjin Works	2010.05.20
		KSKR08129	형강 Sections	SS400	신평공장 Sinpyeong Works	2007.12.26
JIS G 3103	보일러 및 압력용기용 탄소강 및 Mo강 강판 Carbon Steel and Molybdenum Alloy Steel Plates for Boilers and Pressure Vessels	CRKR12006	강판 Plates	SB410, SB450, SB480	당진공장 Dangjin Works	2012.10.05
JIS G 3106	용접구조용 압연강재 Rolled Steels for Welded Structure	CRKR17002	형강 Sections	SM400A/B, SM490A/B/C, SM490YA/YB, SM520B/C	포항공장 Pohang Works	2017.08.11
		CRKR17004	강판 Plates	SM400A/B/C, SM490A/B/C/YA/YB, SM520B/C, SM570	당진공장 Dangjin Works	2010.05.20
JIS G 3115	압력용기용 강판 Steel Plates for Pressure Vessels for Intermediate Temperature Service	CRKR12007	강판 Plates	SPV235, SPV315, SPV355, SPV410	당진공장 Dangjin Works	2012.10.05
JIS G 3136	건축구조용 압연강재 Rolled Steels for Building Structure	CRKR17004	강판 Plates	SN400A/B/C, SN490B/C	당진공장 Dangjin Works	2013.02.14
		CRKR17002	형강 Sections	SN400A/B, SN490B	포항공장 Pohang Works	2017.08.11

● AS/NZS 인증

규격 Standards	규격명 Name of Standards	인증번호 Certificate No.	제품 Products	강종 Grade	사업장 Mill	인증일자 Date of Certificate
AS/NZS 3678	Structural steel-Hot rolled plates, Floorplates and slabs	200402	강판 Plates	G250 L0/L15/Z15/Z25/Z35 G300, G350 L0/L15/Z15/Z25/Z35 G400, G450 L0/L15/Z15/Z25/Z35	당진공장 Dangjin Works	2020.04.30
AS/NZS 4671	Australasian Certification Authority for Reinforcing and Structural Steel Ltd	191002	코일철근 Bar in Coil	500N	포항공장 Pohang Works	2019.10.17

● 기타

규격 Standards	규격명 Name of Standards	인증번호 Certificate No.	제품 Products	강종 Grade	사업장 Mill	인증일자 Date of Certificate
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement	인증 불필요 needless	이형봉강 Deformed Bars	Grade 40, Grade 60	인천공장 Incheon Works	-
					포항공장 Pohang Works	
ASTM A706	Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement	인증 불필요 needless	이형봉강 Deformed Bars	Grade 60	인천공장 Incheon Works	-
					포항공장 Pohang Works	

01 | 품질인증 현황

CERTIFICATE

● 품질경영시스템 (QMS)

규격 Standards	종류 및 등급 Range of Certificates	인증번호 Certificate No.	제품 Products	인증기관 Accredited Unit	사업장 Mill	인증일자 Date of Certificate
ISO 9001:2015	반제품, 형강 Billets, Blooms, Beam blanks, Sections	QMS-4456	-	한국표준협회 Korean Standards Association	본사, 당진공장, 인천공장, 포항공장, 신평공장 Pohang Works, Incheon Works, Pusan Works Head Office	1994.11.24
ISO 17025:2006	화학시험 (철강) Chemical Testing (Steel)	368	-	한국인정기구 Korea Laboratory Accreditation Scheme	중앙기술연구소 R&D Center	2008.08
KEPIC-SN	철근 Reinforcing Steel Bar	DN-280	-	대한전기협회 Korea Electric Association	포항공장 Pohang Works	2006.11
		DN-589	-		인천공장 Incheon Works	2012.12.14
KS Q ISO/IEC 17025	역학시험 (금속 및 관련제품) Mechanical Testing (Metals and Related Products)	KT623	-	한국인정기구 Korea Laboratory Accreditation Scheme	당진공장 시험실 Dangjin Works Laboratory	2014.05.16
API Q1	API Monogram	2W-0036	API 2W 50 API 2W 60	미국석유협회 American Petroleum Institute	당진공장 Dangjin Works	2020.09.28
		2H-0047	API 2H 40 API 2H 50			

● 선급 승인 (Classification)

선급 Classification	인증서 번호 Cert No.	General plate		LP Plate		인증 일자 Date of Certificate
		Grade	Properties	Grade	Type	
ABS (미국) American Bureau of Shipping	STML-T1495720-1	A, B, D, E	Z35	A, B, D	Differential Thickness Type	2014-10-27
		AH/DH/EH/FH + 32/36	Z35		Tapered Type	
		AH/DH/EH40	Z35	AH/DH/EH32 AH/DH/EH36	Differential Thickness Type	
		AQ/DQ/EQ + 47/51	Z35		Tapered Type	
		DQ/EQ/FQ + 63/70	Z35	-		
		AH32-LMC	-			
		VH-O60/VH32-O60	Z35			
KR (한국) Korean Register of Shipping	PTD25394-SP001	A, B, D, E	Z25/Z35	A, B, D	Differential Thickness Type	2015-01-13
		AH/DH/EH/FH + 32/36	Z25/Z35		Tapered Type	
		AH/DH/EH40	Z25/Z35	AH/DH/EH32 AH/DH/EH36	Differential Thickness Type	
		AH32-LMC	-		Tapered Type	
BV (프랑스) Bureau Veritas	39073/A0 BV 22704/B0 BV 22703 A4 BV	A, B	Z35	A, B, D	Differential Thickness Type	2014.08.18
		D, E	Z25/Z35		Tapered Type	
		AH/DH/EH/FH + 32/36	Z25/Z35	AH/DH/EH32 AH/DH/EH36	Differential Thickness Type	
		AH/DH/EH40	Z25/Z35		Tapered Type	
		A/D/E + 460/500	Z25/Z35	-		
		AH32-LMC	-			

● 선급 승인 (Classification)

선급 Classification	인증서 번호 Cert No.	General plate		LP Plate		인증 일자 Date of Certificate
		Grade	Properties	Grade	Type	
DNV (노르웨이) Det Norske Veritas	AMM-7117	A, B, D, E	Z35	A, B, D	Differential Thickness Type	2014-11-18
		A/D/E + 32/26/40	Z35		Tapered Type	
		F32/36	Z35	AH/DH/EH32 AH/DH/EH36	Differential Thickness Type	
		A/D/E + 420/460/500	Z35		Tapered Type	
		A/D/E/F + 620/690	Z35	-		
		DW/EW420	Z35			
		NV2-2~4L, NV4-2~4L	Z35			
		AH32-LMC	-			
LR (영국) Lloyd's Register Shipping	MD00/3773/ 0010/1	A, B, D, E	Z25/Z35	A, B, D	Differential Thickness Type	2016-04-12
		AH/DH/EH/FH + 32/36	Z25/Z35		Tapered Type	
		AH/DH/EH40	Z25/Z35	AH/DH/EH32 AH/DH/EH36	Differential Thickness Type	
		LT-FH32/36	Z25/Z35		Tapered Type	
NK (일본) Nippon Kaiji Kyokai	TA15391E	KA, KB, KD, KE	Z25/Z35	KA, KB, KD	Differential Thickness Type	2015-03-05
		KA/KD/KE/KF + 32/36	Z25/Z35		Tapered Type	
		KA/KD/KE40	Z25/Z35	KA/KD32 KA/KD36	Differential Thickness Type	
		KPV32/36	-		Tapered Type	
		KP42	-	-		
		AH32-LMC	-			
CCS (중국) Chinese Classification Society	FS15W00016	A, B, D, E	Z25/Z35	-		2015-09-16
		AH/DH/EH + 32/36	Z25/Z35			
		AH/DH/EH40	Z25/Z35			
RS (러시아) Russian Maritime Register of Shipping	14.10292.294	A, B, D, E	-	-		2014-08-07
		AH/DH/EH + 32/36/40	Z25/Z35			
		FH32/36	-			
		A/D/E + 460/500	-			
RINA (이탈리아) Registro Italiano Navale	FAB285411PU	A, B, D, E	Z25/Z35	-		2014-08-11
		AH, DH, EH + 32/36/40	Z25/Z35			
		FH32/36	-			

01 | 품질인증 현황

CERTIFICATE

●BSMI 인증 (CNS)

규격 Standards	규격명 Name of Standards	인증번호 Certificate No.	제품 Products	강종 Grade	사업장 Mill	인증일자 Date of Certificate
CNS 2473	일반구조용 압연강재 Rolled Steels for General Structure	CI3D8060430013	H형강 H-Beams	SS400	포항공장 Pohang Works	2019.07.01
CNS 2947	용접구조용 압연강재 Rolled steels for welded structure	CI3D8060430024	H형강 H-Beams	SM400A, SM490A		2019.07.01
CNS 13812	건축구조용 압연강재 Rolled Steels for Building Structure	CI3D8060430035	H형강 H-Beams	SN400B, SN490B		2019.07.01

●AS/NZS 인증

규격 Standards	규격명 Name of Standards	인증번호 Certificate No.	제품 Products	강종 Grade	사업장 Mill	인증일자 Date of Certificate
AS/NZS 4671	철근 콘크리트용 봉강 Steel for the reinforcement of concrete	191002	코일철근 Bar in Coil	500N	포항공장 Pohang Works	2019.10.02

●TIS 인증

규격 Standards	규격명 Name of Standards	인증번호 Certificate No.	제품 Products	강종 Grade	사업장 Mill	인증일자 Date of Certificate
TIS 1227- 2558	구조용 열간압연 형강 Hot rolled structural steel sections	너28663-50/1227	H형강 H-Beams	SS400	포항공장 Pohang Works	2022.02.14

● 단체표준

규격 Standards	규격명 Name of Standards	인증번호 Certificate No.	제품 Products	강종 Grade	사업장 Mill	인증일자 Date of Certificate
SPS-KOSA 0257-7079	강재 틀 합판 거푸집용 열간 압연 프로파일	제 2016-KOSA -0001호	프로파일 Profile	SSP410	신평공장 Sinpyeong Works	2016.11.25
SPS-KOSA 0258-7078	강재 틀 합판 거푸집용 열간 압연 부등변 앵글	제 2016-KOSA -0002호	부등변 앵글 Unequal Angles	SS275	신평공장 Sinpyeong Works	2016.11.25

● GR 인증 (Good Recycled Certification)

규격 Standards	규격명 Name of Standards	인증번호 Certificate No.	제품 Products	강종 Grade	사업장 Mill	인증일자 Date of Certificate
GR D 0015	철 스크랩을 활용한 철근 콘크리트용 봉강 Steel Bars for concrete reinforcement by iron and steel scrap	16032004	이형봉강 Deformed Bars	SD300, SD400, SD500, SD600 SD400S, SD500S, SD600S	인천공장 Incheon Works	2021.10.28
		16054004	이형봉강 Deformed Bars	SD300, SD400, SD500, SD600 SD400S, SD500S, SD600S	포항공장 Pohang Works	2021.10.28
GR D 0016	철 스크랩을 활용한 일반 구조용 압연 형강 Rolled steel sections for general structure by iron and steel scrap	16054005	형강 Sections	SS275		2021.10.28
GR D 0016	철 스크랩을 활용한 일반 구조용 압연 형강 Rolled steel sections for general structure by iron and steel scrap	16051001	ㄷ형강, 등변 ㄱ형강 Channels, Angles	SSP410	신평공장 Sinpyeong Works	2021.10.28

02 | 철근 포장 TABLE

PACKING TABLE OF REINFORCING BARS

- 환산중량 단위무게: KS D3504기준
- 1본 중량: 단중x1본길이 (소수 2자리 뺀음)
- 포장중량: 1본중량x포장본수 (kg서 뺀음)

호칭명 Size	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)	6	6.5	7	7.5	8	9	10	11	12
D10	0.56	1본 중량 (Weight/Piece)		3.36	3.64	3.92	4.2	4.48	5.04	5.6	6.16	6.72
		총본수 (Pcs/Bundle)		300	270	270	240	210	210	180	150	150
		중량 (Bundle Weight)		1,008	983	1,058	1,008	941	1,058	1,008	924	1,008
		총길이 (Length x Pcs/Bundle)		1,800	1,755	1,890	1,800	1,680	1,890	1,800	1,650	1,800
D13	0.995	1본 중량 (Weight/Piece)		5.97	6.47	6.97	7.46	7.96	8.96	9.95	10.95	11.94
		총본수 (Pcs/Bundle)		160	160	136	140	120	120	100	100	80
		중량 (Bundle Weight)		955	1,035	948	1,044	955	1,075	995	1,095	955
		총길이 (Length x Pcs/Bundle)		960	1,040	980	1,050	960	1,080	1,000	1,100	960
D16	1.56	1본 중량 (Weight/Piece)		9.36	10.14	10.92	11.7	12.48	14.04	15.6	17.16	18.72
		총본수 (Pcs/Bundle)		105	105	90	90	75	75	60	60	60
		중량 (Bundle Weight)		983	1,065	983	1,053	936	1,053	936	1,030	1,123
		총길이 (Length x Pcs/Bundle)		630	682.5	630	675	600	675	600	660	720
D19	2.25	1본 중량 (Weight/Piece)		13.5	14.63	15.75	16.88	18	20.25	22.5		
		총본수 (Pcs/Bundle)		74	68	63	59	56	49	44		
		중량 (Bundle Weight)		999	995	992	996	1,008	992	990		
		총길이 (Length x Pcs/Bundle)		444	442	441	442.5	448	441	440		
D22	3.04	1본 중량 (Weight/Piece)		18.24	19.76	21.28	22.8	24.32	27.36	30.4	33.44	36.48
		총본수 (Pcs/Bundle)		55	51	47	44	41	37	33	30	27
		중량 (Bundle Weight)		1,003	1,008	1,000	1,003	997	1,012	1,003	1,003	985
		총길이 (Length x Pcs/Bundle)		330	331.5	329	330	328	333	330	330	324
D25	3.98	1본 중량 (Weight/Piece)		23.88	25.87	27.86	29.85	31.84	35.82	39.8		
		총본수 (Pcs/Bundle)		42	39	36	33	32	28	25		
		중량 (Bundle Weight)		1,003	1,009	1,003	985	1,019	1,003	995		
		총길이 (Length x Pcs/Bundle)		252	253.5	252	247.5	256	252	250		
D29	5.04	1본 중량 (Weight/Piece)		30.24	32.76	35.28	37.8	40.32	45.36	50.4		
		총본수 (Pcs/Bundle)		33	31	28	26	25	22	20		
		중량 (Bundle Weight)		998	1,016	988	983	1,008	998	1,008		
		총길이 (Length x Pcs/Bundle)		198	201.5	196	195	200	198	200		
D32	6.23	1본 중량 (Weight/Piece)		37.38	40.5	43.61	46.73					
		총본수 (Pcs/Bundle)		27	25	23	21					
		중량 (Bundle Weight)		1,009	1,013	1,003	981					
		총길이 (Length x Pcs/Bundle)		162	162.5	161	157.5					
D35	7.51	1본 중량 (Weight/Piece)		45.06	48.82	52.57	56.33					
		총본수 (Pcs/Bundle)		22	20	19	18					
		중량 (Bundle Weight)		991	976	999	1,014					
		총길이 (Length x Pcs/Bundle)		132	130	133	135					
D38	8.95	1본 중량 (Weight/Piece)		53.7	58.18	62.65	67.13					
		총본수 (Pcs/Bundle)		19	17	16	15					
		중량 (Bundle Weight)		1,020	989	1,002	1,007					
		총길이 (Length x Pcs/Bundle)		114	110.5	112	112.5					
D41	10.5	1본 중량 (Weight/Piece)		63	68.25	73.5	78.75					
		총본수 (Pcs/Bundle)		16	15	14	13					
		중량 (Bundle Weight)		1,008	1,024	1,029	1,024					
		총길이 (Length x Pcs/Bundle)		96	97.5	98	97.5					
D51	15.9	1본 중량 (Weight/Piece)		95.4	103.4	111.3	119.3					
		총본수 (Pcs/Bundle)		11	10	9	8					
		중량 (Bundle Weight)		1,049	1,034	1,002	954					
		총길이 (Length x Pcs/Bundle)		66	65	63	60					

※ 1톤에 가까운 포장임(A bundle weight is about 1 metric ton)

- Converted Weight per Unit : KS D3504 base
- Weight per piece : Weight x Length (Calculate to 2 decimal place)
- Package Weight : Weight of 1 piece x Number of piece (Unit: kg)

호칭명 Size	단위중량 Unit Weight [kg/m]	구분 Classification	길이 Length (m)	6	6.5	7	7.5	8	9	10	11	12
D10	0.56	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)						4.48 420 1,882 3,360	5.04 420 2,116 3,780	5.6 360 2,016 3,600	6.16 300 1,848 3,300	6.72 300 2,016 3,600
D13	0.995	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)						7.96 240 1,910 1,920	8.96 240 2,150 2,160	9.95 200 1,990 2,000	10.95 200 2,190 2,200	11.94 160 1,910 1,920
D16	1.56	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)						12.48 150 1,872 1,200	14.04 150 2,106 1,350	15.6 120 1,872 1,200	17.16 120 2,060 1,320	18.72 120 2,246 1,440
D19	2.25	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)						18 112 2,016 896	20.25 98 1,984 882	22.5 88 1,980 880	24.75 80 1,980 880	27 74 1,998 888
D22	3.04	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)		18.24 110 2,006 660	19.76 102 2,016 663	21.28 94 2,000 358	22.8 88 2,006 660	24.32 82 1,994 656	27.36 74 2,024 666	30.4 66 2,006 660	33.44 60 2,006 660	36.48 54 1,970 648
D25	3.98	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)		23.88 84 2,006 504	25.87 78 2,018 507	27.86 72 2,006 504	29.85 66 1,970 495	31.84 64 2,038 512	35.82 56 2,006 504	39.8 50 1,990 500	43.78 46 2,014 506	47.76 42 2,006 504
D29	5.04	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)		30.24 66 1,996 396	32.76 62 2,032 403	35.28 56 1,976 392	37.8 52 1,966 390	40.32 50 2,016 400	45.36 44 1,996 396	50.4 40 2,016 400	55.44 36 1,996 396	60.48 34 2,056 408
D32	6.23	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)		37.38 54 2,018 324	40.5 50 2,026 325	43.61 46 2,006 322	46.73 42 1,962 315	49.84 40 1,994 320	56.07 36 2,018 324	62.3 32 1,994 320	68.53 30 2,056 330	74.76 26 1,994 312
D35	7.51	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)		45.06 44 1,982 264	48.82 40 1,952 260	52.57 38 1,998 266	56.33 35 2,028 263	60.08 34 2,042 272	67.59 30 2,028 270	75.1 26 1,952 260	82.61 24 1,982 264	90.12 22 1,982 264
D38	8.95	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)		53.7 38 2,040 228	58.18 34 1,978 221	62.65 32 2,004 224	67.13 30 2,014 225	71.6 28 2,004 224	80.55 24 1,934 216	89.5 22 1,970 220	98.45 20 1,970 220	107.4 20 2,148 240
D41	10.5	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)		63 32 2,016 192	68.25 30 2,048 195	73.5 28 2,058 196	78.75 26 2,048 195	84 24 2,016 192	94.5 22 2,080 198	105 20 2,100 200	115.5 18 2,080 198	126 16 2,016 192
D43	11.4	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)		68.4 30 2,052 180	74.1 28 2,075 182	79.8 26 2,075 182	85.5 24 2,052 180	91.2 22 2,006 176	102.6 20 2,052 180	114 18 2,052 180	125.4 16 2,006 176	136.8 16 2,189 192
D51	15.9	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)		95.4 22 2,099 132	103.4 20 2,068 130	111.3 20 2,226 140	119.3 16 1,903 120	127.2 16 2,035 128	143.1 14 2,003 126	159 12 1,908 120	174.9 12 2,099 132	190.8 10 1,908 120
D57	20.3	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) 총길이 (Length x Pcs/Bundle)		121.8 18 2,192 108	131.95 16 2,111 104	142.1 14 1,989 98	152.25 14 2,132 105	162.4 12 1,949 96	182.7 12 2,192 108	203 10 2,030 100	223.3 10 2,233 110	243.6 8 1,949 96

※ 2톤에 가까운 포장임(A bundle weight is about 2 metric tons)

03 | 형강 포장TABLE

PACKING TABLE OF SECTIONS

- 환산중량 단위무게 : KS D3502기준
- 1본 중량 : 단중×1본길이 (소수 2자리 뺌)
- 포장중량 : 1본중량×포장본수 (kg서 뺌)

● H형강 (H-Beams)

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)	6	7	8	9	10	11	12	13	14	15
100×100 ×6/8	17.2	1본 중량 (Weight/Piece)		103	120	138	155	172	189	206	224	241	258
		총본수 (Pcs/Bundle)		20	20	20	20	20	20	20	16	16	16
		중량 (Bundle Weight)		2,060	2,400	2,760	3,100	3,440	3,780	4,120	3,584	3,856	4,128
125×125 ×6.5/9	23.8	1본 중량 (Weight/Piece)		143	167	190	214	238	262	286	309	333	357
		총본수 (Pcs/Bundle)		16	16	16	16	16	16	16	12	12	12
		중량 (Bundle Weight)		2,288	2,672	3,040	3,424	3,808	4,192	4,576	3,708	3,996	4,284
150×75 ×5/7	14	1본 중량 (Weight/Piece)		84	98	112	126	140	154	168	182	196	210
		총본수 (Pcs/Bundle)		24	24	24	24	24	24	24	21	21	21
		중량 (Bundle Weight)		2,016	2,352	2,688	3,024	3,360	3,696	4,032	3,822	4,116	4,410
148×100 ×6/9	21.1	1본 중량 (Weight/Piece)		127	148	169	190	211	232	253	274	295	316
		총본수 (Pcs/Bundle)		20	20	20	20	16	16	16	12	12	12
		중량 (Bundle Weight)		2,540	2,960	3,380	3,800	3,376	3,712	4,048	3,288	3,540	3,792
150×150 ×7/10	31.5	1본 중량 (Weight/Piece)		189	220	252	284	315	346	378	410	441	472
		총본수 (Pcs/Bundle)		12	12	12	12	12	12	12	9	9	9
		중량 (Bundle Weight)		2,268	2,640	3,024	3,408	3,780	4,152	4,536	3,690	3,969	4,248
194×150 ×6/9	30.6	1본 중량 (Weight/Piece)		184	214	245	275	306	337	367	398	428	459
		총본수 (Pcs/Bundle)		12	12	12	12	12	12	12	9	9	9
		중량 (Bundle Weight)		2,208	2,568	2,940	3,300	3,672	4,044	4,404	3,582	3,852	4,131
198×99 ×4.5/7	18.2	1본 중량 (Weight/Piece)		109	127	146	164	182	200	218	237	255	273
		총본수 (Pcs/Bundle)		15	15	15	15	12	12	12	12	12	12
		중량 (Bundle Weight)		1,635	1,905	2,190	2,460	2,184	2,400	2,616	2,844	3,060	3,276
200×100 ×5.5/8	21.3	1본 중량 (Weight/Piece)		128	149	170	192	213	234	256	277	298	320
		총본수 (Pcs/Bundle)		15	15	12	12	12	12	12	12	12	12
		중량 (Bundle Weight)		1,920	2,235	2,040	2,304	2,556	2,808	3,072	3,324	3,576	3,840
200×200 ×8/12	49.9	1본 중량 (Weight/Piece)		299	349	399	449	499	549	599	649	699	748
		총본수 (Pcs/Bundle)		6	6	6	6	6	6	6	6	6	6
		중량 (Bundle Weight)		1,794	2,094	2,394	2,694	2,994	3,294	3,594	3,894	4,194	4,488
200×204 ×12/12	56.2	1본 중량 (Weight/Piece)		337	393	450	506	562	618	674	731	787	843
		총본수 (Pcs/Bundle)		6	6	6	6	6	6	6	6	4	4
		중량 (Bundle Weight)		2,022	2,358	2,700	3,036	3,372	3,708	4,044	4,386	3,148	3,372
208×202 ×10/16	65.7	1본 중량 (Weight/Piece)		394	460	526	591	657	723	788	854	920	986
		총본수 (Pcs/Bundle)		6	6	6	6	6	6	6	4	4	4
		중량 (Bundle Weight)		2,364	2,760	3,156	3,546	3,942	4,338	4,728	3,416	3,680	3,944
248×124 ×5/8	25.7	1본 중량 (Weight/Piece)		154	180	206	231	257	283	308	334	360	386
		총본수 (Pcs/Bundle)		10	10	10	10	10	10	10	10	10	10
		중량 (Bundle Weight)		1,540	1,800	2,060	2,310	2,570	2,830	3,080	3,340	3,600	3,860
250×125 ×6/9	29.6	1본 중량 (Weight/Piece)		178	207	237	266	296	326	355	385	414	444
		총본수 (Pcs/Bundle)		10	10	10	10	10	10	10	10	10	10
		중량 (Bundle Weight)		1,780	2,070	2,370	2,660	2,960	3,260	3,550	3,850	4,140	4,440
244×175 ×7/11	44.1	1본 중량 (Weight/Piece)		265	309	353	397	441	485	529	573	617	662
		총본수 (Pcs/Bundle)		10	10	10	10	10	10	8	8	8	6
		중량 (Bundle Weight)		2,650	3,090	3,530	3,970	4,410	4,850	4,232	4,584	4,936	3,972

- Converted Weight per Unit : KS D3502 base
- Weight per piece : Weight x Length (Calculate to 2 decimal place)
- Package Weight : Weight of 1 piece x Number of piece (Unit: kg)

● H형강 (H-Beams)

호칭치수 Normal Size	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)	6	7	8	9	10	11	12	13	14	15
244×252 ×11/11	64.4	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		386 6 2,316	451 6 2,706	515 6 3,090	580 4 2,320	644 4 2,576	708 4 2,832	773 4 3,092	837 4 3,348	902 4 3,608	966 4 3,864
250×250 ×9/14	72.4	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		434 6 2,604	507 6 3,042	579 6 3,474	652 4 2,608	724 4 2,896	796 4 3,184	869 4 3,476	941 4 3,764	1,014 4 4,056	1,086 4 4,344
250×255 ×14/14	82.2	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		493 6 2,958	575 6 3,450	658 6 3,948	740 4 2,960	822 4 3,288	904 4 3,616	986 4 3,944	1,069 4 4,276	1,151 4 4,604	1,233 4 4,932
294×200 ×8/12	56.8	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		341 6 2,046	398 6 2,388	454 6 2,724	511 6 3,066	568 6 3,408	625 6 3,750	682 6 4,092	738 6 4,428	795 4 3,180	852 4 3,408
298×201 ×9/14	65.4	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		392 6 2,352	458 6 2,748	523 6 3,138	589 6 3,534	654 6 3,924	719 6 4,314	785 6 4,710	850 4 3,400	916 4 3,664	981 4 3,924
298×149 ×5.5/8	32	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		192 10 1,920	224 10 2,240	256 10 2,560	288 10 2,880	320 10 3,200	352 10 3,520	384 10 3,840	416 8 3,328	448 8 3,584	480 8 3,840
300×150 ×6.5/9	36.7	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		220 10 2,200	257 10 2,570	294 10 2,940	330 10 3,300	367 10 3,670	404 10 4,040	440 10 4,400	477 8 3,816	514 8 4,112	550 8 4,400
298×299 ×9/14	87	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		522 3 1,566	609 3 1,827	696 3 2,088	783 3 2,349	870 3 2,610	957 3 2,871	1,044 3 3,132	1,131 3 3,393	1,218 3 3,654	1,305 3 3,915
300×300 ×10/15	94	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		564 3 1,692	658 3 1,974	752 3 2,256	846 3 2,538	940 3 2,820	1,034 3 3,102	1,128 3 3,384	1,222 3 3,666	1,316 3 3,948	1,410 3 4,230
300×305 ×15/15	106	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		636 3 1,908	742 3 2,226	848 3 2,544	954 3 2,862	1,060 3 3,180	1,166 3 3,498	1,272 3 3,816	1,378 3 4,134	1,484 3 4,452	1,590 3 4,770
346×174 ×6/9	41.4	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		248 5 1,240	290 5 1,450	331 5 1,655	373 5 1,865	414 4 1,656	455 4 1,820	497 4 1,988	538 4 2,152	580 4 2,320	621 4 2,484
350×175 ×7/11	49.6	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		298 5 1,490	347 5 1,735	397 5 1,985	446 5 2,230	496 4 1,984	546 4 2,184	595 4 2,380	645 4 2,580	694 4 2,776	744 4 2,976
344×348 ×10/16	115	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		690 2 1,380	805 2 1,610	920 2 1,840	1,305 2 2,070	1,105 2 2,300	1,265 2 2,530	1,380 2 2,760	1,495 2 2,990	1,610 2 3,220	1,725 2 3,450
344×354 ×16/16	131	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		786 2 1,572	917 2 1,834	1,048 2 2,096	1,179 2 2,358	1,310 2 2,620	1,441 2 2,882	1,572 2 3,144	1,703 2 3,406	1,834 2 3,668	1,965 2 3,930

03 | 형강 포장TABLE

PACKING TABLE OF SECTIONS

- 환산중량 단위무게 : KS D3502기준
- 1본 중량 : 단중×1본길이 (소수 2자리 뺌)
- 포장중량 : 1본중량×포장본수 (kg서 뺌)

● H형강 (H-Beams)

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)	6	7	8	9	10	11	12	13	14	15
350×350 ×12/19	137	1본 중량 (Weight/Piece)		822	959	1,096	1,233	1,370	1,507	1,644	1,781	1,918	2,055
		총본수 (Pcs/Bundle)		2	2	2	2	2	2	2	2	2	2
		중량 (Bundle Weight)		1,644	1,918	2,192	2,466	2,740	3,014	3,288	3,562	3,836	4,110
350×357 ×19/19	156	1본 중량 (Weight/Piece)		936	1,092	1,248	1,404	1,560	1,716	1,872	2,028	2,184	2,340
		총본수 (Pcs/Bundle)		2	2	2	2	2	2	2	2	2	2
		중량 (Bundle Weight)		2,808	3,276	3,744	4,212	3,120	3,432	3,744	4,056	4,368	4,680
396×199 ×7/11	56.6	1본 중량 (Weight/Piece)		340	396	453	509	566	623	679	736	792	849
		총본수 (Pcs/Bundle)		5	5	4	4	4	4	4	4	4	4
		중량 (Bundle Weight)		1,700	1,980	1,812	2,036	2,264	2,492	2,716	2,944	3,168	3,396
400×200 ×8/13	66	1본 중량 (Weight/Piece)		396	462	528	574	660	726	792	858	924	990
		총본수 (Pcs/Bundle)		5	5	4	4	4	4	4	4	4	4
		중량 (Bundle Weight)		1,980	2,310	2,112	2,296	2,640	2,904	3,168	3,432	3,696	3,960
404×201 ×9/15	75.5	1본 중량 (Weight/Piece)		453	528	604	680	755	830	906	982	1,057	1,133
		총본수 (Pcs/Bundle)		5	5	4	4	4	4	4	4	4	4
		중량 (Bundle Weight)		2,265	2,640	2,416	2,720	3,020	3,320	3,624	3,928	4,228	4,532
386×299 ×9/14	94.3	1본 중량 (Weight/Piece)		566	660	754	849	943	1,037	1,132	1,226	1,320	1,414
		총본수 (Pcs/Bundle)		3	3	3	3	3	3	3	3	3	3
		중량 (Bundle Weight)		1,698	1,980	2,262	2,547	2,829	3,111	3,396	3,678	3,960	4,245
390×300 ×10/16	107	1본 중량 (Weight/Piece)		642	749	856	963	1,070	1,177	1,284	1,391	1,498	1,605
		총본수 (Pcs/Bundle)		3	3	3	3	3	3	3	3	3	3
		중량 (Bundle Weight)		1,926	2,247	2,568	2,889	3,210	3,531	3,852	4,173	4,494	4,815
388×402 ×15/15	140	1본 중량 (Weight/Piece)		840	980	1,120	1,260	1,400	1,540	1,680	1,820	1,960	2,100
		총본수 (Pcs/Bundle)		2	2	2	2	2	2	2	2	2	2
		중량 (Bundle Weight)		1,680	1,960	2,240	2,520	2,800	3,080	3,360	3,640	3,920	4,200
394×398 ×11/18	147	1본 중량 (Weight/Piece)		882	1,029	1,176	1,323	1,470	1,617	1,764	1,911	2,058	2,205
		총본수 (Pcs/Bundle)		3	3	2	2	2	2	2	2	2	2
		중량 (Bundle Weight)		2,640	3,087	2,352	2,646	2,940	3,234	3,528	3,822	4,116	4,410
394×405 ×18/18	168	1본 중량 (Weight/Piece)		1,008	1,176	1,344	1,512	1,680	1,848	2,016	2,184	2,352	2,520
		총본수 (Pcs/Bundle)		3	3	3	3	2	2	2	2	2	2
		중량 (Bundle Weight)		3,024	3,528	4,032	4,536	3,360	3,696	4,032	4,368	4,704	5,040
400×400 ×13/21	172	1본 중량 (Weight/Piece)		1,032	1,204	1,376	1,548	1,720	1,892	2,064	2,236	2,408	2,580
		총본수 (Pcs/Bundle)		2	2	2	2	2	2	2	2	2	2
		중량 (Bundle Weight)		2,064	2,408	2,752	3,096	3,440	3,784	4,128	4,472	4,816	5,160
400×408 ×21/21	197	1본 중량 (Weight/Piece)		1,182	1,379	1,576	1,773	1,970	2,167	2,364	2,561	2,758	2,955
		총본수 (Pcs/Bundle)		3	3	2	2	2	2	2	2	2	2
		중량 (Bundle Weight)		3,546	4,137	3,152	3,546	3,940	4,334	4,728	5,122	5,516	5,910
406×403 ×16/24	200	1본 중량 (Weight/Piece)		1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000
		총본수 (Pcs/Bundle)		2	2	2	2	2	2	2	2	2	2
		중량 (Bundle Weight)		2,400	2,800	3,200	3,600	4,000	4,400	4,800	5,200	5,600	6,000
414×405 ×18/28	232	1본 중량 (Weight/Piece)		1,392	1,624	1,856	2,088	2,320	2,552	2,784	3,016	3,248	3,480
		총본수 (Pcs/Bundle)		1	1	1	1	1	1	1	1	1	1
		중량 (Bundle Weight)		1,392	1,624	1,856	2,088	2,320	2,552	2,784	3,016	3,248	3,480

- Converted Weight per Unit : KS D3502 base
- Weight per piece : Weight x Length (Calculate to 2 decimal place)
- Package Weight : Weight of 1 piece x Number of piece (Unit: kg)

● H형강 (H-Beams)

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)	6	7	8	9	10	11	12	13	14	15
428×407 ×20/35	64.4	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		1,698 1 1,698	1,981 1 1,981	2,264 1 2,264	2,547 1 2,547	2,830 1 2,830	3,113 1 3,113	3,396 1 3,396	3,679 1 3,679	3,962 1 3,962	4,245 1 4,245
446×199 ×8/12	66.2	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		397 4 1,588	463 4 1,852	530 4 2,120	596 4 2,384	662 4 2,648	728 4 2,912	861 4 3,444	941 4 3,764	927 4 3,708	993 4 3,972
450×200 ×9/14	76	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		456 4 1,824	532 4 2,128	608 4 2,432	684 4 2,736	760 4 3,040	836 4 3,344	912 4 3,648	988 4 3,952	1,064 4 4,256	1,140 4 4,560
434×299 ×10/15	106	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		636 3 1,908	742 3 2,226	848 3 2,544	954 3 2,862	1,060 3 3,180	1,166 3 3,498	1,272 3 3,816	1,378 3 4,134	1,484 3 4,452	1,590 3 4,770
440×300 ×11/18	124	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		744 3 2,232	868 3 2,604	992 3 2,976	1,116 3 3,348	1,240 3 3,720	1,364 3 4,092	1,488 3 4,464	1,612 3 4,836	1,736 2 3,472	1,860 2 3,720
496×199 ×8/13	79.5	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		477 4 1,908	557 4 2,228	636 4 2,544	716 4 2,864	795 4 3,180	875 4 3,500	954 4 3,816	1,034 4 4,136	1,113 4 4,452	1,192 3 3,579
500×200 ×10/16	89.6	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		538 4 2,152	627 4 2,508	717 4 2,868	806 4 3,224	896 4 3,584	986 4 3,944	1,075 4 4,300	1,165 4 4,660	1,254 4 5,016	1,344 3 4,032
506×201 ×11/19	103	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		618 4 2,472	721 4 2,884	824 4 3,296	927 4 3,708	1,030 3 4,120	1,133 4 4,532	1,236 3 3,708	1,339 3 4,017	1,442 3 4,326	1,545 3 4,635
482×300 ×11/15	114	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		684 3 2,052	798 3 2,394	912 3 2,736	1,026 3 3,078	1,140 3 3,420	1,254 3 3,762	1,368 3 4,104	1,482 3 4,446	1,596 3 4,788	1,710 3 5,130
488×300 ×11/18	128	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		768 3 2,304	896 3 2,688	1,024 3 3,072	1,152 3 3,456	1,280 3 3,840	1,408 3 4,224	1,536 3 4,608	1,664 3 4,992	1,792 3 5,376	1,920 3 5,760
596×199 ×10/15	94.6	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		568 3 1,704	662 3 1,986	757 3 2,271	851 3 2,553	946 3 2,838	1,041 3 3,123	1,135 3 3,405	1,230 3 3,690	1,324 3 3,972	1,419 3 4,257
600×200 ×11/17	106	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		636 3 1,908	742 3 2,226	848 3 2,544	954 3 2,862	1,060 3 3,180	1,166 3 3,498	1,272 3 3,816	1,378 3 4,134	1,484 3 4,452	1,590 3 4,770
606×201 ×12/20	120	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		720 3 2,160	840 3 2,520	960 3 2,880	1,080 3 3,240	1,200 3 3,600	1,320 3 3,960	1,440 3 4,320	1,560 3 4,680	1,680 3 5,040	1,800 3 5,400
612×202 ×13/23	134	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		804 3 2,412	938 3 2,814	1,072 3 3,216	1,206 3 3,618	1,340 3 4,020	1,474 3 4,422	1,608 3 4,824	1,742 3 5,226	1,876 3 5,628	2,010 3 6,030

03 | 형강 포장 TABLE

PACKING TABLE OF SECTIONS

- 환산중량 단위무게 : KS D3502기준
- 1본 중량 : 단중×1본길이 (소수 2자리 뺌)
- 포장중량 : 1본중량×포장본수 (kg서 뺌)

● H형강 (H-Beams)

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)	6	7	8	9	10	11	12	13	14	15	16
582×300 ×12/17	137	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		822 3 2,466	959 3 2,877	1,096 3 3,288	1,233 3 3,699	1,370 3 4,110	1,507 2 3,014	1,644 2 3,288	1,781 2 3,562	1,918 2 3,836	2,055 2 4,110	
588×300 ×12/20	151	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		906 3 2,718	1,057 3 3,171	1,208 3 3,624	1,359 3 4,077	1,510 3 4,530	1,661 2 3,322	1,812 2 3,624	1,963 2 3,926	2,114 2 4,228	2,265 2 4,530	
594×302 ×14/23	175	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		1,050 3 3,150	1,225 3 3,675	1,400 3 4,200	1,575 2 3,150	1,750 2 3,500	1,925 2 3,850	2,100 2 4,200	2,275 2 4,550	2,450 2 4,900	2,625 2 5,250	
H 692 x 300 x 13/20	166	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		996 1 996	1,162 1 1,162	1,328 1 1,328	1,494 1 1,494	1,660 1 1,660	1,826 1 1,826	1,992 1 1,992	2,158 1 2,158	2,324 1 2,324	2,490 1 2,490	2,656 1 2,656
H 700 x 300 x 13/24	185	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		1,110 1 1,110	1,295 1 1,295	1,480 1 1,480	1,665 1 1,665	1,850 1 1,850	2,035 1 2,035	2,220 1 2,220	2,405 1 2,405	2,590 1 2,590	2,775 1 2,775	2,960 1 2,960
H 708 x 302 x 15/28	215	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight) ≧		1,290 1 1,290	1,505 1 1,505	1,720 1 1,720	1,935 1 1,935	2,150 1 2,150	2,365 1 2,365	2,580 1 2,580	2,795 1 2,795	3,010 1 3,010	3,225 1 3,225	3,440 1 3,440

- Converted Weight per Unit : KS D3502 base
- Weight per piece : Weight x Length (Calculate to 2 decimal place)
- Package Weight : Weight of 1 piece x Number of piece (Unit: kg)

● 무늬 H형강

호칭치수 Nominal Size	길이 Length (m)	단위중량 Unit Weight (kg/m)	8	10	12
H 190 x 197 x 5/7 [KJ(격자무늬)]	32.6	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	261 6 1,566	326 6 1,956	391 6 2,346

● 시트파일 (Sheet Pile)

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	길이 Length (m)	6	7	8	9	10	11	12	13	14	15	16
SP 400 x 150 x 13	60	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	360 5 1,800	420 5 2,100	480 5 2,400	540 5 2,700	600 5 3,000	660 5 3,300	720 5 3,600	780 5 3,900	840 5 42,00	900 5 4,500	960 5 4,800
SP 400 x 170 x 15.5	76.1	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	457 5 2,285	533 5 2,665	609 5 3,045	685 5 3,425	761 5 3,805	837 5 4,185	913 5 4,565	989 5 4,945	1,065 4 4,260	1,142 4 4,568	1,218 4 4,872

03 | 형강 포장 TABLE

PACKING TABLE OF SECTIONS

● C 형강 (Channels)

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	구분 Classification 길이 Length (m)	6	7	8	9	10	11	12
75×40 ×5/7	6.92	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	41.5 48 1,992	48.4 32 1,549	55.4 32 1,773	62.3 32 1,994	69.2 32 2,214	76.12 32 2,436	83.0 32 2,656
100×50 ×5/7.5	9.36	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	56.2 30 1,686	65.5 30 1,965	74.9 30 2,247	84.2 24 2,021	93.6 24 2,246	103 24 2,472	112 24 2,688
125×65 ×6/8	13.4	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	80.4 16 1,286	93.8 16 1,501	107 16 1,712	121 16 1,936	134 16 2,144	147 16 2,352	161 16 2,576
150×75 ×6.5/10	18.6	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	112 12 1,344	130 12 1,560	149 12 1,788	167 12 2,004	186 12 2,232	205 12 2,460	223 12 2,676
200×80 ×7.5/11	24.6	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	100 20 2,960	172 20 3,440	134 20 3,940	221 12 2,652	246 12 2,952	271 12 3,252	295 12 3,540
200×90 ×8/13.5	30.3	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	182 16 2,912	212 16 3,392	242 12 2,904	273 12 3,276	303 12 3,636	333 12 3,996	364 8 2,912
250×90 ×9/13	34.6	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	208 16 3,328	242 16 3,872	277 12 3,324	311 12 3,732	346 12 4,152	381 12 4,572	415 8 3,320

- Converted Weight per Unit : KS D3502 base
- Weight per piece : Weight x Length (Calculate to 2 decimal place)
- Package Weight : Weight of 1 piece x Number of piece (Unit: kg)

● ㄱ형강 (Angles)

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)	6	7	8	9	10	11	12
25×3	1.12	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		6.72 297 1,996	7.84 255 1,999	8.96 223 1,998	10.08 198 1,996	11.2 178 1,994	12.32 162 1,996	13.44 148 1,989
30×3	1.36	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		8.16 245 1,999	9.52 210 1,999	10.88 183 1,991	12.24 163 1,995	13.6 147 1,999	14.96 133 1,990	16.32 122 1,991
38×3	1.74	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		10.44 191 1,994	12.18 164 1,998	13.92 143 1,991	15.66 128 2,004	17.4 114 1,984	19.14 104 1,991	20.88 96 2,004
40×3	1.83	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		10.98 182 1,998	12.81 156 1,998	14.64 136 1,991	16.47 121 1,993	18.3 109 1,995	20.13 99 1,993	21.96 91 1,998
40×4	2.39	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		14.34 139 1,993	16.73 119 1,991	19.12 104 1,988	21.51 93 2,000	23.9 83 1,984	26.29 76 1,998	28.68 70 2,008
40×5	2.95	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		17.7 113 2,000	20.65 96 1,982	23.6 84 1,982	26.55 75 1,991	29.5 67 1,977	32.45 61 1,979	35.4 56 1,982
45×4	2.74	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		16.44 122 2,006	19.18 104 1,995	21.92 91 1,995	24.66 81 1,997	27.4 73 2,000	30.14 73 2,200	32.88 61 2,006
45×5	3.38	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		20.28 99 2,008	23.66 85 2,011	27.04 74 2,001	30.42 66 2,008	33.8 59 1,994	37.18 59 2,194	40.56 49 1,987
50×4	3.06	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		18.36 108 1,983	21.42 93 1,992	24.48 81 1,983	27.54 72 1,983	30.6 65 1,989	33.66 59 1,986	36.72 54 1,983
50×5	3.77	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		22.62 88 1,991	26.39 75 1,979	30.16 66 1,991	33.93 58 1,968	37.7 53 1,998	41.47 48 1,991	45.24 44 1,991
50×6	4.43	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		26.58 75 1,994	31.01 64 1,985	35.44 56 1,985	39.87 50 1,994	44.3 45 1,994	48.73 41 1,998	53.16 37 1,967
65×6	5.91	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		35.46 56 1,986	41.37 48 1,986	47.28 42 1,986	53.19 37 1,968	59.1 33 1,950	65.01 30 1,950	70.92 28 1,986
65×8	7.66	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		45.96 43 1,976	53.62 37 1,984	61.28 32 1,961	68.94 29 1,999	76.6 26 1,992	84.26 23 1,938	91.92 21 1,930
75×6	6.85	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		41.1 48 1,973	47.95 41 1,966	54.8 36 1,973	61.65 32 1,973	68.53 29 1,987	75.35 26 1,959	82.2 24 1,973

03 | 형강 포장TABLE

PACKING TABLE OF SECTIONS

- 환산중량 단위무게 : KS D3502기준
- 1본 중량 : 단중×1본길이 (소수 2자리 뺌)
- 포장중량 : 1본중량×포장본수 (kg서 뺌)

ㄱ형강 (Angles)

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)	6	7	8	9	10	11	12
75×9	9.96	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		59.76 33 1,972	69.72 28 1,952	79.68 25 1,992	89.64 22 1,972	99.6 20 1,992	109.56 18 1,972	119.52 16 1,912
90×7	9.59	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		57.54 34 1,956	67.13 29 1,947	76.62 26 1,995	86.31 23 1,985	95.9 24 2,302	105.49 18 1,899	115.08 17 1,956
90×9	12.1	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		72.6 27 1,960	84.7 23 1,948	96.8 20 1,936	108.9 18 1,960	121 16 1,936	133.1 15 1,997	145.2 13 1,888
90×10	13.3	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		79.8 25 1,995	93.1 21 1,955	106.4 18 1,915	119.7 19 2,274	133 19 2,527	146.3 13 1,902	159.6 12 1,915
100×7	10.7	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		64.2 32 2,054	74.9 32 2,397	85.6 36 2,226	96.3 21 2,022	107 21 2,247	118 19 2,242	128 19 2,432
100×10	14.9	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		89.4 24 2,146	104 21 2,184	119 16 1,904	134 16 2,144	149 16 2,384	164 16 2,624	179 13 2,327
100×13	19.1	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		115 21 2,415	134 21 2,814	153 13 1,989	172 13 2,236	191 13 2,483	210 13 2,730	229 13 2,977
130×9	17.9	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		107 19 2,033	125 19 2,375	143 16 2,288	161 16 2,576	179 13 2,327	197 13 2,561	215 13 2,795
130×12	23.4	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		140 16 2,240	164 16 2,624	187 13 2,431	211 13 2,743	234 13 3,042	257 13 3,341	281 13 3,653
130×15	28.8	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		173 13 2,249	202 13 2,626	230 11 2,530	259 11 2,849	288 11 3,168	317 11 3,487	346 11 3,806
150×10	22.9	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		137 15 2,055	160 14 2,240	183 12 2,196	206 12 2,472	229 11 2,519	252 11 2,772	275 9 2,475
150×12	27.3	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		164 12 1,968	191 12 2,292	218 12 2,616	246 12 2,952	273 12 3,276	300 12 3,600	328 12 3,936
150×15	33.6	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		202 11 2,222	235 11 2,585	269 11 2,959	302 11 3,322	336 11 3,696	370 11 4,070	403 11 4,433
50×30×3	1.83	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		10.98 182 1,998	12.81 156 1,998	14.64 136 1,991	16.47 121 1,993	18.3 109 1,995	20.13 99 1,993	21.96 91 1,998

- Converted Weight per Unit : KS D3502 base
- Weight per piece : Weight x Length (Calculate to 2 decimal place)
- Package Weight : Weight of 1 piece x Number of piece (Unit: kg)

● 평강 (Flat Bars)

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)	5	5.5	6	7	8
3.2×89	2.23	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		11.15 180 2,007	12.27 162 1,987	13.38 150 2,007	15.61 129 2,014	17.84 111 1,980
4.5×38	1.34	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		6.7 300 2,010	7.37 270 1,990	8.04 246 1,978	9.38 210 1,970	10.72 185 1,983
4.5×50	1.77	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		8.85 225 1,991	9.74 205 1,997	10.62 185 1,965	12.39 160 1,982	14.16 144 2,039
4.5×65	2.3	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		11.5 172 1,978	12.65 160 2,024	13.8 144 1,987	16.1 123 1,980	18.4 108 1,987
4.5×75	2.65	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		13.25 150 1,988	14.58 138 2,012	15.9 126 2,003	18.55 108 2,003	21.2 96 2,035
4.5×89	3.14	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		15.7 126 1,978	17.27 117 2,021	18.84 108 2,035	21.98 90 1,978	25.12 81 2,035
5×38	1.49	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		7.45 270 2,012	8.2 246 2,017	8.94 222 1,985	10.43 190 1,982	11.92 160 1,907
5×50	1.96	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		9.8 205 2,009	10.78 185 1,994	11.76 170 1,999	13.72 144 1,976	15.68 128 2,007
5×65	2.55	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		12.75 156 1,989	14.03 144 2,020	15.3 132 2,020	17.85 111 1,981	20.4 99 2,020
5×75	2.94	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		14.7 135 1,985	16.17 123 1,989	17.64 114 2,011	20.58 96 1,976	23.52 87 2,046
6×38	1.79	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		8.95 222 1,987	9.85 204 2,009	10.74 186 1,998	12.53 162 2,030	14.32 140 2,005
6×50	2.36	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		11.8 170 2,006	12.98 155 2,012	14.16 140 1,982	16.52 120 1,982	18.88 108 2,039
6×65	3.06	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		15.3 132 2,020	16.83 120 2,020	18.36 108 1,983	21.42 93 1,992	24.48 81 1,983
6×75	3.53	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		17.65 112 1,977	19.42 102 1,981	21.18 93 1,970	24.71 81 2,002	28.24 70 1,977

03 | 형강 포장TABLE

PACKING TABLE OF SECTIONS

- 환산중량 단위무게 : KS D3502기준
- 1본 중량 : 단중×1본길이 (소수 2자리 뺌)
- 포장중량 : 1본중량×포장본수 (kg서 뺌)

● 평강 (Flat Bars)

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)	5	5.5	6	7	8
6×90	4.24	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		21.2 93 1,972	23.32 87 2,029	25.44 78 1,984	29.68 66 1,959	33.92 58 1,967
6×100	4.71	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		23.55 84 1,978	25.91 78 2,021	28.26 72 2,035	32.97 60 1,978	37.68 54 2,035
6×125	5.89	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		29.45 68 2,003	32.4 62 2,009	35.34 56 1,979	41.23 48 1,979	47.12 42 1,979
8×38	2.39	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		11.95 167 1,996	13.15 152 1,999	14.34 140 2,008	16.73 120 2,008	19.12 104 1,988
8.5×100	6.67	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		33.35 60 2,001	36.69 54 1,981	40.02 51 2,041	46.69 42 1,961	53.36 38 2,028
9×38	2.68	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		13.4 150 2,010	14.74 138 2,034	16.08 126 2,026	18.76 105 1,970	21.44 95 2,037
9×50	3.53	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		17.65 115 2,030	19.42 105 2,039	21.18 95 2,012	24.71 80 1,977	28.24 72 2,033
9×65	4.59	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		22.95 88 2,020	25.25 80 2,020	27.54 72 1,983	32.13 63 2,024	36.72 54 1,983
9×75	5.3	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		26.5 75 1,988	29.15 69 2,011	31.8 63 2,003	37.1 54 2,003	42.4 48 2,035
9×80	5.65	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		28.25 72 2,034	31.08 66 2,051	33.9 60 2,034	39.55 51 2,017	45.2 45 2,034
9×90	6.36	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		31.8 62 1,972	34.98 58 2,029	38.16 51 1,946	44.52 44 1,959	50.88 40 2,035
9×100	7.06	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		35.3 56 1,977	38.83 52 2,019	42.36 48 2,035	49.42 40 1,97	56.48 36 2,033
9×120	8.48	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		42.39 48 2,035	46.63 42 1,958	50.88 40 2,035	59.35 34 2,018	67.82 30 2,035
9×125	8.83	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		44.15 46 2,031	48.57 42 2,040	52.98 38 2,014	61.81 32 1,978	70.64 28 1,978

- Converted Weight per Unit : KS D3502 base
- Weight per piece : Weight x Length (Calculate to 2 decimal place)
- Package Weight : Weight of 1 piece x Number of piece (Unit: kg)

● 평강 (Flat Bars)

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)	5	5.5	6	7	8
12×38	3.58	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		17.9 114 2,041	19.69 102 2,008	21.48 96 2,062	25.06 78 1,955	28.64 72 2,062
12×50	4.71	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		23.55 85 2,002	25.91 75 1,943	28.26 70 1,978	32.97 60 1,978	37.68 52 1,959
12×56	6.12	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		30.6 64 1,958	33.66 51 1,980	36.77 56 2,056	42.84 48 2,056	48.56 42 2,056
12×75	7.06	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		35.3 56 1,977	38.83 51 1,980	42.36 48 2,033	49.42 39 1,927	56.48 36 2,033
12×90	8.48	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		42.4 48 2,035	46.64 42 1,959	50.88 39 1,984	59.36 34 2,018	67.84 30 2,035
12×100	9.42	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		47.1 42 1,978	51.81 38 1,969	56.52 36 2,034	65.94 30 1,978	75.36 26 1,959
12×125	11.8	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		59 34 2,006	64.9 30 1,947	70.8 28 1,982	82.6 24 1,982	94.4 21 1,982
14×50	5.50	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		27.5 72 1,980	30.25 66 1,997	33 60 1,980	38.5 52 2,002	44 45 1,980
16×65	8.16	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)		40.8 50 2,040	44.88 44 1,975	48.96 40 1,958	57.12 34 1,942	65.28 30 1,958

● 프로파일 (Profile)

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)
P/F C	2.36	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	6.1 14.4 140 2,016
P/F F	2.56	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	15.62 125 1,953

03 | 형강 포장 TABLE

PACKING TABLE OF SECTIONS

● 원형(봉)강 (Round Bars)

규격 Diameter	단위중량 Unit Weight (kg/m)	길이 Length (m) 구분 Classification	6	8
R12	0.89	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	5.34 188 1,004	7.12 140 997
R16	1.58	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	9.48 210 1,991	12.64 158 1,997
R19	2.23	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	13.4 150 2,007	17.84 112 1,998
R20	2.47	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	14.82 135 2,001	19.76 100 1,976
R22	2.98	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	17.88 112 2,003	23.84 84 2,003
R25	3.85	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	23.1 87 2,010	30.8 65 2,002
R29	5.18	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	31.08 65 2,020	41.44 49 2,031
R30	5.55	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	33.3 60 1,998	44.4 45 1,998
R32	6.31	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	37.86 53 2,007	50.48 40 2,019
R36	7.99	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	47.9 42 2,013	63.9 31 1,982
R42	10.9	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	65.4 30 1,962	87.2 22 1,918
R50	15.4	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	92.4 22 2,033	123 17 2,091
HR60	11.1	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	66.6 30 1,988	
S22	3.8	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	22.8 88 2,006	30.4 72 2,189

● I 형강 (I-Bars)

규격 Diameter	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)	6
32×5×3	0.93	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	5.58 358 1,998	
38×5×3	1.1	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	6.6 303 2,000	
44×5×3	1.27	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	7.62 260 1,981	
50×5×3	1.44	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	8.64 231 1,996	
55×7×4	2.14	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	12.84 156 2,003	
60×7×4	2.3	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	13.8 145 2,001	
65×7×4	2.45	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	14.7 136 1,999	
75×7×4	2.86	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	17.16 117 2,008	

※ Max.
16.5 Ton

폭 Width (mm) 두께 Thickness (mm)	1,000 ≤ ＜ 1,500	1,500 ≤ ＜ 1,900	1,900 ≤ ＜ 2,300	2,300 ≤ ＜ 2,700	2,700 ≤ ＜ 3,100	3,100 ≤ ＜ 3,500	3,500 ≤ ＜ 3,900	3900 ≤ ＜ 4300	4,300 ≤ ＜ 4,800
6 ≤ T < 7		17	18	20	20	20	20		
7 ≤ T < 8		17	18	20	20	20	20		
8 ≤ T < 9		17	20	20	20	20	20	20	20
9 ≤ T < 10	18	20	21	21	21	21	21	21	21
10 ≤ T < 12	18	21	22.5	22.5	22.5	22.5	22.5	22.5	22.5
12 ≤ T < 18	18	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
18 ≤ T < 20	18	22.5	22	22.5	22.5	22.5	22.5	22.5	20.5
20 ≤ T < 25	18	22	22	22.5	22.5	22	19.5	17.5	16
25 ≤ T < 30	21	22	22	22.5	20.5	18	16	14.5	13.5
30 ≤ T < 35	18	22	22	20	17.5	15.5	13.5	12.5	11.5
35 ≤ T < 40	15.5	22	20.5	17.5	15	13.5	12	11	10
40 ≤ T < 45		22	18	15.5	13.5	12	10.5	9.5	8.5
45 ≤ T < 50		19.5	16	14	12	10.5	9.5	8.5	8
50 ≤ T < 55		18	14.5	12.5	11	9.5	8	8	7
55 ≤ T < 60		16.5	13.5	11.5	10	8.5	8	7	6.5
60 ≤ T < 65		15	12.5	10.5	9	8	7	6.5	6
65 ≤ T < 70		14	11.5	9.5	8.5	7.5	6.5	6	5.5
70 ≤ T < 75		13	10.5	9	8	7	6	5.5	5
75 ≤ T < 80		12	10	8.5	7.5	6.5	6	5	5
80 ≤ T < 85		11.5	9.5	8	7	6	5.5	5	4.5
85 ≤ T < 90		10.5	9	7.5	6.5	5.5	5	4.5	4
90 ≤ T < 95		10	8.5	7	6	5.5	5	4.5	4
95 ≤ T < 100		9.5	8	6.5	6	5	4.5	4	4
100 ≤ T < 105		9	7.5	6.5	5.5	5	4.5	4	※ Max. 16.5 Ton
105 ≤ T < 110		8.5	7	6	5.5	4.5	4		
110 ≤ T < 115		8.5	7	6	5	4.5	4		
115 ≤ T < 120	8	6.5	5.5	5	4	4			
120 ≤ T	별도 협의 필요 (Prior Discussion is Required)								

05

강판 치수 및 중량표

DIMENSIONS AND WEIGHTS TABLE OF STEEL PLATES

단위 (Unit) : Kg

T(mm)	kg/m ²	W×L(ft)		W(mm)		L(mm)		3×6	4×8	4×10	4×20	5×10	5×20	5×30	6×10	6×20	6×30
								914	1,219	1,219	1,219	1,524	1,524	1,524	1,829	1,829	1,829
								1,829	2,438	3,048	6,096	3,048	6,096	9,144	3,048	6,096	9,144
6	47.1							78.8	140	175	350	219	438	657	263	525	788
7	54.95							91.9	63	204	408	255	510	766	306	613	919
8	62.8							105	187	233	467	292	583	875	350	700	1,050
9	70.65							118	210	263	525	328	656	985	394	788	1,181
10	78.5							131	233	292	583	365	729	1,094	438	875	1,313
11	86.35							144	257	321	642	401	802	1,204	481	963	1,444
12	94.2							158	280	350	700	438	875	1,313	525	1,050	1,575
13	102							171	303	379	758	474	948	1,422	569	1,137	1,705
14	109.9							184	327	408	817	510	1,021	1,532	613	1,225	1,838
15	117.8							197	350	438	875	547	1,094	1,642	657	1,313	1,970
16	125.6							210	373	467	933	583	1,167	1,751	700	1,400	2,100
17	133.4							223	396	496	991	620	1,239	1,860	744	1,487	2,230
18	141.3							236	420	525	1,050	656	1,313	1,970	788	1,575	2,363
19	149.2							249	443	554	1,109	693	1,386	2,080	832	1,664	2,495
20	157							263	467	583	1,167	729	1,459	1,189	875	1,751	2,625
21	164.8							276	490	612	1,225	765	1,531	2,297	919	1,838	2,755
22	172.7							289	513	642	1,283	802	1,604	2,407	963	1,926	2,888
23	180.6							302	537	671	1,342	839	1,678	2,518	1,007	2,014	3,020
24	188.4							315	560	700	1,400	875	1,750	2,626	1,050	2,101	3,150
25	196.2							328	583	729	1,458	911	1,823	2,735	1,094	2,188	3,280
26	204.1							341	607	758	1,517	948	1,896	2,845	1,138	2,276	3,413
27	212							354	630	788	1,575	985	1,969	2,955	1,182	2,364	3,545
28	219.8							368	653	817	1,633	1,021	2,042	3,064	1,225	2,451	3,675
29	227.6							381	676	846	1,691	1,057	2,114	3,173	1,269	2,538	3,807
30	235.5							394	700	875	1,750	1,094	2,188	3,283	1,313	2,626	3,938
31	243.4							407	723	904	1,809	1,131	2,261	3,393	1,357	2,714	4,070
32	251.2							420	747	933	1,867	1,167	2,334	3,502	1,400	2,801	4,200
33	259							433	770	962	1,925	1,203	2,406	3,610	1,444	2,888	4,332
34	266.9							446	793	992	1,983	1,240	2,480	3,721	1,488	2,976	4,463
35	274.8							459	817	1,021	2,042	1,276	2,553	3,831	1,532	3,064	4,595
36	282.6							473	840	1,050	2,100	1,313	2,625	3,939	1,575	3,151	4,725
37	290.4							486	863	1,079	2,158	1,349	2,698	4,048	1,619	3,239	4,855
38	298.3							499	887	1,108	2,217	1,386	2,771	4,158	1,663	3,326	4,988
39	306.2							521	910	1,138	2,275	1,422	2,845	4,268	1,707	3,414	5,120
40	314							525	933	1,167	2,333	1,459	2,917	4,377	1,751	3,501	5,250
41	321.8							538	956	1,196	2,391	1,495	2,990	4,486	1,794	3,588	5,380
42	329.7							551	980	1,225	2,450	1,531	3,063	4,596	1,838	3,676	5,513
43	337.6							564	1,003	1,255	2,509	1,568	3,136	4,706	1,882	3,764	5,645
44	315.4							578	1,027	1,284	2,567	1,604	3,209	4,815	1,926	3,851	5,775
45	353.2							591	1,050	1,312	2,625	1,641	3,281	4,924	1,969	3,938	5,906
46	361.1							604	1,073	1,342	2,683	1,677	3,355	5,034	2,013	4,026	6,038
47	369							617	1,097	1,371	2,742	1,714	3,428	5,144	2,057	4,114	6,170
48	376.8							630	1,120	1,400	2,800	1,750	3,500	5,253	2,101	4,201	6,300
49	384.6							643	1,143	1,429	2,858	1,786	3,573	5,361	2,144	4,288	6,431
50	392.5							656	1,167	1,459	2,917	1,824	3,646	5,471	2,188	4,376	6,563
51	400.4							669	1,190	1,488	2,975	1,860	3,720	5,582	2,232	4,464	6,695
52	408.2							683	1,213	1,517	3,033	1,896	3,792	5,690	2,276	4,551	6,825
53	416							696	1,236	1,546	3,091	1,932	3,865	5,799	2,319	4,638	6,956

단위 (Unit) : Kg

T(mm)	kg/m	W×L(ft)		8×20	8×30	10×20	10×30	10×40	11×20	11×30	11×40	12×20	12×30
		W(m)	L(m)										
6	47.1	700	1,050	875	1,313	1,750	963	1,444	1,925	1,050	1,575		
7	54.95	817	1,225	1,021	1,531	2,042	1,123	1,685	2,246	1,225	1,838		
8	62.8	933	1,400	1,166	1,750	2,334	1,284	1,925	2,567	1,400	2,101		
9	70.65	1,050	1,575	1,313	1,969	2,625	1,444	2,166	2,888	1,575	2,363		
10	78.5	1,176	1,750	1,459	2,188	2,917	1,605	2,407	3,209	1,751	2,626		
11	86.35	1,283	1,925	1,604	2,407	3,209	1,765	2,647	3,530	1,926	2,888		
12	94.2	1,400	2,100	1,750	2,625	3,500	1,925	2,888	3,851	2,101	3,151		
13	102	1,516	2,274	1,895	2,843	3,790	2,085	3,127	4,170	2,275	3,412		
14	109.9	1,633	2,450	2,042	3,063	4,084	2,246	3,370	4,493	2,451	3,676		
15	117.8	1,751	2,626	2,189	3,283	4,377	2,408	3,612	4,816	2,627	3,940		
16	125.6	1,866	2,800	2,334	3,500	4,667	2,567	3,851	5,135	2,801	4,201		
17	133.4	1,982	2,973	2,479	3,718	4,957	2,727	4,090	5,453	2,975	4,462		
18	141.3	2,100	3,150	2,625	3,938	5,251	2,888	4,332	5,776	3,151	4,726		
19	149.2	2,217	3,326	2,772	4,158	5,544	3,050	4,574	6,099	3,327	4,991		
20	157	2,333	3,500	2,917	4,376	5,834	3,209	4,814	6,418	3,501	5,252		
21	164.8	2,499	3,675	3,062	4,593	6,124	3,369	5,053	6,737	3,675	5,513		
22	172.7	2,566	3,849	3,209	4,813	6,418	3,530	5,295	7,060	3,851	5,777		
23	180.6	2,684	4,026	3,356	5,033	6,711	3,691	5,537	7,383	4,027	6,041		
24	188.4	2,800	4,199	3,500	5,251	7,001	3,851	5,776	7,702	4,201	6,302		
25	196.2	2,916	4,373	3,645	5,468	7,291	4,010	6,015	8,021	4,375	6,563		
26	204.1	3,033	4,549	3,792	5,688	7,584	4,172	6,258	8,344	4,551	6,827		
27	212	3,150	4,725	3,939	5,908	7,878	4,333	6,500	8,667	4,728	7,091		
28	219.8	3,266	4,899	4,084	6,126	8,168	4,493	6,739	8,985	4,902	7,352		
29	227.6	3,382	5,073	4,229	6,343	8,458	4,652	6,978	9,304	5,075	7,613		
30	235.5	3,500	5,249	4,376	6,563	8,751	4,814	7,220	9,627	5,252	7,877		
31	243.4	3,617	5,425	4,522	6,784	9,045	4,975	7,463	9,950	5,428	8,142		
32	251.2	3,733	5,599	4,667	7,001	9,335	5,135	7,702	10,269	5,602	8,403		
33	259	3,849	5,773	4,812	7,221	9,624	5,294	7,941	10,588	5,776	8,664		
34	266.9	3,966	5,949	4,959	7,439	9,918	5,455	8,183	10,911	5,952	8,928		
35	274.8	4,084	6,125	5,106	7,659	10,212	5,617	8,425	11,234	6,128	9,192		
36	282.6	4,199	6,299	5,251	7,876	10,501	5,776	8,665	11,553	6,302	9,453		
37	290.4	4,315	6,473	5,396	8,093	10,791	5,936	8,904	11,872	6,476	9,714		
38	298.3	4,433	6,649	5,542	8,314	11,085	6,097	9,146	12,195	6,652	9,978		
39	306.2	4,550	6,825	5,689	8,534	11,378	6,259	9,388	12,517	6,828	10,242		
40	314	4,666	6,999	5,834	8,751	11,668	6,418	9,627	12,836	7,002	10,503		
41	321.8	4,782	7,173	5,979	8,969	11,958	6,578	9,866	13,155	7,176	10,764		
42	329.7	4,899	7,349	6,126	9,189	12,252	6,739	10,109	13,478	7,352	11,028		
43	337.6	5,017	7,525	6,273	9,409	12,545	6,901	10,351	13,801	7,528	11,293		
44	315.4	5,133	7,699	6,418	9,626	12,835	7,060	10,590	14,130	7,702	11,554		
45	353.2	5,249	7,873	6,562	9,844	13,125	7,219	10,829	14,439	7,876	11,815		
46	361.1	5,366	8,049	6,709	10,064	13,418	7,381	11,071	14,762	8,053	12,079		
47	369	5,483	8,225	6,856	10,284	13,712	7,542	11,314	15,085	8,229	12,343		
48	376.8	5,599	8,399	7,001	10,501	14,002	7,702	11,553	15,404	8,403	12,604		
49	384.6	5,715	8,573	7,146	10,719	14,292	7,861	11,792	15,722	8,577	12,865		
50	392.5	5,833	8,749	7,293	10,939	14,585	8,023	12,034	16,045	8,753	13,129		
51	400.4	5,950	8,925	7,439	11,159	14,879	8,184	12,276	16,368	8,929	13,393		
52	408.2	6,066	9,099	7,584	11,377	15,169	8,344	12,515	16,687	9,103	13,654		
53	416	6,182	9,273	7,729	11,594	15,459	8,503	12,755	17,006	9,277	13,915		

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강판 치수 및 중량표

DIMENSIONS AND WEIGHTS TABLE OF STEEL PLATES

단위 (Unit) : Kg

T(mm)	kg/m ²	W×L(ft) W(mm) L(mm)									
		12×40	13×20	13×30	13×40	14×20	14×30	14×40	15×20	15×30	15×40
		3,658	3,962	3,962	3,962	4,267	4,267	4,267	4,572	4,572	4,572
		12,192	6,096	9,144	12,192	6,096	9,144	12,192	6,096	9,144	12,192
6	47.1	2,101	1,137	1,706	2,275	1,225	1,838	2,450	1,313	1,969	2,625
7	54.95	2,451	1,327	1,991	2,654	1,429	2,144	2,859	1,532	2,297	3,063
8	62.8	2,801	1,517	2,275	3,033	1,634	2,450	3,267	1,750	2,625	3,501
9	70.65	3,151	1,706	2,560	3,412	1,838	2,757	3,675	1,969	2,954	3,938
10	78.5	3,501	1,896	2,844	3,792	2,042	3,063	4,084	2,188	3,282	4,376
11	86.35	3,851	2,085	3,128	4,171	2,246	3,369	4,492	2,407	3,610	4,813
12	94.2	4,201	2,275	3,413	4,550	2,450	3,675	4,901	2,625	3,938	5,251
13	102	4,549	2,463	3,695	4,927	2,654	3,982	5,309	2,844	4,266	5,688
14	109.9	4,902	2,654	3,982	5,308	2,859	4,288	5,717	3,063	4,595	6,126
15	117.8	5,254	2,845	4,268	5,690	3,063	4,594	6,126	3,282	4,923	6,564
16	125.6	5,602	3,033	4,550	6,066	3,267	4,901	6,534	3,501	5,251	7,001
17	133.4	5,950	3,222	4,833	6,443	3,471	5,207	6,943	3,719	5,579	7,439
18	141.3	6,302	3,412	5,119	6,825	3,675	5,513	7,351	3,938	5,907	7,876
19	149.2	6,654	3,603	5,406	7,206	3,880	5,819	7,759	4,157	6,235	8,314
20	157	7,002	3,792	5,688	7,583	4,084	6,126	8,168	4,376	6,564	8,751
21	164.8	7,350	3,980	5,971	7,960	4,288	6,432	8,576	4,595	6,892	9,189
22	172.7	7,702	4,171	6,257	8,341	4,492	6,738	8,984	4,813	7,220	9,627
23	180.6	8,055	4,361	6,543	8,723	4,696	7,045	9,393	5,032	7,548	10,064
24	188.4	8,403	4,550	6,826	9,100	4,901	7,351	9,801	5,251	7,876	10,502
25	196.2	8,751	4,738	7,108	9,476	5,105	7,657	10,210	5,470	8,204	10,939
26	204.1	9,103	4,929	7,395	9,858	5,309	7,963	10,618	5,688	8,533	11,377
27	212	9,455	5,120	7,681	10,240	5,513	8,270	11,026	5,907	8,861	11,814
28	219.8	9,803	5,308	7,963	10,616	5,717	8,576	11,435	6,126	9,189	12,252
29	227.6	10,151	5,497	8,246	10,993	5,922	8,882	11,843	6,345	9,517	12,690
30	235.5	10,503	5,687	8,532	11,375	6,126	9,189	12,251	6,564	9,845	13,127
31	243.4	10,856	5,878	8,818	11,756	6,330	9,495	12,660	6,782	10,174	13,565
32	251.2	11,204	6,066	9,101	12,133	6,534	9,801	13,068	7,001	10,502	14,002
33	259	11,551	6,255	9,384	12,510	6,738	10,107	13,477	7,220	10,830	14,440
34	266.9	11,904	6,446	9,670	12,891	6,943	10,414	13,885	7,439	11,158	14,877
35	274.8	12,256	6,636	9,956	13,273	7,147	10,720	14,293	7,658	11,486	15,315
36	282.6	12,604	6,825	10,239	13,650	7,351	11,026	14,702	7,876	11,814	15,753
37	290.4	12,952	7,013	10,521	14,026	7,555	11,333	15,110	8,095	12,143	16,190
38	298.3	13,304	7,204	10,807	14,408	7,759	11,639	15,519	8,314	12,471	16,628
39	306.2	13,657	7,395	11,094	14,789	7,963	11,945	15,927	8,533	12,799	17,065
40	314	14,004	7,583	11,376	15,166	8,168	12,251	16,335	8,751	13,127	17,503
41	321.8	14,352	7,771	11,659	15,543	8,372	12,558	16,744	8,970	13,455	17,941
42	329.7	14,705	7,962	11,945	15,925	8,576	12,864	17,152	9,189	13,784	18,378
43	337.6	15,057	8,153	12,231	16,306	8,780	13,170	17,560	9,408	14,112	18,816
44	315.4	15,405	8,341	12,514	16,683	8,984	13,477	17,969	9,627	14,440	19,253
45	353.2	15,753	8,530	12,796	17,060	9,189	13,783	18,377	9,845	14,768	19,691
46	361.1	16,105	8,721	13,083	17,441	9,393	14,089	18,786	10,064	15,096	20,128
47	369	16,457	8,911	13,369	17,823	9,597	14,395	19,194	10,283	15,424	20,566
48	376.8	16,805	9,100	13,651	18,199	9,801	14,702	19,602	10,502	15,753	21,004
49	384.6	17,153	9,288	13,934	18,576	10,005	15,008	20,011	10,721	16,081	21,441
50	392.5	17,506	9,479	14,220	18,958	10,210	15,314	20,419	10,939	16,409	21,879
51	400.4	17,858	9,670	14,506	19,339	10,414	15,621	20,828	11,158	16,737	22,316
52	408.2	18,206	9,858	14,789	19,716	10,618	15,927	21,236	11,377	17,065	22,754
53	416	18,554	10,046	15,072	20,093	10,822	16,233	21,644	11,596	17,394	23,191

단위 (Unit) : Kg

T(mm)	kg/m	W×L(ft)			3×6	4×8	4×10	4×20	5×10	5×20	5×20	6×10	6×20	6×30
		W(m) L(m)			914	1,219	1,219	1,219	1,524	1,524	1,524	1,829	1,829	1,829
					1,829	2,438	3,048	6,096	3,048	6,096	6,096	3,048	6,096	9,144
54	423.9				709	1,260	1,575	3,150	1,969	3,938	3,938	2,363	4,726	7,088
55	431.8				722	1,283	1,605	3,209	2,006	4,011	4,011	2,407	4,815	7,220
56	439.6				735	1,306	1,634	3,267	2,042	4,084	4,084	2,451	4,902	7,350
57	447.4				748	1,330	1,663	3,325	2,078	4,156	4,156	2,494	4,989	7,481
58	455.3				761	1,353	1,692	3,383	2,115	4,230	4,230	2,538	5,077	7,613
59	463.2				774	1,377	1,721	3,442	2,152	4,303	4,303	2,582	5,165	7,745
60	471				788	1,400	1,750	3,500	2,188	4,376	4,376	2,626	5,252	7,875
61	478.8				801	1,423	1,779	3,558	2,224	4,448	4,448	2,669	5,339	8,006
62	486.7				814	1,446	1,809	3,617	2,261	4,521	4,521	2,713	5,427	8,138
63	494.6				827	1,470	1,838	3,675	2,297	4,595	4,595	2,757	5,515	8,170
64	502.4				840	1,493	1,867	3,733	2,334	4,667	4,667	2,801	5,602	8,400
65	510.2				853	1,516	1,896	3,791	2,370	4,740	4,740	2,844	5,689	8,531
66	518.1				856	1,540	1,925	3,850	2,407	4,813	4,813	2,888	5,777	8,663
67	526				879	1,563	1,955	3,909	2,443	4,887	4,887	2,932	5,865	8,795
68	533.8				892	1,586	1,984	3,967	2,480	4,959	4,959	2,976	5,952	8,925
69	541.6				906	1,610	2,013	4,025	2,516	5,032	5,032	3,019	6,039	9,056
70	549.5				919	1,633	2,042	4,083	2,552	5,105	5,105	3,063	6,127	9,188
71	557.4				932	1,657	2,071	4,142	2,589	5,178	5,178	3,108	6,215	9,320
72	565.2				945	1,680	2,100	4,200	2,625	5,251	5,251	3,151	6,302	9,450
73	573				958	1,703	2,129	4,258	2,662	5,323	5,323	3,194	6,389	9,581
74	580.9				971	1,726	2,159	4,317	2,698	5,397	5,397	3,239	6,477	9,713
75	588.3				984	1,750	2,188	4,375	2,735	5,470	5,470	3,283	6,565	9,845
76	596.6				998	1,773	2,217	4,433	2,771	5,542	5,542	3,326	6,652	9,975
77	604.4				1,010	1,796	2,246	4,491	2,807	5,615	5,615	3,370	6,739	10,106
78	612.3				1,024	1,820	2,275	4,550	2,844	5,688	5,688	3,414	6,827	10,238
79	620.2				1,037	1,843	2,305	4,609	2,881	5,762	5,762	3,458	6,915	10,370
80	628				1,050	1,866	2,333	4,667	2,917	5,834	5,834	3,501	7,002	10,500
81	635.8				1,063	1,890	2,363	4,725	2,954	5,907	5,907	3,545	7,089	10,631
82	643.7				1,076	1,913	2,392	4,783	2,990	5,980	5,980	3,589	7,177	10,763
83	651.6				1,089	1,937	2,421	4,842	3,027	6,053	6,053	3,633	7,265	10,895
84	659.4				1,103	1,960	2,450	4,900	3,063	6,126	6,126	3,676	7,352	11,025
85	667.2				1,116	1,983	2,479	4,958	3,099	6,198	6,198	3,720	7,439	11,156
86	675.1				1,129	2,006	2,509	5,017	3,136	6,272	6,272	3,764	7,527	11,288
87	683				1,142	2,030	2,538	5,075	3,173	6,345	6,345	3,808	7,615	11,420
88	690.8				1,155	2,053	2,567	5,133	3,209	6,418	6,418	3,851	7,702	11,550
89	698.6				1,168	2,076	2,596	5,191	3,245	6,490	6,490	3,895	7,789	11,681
90	706.5				1,181	2,100	2,625	5,250	3,282	6,563	6,563	3,939	7,877	11,813
91	714.4				1,194	2,123	2,655	5,309	3,318	6,637	6,637	3,983	7,966	11,945
92	722.2				1,208	2,146	2,684	5,367	3,355	6,709	6,709	4,026	8,053	12,075
93	730				1,221	2,170	2,713	5,425	3,391	6,782	6,782	4,070	8,140	12,206
94	737.9				1,234	2,193	2,742	5,483	3,428	6,855	6,855	4,114	8,228	12,338
95	745.8				1,247	2,217	2,771	5,542	3,464	6,928	6,928	4,158	8,316	12,470
96	753.6				1,260	2,240	2,800	5,600	3,500	7,001	7,001	4,201	8,403	12,600
97	761.4				1,273	2,263	2,829	5,658	3,537	7,073	7,073	4,245	8,490	12,731
98	769.3				1,286	2,286	2,859	5,717	3,573	7,147	7,147	4,289	8,578	12,863
99	777.2				1,299	2,310	2,888	5,775	3,610	7,220	7,220	4,333	8,666	12,995
100	785				1,313	2,333	2,917	5,833	3,646	7,293	7,293	4,376	8,753	13,125

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강판 치수 및 중량표

DIMENSIONS AND WEIGHTS TABLE OF STEEL PLATES

단위 (Unit) : Kg

T(mm)	kg/m ²	W×L(ft)		8×20	8×30	10×20	10×30	10×40	11×20	11×30	11×40	12×20	12×30
		W(m)	L(m)	2,438	2,438	3,048	3,048	3,048	3,353	3,353	3,353	3,658	3,658
				6,096	9,144	6,096	9,144	12,192	6,096	9,144	12,192	6,096	9,144
54	423.9			6,299	9,449	7,876	11,814	15,752	8,665	12,997	17,329	9,453	14,179
55	431.8			6,417	9,625	8,023	12,034	16,046	8,826	13,239	17,652	9,629	14,444
56	439.6			6,532	9,799	8,168	12,252	16,336	8,985	13,478	17,971	9,803	14,705
57	447.4			6,648	9,973	8,313	12,469	16,625	9,145	13,717	18,290	9,977	14,966
58	455.3			6,766	10,149	8,459	12,689	16,919	9,306	13,959	18,613	10,153	15,230
59	463.2			6,883	10,325	8,606	12,909	17,213	9,468	14,202	18,936	10,329	15,494
60	471			6,999	10,499	8,751	13,127	17,502	9,627	14,441	19,254	10,503	15,755
61	478.8			7,115	10,672	8,896	13,344	17,792	9,787	14,680	19,573	10,677	16,016
62	486.7			7,232	10,849	9,043	13,564	18,036	9,948	14,922	19,896	10,853	16,280
63	494.6			7,350	11,025	9,190	13,785	18,379	10,110	15,164	20,219	11,030	16,544
64	502.4			7,466	11,198	9,335	14,002	18,669	10,269	15,404	20,538	11,204	16,805
65	510.2			7,582	11,372	9,480	14,219	18,959	10,428	15,643	20,857	11,377	17,066
66	518.1			7,699	11,548	9,626	14,439	19,253	10,590	15,885	21,180	11,554	17,330
67	526			7,816	11,725	9,773	14,660	19,546	10,751	16,127	21,503	11,730	17,595
68	533.8			7,932	11,898	9,918	14,877	19,836	10,911	16,366	21,822	11,904	17,856
69	541.6			8,048	12,072	10,063	15,094	20,126	11,070	16,605	22,141	12,078	18,117
70	549.5			8,166	12,248	10,210	15,315	20,419	11,232	16,848	22,464	12,254	18,381
71	557.4			8,283	12,424	10,356	15,535	20,713	11,393	17,090	22,787	12,430	18,645
72	565.2			8,399	12,598	10,501	15,752	21,003	11,553	17,329	23,105	12,604	18,906
73	573			8,515	12,772	10,646	15,970	21,293	11,712	17,568	23,424	12,778	19,167
74	580.9			8,632	12,948	10,793	16,190	21,586	11,874	17,810	23,747	12,954	19,431
75	588.3			8,750	13,124	10,940	16,410	21,880	12,035	18,053	24,070	13,130	19,695
76	596.6			8,865	13,298	11,085	16,627	22,170	12,195	18,292	24,389	13,304	19,956
77	604.4			8,981	13,472	11,230	16,845	22,460	12,354	18,531	24,708	13,478	20,217
78	612.3			9,099	13,648	11,377	17,065	22,753	12,515	18,773	25,031	13,654	20,481
79	620.2			9,216	13,824	11,523	17,285	23,047	12,677	19,015	25,350	13,828	20,746
80	628			9,332	13,998	11,668	17,502	23,336	12,836	19,254	25,673	14,004	21,007
81	635.8			9,448	14,172	11,813	17,720	23,626	12,996	19,494	25,992	14,173	21,268
82	643.7			9,565	14,348	11,960	17,940	23,920	13,157	19,736	26,314	14,355	21,532
83	651.6			9,683	14,524	12,107	18,160	24,213	13,319	19,978	26,637	14,531	21,796
84	659.4			9,799	14,698	12,252	18,377	24,503	13,478	20,217	26,958	14,705	22,057
85	667.2			9,915	14,872	12,397	18,595	24,793	13,638	20,456	27,275	14,879	22,318
86	675.1			10,032	15,048	12,543	18,815	25,087	13,799	20,699	27,598	15,055	22,582
87	683			10,149	15,224	12,690	19,035	25,380	13,961	20,941	27,921	15,231	22,846
88	690.8			10,265	15,398	12,835	19,253	25,670	14,120	21,180	28,240	15,405	23,107
89	698.6			10,381	15,572	12,980	19,470	25,960	14,279	21,419	28,559	15,579	23,368
90	706.5			10,499	15,748	13,127	19,690	26,254	14,441	21,661	28,882	15,755	23,632
91	714.4			10,616	15,924	13,274	19,910	26,547	14,602	21,904	29,205	15,931	23,897
92	722.2			10,732	16,098	13,418	20,128	26,837	14,762	22,143	29,524	16,105	24,158
93	730			10,848	16,272	13,563	20,345	27,127	14,921	22,382	29,842	16,279	24,419
94	737.9			10,965	16,448	13,710	20,565	27,420	15,083	22,624	30,165	16,455	24,683
95	745.8			11,083	16,624	13,857	20,785	27,714	15,244	22,866	30,488	16,631	24,947
96	753.6			11,198	16,798	14,002	21,003	28,004	15,404	23,105	30,807	16,805	25,208
97	761.4			11,314	16,972	14,147	21,220	28,294	15,563	23,345	31,126	16,979	25,469
98	769.3			11,432	17,148	14,294	21,440	28,587	15,724	23,587	31,449	17,155	25,733
99	777.2			11,549	17,324	14,440	21,661	28,881	15,886	23,829	31,772	17,332	25,997
100	785			11,665	17,498	14,585	21,878	29,171	16,045	24,068	32,091	17,506	26,258

단위 (Unit) : Kg

		W×L(ft) W(mm) L(m)		12×40	13×20	13×30	13×40	14×20	14×30	14×40	15×20	15×30	15×40	
				3,658	3,962	3,962	3,962	4,267	4,267	4,267	4,572	4,572	4,572	
T(mm)	kg/m	12,192	6,096	9,144	12,192	6,096	9,144	12,192	6,096	9,144	12,192	6,096	9,144	12,192
54	423.9	18,906	10,237	15,358	20,474	11,026	16,539	22,053	11,814	17,722	23,629			
55	431.8	19,258	10,428	15,644	20,856	11,231	16,846	22,461	12,033	18,050	24,067			
56	439.6	19,606	10,616	15,927	21,233	11,435	17,152	22,869	12,252	18,378	24,504			
57	447.4	19,954	10,805	16,209	21,609	11,639	17,458	23,278	12,471	18,706	24,942			
58	455.3	20,306	10,995	16,496	21,991	11,843	17,765	23,686	12,690	19,034	25,379			
59	463.2	20,659	11,186	16,782	22,373	12,047	18,071	24,095	12,908	19,363	25,817			
60	471	21,007	11,375	17,064	22,749	12,251	18,377	24,503	13,127	19,691	26,254			
61	478.8	21,354	11,563	17,347	23,126	12,456	18,684	24,911	13,346	20,019	26,692			
62	486.7	21,707	11,754	17,633	23,503	12,660	18,990	25,320	13,565	20,347	27,130			
63	494.6	22,059	11,945	17,919	23,889	12,864	19,296	25,728	13,784	20,675	27,567			
64	502.4	22,407	12,153	18,202	24,266	13,068	19,602	26,136	14,002	21,004	28,005			
65	510.2	22,755	12,321	18,485	24,643	13,272	19,909	26,545	14,221	21,332	28,442			
66	518.1	23,107	12,512	18,771	25,024	13,477	20,215	26,953	14,440	21,660	28,880			
67	526	23,460	12,703	19,057	25,406	13,681	20,521	27,362	14,659	21,988	29,317			
68	533.8	23,807	12,891	19,340	25,783	13,885	20,828	27,770	14,877	22,316	29,755			
69	541.6	24,155	13,080	19,622	26,159	14,089	21,134	28,178	15,096	22,644	30,193			
70	549.5	24,508	13,270	19,908	26,541	14,293	21,440	28,587	15,315	22,973	30,630			
71	557.4	24,860	13,461	20,195	26,922	14,498	21,746	28,995	15,534	23,301	31,068			
72	565.2	25,208	13,650	20,477	27,299	14,702	22,053	29,404	15,753	23,629	31,505			
73	573	25,556	13,838	20,760	27,676	14,906	22,359	29,812	15,971	23,957	31,943			
74	580.9	25,908	14,029	21,046	28,057	15,110	22,665	30,220	16,190	24,285	32,380			
75	588.3	26,260	14,220	21,332	28,439	15,314	22,972	30,629	16,409	24,613	32,818			
76	596.6	26,608	14,408	21,615	28,816	15,519	23,278	31,037	16,628	24,942	33,256			
77	604.4	26,956	14,596	21,897	29,193	15,723	23,584	31,445	16,847	25,270	33,693			
78	612.3	27,309	14,787	22,184	29,574	15,927	23,890	31,854	17,065	25,598	34,131			
79	620.2	27,661	14,978	22,470	29,958	16,131	24,197	32,262	17,284	25,926	34,568			
80	628	28,009	15,168	22,752	30,332	16,335	24,503	32,671	17,503	26,254	35,006			
81	635.8	28,357	15,355	23,035	30,709	16,539	24,809	33,079	17,722	26,583	35,443			
82	643.7	28,709	15,545	23,321	31,091	16,744	25,116	33,487	17,941	26,911	35,881			
83	651.6	29,061	15,736	23,607	31,472	16,948	25,422	33,896	18,159	27,239	36,319			
84	659.4	29,409	15,925	23,890	31,849	17,152	25,728	34,304	18,378	27,567	36,756			
85	667.2	29,757	16,113	24,173	32,226	17,356	26,034	34,713	18,597	27,895	37,194			
86	675.1	30,109	16,304	24,459	32,607	17,560	26,341	35,121	18,816	28,223	37,631			
87	683	30,462	16,494	24,745	32,989	17,765	26,647	35,529	19,034	28,552	38,069			
88	690.8	30,810	16,683	25,028	33,366	17,969	26,953	35,938	19,253	28,880	38,506			
89	698.6	31,158	16,871	25,310	33,742	18,173	27,260	36,346	19,472	29,208	38,944			
90	706.5	31,510	17,062	25,596	34,130	18,377	27,566	36,754	19,691	29,536	39,382			
91	714.4	31,862	17,253	25,883	34,506	18,581	27,872	37,163	19,910	29,864	39,819			
92	722.2	32,210	17,441	26,165	34,889	18,786	28,178	37,571	20,128	30,193	40,257			
93	730	32,558	17,630	26,448	35,259	18,990	28,485	37,980	20,347	30,521	40,694			
94	737.9	32,910	17,820	26,734	35,641	19,194	28,791	38,388	20,566	30,849	41,132			
95	745.8	33,263	18,011	27,020	36,022	19,398	29,097	38,796	20,785	31,177	41,569			
96	753.6	33,611	18,199	27,303	36,399	19,602	29,404	39,205	21,004	31,505	42,007			
97	761.4	33,958	18,388	27,586	36,776	19,807	29,710	39,613	21,222	31,833	42,445			
98	769.3	34,311	18,579	27,872	37,157	20,011	30,016	40,021	21,441	32,162	42,882			
99	777.2	34,663	18,769	28,158	37,539	20,215	30,322	40,430	21,660	32,490	43,320			
100	785	35,011	18,958	28,441	37,916	20,419	30,629	40,838	21,879	32,818	43,757			

규격 Standards	강종 Grade	두께 Thickness (mm)	화합성분 Chemical Composition (wt%, Ladle 기준)													
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V
KS D 3503	SS275	-	Max. 0.25	Max. 0.45	Max. 1.40	Max. 0.050	Max. 0.050	-	-	-	-	-	-	-	-	-
	SS315	-	Max. 0.28	Max. 0.50	Max. 1.50	Max. 0.050	Max. 0.050	-	-	-	-	-	-	-	-	-
	SS410	-	Max. 0.30	Max. 0.55	Max. 1.60	Max. 0.040	Max. 0.040	-	-	-	-	-	-	-	-	-
JIS G 3101	SS400	-	-	-	-	Max. 0.050	Max. 0.050	-	-	-	-	-	-	-	-	-
	SS490	-	-	-	-	Max. 0.050	Max. 0.050	-	-	-	-	-	-	-	-	-
	SS540	-	Max. 0.30	-	Max. 1.60	Max. 0.040	Max. 0.040	-	-	-	-	-	-	-	-	-
ASTM A36	-	t≤20	Max. 0.25	Max. 0.40	-	Max. 0.030	Max. 0.030	-	-	-	-	Min. 0.20	-	-	-	-
		20<t≤40			0.80~ 1.20											
		40<t≤65	Max. 0.26	0.15~ 0.40	0.85~ 1.20											
		65<t≤100	Max. 0.27													
		100<t	Max. 0.29													
ASTM A283	C	t≤40	Max. 0.24	Max. 0.40	Max. 0.90	Max. 0.030	Max. 0.030	-	-	-	-	Min. 0.20	-	-	-	-
		40<t		0.15~ 0.40												
	D	t≤40	Max. 0.27	Max. 0.40	Max. 0.90	Max. 0.030	Max. 0.030	-	-	-	-	Min. 0.20	-	-	-	-
		40<t		0.15~ 0.40												
ASME SA36	-	t≤20	Max. 0.25	Max. 0.40	-	Max. 0.040	Max. 0.050	-	-	-	-	Min. 0.20	-	-	-	-
		20<t≤40			0.80~ 1.20											
		40<t≤65	Max. 0.26	0.15~ 0.40	0.85~ 1.20											
		65<t≤100	Max. 0.27													
		100<t	Max. 0.29													

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. (J)
t≤16	Min. 275	410-550	t≤5	No. 5	21	-	-
16< t≤40	Min. 265		5< t≤16	No. 1A	18		
40< t≤100	Min. 245		16< t≤40	No. 1A	21		
100< t	Min. 235		40< t	No. 4	23		
t≤16	Min. 315	490-630	t≤5	No. 5	19	-	-
16< t≤40	Min. 305		5< t≤16	No. 1A	16		
40< t≤100	Min. 295		16< t≤40	No. 1A	19		
100< t	Min. 275		40< t	No. 4	21		
t≤16	Min. 410	Min. 540	t≤5	No. 5	16	-	-
16< t≤40	Min. 400		5< t≤16	No. 1A	14		
			16< t≤40	No. 1A	17		
t≤16	Min. 245	400-510	t≤5	No. 5	21	-	-
16<t≤40	Min. 235		5< t≤16	No. 1A	17		
40< t≤100	Min. 215		16< t≤50	No. 1A	21		
100< t	Min. 205		40< t	No. 4	23		
t≤16	Min. 285	490-610	t≤5	No. 5	19	-	-
16< t≤40	Min. 275		5< t≤16	No. 1A	15		
40< t≤100	Min. 255		16< t≤50	No. 1A	19		
100< t	Min. 245		40< t	No. 4	21		
t≤16	Min. 400	Min. 540	t≤5	No. 5	16	-	-
16< t≤40	Min. 390		5< t≤16	No. 1A	13		
			16< t≤40	No. 1A	17		
-	Min. 250	400-550	-	G=50	23	-	-
				G=200	20		
				-	-		
-	Min. 205	380-515	-	G=50	25	-	-
				G=200	22		
-	Min. 230	415-550	-	G=50	23	-	-
				G=200	20		
-	Min. 250	400-550	-	G=50	23	-	-
				G=200	20		
				-	-		

06

일반구조용 강판

STEEL PLATES FOR GENERAL STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)													
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V
ASME SA283	C	t≤40	Max. 0.24	Max. 0.40	Max. 0.90	Max. 0.030	Max. 0.030	-	-	-	-	Min. 0.20	-	-	-	-
		40<t		0.15~ 0.40												
	D	t≤40	Max. 0.27	Max. 0.40	Max. 0.90	Max. 0.030	Max. 0.030	-	-	-	-	Min. 0.20	-	-	-	-
		40<t		0.15~ 0.40												
AS/NZS 3678	G250	-	Max. 0.22	Max. 0.50	Max. 1.70	Max. 0.040	Max. 0.030	Max. 0.25	Max. 0.08	Max. 0.30	Max. 0.100	Max. 0.40	-	-	Max. 0.040	-
	G300	-	Max. 0.22	Max. 0.50	Max. 1.70	Max. 0.040	Max. 0.030	Max. 0.25	Max. 0.08	Max. 0.30	Max. 0.100	Max. 0.40	-	-	Max. 0.040	-
	G350	-	Max. 0.22	Max. 0.50	Max. 1.70	Max. 0.040	Max. 0.030	Max. 0.25	Max. 0.08	Max. 0.30	Max. 0.100	Max. 0.40	-	-	Max. 0.040	-
	G400	-	Max. 0.22	Max. 0.55	Max. 1.70	Max. 0.040	Max. 0.030	Max. 0.25	Max. 0.035	Max. 0.50	Max. 0.100	Max. 0.40	-	-	Max. 0.040	-
	G450	-	Max. 0.22	Max. 0.55	Max. 1.80	Max. 0.040	Max. 0.030	Max. 0.25	Max. 0.35	Max. 0.50	Max. 0.100	Max. 0.60	-	-	Max. 0.040	-

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. [J]
-	Min. 205	380-515	-	G=50 G=200	25 22	-	-
-	Min. 230	415-550	-	G=50 G=200	23 20	-	-
t≤8	Max. 280	Max. 410	-	L0=5.65√S0	22	0	27
8<t≤12	Max. 260					-15	27
12<t≤50	Max. 250					-	-
50<t≤80	Max. 240					-	-
80<t≤100	Max. 230					-	-
t≤8	Max. 320	Max. 430	-	L0=5.65√S0	21	0	27
8<t≤12	Max. 310					-15	27
12<t≤20	Max. 300					-	-
20<t≤50	Max. 280					-	-
50<t≤80	Max. 270					-	-
80<t≤100	Max. 260					-	-
t≤12	Max. 360	Max. 450	-	L0=5.65√S0	20	0	27
12<t≤20	Max. 350					-15	27
20<t≤80	Max. 340					-	-
80<t≤100	Max. 330					-	-
t≤12	Max. 400	Max. 480	-	L0=5.65√S0	18	0	27
12<t≤20	Max. 380					-15	27
20<t≤80	Max. 360					-	-
t≤20	Max. 450	Max. 520	-	L0=5.65√S0	16	0	27
20<t≤32	Max. 420	Max. 500			18	-15	27
32<t≤50	Max. 400				-	-	-

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	두께 Thickness (mm)	Chemical Composition (wt%, Ladle 기준)													
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V
KS D 3515	SM 275A	t≤50	Max. 0.23	-	Min. 2.5 X C	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
		50<t	Max. 0.25													
	SM 275B	t≤50	Max. 0.20	Max. 0.35	0.50~ 1.40	Max. 0.030	Max. 0.030	-	-	-	-	-	-	-	-	-
		50<t	Max. 0.22													
	SM 275C	t≤50	Max. 0.18	Max. 0.35	Max. 1.40	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	-
		50<t	Max. 0.20													
	SM 275D	t≤50	Max. 0.18	Max. 0.35	Max. 1.40	Max. 0.020	Max. 0.020	-	-	-	-	-	-	-	-	-
		50<t	Max. 0.20													
	SM 355A	t≤50	Max. 0.20	Max. 0.55	Max. 1.60	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
		50<t	Max. 0.22													
	SM 355B	t≤50	Max. 0.18	Max. 0.55	Max. 1.60	Max. 0.030	Max. 0.030	-	-	-	-	-	-	-	-	-
		50<t	Max. 0.22													
	SM 355C	t≤50	Max. 0.18	Max. 0.55	Max. 1.60	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	-
		50<t	Max. 0.22													

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. (J)
t≤16	Min. 275	410~550	t≤5	No. 5	23	20	27
16<t≤40	Min. 265		5<t≤16	No. 1A	18		
40<t≤75	Min. 255		16<t≤40	No. 1A	22		
75<t≤100	Min. 245		40<t	No. 4	24		
100<t≤200	Min. 235		-	-	-		
t≤16	Min. 275	410~550	t≤5	No. 5	23	0	27
16<t≤40	Min. 265		5<t≤16	No. 1A	18		
40<t≤75	Min. 255		16<t≤40	No. 1A	22		
75<t≤100	Min. 245		40<t	No. 4	24		
100<t≤200	Min. 235		-	-	-		
t≤16	Min. 275	410~550	t≤5	No. 5	23	-20	27
16<t≤40	Min. 265		5<t≤16	No. 1A	18		
40<t≤75	Min. 255		16<t≤40	No. 1A	22		
75<t≤100	Min. 245		40<t	No. 4	24		
100<t≤200	Min. 235		-	-	-		
t≤16	Min. 275	410~550	t≤5	No. 5	23	-40	27
16<t≤40	Min. 265		5<t≤16	No. 1A	18		
40<t≤75	Min. 255		16<t≤40	No. 1A	22		
75<t≤100	Min. 245		40<t	No. 4	24		
100<t≤200	Min. 235		-	-	-		
t≤16	Min. 355	490~630	t≤5	No. 5	22	20	27
16<t≤40	Min. 345		5<t≤16	No. 1A	17		
40<t≤75	Min. 335		16<t≤40	No. 1A	19		
75<t≤100	Min. 325		40<t	No. 4	23		
100<t≤200	Min. 305		-	-	-		
t≤16	Min. 355	490~630	t≤5	No. 5	22	0	27
16<t≤40	Min. 345		5<t≤16	No. 1A	17		
40<t≤75	Min. 335		16<t≤40	No. 1A	19		
75<t≤100	Min. 325		40<t	No. 4	23		
100<t≤200	Min. 305		-	-	-		
t≤16	Min. 355	490~630	t≤5	No. 5	22	-20	27
16<t≤40	Min. 345		5<t≤16	No. 1A	17		
40<t≤75	Min. 335		16<t≤40	No. 1A	19		
75<t≤100	Min. 325		40<t	No. 4	23		
100<t≤200	Min. 305		-	-	-		

● 화학성분 (Chemical Composition)

1.2	강종 Grade	두께 Thickness (mm)	Chemical Composition (wt%, Ladle 기준)														
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V	
KS D 3515	SM 355D	t≤50	Max. 0.18	Max. 0.55	Max. 1.60	Max. 0.020	Max. 0.020	-	-	-	-	-	-	-	-	-	
		50<t	Max. 0.20														
	SM 420A	t≤50	Max. 0.20	Max. 0.55	Max. 1.60	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-	
		50<t	Max. 0.22														
	SM 420B	t≤50	Max. 0.20	Max. 0.55	Max. 1.60	Max. 0.030	Max. 0.030	-	-	-	-	-	-	-	-	-	
		50<t	Max. 0.22														
	SM 420C	t≤50	Max. 0.18	Max. 0.55	Max. 1.60	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	-	-
		50<t	Max. 0.20														
	SM 420D	t≤50	Max. 0.18	Max. 0.55	Max. 1.60	Max. 0.020	Max. 0.020	-	-	-	-	-	-	-	-	-	-
		50<t	Max. 0.20														
	SM 460B	t≤50	Max. 0.18	Max. 0.55	Max. 1.70	Max. 0.030	Max. 0.030	-	-	-	-	-	-	-	-	-	-
		50<t	Max. 0.20														
	SM 460C	t≤50	Max. 0.18	Max. 0.55	Max. 1.70	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	-	-
		50<t	Max. 0.20														

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. (J)
t≤16	Min. 355	490~630	t≤5	No. 5	22	-40	27
16<t≤40	Min. 345		5<t≤16	No. 1A	17		
40<t≤75	Min. 335		16<t≤40	No. 1A	19		
75<t≤100	Min. 325		40<t	No. 4	23		
100<t≤200	Min. 305		-	-	-		
t≤16	Min. 420	520~700	t≤5	No. 5	19	20	27
16<t≤40	Min. 410		5<t≤16	No. 1A	15		
40<t≤75	Min. 400		16<t≤40	No. 1A	19		
75<t≤100	Min. 390		40<t	No. 4	21		
100<t≤200	Min. 380		-	-	-		
t≤16	Min. 420	520~700	t≤5	No. 5	19	0	27
16<t≤40	Min. 410		5<t≤16	No. 1A	15		
40<t≤75	Min. 400		16<t≤40	No. 1A	19		
75<t≤100	Min. 390		40<t	No. 4	21		
100<t≤200	Min. 380		-	-	-		
t≤16	Min. 420	520~700	t≤5	No. 5	19	-20	27
16<t≤40	Min. 410		5<t≤16	No. 1A	15		
40<t≤75	Min. 400		16<t≤40	No. 1A	19		
75<t≤100	Min. 390		40<t	No. 4	21		
100<t≤200	Min. 380		-	-	-		
t≤16	Min. 420	520~700	t≤5	No. 5	19	-40	27
16<t≤40	Min. 410		5<t≤16	No. 1A	15		
40<t≤75	Min. 400		16<t≤40	No. 1A	19		
75<t≤100	Min. 390		40<t	No. 4	21		
100<t≤200	Min. 380		-	-	-		
t≤16	Min. 460	570~720	t≤16	No. 5	19	0	27
16<t≤40	Min. 450		16<t≤40	No. 1A	17		
40<t≤75	Min. 430		40<t	No. 4	20		
75<t≤100	Min. 420		-	-	-		
t≤16	Min. 460	570~720	t≤16	No. 5	19	-20	27
16<t≤40	Min. 450		16<t≤40	No. 1A	17		
40<t≤75	Min. 430		40<t	No. 4	20		
75<t≤100	Min. 420		-	-	-		

[illegible]

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. (J)
t≤16	Min. 245	400~510	t≤5	No. 5	23	-	-
16<t≤40	Min. 235		5<t≤16	No. 1A	18		
40<t≤75	Min. 215		16<t≤50	No. 1A	22		
75<t≤100	Min. 215		50<t	No. 4	24		
100<t≤160	Min. 205		-	-	-		
160<t≤200	Min. 195		-	-	-		
t≤16	Min. 245	400~510	t≤5	No. 5	23	0	27
16<t≤40	Min. 235		5<t≤16	No. 1A	18		
40<t≤75	Min. 215		16<t≤50	No. 1A	22		
75<t≤100	Min. 215		50<t	No. 4	24		
100<t≤160	Min. 205		-	-	-		
160<t≤200	Min. 195		-	-	-		
t≤16	Min. 245	400~510	t≤5	No. 5	23	0	47
16<t≤40	Min. 235		5<t≤16	No. 1A	18		
40<t≤75	Min. 215		16<t≤50	No. 1A	22		
75<t≤100	Min. 215		50<t	No. 4	24		
t≤16	Min. 325	490~610	t≤5	No. 5	22	-	-
16<t≤40	Min. 315		5<t≤16	No. 1A	17		
40<t≤75	Min. 295		16<t≤50	No. 1A	21		
75<t≤100	Min. 295		50<t	No. 4	23		
100<t≤160	Min. 285		-	-	-		
160<t≤200	Min. 275		-	-	-		
t≤16	Min. 325	490~610	t≤5	No. 5	22	0	27
16<t≤40	Min. 315		5<t≤16	No. 1A	17		
40<t≤75	Min. 295		16<t≤50	No. 1A	21		
75<t≤100	Min. 295		50<t	No. 4	23		
100<t≤160	Min. 285		-	-	-		
160<t≤200	Min. 275		-	-	-		
t≤16	Min. 325	490~610	t≤5	No. 5	22	0	47
16<t≤40	Min. 315		5<t≤16	No. 1A	17		
40<t≤75	Min. 295		16<t≤50	No. 1A	21		
75<t≤100	Min. 295		50<t	No. 4	23		
t≤16	Min. 365	490~610	t≤5	No. 5	19	-	-
16<t≤40	Min. 355		5<t≤16	No. 1A	15		
40<t≤75	Min. 335		16<t≤50	No. 1A	19		
75<t≤100	Min. 325		50<t	No. 4	21		

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. (J)
t≤16	Min. 365	490~610	t≤5	No. 5	19	0	27
16<t≤40	Min. 355		5<t≤16	No. 1A	15		
40<t≤75	Min. 335		16<t≤50	No. 1A	19		
75<t≤100	Min. 325		50<t	No. 4	21		
t≤16	Min. 365	520~640	t≤5	No. 5	19	0	27
16<t≤40	Min. 355		5<t≤16	No. 1A	15		
40<t≤75	Min. 335		16<t≤50	No. 1A	19		
75<t≤100	Min. 325		50<t	No. 4	21		
t≤16	Min. 365	520~640	t≤5	No. 5	19	0	47
16<t≤40	Min. 355		5<t≤16	No. 1A	15		
40<t≤75	Min. 335		16<t≤50	No. 1A	19		
75<t≤100	Min. 325		50<t	No. 4	21		
t≤16	Min. 460	570~720	t≤16	No. 5	19	-5	47
16<t≤40	Min. 450		16<t	No. 5	26		
40<t≤75	Min. 430		20<t	No. 4	20		
75<t≤100	Min. 420		-	-	-		

규격 Standards	강종 Grade	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)													
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V
EN 10025 Part.2	S235 JR	t≤16	Max. 0.19	-	Max. 1.50	Max. 0.045	Max. 0.045	-	-	-	-	Max. 0.60	Max. 0.014	-	-	-
		16<t≤40	Max. 0.19													
		40<t	Max. 0.23													
	S235 J0	t≤16	Max. 0.19	-	Max. 1.50	Max. 0.040	Max. 0.040	-	-	-	-	Max. 0.60	Max. 0.014	-	-	-
		16<t≤40	Max. 0.19													
		40<t	Max. 0.19													
	S235 J2	t≤16	Max. 0.19	-	Max. 1.50	Max. 0.035	Max. 0.035	-	-	-	-	Max. 0.60	-	-	-	-
		16<t≤40	Max. 0.19													
		40<t	Max. 0.19													
	S275 JR	t≤16	Max. 0.24	-	Max. 1.60	Max. 0.045	Max. 0.045	-	-	-	-	Max. 0.60	Max. 0.014	-	-	-
		16<t≤40	Max. 0.24													
		40<t	Max. 0.25													
S275 J0	t≤16	Max. 0.21	-	Max. 1.60	Max. 0.040	Max. 0.040	-	-	-	-	Max. 0.60	Max. 0.014	-	-	-	
	16<t≤40	Max. 0.21														
	40<t	Max. 0.21														

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test		
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. [J]	
t≤16	Min. 235	360~510	-	L0=5.65√S0	26	20	27	
16<t≤40	Min. 225				25			
40<t≤63	Min. 215							
63<t≤80	Min. 215							
80<t≤100	Min. 215				22			
100<t≤150	Min. 195	350~500						21
150<t≤200	Min. 185							
200<t≤250	Min. 175							
340~490								
t≤16	Min. 235	360~510	-	L0=5.65√S0	24	0	27	
16<t≤40	Min. 225				23			
40<t≤63	Min. 215							
63<t≤80	Min. 215							
80<t≤100	Min. 215				22			
100<t≤150	Min. 195	350~500						21
150<t≤200	Min. 185							
200<t≤250	Min. 175							
340~490								
t≤16	Min. 235	360~510	-	L0=5.65√S0	24	-20	27	
16<t≤40	Min. 225				23			
40<t≤63	Min. 215							
63<t≤80	Min. 215							
80<t≤100	Min. 215				22			
100<t≤150	Min. 195	350~500						21
150<t≤200	Min. 185							
200<t≤250	Min. 175							
340~490								
t≤16	Min. 275	410~560	-	L0=5.65√S0	23	20	27	
16<t≤40	Min. 265				22			
40<t≤63	Min. 255							
63<t≤80	Min. 245							
80<t≤100	Min. 235				19			
100<t≤150	Min. 225	400~540						18
150<t≤200	Min. 215							
200<t≤250	Min. 205							
380~540								
t≤16	Min. 275	410~560	-	L0=5.65√S0	23	0	27	
16<t≤40	Min. 265				22			
40<t≤63	Min. 255							
63<t≤80	Min. 245							
80<t≤100	Min. 235				21			
100<t≤150	Min. 225	400~540						19
150<t≤200	Min. 215							
200<t≤250	Min. 205							
380~540								

규격 Standards	강종 Grade	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)													
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V
EN 10025 Part.2	S275 J2	t≤16	Max. 0.21	-	Max. 1.60	Max. 0.030	Max. 0.030	-	-	-	-	Max. 0.60	-	-	-	-
		16<t≤40	Max. 0.21													
		40<t	Max. 0.21													
	S355 JR	t≤16	Max. 0.27	Max. 0.60	Max. 1.70	Max. 0.045	Max. 0.045	-	-	-	-	Max. 0.60	Max. 0.014	-	-	-
		16<t≤40	Max. 0.27													
		40<t	Max. 0.27													
	S355 J0	t≤16	Max. 0.23	Max. 0.60	Max. 1.70	Max. 0.040	Max. 0.040	-	-	-	-	Max. 0.60	Max. 0.014	-	-	-
		16<t≤40	Max. 0.23													
		40<t	Max. 0.24													
	S355 J2	t≤16	Max. 0.23	Max. 0.60	Max. 1.70	Max. 0.035	Max. 0.035	-	-	-	-	Max. 0.60	-	-	-	-
		16<t≤40	Max. 0.23													
		40<t	Max. 0.24													
	S355 K2	t≤16	Max. 0.23	Max. 0.60	Max. 1.70	Max. 0.035	Max. 0.035	-	-	-	-	Max. 0.60	-	-	-	-
		16<t≤40	Max. 0.23													
		40<t	Max. 0.24													

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. [J]
t≤16	Min. 275	410~560	-	L0=5.65√S0	23	-20	27
16<t≤40	Min. 265				22		
40<t≤63	Min. 255				21		
63<t≤80	Min. 245				19		
80<t≤100	Min. 235				18		
100<t≤150	Min. 225	400~540					
150<t≤200	Min. 215	380~540					
200<t≤250	Min. 205						
t≤16	Min. 355	470~630	-	L0=5.65√S0	22	20	27
16<t≤40	Min. 345				21		
40<t≤63	Min. 335				20		
63<t≤80	Min. 325				18		
80<t≤100	Min. 315				17		
100<t≤150	Min. 295	450~600					
150<t≤200	Min. 285	450~600					
200<t≤250	Min. 275						
t≤16	Min. 355	470~630	-	L0=5.65√S0	22	0	27
16<t≤40	Min. 345				21		
40<t≤63	Min. 335				20		
63<t≤80	Min. 325				18		
80<t≤100	Min. 315				17		
100<t≤150	Min. 295	450~600					
150<t≤200	Min. 285	450~600					
200<t≤250	Min. 275						
t≤16	Min. 355	470~630	-	L0=5.65√S0	22	-20	27
16<t≤40	Min. 345				21		
40<t≤63	Min. 335				20		
63<t≤80	Min. 325				18		
80<t≤100	Min. 315				17		
100<t≤150	Min. 295	450~600					
150<t≤200	Min. 285	450~600					
200<t≤250	Min. 275						
t≤16	Min. 355	470~630	-	L0=5.65√S0	20	-20	27
16<t≤40	Min. 345				19		
40<t≤63	Min. 335				18		
63<t≤80	Min. 325				18		
80<t≤100	Min. 315				17		
100<t≤150	Min. 295	450~600					33
150<t≤200	Min. 285	450~600					
200<t≤250	Min. 275						

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● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)													
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V
EN 10025 Part.3 (Normalized)	S275N	-	Max. 0.20	Max. 0.45	0.45- 1.60	Max. 0.035	Max. 0.030	Max. 0.35	Max. 0.13	Max. 0.35	Min. 0.015	Max. 0.60	Max. 0.017	Max. 0.06	Max. 0.06	Max. 0.07
	S275NL	-	Max. 0.18	Max. 0.45	0.45- 1.60	Max. 0.030	Max. 0.025	Max. 0.35	Max. 0.13	Max. 0.35	Min. 0.015	Max. 0.60	Max. 0.017	Max. 0.06	Max. 0.06	Max. 0.07
	S355N	-	Max. 0.22	Max. 0.55	0.85- 1.75	Max. 0.035	Max. 0.030	Max. 0.35	Max. 0.13	Max. 0.55	Min. 0.015	Max. 0.60	Max. 0.017	Max. 0.06	Max. 0.06	Max. 0.14
	S355NL	-	Max. 0.20	Max. 0.55	0.85- 1.75	Max. 0.030	Max. 0.025	Max. 0.35	Max. 0.13	Max. 0.55	Min. 0.015	Max. 0.60	Max. 0.017	Max. 0.06	Max. 0.06	Max. 0.14

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. (J)
t≤16	Min. 275	370~510	-	L0=5.65√S0	24	20	55
16<t≤40	Min. 265				24	0	47
40<t≤63	Min. 255				24	-10	43
63<t≤80	Min. 245				23	-20	40
80<t≤100	Min. 235	350~480			23	-	-
100<t≤150	Min. 225						
150<t≤200	Min. 215						
200<t≤250	Min. 205	350~480			23		
t≤16	Min. 275	370~510	-	L0=5.65√S0	24	20	63
16<t≤40	Min. 265				24	0	55
40<t≤63	Min. 255				24	-10	51
63<t≤80	Min. 245				23	-20	47
80<t≤100	Min. 235	350~480			23	-30	40
100<t≤150	Min. 225					-40	31
150<t≤200	Min. 215					-50	27
200<t≤250	Min. 205	350~480			23	-	-
t≤16	Min. 355	470~630	-	L0=5.65√S0	22	20	55
16<t≤40	Min. 345				22	0	47
40<t≤63	Min. 335				22	-10	43
63<t≤80	Min. 325				21	-20	40
80<t≤100	Min. 315	450~600			21	-	-
100<t≤150	Min. 295						
150<t≤200	Min. 285						
200<t≤250	Min. 275	450~600			21		
t≤16	Min. 355	470~630	-	L0=5.65√S0	22	20	63
16<t≤40	Min. 345				22	0	55
40<t≤63	Min. 335				22	-10	51
63<t≤80	Min. 325				21	-20	47
80<t≤100	Min. 315	450~600			21	-30	40
100<t≤150	Min. 295					-40	31
150<t≤200	Min. 285					-50	27
200<t≤250	Min. 275	450~600			21	-	-

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● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)													
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V
EN 10025 Part.4 (Thermomechanical)	S275M	-	Max. 0.15	Max. 0.55	Max. 1.60	Max. 0.035	Max. 0.030	Max. 0.35	Max. 0.13	Max. 0.35	0.015 이상	Max. 0.60	Max. 0.017	Max. 0.06	Max. 0.06	Max. 0.10
	S275ML	-	Max. 0.15	Max. 0.55	Max. 1.60	Max. 0.030	Max. 0.025	Max. 0.35	Max. 0.13	Max. 0.35	0.015 이상	Max. 0.60	Max. 0.017	Max. 0.06	Max. 0.06	Max. 0.10
	S355M	-	Max. 0.16	Max. 0.55	Max. 1.70	Max. 0.035	Max. 0.030	Max. 0.35	Max. 0.13	Max. 0.55	0.015 이상	Max. 0.60	Max. 0.017	Max. 0.06	Max. 0.06	Max. 0.12
	S355ML	-	Max. 0.16	Max. 0.55	Max. 1.70	Max. 0.030	Max. 0.025	Max. 0.35	Max. 0.13	Max. 0.55	0.015 이상	Max. 0.60	Max. 0.017	Max. 0.06	Max. 0.06	Max. 0.12
	S420M	-	Max. 0.18	Max. 0.55	Max. 1.80	Max. 0.035	Max. 0.030	Max. 0.35	Max. 0.23	Max. 0.85	0.015 이상	Max. 0.60	Max. 0.027	Max. 0.06	Max. 0.06	Max. 0.14

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. (J)
t≤16	Min. 275	370~530	-	L0=5.65√S0	24	20	55
16<t≤40	Min. 265					0	47
40<t≤63	Min. 255					-10	43
63<t≤80	Min. 245					-20	40
80<t≤100	Min. 245					-	-
100<t≤120	Min. 240					-	-
t≤16	Min. 275	370~530	-	L0=5.65√S0	24	20	63
16<t≤40	Min. 265					0	55
40<t≤63	Min. 255					-10	51
63<t≤80	Min. 245					-20	47
80<t≤100	Min. 245					-30	40
100<t≤120	Min. 240					-40	31
t≤16	Min. 355	470~630	-	L0=5.65√S0	22	20	55
16<t≤40	Min. 345					0	47
40<t≤63	Min. 335					-10	43
63<t≤80	Min. 325					-20	40
80<t≤100	Min. 325					-	-
100<t≤120	Min. 320					-	-
t≤16	Min. 355	470~630	-	L0=5.65√S0	22	20	63
16<t≤40	Min. 345					0	55
40<t≤63	Min. 335					-10	51
63<t≤80	Min. 325					-20	47
80<t≤100	Min. 325					-30	40
100<t≤120	Min. 320					-40	31
t≤16	Min. 420	520~680	-	L0=5.65√S0	19	20	55
16<t≤40	Min. 400					0	47
40<t≤63	Min. 390					-10	43
63<t≤80	Min. 380					-20	40
80<t≤100	Min. 370					-	-
100<t≤120	Min. 365					-	-

규격 Standards	강종 Grade	두께 Thickness (mm)	화합성분 Chemical Composition (wt%, Ladle 기준)														
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V	
EN 10025 Part.4 (Thermome- chanical)	S420ML	-	Max. 0.18	Max. 0.55	Max. 1.80	Max. 0.030	Max. 0.025	Max. 0.35	Max. 0.23	Max. 0.85	Min. 0.015	Max. 0.60	Max. 0.027	Max. 0.06	Max. 0.06	Max. 0.14	
	S460M	-	Max. 0.18	Max. 0.65	Max. 1.80	Max. 0.035	Max. 0.030	Max. 0.35	Max. 0.23	Max. 0.85	Min. 0.015	Max. 0.60	Max. 0.027	Max. 0.06	Max. 0.06	Max. 0.14	
	S460ML	-	Max. 0.18	Max. 0.65	Max. 1.80	Max. 0.030	Max. 0.025	Max. 0.35	Max. 0.23	Max. 0.85	Min. 0.015	Max. 0.60	Max. 0.027	Max. 0.06	Max. 0.06	Max. 0.14	
ASTM A572	42	t≤40	Max. 0.21	Max. 0.40	Max. 1.35	Max. 0.030	Max. 0.030	-	-	-	-	-	-	-	-	-	
		40<t		0.15~ 0.40													
	50	t≤40	Max. 0.23	Max. 0.40	Max. 1.35	Max. 0.030	Max. 0.030	-	-	-	-	-	-	-	-		
		40<t		0.15~ 0.40													
	55	t≤40	Max. 0.25	Max. 0.40	Max. 1.35	Max. 0.030	Max. 0.030	-	-	-	-	-	-	-	-	-	
		40<t		0.15~ 0.40													
	60	t≤40	Max. 0.26	Max. 0.40	Max. 1.35	Max. 0.030	Max. 0.030	-	-	-	-	-	-	-	-	-	-
		40<t		0.15~ 0.40													
65	t≤40	Max. 0.23	Max. 0.40	Max. 1.65	Max. 0.030	Max. 0.030	-	-	-	-	-	-	-	-	-	-	
	40<t		0.15~ 0.40														

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. [%]	온도 [°C]	최소값 Min. [J]
$t \leq 16$	Min. 420	520~680	-	L0=5.65 $\sqrt{S_0}$	19	20	63
$16 < t \leq 40$	Min. 400					0	55
$40 < t \leq 63$	Min. 390	500~660				-10	51
$63 < t \leq 80$	Min. 380	480~640				-20	47
$80 < t \leq 100$	Min. 370	470~630				-30	40
$100 < t \leq 120$	Min. 365	460~620				-40	31
$t \leq 16$	Min. 460	540~720	-	L0=5.65 $\sqrt{S_0}$	17	20	55
$16 < t \leq 40$	Min. 440					0	47
$40 < t \leq 63$	Min. 430	530~710				-10	43
$63 < t \leq 80$	Min. 410	510~690				-20	40
$80 < t \leq 100$	Min. 400	500~680				-	-
$100 < t \leq 120$	Min. 385	490~660				-	-
$t \leq 16$	Min. 460	540~720	-	L0=5.65 $\sqrt{S_0}$	17	20	63
$16 < t \leq 40$	Min. 440					0	55
$40 < t \leq 63$	Min. 430	530~710				-10	51
$63 < t \leq 80$	Min. 410	510~690				-20	47
$80 < t \leq 100$	Min. 400	500~680				-30	40
$100 < t \leq 120$	Min. 385	490~660				-40	31
-	Min. 290	Min. 415	-	G=50	24	-	-
				G=200	20		
-	Min. 345	Min. 450	-	G=50	21	-	-
				G=200	18		
-	Min. 380	Min. 485	-	G=50	20	-	-
				G=200	17		
-	Min. 415	Min. 520	-	G=50	18	-	-
				G=200	16		
-	Min. 450	Min. 550	-	G=50	17	-	-
				G=200	15		

규격 Standards	강종 Grade	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)														
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V	
KS D 3861	SN 275A	6≤t≤100	Max. 0.24	-	Min. 2.5 X C	Max. 0.030	Max. 0.030	-	-	-	-	-	-	-	-	-	
	SN 275B	6≤t≤50	Max. 0.20	Max. 0.35	0.60~ 1.40	Max. 0.030	Max. 0.015	-	-	-	-	-	-	-	-	-	
		50<t≤100	Max. 0.22														
	SN 275C	6≤t≤50	Max. 0.20	Max. 0.35	0.60~ 1.40	Max. 0.020	Max. 0.008	-	-	-	-	-	-	-	-	-	
		50<t≤100	Max. 0.22														
	SN 355B	6≤t≤50	Max. 0.18	Max. 0.55	Max. 1.60	Max. 0.030	Max. 0.015	-	-	-	-	-	-	-	-	-	-
		50<t≤100	0.20														
	SN 355C	6≤t≤50	Max. 0.18	Max. 0.55	Max. 1.60	Max. 0.020	Max. 0.008	-	-	-	-	-	-	-	-	-	-
50<t≤100		Max. 0.20															
JIS G 3136	SN 400A	6≤t≤100	Max. 0.24	-	-	Max. 0.050	Max. 0.050	-	-	-	-	-	-	-	-	-	
	SN 400B	6≤t≤50	Max. 0.20	Max. 0.35	0.60~ 1.50	Max. 0.030	Max. 0.015	-	-	-	-	-	-	-	-	-	
		50<t≤100	0.22														
	SN 400C	16≤t≤50	Max. 0.20	Max. 0.35	0.60~ 1.50	Max. 0.020	Max. 0.008	-	-	-	-	-	-	-	-	-	
		50<t≤100	0.22														
	SN 490B	6≤t≤50	Max. 0.18	Max. 0.55	Max. 1.65	Max. 0.030	Max. 0.015	-	-	-	-	-	-	-	-	-	-
		50<t≤100	Max. 0.20														
	SN 490C	16≤t≤50	Max. 0.18	Max. 0.55	Max. 1.65	Max. 0.020	Max. 0.008	-	-	-	-	-	-	-	-	-	-
50<t≤100		Max. 0.20															

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. (J)
6≤t≤40	Min. 275	410~520	6≤t≤16	No. 1A	18	-	-
40<t≤100	Min. 265		16<t≤40	No. 1A	22		
			40<t	No. 4	24		
6≤t≤40	275~395	410~520	6≤t≤16	No. 1A	18	0	27
40<t≤100	255~375		16<t≤40	No. 1A	22		
			40<t	No. 4	24		
6≤t≤40	275~395	410~520	6≤t≤16	No. 1A	19	-20	27
40<t≤100	255~375		16<t≤40	No. 1A	23		
			40<t	No. 4	25		
6≤t≤40	355~475	490~610	6≤t≤16	No. 1A	17	0	27
40<t≤100	335~455		16<t≤40	No. 1A	19		
			40<t	No. 4	23		
6≤t≤40	355~475	490~610	6≤t≤16	No. 1A	17	-20	27
40<t≤100	335~455		16<t≤40	No. 1A	19		
			40<t	No. 4	23		
6≤t≤12	Min. 235	400~510	6≤t≤16	No. 1A	17	-	-
12≤t≤40	Min. 235		16<t≤50	No. 1A	21		
40<t≤100	Min. 215		40<t≤100	No. 4	23		
6≤t≤12	Min. 235	400~510	6≤t≤16	No. 1A	18	0	27
12≤t≤40	235~355		16<t≤50	No. 1A	22		
40<t≤100	215~335		40<t≤100	No. 4	24		
16≤t≤40	235~355	400~510	t=16	No. 1A	18	0	27
40<t≤100	215~335		16<t≤50	No. 1A	22		
			40<t≤100	No. 4	24		
6≤t≤12	Min. 325	490~610	6≤t≤16	No. 1A	17	0	27
12≤t≤40	325~445		16<t≤50	No. 1A	21		
40<t≤100	295~415		40<t≤100	No. 4	23		
16≤t≤40	325~445	490~610	t=16	No. 1A	17	0	27
40<t≤100	295~415		16<t≤50	No. 1A	21		
			40<t≤100	No. 4	23		

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. (J)
t≤100	Min. 380	Min. 500	t≤16	No. 1A	15	-5	47
			16<t≤40	No. 1A	19		
			40<t≤100	No. 4	21		
t≤100	Min. 380	Min. 500	t≤16	No. 1A	15	-20	47
			16<t≤40	No. 1A	19		
			40<t≤100	No. 4	21		
t≤100	Min. 460	Min. 600	t≤16	No. 5	19	-5	47
			16<t≤20	No. 5	26		
			20<t≤100	No. 4, No. 5	20		
t≤100	Min. 460	Min. 600	t≤16	No. 5	19	-20	47
			16<t≤20	No. 5	26		
			20<t≤100	No. 4, No. 5	20		

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. [%]	온도 [°C]	최소값 Min. [J]
6≤t≤50	Min. 235	410~520	t≤16	No. 1A	17	0	47
50<t≤100	Min. 215		16<t≤40	No. 1A	21		
100<t≤200	Min. 195		40<t	No. 4	24		
6≤t≤50	Min. 315	490~610	t≤16	No. 1A	16	0	47
50<t≤100	Min. 295		16<t≤40	No. 1A	20		
100<t≤150	Min. 275		40<t	No. 4	23		
6≤t≤50	Min. 355	520~640	t≤16	No. 1A	14	0	47
50<t≤100	Min. 335		16<t≤40	No. 1A	18		
100<t≤150	Min. 315		40<t≤100	No. 4	21		
-	Min. 235	410~550	-	No. 1A	21	-	-
				No. 10	25		
-	Min. 295	450~590	-	No. 1A	19	-	-
				No. 10	23		
-	Min. 315	490~620	-	No. 1A	17	-	-
				No. 10	21		
-	Min. 225	410~550	-	No. 1A	21	-	-
				No. 10	25		
-	Min. 235	450~590	-	No. 1A	19	-	-
				No. 10	23		
-	Min. 265	480~620	-	No. 1A	17	-	-
				No. 10	21		
6≤t≤50	Min. 235	400~510	t≤16	No. 1A	17	0	47
50<t≤100	Min. 215		16<t≤40	No. 1A	21		
100<t≤200	Min. 195		40<t	No. 4	24		
6≤t≤50	Min. 315	490~610	t≤16	No. 1A	16	0	47
50<t≤100	Min. 295		16<t≤40	No. 1A	20		
100<t≤150	Min. 275		40<t	No. 4	23		
6≤t≤50	Min. 355	520~640	t≤16	No. 1A	14	0	47
50<t≤100	Min. 335		16<t≤40	No. 1A	18		
100<t≤150	Min. 315		40<t	No. 4	21		

규격 Standards	강종 Grade	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)													
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V
JIS G 3118	SGV 410	t≤12.5	Max. 0.21	0.15- 0.40	0.85~ 1.20	Max. 0.030	Max. 0.030	-	-	-	-	-	-	-	-	
		12.5<t≤50	Max. 0.23													
		50<t≤100	Max. 0.25													
	SGV 450	t≤12.5	Max. 0.24	0.15- 0.40	0.85~ 1.20	Max. 0.030	Max. 0.030	-	-	-	-	-	-	-	-	
		12.5<t≤50	Max. 0.26													
		50<t≤100	Max. 0.28													
	SGV 480	t≤12.5	Max. 0.27	0.15- 0.40	0.85~ 1.20	Max. 0.030	Max. 0.030	-	-	-	-	-	-	-	-	
		12.5<t≤50	Max. 0.28													
		50<t≤100	Max. 0.30													
ASTM A515	60	t≤25	Max. 0.24	0.13- 0.45	Max. 0.98	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	
		25<t≤50	Max. 0.27													
		50<t≤100	Max. 0.29													
	65	t≤25	Max. 0.28	0.13- 0.45	Max. 0.98	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	
		25<t≤50	Max. 0.31													
		50<t≤100	Max. 0.33													
	70	t≤25	Max. 0.31	0.13- 0.45	Max. 1.30	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	
		25<t≤50	Max. 0.33													
		50<t≤100	Max. 0.35													
ASTM A516	55	t≤12.5	Max. 0.18	0.13- 0.45	0.55~ 0.95	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	
		12.5<t≤50	Max. 0.20													
		50<t≤100	Max. 0.22													
	60	t≤12.5	Max. 0.21	0.13- 0.45	0.55~ 0.95	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	
		12.5<t≤50	Max. 0.23													
		50<t≤100	Max. 0.25													
	65	t≤12.5	Max. 0.24	0.13- 0.45	0.79~ 1.30	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	
		12.5<t≤50	Max. 0.26													
		50<t≤100	Max. 0.28													
70	t≤12.5	Max. 0.27	0.13- 0.45	0.79~ 1.30	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-		
	12.5<t≤50	Max. 0.28														
	50<t≤100	Max. 0.30														
ASTM A537	Class 1	t≤40	Max. 0.24	0.13- 0.55	0.64~ 1.46	Max. 0.025	Max. 0.025	Max. 0.29	Max. 0.09	Max. 0.28	-	Max. 0.38	-	-	-	
40 < t	0.92~ 1.72	-														

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. [%]	온도 [°C]	최소값 Min. [J]
-	Min. 225	410~490	-	No. 1A	21	-	-
				No. 10	25		
-	Min. 245	450~540	-	No. 1A	19	-	-
				No. 10	23		
-	Min. 265	480~590	-	No. 1A	17	-	-
				No. 10	21		
-	Min. 220	415~550	-	G=50	25	-	-
				G=200	21		
-	Min. 240	450~585	-	G=50	23		
				G=200	19		
-	Min. 260	485~620	-	G=50	21	-	-
				G=200	17		
-	Min. 205	380~515	-	G=50	27	-	-
				G=200	23		
-	Min. 220	415~550	-	G=50	25	-	-
				G=200	21		
				-	-		
-	Min. 240	450~585	-	G=50	23	-	-
				G=200	19		
				-	-		
-	Min. 260	485~620	-	G=50	21	-	-
				G=200	17		
				-	-		
t≤65	Min. 345	485~620	t≤40	G=200	18	-	-
65<t≤150	Min. 310	450~585	40<t≤150	G=50	22		

라인파이프용 강판

STEEL PLATES FOR LINE PIPE

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)																
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V	B	Nb+V	Nb+V+Ti
API 5LPSL 1 (Welded Pipe)	B	-	Max. 0.26	-	Max. 1.20	Max. 0.030	Max. 0.030	Max. 0.50	Max. 0.15	Max. 0.50	-	Max. 0.50	-	-	-	-	Max. 0.001	Max. 0.06	Max. 0.15
	X42	-	Max. 0.26	-	Max. 1.30	Max. 0.030	Max. 0.030	Max. 0.50	Max. 0.15	Max. 0.50	-	Max. 0.50	-	-	-	-	Max. 0.001	-	Max. 0.15
	X46	-	Max. 0.26	-	Max. 1.40	Max. 0.030	Max. 0.030	Max. 0.50	Max. 0.15	Max. 0.50	-	Max. 0.50	-	-	-	-	Max. 0.001	-	Max. 0.15
	X52	-	Max. 0.26	-	Max. 1.40	Max. 0.030	Max. 0.030	Max. 0.50	Max. 0.15	Max. 0.50	-	Max. 0.50	-	-	-	-	Max. 0.001	-	Max. 0.15
	X56	-	Max. 0.26	-	Max. 1.40	Max. 0.030	Max. 0.030	Max. 0.50	Max. 0.15	Max. 0.50	-	Max. 0.50	-	-	-	-	Max. 0.001	-	Max. 0.15
	X60	-	Max. 0.26	-	Max. 1.40	Max. 0.030	Max. 0.030	Max. 0.50	Max. 0.15	Max. 0.50	-	Max. 0.50	-	-	-	-	Max. 0.001	-	Max. 0.15
	X65	-	Max. 0.26	-	Max. 1.45	Max. 0.030	Max. 0.030	Max. 0.50	Max. 0.15	Max. 0.50	-	Max. 0.50	-	-	-	-	Max. 0.001	-	Max. 0.15
	X70	-	Max. 0.26	-	Max. 1.65	Max. 0.030	Max. 0.030	Max. 0.50	Max. 0.15	Max. 0.50	-	Max. 0.50	-	-	-	-	Max. 0.001	-	Max. 0.15
API 5LPSL 2 (Welded Pipe)	BR	-	Max. 0.24	Max. 0.40	Max. 1.20	Max. 0.025	Max. 0.015	Max. 0.30	Max. 0.15	Max. 0.30	-	Max. 0.50	-	-	Max. 0.04	-	Max. 0.001	Max. 0.06	-
	X42R	-	Max. 0.24	Max. 0.40	Max. 1.20	Max. 0.025	Max. 0.015	Max. 0.30	Max. 0.15	Max. 0.30	-	Max. 0.50	-	Max. 0.05	Max. 0.04	Max. 0.06	Max. 0.001	-	Max. 0.06
	BN	-	Max. 0.24	Max. 0.40	Max. 1.20	Max. 0.025	Max. 0.015	Max. 0.30	Max. 0.15	Max. 0.30	-	Max. 0.50	-	-	Max. 0.04	-	Max. 0.001	Max. 0.06	-
	X42N	-	Max. 0.24	Max. 0.40	Max. 1.20	Max. 0.025	Max. 0.015	Max. 0.30	Max. 0.15	Max. 0.30	-	Max. 0.50	-	Max. 0.05	Max. 0.04	Max. 0.06	Max. 0.001	-	Max. 0.06
	BM	-	Max. 0.22	Max. 0.45	Max. 1.20	Max. 0.025	Max. 0.015	Max. 0.30	Max. 0.15	Max. 0.30	-	Max. 0.50	-	Max. 0.05	Max. 0.04	Max. 0.05	Max. 0.001	-	-
	X42M	-	Max. 0.22	Max. 0.45	Max. 1.30	Max. 0.025	Max. 0.015	Max. 0.30	Max. 0.15	Max. 0.30	-	Max. 0.50	-	Max. 0.05	Max. 0.04	Max. 0.05	Max. 0.001	-	-
	X46M	-	Max. 0.22	Max. 0.45	Max. 1.30	Max. 0.025	Max. 0.015	Max. 0.30	Max. 0.15	Max. 0.30	-	Max. 0.50	-	Max. 0.05	Max. 0.04	Max. 0.05	Max. 0.001	-	-
	X52M	-	Max. 0.22	Max. 0.45	Max. 1.40	Max. 0.025	Max. 0.015	Max. 0.30	Max. 0.15	Max. 0.30	-	Max. 0.50	-	-	-	-	Max. 0.001	-	Max. 0.15
	X56M	-	Max. 0.22	Max. 0.45	Max. 1.40	Max. 0.025	Max. 0.015	Max. 0.30	Max. 0.15	Max. 0.30	-	Max. 0.50	-	-	-	-	Max. 0.001	-	Max. 0.15
	X60M	-	Max. 0.12	Max. 0.45	Max. 1.60	Max. 0.025	Max. 0.015	Max. 0.50	Max. 0.50	Max. 0.50	-	Max. 0.50	-	-	-	-	Max. 0.001	-	Max. 0.15
	X65M	-	Max. 0.12	Max. 0.45	Max. 1.60	Max. 0.025	Max. 0.015	Max. 0.50	Max. 0.50	Max. 0.50	-	Max. 0.50	-	-	-	-	Max. 0.001	-	Max. 0.15
	X70M	-	Max. 0.12	Max. 0.45	Max. 1.70	Max. 0.025	Max. 0.015	Max. 0.50	Max. 0.50	Max. 0.50	-	Max. 0.50	-	-	-	-	Max. 0.001	-	Max. 0.15

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. [%]	온도 [°C]	최소값 Min. [J]
-	Min. 245	Min. 415	-	G=50	Calculated value as per spec.	-	-
-	Min. 290	Min. 415	-	G=50	Calculated value as per spec.	-	-
-	Min. 320	Min. 435	-	G=50	Calculated value as per spec.	-	-
-	Min. 360	Min. 460	-	G=50	Calculated value as per spec.	-	-
-	Min. 390	Min. 490	-	G=50	Calculated value as per spec.	-	-
-	Min. 415	Min. 520	-	G=50	Calculated value as per spec.	-	-
-	Min. 450	Min. 535	-	G=50	Calculated value as per spec.	-	-
-	Min. 485	Min. 570	-	G=50	Calculated value as per spec.	-	-
-	245~450	415~655	-	G=50	Calculated value as per spec.	0	40 (Max. 0.D)
-	290~495	415~655	-	G=50	Calculated value as per spec.	0	40 (Max. 0.D)
-	245~450	415~655	-	G=50	Calculated value as per spec.	0	40 (Max. 0.D)
-	290~495	415~655	-	G=50	Calculated value as per spec.	0	40 (Max. 0.D)
-	245~450	415~655	-	G=50	Calculated value as per spec.	0	40 (Max. 0.D)
-	290~495	415~655	-	G=50	Calculated value as per spec.	0	40 (Max. 0.D)
-	320~525	435~655	-	G=50	Calculated value as per spec.	0	40 (Max. 0.D)
-	360~530	460~760	-	G=50	Calculated value as per spec.	0	40 (Max. 0.D)
-	390~545	490~760	-	G=50	Calculated value as per spec.	0	40 (Max. 0.D)
-	415~565	520~760	-	G=50	Calculated value as per spec.	0	40 (Max. 0.D)
-	450~600	535~760	-	G=50	Calculated value as per spec.	0	54 (Max. 0.D)
-	485~635	570~760	-	G=50	Calculated value as per spec.	0	68 (Max. 0.D)

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STEEL PLATES FOR OFFSHORE STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)													
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V
EN 10225	S355 G2+N	-	Max. 0.20	Max. 0.50	0.90- 1.65	Max. 0.035	Max. 0.030	Max. 0.30	Max. 0.10	Max. 0.50	Min. 0.020	Max. 0.35	Max. 0.015	Max. 0.060	Max. 0.030	Max. 0.12
	S355 G3+N	-	Max. 0.18	Max. 0.50	0.90- 1.65	Max. 0.030	Max. 0.025	Max. 0.30	Max. 0.10	Max. 0.50	Min. 0.020	Max. 0.35	Max. 0.015	Max. 0.060	Max. 0.030	Max. 0.12
	S355 G5+M	-	Max. 0.14	Max. 0.50	Max. 1.60	Max. 0.035	Max. 0.030	-	Max. 0.20	Max. 0.30	Min. 0.020	-	Max. 0.015	Max. 0.060	Max. 0.030	Max. 0.10
	S355 G6+M	-	Max. 0.14	Max. 0.50	Max. 1.60	Max. 0.030	Max. 0.025	-	Max. 0.20	Max. 0.30	Min. 0.020	-	Max. 0.015	Max. 0.060	Max. 0.030	Max. 0.10
	S355 G7+M	-	Max. 0.14	0.15- 0.55	1.00- 1.65	Max. 0.020	Max. 0.010	Max. 0.25	Max. 0.08	Max. 0.50	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.040	Max. 0.025	Max. 0.060
	S355 G7+N	-	Max. 0.14	0.15- 0.55	1.00- 1.65	Max. 0.020	Max. 0.010	Max. 0.25	Max. 0.08	Max. 0.50	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.040	Max. 0.025	Max. 0.060
	S355 G8+M	-	Max. 0.14	0.15- 0.55	1.00- 1.65	Max. 0.020	Max. 0.007	Max. 0.25	Max. 0.08	Max. 0.50	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.040	Max. 0.025	Max. 0.060
	S355 G8+N	-	Max. 0.14	0.15- 0.55	1.00- 1.65	Max. 0.020	Max. 0.007	Max. 0.25	Max. 0.08	Max. 0.50	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.040	Max. 0.025	Max. 0.060
	S355 G9+M	-	Max. 0.12	0.15- 0.55	Max. 1.65	Max. 0.020	Max. 0.010	Max. 0.20	Max. 0.08	Max. 0.70	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.040	Max. 0.025	Max. 0.060

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STEEL PLATES FOR OFFSHORE STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)													
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V
EN 10225	S355 G9+N	-	Max. 0.12	0.15- 0.55	Max. 1.65	Max. 0.020	Max. 0.010	Max. 0.20	Max. 0.08	Max. 0.70	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.040	Max. 0.025	Max. 0.060
	S355 G10+M	-	Max. 0.12	0.15- 0.55	Max. 1.65	Max. 0.015	Max. 0.005	Max. 0.20	Max. 0.08	Max. 0.70	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.040	Max. 0.025	Max. 0.060
	S355 G10+N	-	Max. 0.12	0.15- 0.55	Max. 1.65	Max. 0.015	Max. 0.005	Max. 0.20	Max. 0.08	Max. 0.70	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.040	Max. 0.025	Max. 0.060
	S420 G1+M	-	Max. 0.14	0.15- 0.55	Max. 1.65	Max. 0.020	Max. 0.010	Max. 0.25	Max. 0.25	Max. 0.70	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.040	Max. 0.025	Max. 0.080
	S420 G2+M	-	Max. 0.14	0.15- 0.55	Max. 1.65	Max. 0.020	Max. 0.007	Max. 0.25	Max. 0.25	Max. 0.70	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.040	Max. 0.025	Max. 0.080
	S460 G1+M	-	Max. 0.14	0.15- 0.55	Max. 1.65	Max. 0.020	Max. 0.007	Max. 0.25	Max. 0.25	Max. 0.70	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.040	Max. 0.025	Max. 0.080
	S460 G2+M	-	Max. 0.14	0.15- 0.55	Max. 1.65	Max. 0.020	Max. 0.007	Max. 0.25	Max. 0.25	Max. 0.70	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.040	Max. 0.025	Max. 0.080

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신률 Elongation			충격시험 Impact Test					
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. (J)				
t≤16	Min.355	470~630	-	L0=5.65√S0	30	-40	50				
16<t≤25	Min.355										
25<t≤40	Min.345										
40<t≤63	Min.335										
63<t≤100	Min.325										
100<t≤150	Min.320	460~620									
t≤16	Min.355	470~630	-	L0=5.65√S0	33	-40	50				
16<t≤25	Min.355										
25<t≤40	Min.345										
40<t≤63	Min.335										
63<t≤100	Min.325										
t≤16	Min.355	470~630	-	L0=5.65√S0	32	-40	50				
16<t≤25	Min.355										
25<t≤40	Min.345										
40<t≤63	Min.335										
63<t≤100	Min.325										
100<t≤150	Min.320	460~620									
t≤16	Min.420	500~660	-	L0=5.65√S0	19	-40	60				
16<t≤25	Min.400										
25<t≤40	Min.390	480~640									
40<t≤63	Min.380										
63<t≤100	Min.380										
t≤16	Min.420	500~660	-	L0=5.65√S0	19	-40	60				
16<t≤25	Min.400										
25<t≤40	Min.390	480~640									
40<t≤63	Min.380										
63<t≤100	Min.380										
t≤16	Min.460	540~700	-	L0=5.65√S0	17	-40	60				
16<t≤25	Min.440	530~690									
25<t≤40	Min.420	520~680									
40<t≤63	Min.415	515~675									
63<t≤80	Min.405	505~665									
80<t≤100	Min.400	500~660									
t≤16	Min.460	540~700	-	L0=5.65√S0	17	-40	60				
16<t≤25	Min.440	530~690									
25<t≤40	Min.420	520~680									
40<t≤63	Min.415	515~675									
63<t≤80	Min.405	505~665									
80<t≤100	Min.400	500~660									

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해양구조물용 강판

STEEL PLATES FOR OFFSHORE STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)													
			C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V
EN 10225 2019ED.	S355 MLO	-	Max. 0.14	Max. 0.55	1.00~ 1.65	Max. 0.020	Max. 0.010	Max. 0.25	Max. 0.08	Max. 0.70	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.050	Max. 0.025	Max. 0.060
	S420 MLO	-	Max. 0.14	Max. 0.55	Max. 1.65	Max. 0.020	Max. 0.010	Max. 0.25	Max. 0.25	Max. 0.70	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.050	Max. 0.025	Max. 0.080
	S460 MLO	-	Max. 0.14	Max. 0.55	Max. 1.70	Max. 0.020	Max. 0.010	Max. 0.25	Max. 0.25	Max. 0.70	0.015~ 0.055	Max. 0.30	Max. 0.010	Max. 0.050	Max. 0.025	Max. 0.080
API 2W	Grade 50	-	Max. 0.16	0.05~ 0.50	1.15~ 1.60	Max. 0.030	Max. 0.010	Max. 0.25	Max. 0.08	Max. 0.75	0.02~ 0.06	Max. 0.35	Max. 0.012	Max. 0.03	0.003~ 0.02	-
	Grade 60	-	Max. 0.16	0.05~ 0.50	1.15~ 1.60	Max. 0.030	Max. 0.010	Max. 0.25	Max. 0.15	Max. 1.00	0.02~ 0.06	Max. 0.35	Max. 0.012	Max. 0.03	0.003~ 0.02	-
API 2H	Grade 42	-	Max. 0.22	0.05~ 0.45	0.90~ 1.35	Max. 0.030	Max. 0.015	-	-	Max. 0.012	0.02~ 0.06	-	-	Max. 0.04	Max. 0.020	-
	Grade 50	-	Max. 0.22	0.05~ 0.45	1.15~ 1.60	Max. 0.030	Max. 0.015	-	-	Max. 0.012	0.02~ 0.06	-	-	0.01~ 0.04	Max. 0.020	-

※ API 2W

1) Ti min. is 0.007% when N > 0.005%

2) B max. is 0.0005%

● 기계적 성질 (Mechanical Properties)

두께 Thickness (mm)	항복강도 Yield Strength [MPa]	인장강도 Tensile Strength [MPa]	연신률 Elongation			충격시험 Impact Test	
			두께 Thickness(mm)	시험편 Test Piece	최소값 Min. (%)	온도 [°C]	최소값 Min. [J]
t≤16	Min. 355	470~630	-	L0=5.65√S0	22	-40	50
16<t≤25	Min. 355						
25<t≤40	Min. 345						
40<t≤63	Min. 335						
63<t≤80	Min. 325						
80<t≤120	Min. 325						
t≤16	Min. 420	500~660	-	L0=5.65√S0	19	-40	60
16<t≤25	Min. 400						
25<t≤40	Min. 390						
40<t≤63	Min. 380	480~640					
63<t≤80	Min. 380						
80<t≤120	Min. 380						
t≤16	Min. 460	520~700	-	L0=5.65√S0	17	-40	60
16<t≤25	Min. 440						
25<t≤40	Min. 420						
40<t≤63	Min. 415	500~675					
63<t≤80	Min. 405						
80<t≤120	Min. 400						
t≤25	345~517	Min. 448	-	G=50	23	-40	41
25 < t	345~483			G=200	18		
t≤25	414~621	Min. 517	-	G=50	22	-40	48
25 < t	414~586			G=200	16		
t≤75	Min. 289	427~625	-	G=50	22	-40	34
75 < t	Min. 289			G=200	18		
t≤75	Min. 345	483~620	-	G=50	21	-40	40
75 < t	Min. 324			G=200	16		

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STEEL PLATES FOR HULL STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	화학성분 Chemical Composition (wt%, Ladle 기준)													
		C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V
IACS	A (S40L)	Max. 0.21	Max. 0.50	Min. 2.5xC	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
	B (S40L)	Max. 0.21	Max. 0.35	Min. 0.80	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
	D (S40L)	Max. 0.21	Max. 0.35	Min. 0.60	Max. 0.035	Max. 0.035	-	-	-	Min. 0.015	-	-	-	-	-
	E (S40L)	Max. 0.18	Max. 0.35	Min. 0.70	Max. 0.035	Max. 0.035	-	-	-	Min. 0.015	-	-	-	-	-
	A32 (S44P)	Max. 0.18	Max. 0.50	0.90~ 1.60	Max. 0.035	Max. 0.035	Max. 0.20	Max. 0.08	Max. 0.40	Min. 0.015	Max. 0.35	-	0.02~ 0.05	Max. 0.02	0.05~ 0.10
	A36 (S49Q)	Max. 0.18	Max. 0.50	0.90~ 1.60	Max. 0.035	Max. 0.035	Max. 0.20	Max. 0.08	Max. 0.40	Min. 0.015	Max. 0.35	-	Total Max. 0.12		
													0.02~ 0.05	Max. 0.02	0.05~ 0.10
	A40 (S52R)	Max. 0.18	Max. 0.50	0.90~ 1.60	Max. 0.035	Max. 0.035	Max. 0.20	Max. 0.08	Max. 0.40	Min. 0.015	Max. 0.35	-	Total Max. 0.12		
													0.02~ 0.05	Max. 0.02	0.05~ 0.10
	D32 (S44P)	Max. 0.18	Max. 0.50	0.90~ 1.60	Max. 0.035	Max. 0.035	Max. 0.20	Max. 0.08	Max. 0.40	Min. 0.015	Max. 0.35	-	Total Max. 0.12		
													0.02~ 0.05	Max. 0.02	0.05~ 0.10

● 기계적 성질 (Mechanical Properties)

항복강도 Yield Strength [MPa]	인장강도 Tensile Strength [MPa]	연신률 Elongation	충격시험 Impact Test			
		최소값 Min. [%]	두께 Thickness(mm)	온도 [°C]	Long [J]	Trans [J]
Min. 235	400~520	22	t≤50	20 (B)	-	0
			50<t≤70		34	24
			70<t≤100		41	27
Min. 235	400~520	22	t≤50	0 (B)	27	20
			50<t≤70		34	24
			70<t≤100		41	27
Min. 235	400~520	22	t≤50	-20 (c)	27	20
			50<t≤70		34	24
			70<t≤100		41	27
Min. 235	400~520	22	t≤50	-40 (D)	27	20
			50<t≤70		34	24
			70<t≤100		41	27
Min. 315	440~570	22	t≤50	0 (B)	31	22
			50<t≤70		38	26
			70<t≤100		46	31
Min. 355	490~630	21	t≤50	0 (B)	34	24
			50<t≤70		41	27
			70<t≤100		50	34
Min. 390	510~660	20	t≤50	0 (B)	39	26
			50<t≤70		46	31
			70<t≤100		55	37
Min. 315	440~570	22	t≤50	-20 (C)	31	22
			50<t≤70		38	26
			70<t≤100		46	31

규격 Standards	강종 Grade	화학성분 Chemical Composition (wt%, Ladle 기준)													
		C	Si	Mn	P	S	Cr	Mo	Ni	Al_t	Cu	N	Nb	Ti	V
IACS	D36 (S49Q)	Max. 0.18	Max. 0.50	0.90- 1.60	Max. 0.035	Max. 0.035	Max. 0.20	Max. 0.08	Max. 0.40	Min. 0.015	Max. 0.35	-	0.02- 0.05	Max. 0.02	0.05- 0.10
													Total Max. 0.12		
	D40 (S52R)	Max. 0.18	Max. 0.50	0.90- 1.60	Max. 0.035	Max. 0.035	Max. 0.20	Max. 0.08	Max. 0.40	Min. 0.015	Max. 0.35	-	0.02- 0.05	Max. 0.02	0.05- 0.10
													Total Max. 0.12		
	E32 (S44P)	Max. 0.18	Max. 0.50	0.90- 1.60	Max. 0.035	Max. 0.035	Max. 0.20	Max. 0.08	Max. 0.40	Min. 0.015	Max. 0.35	-	0.02- 0.05	Max. 0.02	0.05- 0.10
													Total Max. 0.12		
	E36 (S49Q)	Max. 0.18	Max. 0.50	0.90- 1.60	Max. 0.035	Max. 0.035	Max. 0.20	Max. 0.08	Max. 0.40	Min. 0.015	Max. 0.35	-	0.02- 0.05	Max. 0.02	0.05- 0.10
													Total Max. 0.12		
	E40 (S52R)	Max. 0.18	Max. 0.50	0.90- 1.60	Max. 0.035	Max. 0.035	Max. 0.20	Max. 0.08	Max. 0.40	Min. 0.015	Max. 0.35	-	0.02- 0.05	Max. 0.02	0.05- 0.10
													Total Max. 0.12		
	F32 (S44P)	Max. 0.16	Max. 0.50	0.90- 1.60	Max. 0.025	Max. 0.025	Max. 0.20	Max. 0.08	Max. 0.80	Min. 0.015	Max. 0.35	Max. 0.009	0.02- 0.05	Max. 0.02	0.05- 0.10
													Total Max. 0.12		
F36 (S49Q)	Max. 0.16	Max. 0.50	0.90- 1.60	Max. 0.025	Max. 0.025	Max. 0.20	Max. 0.08	Max. 0.80	Min. 0.015	Max. 0.35	Max. 0.009	0.02- 0.05	Max. 0.02	0.05- 0.10	
												Total Max. 0.12			

● 기계적 성질 (Mechanical Properties)

항복강도 Yield Strength [MPa]	인장강도 Tensile Strength [MPa]	연신률 Elongation	충격시험 Impact Test			
		최소값 Min. [%]	두께 Thickness(mm)	온도 [°C]	Long [J]	Trans [J]
Min. 355	490~630	21	t≤50	-20 (C)	34	24
			50<t≤70		41	27
			70<t≤100		50	34
Min. 390	510~660	20	t≤50	-20 (C)	39	26
			50<t≤70		46	31
			70<t≤100		55	37
Min. 315	440~570	22	t≤50	-40 (D)	31	22
			50<t≤70		38	26
			70<t≤100		46	31
Min. 355	490~630	21	t≤50	-40 (D)	34	24
			50<t≤70		41	27
			70<t≤100		50	34
Min. 390	510~660	20	t≤50	-40 (D)	39	26
			50<t≤70		46	31
			70<t≤100		55	37
Min. 315	440~570	22	t≤50	-60 (E)	31	22
			50<t≤70		38	26
			70<t≤100		46	31
Min. 355	490~630	21	t≤50	-60 (E)	34	24
			50<t≤70		41	27
			70<t≤100		50	34

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일반구조용 압연 형강 (KS / JIS / A36)

SECTIONS FOR HULL STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	화학성분 Chemical Composition (wt%, Ladle 기준)				
		C	Si	Mn	P	S
KS D 3503	SS235	Max. 0.25	Max. 0.45	Max. 1.40	Max. 0.050	Max. 0.050
	SS275					
	SS315	Max. 0.28	Max. 0.50	Max. 1.50		
	SS410	Max. 0.30	Max. 0.55	Max. 1.60	Max. 0.040	Max. 0.040
JIS G 3101	SS330	-	-	-	Max. 0.050	Max. 0.050
	SS400	-	-	-	Max. 0.050	Max. 0.050
	SS490	-	-	-	Max. 0.050	Max. 0.050
	SS540	Max. 0.30	-	Max. 1.60	Max. 0.040	Max. 0.040
ASTM	A36	Max. 0.26	Max. 0.40	-	Max. 0.040	Max. 0.050

● 기계적 성질 (Mechanical Properties)

규격 Standards	강종 Grade	기계적 성질 Mechanical Properties							
		두께	항복강도 [MPa]	인장강도 [MPa]	연신율 Elongation (%)			굽힘성 Bending Properties	
					두께(t) mm	시험편	%	굽힘각도 Bending Angle	안쪽 반지름 Internal Radius
KS D 3503	SS235	≤16	Min. 235	330 ~450	≤5	No. 5	Min. 26	180°	t×0.5
		16<≤40	Min. 225		5<≤16	No. 1A	Min. 21		
		40<≤100	Min. 205		16<≤40	No. 1A	Min. 26		
	SS275	≤16	Min. 275	410 ~550	≤5	No. 5	Min. 21	180°	t×1.5
		16<≤40	Min. 265		5<≤16	No. 1A	Min. 18		
		40<≤100	Min. 245		16<≤40	No. 1A	Min. 21		
	SS315	≤16	Min. 315	490 ~630	≤5	No. 5	Min. 19	180°	t×2.0
		16<≤40	Min. 305		5<≤16	No. 1A	Min. 16		
		40<≤100	Min. 295		16<≤40	No. 1A	Min. 19		
	SS410	≤16	Min. 410	Min. 540	≤5	No. 5	Min. 16	180°	t×2.0
		16<≤40	Min. 400		5<≤16	No. 1A	Min. 14		
		40<≤100	-		16<≤40	No. 1A	Min. 17		
JIS G 3101	SS330	≤16	Min. 205	330 ~430	≤5	No. 5	Min. 26	180°	t×0.5
		16<≤40	Min. 195		5<≤16	No. 1A	Min. 21		
		40<≤100	Min. 175		16<≤50	No. 1A	Min. 26		
	SS400	≤16	Min. 245	400 ~510	≤5	No. 5	Min. 21	180°	t×1.5
		16<≤40	Min. 235		5<≤16	No. 1A	Min. 17		
		40<≤100	Min. 215		16<≤50	No. 1A	Min. 21		
	SS490	≤16	Min. 285	490 ~610	≤5	No. 5	Min. 19	180°	t×2.0
		16<≤40	Min. 275		5<≤16	No. 1A	Min. 15		
		40<≤100	Min. 255		16<≤50	No. 1A	Min. 19		
	SS540	≤16	Min. 400	Min. 540	≤5	No. 5	Min. 16	180°	t×2.0
		16<≤40	Min. 390		5<≤16	No. 1A	Min. 13		
		40<≤100	-		16<≤50	No. 1A	Min. 17		
ASTM	A36	250	400~550	≤50	-	Min. 21	-	-	

15 용접구조용 압연 형강 (KS/JIS)

SECTIONS FOR WELDING STRUCTURE

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	화학성분 Chemical Composition (wt%, Ladle 기준)						
		C (Max. 50t)	Si	Mn	P	S	CEQ	
KS D 3515	SM275A	Max. 0.23	-	Min. 2.5 X C	Max. 0.035	Max. 0.035	Max. 0.42	
	SM275B	Max. 0.20	Max. 0.35	0.50~1.40	Max. 0.030	Max. 0.030		
	SM275C	Max. 0.20		Max. 1.40	Max. 0.025	Max. 0.025		
	SM355A	Max. 0.20	Max. 0.55	Max. 1.60	Max. 0.035	Max. 0.035	Max. 0.47	
	SM355B	Max. 0.18			Max. 0.030	Max. 0.030		
	SM355C	Max. 0.18			Max. 0.025	Max. 0.025		
	SM420A	Max. 0.20	Max. 0.55	Max. 1.60	Max. 0.035	Max. 0.035	Max. 0.48	
	SM420B	Max. 0.20			Max. 0.030	Max. 0.030		
	SM420C	Max. 0.18			Max. 0.025	Max. 0.025		
JIS G 3106	SM400A	Max. 0.23	-	Min. 2.5 X C	Max. 0.035	Max. 0.035	-	
	SM400B	Max. 0.20	Max. 0.35	0.60~1.50				
	SM400C	Max. 0.18						
	SM490A	Max. 0.20	Max. 0.55	Max. 1.65				
	SM490B	Max. 0.18						
	SM490C	Max. 0.18						
	SM490YA	Max. 0.20						
	SM490YB							
	SM520B							
	SM520C							

$$CEQ(\%) = C + \frac{Mn}{6} + \frac{[Cr+Mo+V]}{5} + \frac{[Ni+Cu]}{15}$$

● 기계적 성질 (Mechanical Properties)

규격 Standards	강종 Grade	기계적 성질 Mechanical Properties								
		두께	항복강도 [MPa]	인장강도 [MPa]	연신율 Elongation [%]			충격흡수에너지 Impact Test		
					두께(t) mm	시험편	%	온도 [°C]	에너지 [J]	
KS D 3515	SM275A SM275B SM275C	≤16	Min. 275	410~550	≤5	No. 5	Min. 23	SM275A	20	Min. 27 ⁽¹⁾
		16 < ≤40	Min. 265		5 < ≤16	No. 1A	Min. 18	SM275B	0	Min. 27
		40 < ≤75	Min. 255		16 < ≤40	No. 1A	Min. 22	SM275C	-20	Min. 27
	SM355A SM355B SM355C	≤16	Min. 355	490~630	≤5	No. 5	Min. 22	SM355A	20	Min. 27 ⁽¹⁾
		16 < ≤40	Min. 345		5 < ≤16	No. 1A	Min. 17	SM355B	0	Min. 27
		40 < ≤75	Min. 335		16 < ≤40	No. 1A	Min. 19	SM355C	-20	Min. 27
	SM420A SM420B SM420C	≤16	Min. 420	520~700	≤5	No. 5	Min. 19	SM420A	20	Min. 27
		16 < ≤40	Min. 410		5 < ≤16	No. 1A	Min. 15	SM420B	0	Min. 27
		40 < ≤75	Min. 400		16 < ≤40	No. 1A	Min. 19	SM420C	-20	Min. 27
JIS G 3106	SM400A SM400B SM400C	≤16	Min. 245	400~510	≤5	No. 5	Min. 23	SM400B	0	Min. 27
		16 < ≤40	Min. 235		5 < ≤16	No. 1A	Min. 18	SM400C	0	Min. 47
		40 < ≤75	Min. 215		16 < ≤50	No. 1A	Min. 22			
	SM490A SM490B SM490C	≤16	Min. 325	490~610	≤5	No. 5	Min. 22	SM490B	0	Min. 27
		16 < ≤40	Min. 315		5 < ≤16	No. 1A	Min. 17	SM490C	0	Min. 47
		40 < ≤75	Min. 295		16 < ≤50	No. 1A	Min. 21			
	SM490YA SM490YB	≤16	Min. 365	490~610	≤5	No. 5	Min. 19	SM490YB	0	Min. 27
		16 < ≤40	Min. 355		5 < ≤16	No. 1A	Min. 15			
		40 < ≤75	Min. 335		16 < ≤50	No. 1A	Min. 19			
	SM520B SM520C	≤16	Min. 365	520~640	≤5	No. 5	Min. 19	SM520B	0	Min. 27
		16 < ≤40	Min. 355		5 < ≤16	No. 1A	Min. 15	SM520C	-5	Min. 47
		40 < ≤75	Min. 335		16 < ≤50	No. 1A	Min. 19			

※ SM275A 및 SM355A는 주문자가 지정한 경우에 적용한다. (Adopted for SM275A and SM355A upon the customer's request.)

16 | 건축 구조용 압연 형강

SECTIONS FOR BUILDING STRUCTURE (KS D 3866)

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	화학성분 Chemical Composition (wt%, Ladle 기준)												
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Mn/S	CEQ
KS D 3866	SHN275	Max. 0.20	Max. 0.40	Min. C X 2.5	Max. 0.035	Max. 0.030	Max. 0.60	Max. 0.45	Max. 0.35	Max. 0.15	-	-	Min. 20	Max. 0.40
	SHN355	Max. 0.20	Max. 0.40	1.5 ~ 1.5	Max. 0.035	Max. 0.030	Max. 0.60	Max. 0.45	Max. 0.35	Max. 0.15	Max. 0.11	Max. 0.05	Min. 20	Max. 0.45
	SHN420	Max. 0.20	Max. 0.40	1.5 ~ 1.5	Max. 0.035	Max. 0.030	Max. 0.60	Max. 0.45	Max. 0.35	Max. 0.15	Max. 0.11	Max. 0.05	Min. 20	Max. 0.45

$$CEQ(\%) = C + \frac{Mn}{6} + \frac{[Cr+Mo+V]}{5} + \frac{[Ni+Cu]}{15}$$

● 기계적 성질 (Mechanical Properties)

규격 Standards	강종 Grade	기계적 성질 Mechanical Properties							
		항복강도 (MPa)	인장강도 (MPa)	항복비 (%)	연신율 Elongation (%)			충격흡수에너지 Impact Test	
					두께(t) mm	시험편	%	온도 (°C)	에너지 (J)
KS D 3866	SHN275	275~395	410~520	Max. 85	t≤40	No. 1A	Min. 21	0	27
					t>40	No. 4A	Min. 24		
	SHN355	355~475	490~610	Max. 85	t≤40	No. 1A	Min. 21	0	27
					t>40	No. 4A	Min. 23		
	SHN420	420~540	520~640	Max. 85	t≤40	No. 1A	Min. 19	-5	47
					t>40	No. 4A	Min. 22		

17 | H형강말뚝

STEEL H PILES (KS F 4603)

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	화학성분 Chemical Composition (wt%, Ladle 기준)						
		C	Si	Mn	P	S	Cu	CEQ
KS F 4603	SHP275	-	-	-	Max. 0.050	Max. 0.050	0.20~0.50	Max. 0.40
	SHP275W	Max. 0.23	-	Min. 2.5 X C	Max. 0.040	Max. 0.040	0.20~0.50	Max. 0.36
	SHP355W	Max. 0.20	Max. 0.55	Max. 1.50	Max. 0.040	Max. 0.040	0.20~0.50	Max. 0.45

$$CEQ(\%) = C + \frac{Mn}{6} + \frac{[Cr+Mo+V]}{5} + \frac{[Ni+Cu]}{15}$$

● 기계적 성질 (Mechanical Properties)

규격 Standards	강종 Grade	기계적 성질 Mechanical Properties						
		두께(t) mm	항복강도 [MPa]	인장강도 [MPa]	연신율 Elongation (%)		충격흡수에너지 Impact Test	
					두께(t) mm	시험편	온도(℃)	에너지(J)
KS F 4603	SHP275	t ≤ 16	Min. 275	410~550	t ≤ 16	No. 1A	Min. 17	20
		t > 16	Min. 265		t > 16		Min. 21	
	SHP275W	t ≤ 16	Min. 275	410~550	t ≤ 16	No. 1A	Min. 18	0
		t > 16	Min. 265		t > 16		Min. 22	
	SHP355W	t ≤ 16	Min. 355	490~630	t ≤ 16	No. 1A	Min. 17	0
		t > 16	Min. 345		t > 16		Min. 21	

※ SHP275의 충격흡수 에너지는 주문자가 지정한 경우에 적용한다. (Adopted for SHN275 upon the customer's request.)

18 | 열간압연강널말뚝

SHEET PILES (KS F 4604)

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	화학성분 Chemical Composition (wt%, Ladle 기준)						
		C	Si	Mn	P	S	Cu	CEQ
KS F 4604	SY 300	-	-	-	Max. 0.040	Max. 0.040	0.23~0.55	-
	SY 400	-	-	-	Max. 0.040	Max. 0.040	0.23~0.55	-
	SY 300W	Max. 0.18	Max. 0.55	Max. 1.60	Max. 0.035	Max. 0.035	0.23~0.55	Max. 0.44
	SY 400W	Max. 0.20	Max. 0.55	Max. 1.60	Max. 0.035	Max. 0.035	0.23~0.55	Max. 0.46

$$CEQ(\%) = C + \frac{Mn}{6} + \frac{Si}{24} + \frac{Ni}{40} + \frac{Cr}{5} + \frac{Mo}{4} + \frac{V}{14}$$

● 기계적 성질 (Mechanical Properties)

규격 Standards	강종 Grade	기계적 성질 Mechanical Properties					
		항복강도 [MPa]	인장강도 [MPa]	연신율 Elongation (%)		충격흡수에너지 Impact Test	
				시험편	%	온도(℃)	에너지(J)
KS F 4604	SY 300	Min. 300	Min. 500	No. 1A	Min. 17	-	-
	SY 400	Min. 400	Min. 550	No. 1A	Min. 15	-	-
	SY 300W	Min. 300	Min. 500	No. 1A	Min. 17	0	27
	SY 400W	Min. 400	Min. 550		Min. 15	0	27

※ 충격시험은 두께 12mm 이상인 제품에 대해서 시험한다. (Impact test is adopted for the product that has 12mm or more thickness.)

19 철근

DEFORMED BARS FOR CONCRETE REINFORCEMENT

● 화학성분 (Chemical Composition)

강종 Grade	화학성분 Chemical Composition (wt%, Ladle 기준)							
	C ^[2]	Si	Mn	P	S	N ^[3]	Cu	Ceq ^[2]
SD300	-	Max 0.60	-	Max 0.050	Max 0.050	-	-	-
SD400		Max 0.60		Max 0.045	Max 0.045			
SD500		Max 0.60		Max 0.040	Max 0.040			
SD600		Max 0.60		Max 0.040	Max 0.040			Max 0.67
SD700		Max 0.60		Max 0.040	Max 0.040			Max 0.67
SD400W	Max 0.22	Max 0.60	Max 1.60	Max 0.040	Max 0.040	Max 0.012	-	Max 0.50
SD500W		Max 0.60		Max 0.040	Max 0.040			Max 0.50
SD400S	Max 0.29	Max 0.30	Max 1.50	Max 0.040	Max 0.040	-	Min 0.20	Max 0.55
SD500S	Max 0.32	Max 0.30	Max 1.80	Max 0.040	Max 0.040		Min 0.20	Max 0.60
SD600S	Max 0.37	Max 0.30	Max 1.80	Max 0.040	Max 0.040		Min 0.20	Max 0.67
SD700S	Max 0.40	Max 0.60	Max 2.00	Max 0.040	Max 0.040		Min 0.20	Max 0.80

a. SD400W와 SD500W에서 치수가 호칭명 D32를 초과하는 것에 대해서는 탄소 함량 0.25 % 이하, 탄소당량은 0.55 % 이하로 한다. 또한 SD600S에서 치수가 호칭명 D35를 초과하는 것에 대해서는 탄소 함량 0.40 % 이하, 탄소당량은 0.70 % 이하로 한다. SD700S에서 치수가 호칭명 D35를 초과하는 것에 대해서는 탄소 함량 0.43% 이하, 탄소당량은 0.83% 이하로 한다.

In case the dimensions in SD400W and SD500W exceed D32, the carbon content shall be 0.25 % or less, and the carbon equivalent shall be 0.55 % or less. In addition, in case the dimension in SD600S exceeds D35, the carbon content shall be 0.40 % or less, and the carbon equivalent shall be 0.70 % or less. Concerning SD700S, if the dimension exceeds the designation D35, the carbon content should be 0.43% or less, and the carbon equivalent should be 0.83% or less.

b. 철소 결합 원소가 아래의 기준 중 하나 이상을 만족할 경우 철소 함량은 높아도 좋다. (Total Al: 0.020 % 이상, V: 0.020 % 이상, Nb: 0.015 % 이상, Ti: 0.020 % 이상)

If the nitrogen-binding element meets any of the following criteria, a higher mass fraction of nitrogen may be used: total Al: ≥ 0.020 %, V: ≥ 0.020 %, Nb: ≥ 0.015 %, or Ti: ≥ 0.020 %

c. 제품 분석의 경우, 레이들 분석과의 편차는 KS D 0228을 따른다.

For product analysis, the deviation from the ladle analysis shall follow KS D 0228.

● 기계적 성질 (Mechanical Properties)

강종 Grade	항복점 또는 0.2% 항복강도 Yield Point or Yield Strength (N/mm ²)	인장강도 Tensile Strength (N/mm ²)	인장시험편 Tensile Test Piece	연신률 ^[2] Elongation (%)	굽힘성 Bending Properties	
					굽힘각도 Bending Angle	안쪽반지름 Internal Radius
SD300	300-420	Min. YP x 1.15	2호에 준한 것 (under D25) 3호에 준한 것 (D25 or more)	Min. 16 Min. 18	180°	Max. D16 : 공칭 지름의 2배 (2 Times of the Nominal Diameter) D16~D19 : 공칭 지름의 2.5배 (2.5 Times of the Nominal Diameter) D22~D25 : 공칭 지름의 3배 (3 Times of the Nominal Diameter) D29~D35 : 공칭 지름의 4배 (4 Times of the Nominal Diameter) Min. D38 : 공칭 지름의 5배 (5 Times of the Nominal Diameter)
SD400	400-520	Min. YP x 1.15	2호에 준한 것 (Under D25) 3호에 준한 것 (D25 or more)	Min. 16 Min. 18	180°	
SD500	500-650	Min. YP x 1.08	2호에 준한 것 (Under D25) 3호에 준한 것 (D25 or more)	Min. 12 Min. 14	135°	
SD600	600-780	Min. YP x 1.08	2호에 준한 것 (Under D25) 3호에 준한 것 (D25 or more)	Min. 10	90°	
SD700	700-910	Min. YP x 1.08	2호에 준한 것 (Under D25) 3호에 준한 것 (D25 or more)	Min. 10	90°	
SD400W	400-520	Min. YP x 1.15	2호에 준한 것 (Under D25) 3호에 준한 것 (D25 or more)	Min. 16 Min. 18	180°	
SD500W	500-650	Min. YP x 1.15	2호에 준한 것 (Under D25) 3호에 준한 것 (D25 or more)	Min. 12 Min. 14	180°	
SD400S	400-520	Min. YP x 1.25	2호에 준한 것 (Under D25) 3호에 준한 것 (D25 or more)	Min. 14 Min. 16	180°	
SD500S	500-620	Min. YP x 1.25	2호에 준한 것 (Under D25) 3호에 준한 것 (D25 or more)	Min. 12 Min. 14	180°	
SD600S	600-720	Min. YP x 1.25	2호에 준한 것 (Under D25) 3호에 준한 것 (D25 or more)	Min. 10	90°	
SD700S	700-820	Min. YP x 1.25	2호에 준한 것 (Under D25) 3호에 준한 것 (D25 or more)	Min. 10	90°	

a. 인장 강도는 실측한 항복 강도의 비율로서 규정된 비율 이상이어야 한다.

The tensile strength shall be the same as or higher than the ratio defined as the actually ultimate yield strength.

b. 이형 봉강에서 치수가 호칭명 D32를 초과하는 것에 대해서는 호칭명 3을 증가할 때마다 표의 연신율의 값에서 각각 2를 감한다. 다만, 감하는 한도는 4로 한다.

In case the dimension of the ribbed bar exceeds D32, subtract 2 from the elongation in the Table whenever the designation is increased by 3. Note, however, that the limit on subtraction shall not be more than 4.

● 치수 및 단위무게 (Dimensions and Unit Weights)

호칭명 Size	단위 무게 Unit Weight (kg/m)	공칭 지름 Nominal Diameter (mm)	공칭 단면적 Cross Sectional Area (cm ²)	공칭 둘레 Nominal Circumference (cm)	마디의 평균 간격 최대치 Max. Value of Mean Link Interval (cm)	마디높이 Link Height		마디들 합계의 최대치 Maximum Value of Sum of Link Gap (mm)	마디와 축선과의 각도 Angle Between Link and Axial Line
						최소치 Minimum Value (mm)	최대치 Maximum Value (mm)		
D10	0.56	9.53	71.33	29.9	6.7	0.4	0.8	7.5	Min. 45°
D13	0.995	12.7	126.7	39.9	8.9	0.5	1	10	
D16	1.56	15.9	198.6	50	11.1	0.7	1.4	12.5	
D19	2.25	19.1	286.5	60	13.4	1	2	15	
D22	3.04	22.2	387.1	69.8	15.5	1.1	2.2	17.5	
D25	3.98	25.4	506.7	79.8	17.8	1.3	2.6	20	
D29	5.04	28.6	642.4	89.9	20	1.4	2.8	22.5	
D32	6.23	31.8	794.2	99.9	22.3	1.6	3.2	25	
D35	7.51	34.9	956.6	109.7	24.4	1.7	3.4	27.5	
D38	8.95	38.1	1,140	119.7	26.7	1.9	3.8	30	
D41	10.5	41.3	1,340	129.8	28.9	2.1	4.2	32.5	
D43	11.4	43	1,452	135.1	30.1	2.2	4.4	33.8	
D51	15.9	50.8	2,027	159.6	35.6	2.5	5	40	
D57	20.3	57.3	2,579	180	40.1	2.9	5.8	45	

비고 1. 공칭 단면적, 공칭 둘레 및 단위 무게의 산출 방법은 다음에 따른다.

공칭 단면적(S) = $0.7854 \times d^2$: 유효 숫자 넷째 자리에서 끝맺음 한다.

공칭 둘레(l) = $3.142 \times d$: 소수점 이하 첫째 자리에서 끝맺음 한다.

단위 무게 = $0.785 \times S$: 유효 숫자 셋째 자리에서 끝맺음 한다.

1개 무게 = 단위 무게 × 길이: 소수점 이하 둘째 자리에서 끝맺음 한다.

1조 무게 = 1개 무게 × 개수: 정수로 끝맺음 한다.

The nominal Cross-Sectional Area, nominal circumference, and unit Mass shall be calculated according to the following formula.

Nominal Cross-Sectional Area (S) = $0.7854 \times d^2$: Calculate to 4 significant digits.

Nominal Circumference (l) = $3.142 \times d$: Calculate to one decimal place.

Unit Mass = $0.785 \times S$: Calculate to 3 significant digits.

Mass of 1 set = Unit Mass × Length: Calculate to 2 decimal place.

Mass of 1 set = Unit mass × quantity: Calculate to an integer.

비고 2. 횡방향 리브의 간격은 그 공칭 지름의 70 % 이하로서, 산출값은 소수점 이하 첫째 자리에서 끝맺음 한다.

The transverse rib interval shall not be more than 70 % of the nominal diameter, and the value shall be calculated to one decimal place.

비고 3. 이형 봉강의 횡방향 리브의 틈의 합계는 공칭 둘레의 25 % 이하로 하고, 산출값은 소수점 이하 첫째 자리에서 끝맺음 한다.

The sum of the transverse rib gap of the ribbed bar shall not be more than 25 % of the nominal circumference, and the value shall be calculated to one decimal place.

비고 4. 횡방향 리브의 평균 높이는 다음 표에 따르고, 산출값은 소수점 이하 첫째 자리에서 끝맺음 한다.

The mean height of the transverse rib shall comply with the following Table, and the value shall be calculated to one decimal place:

호칭명 Size	횡방향 리브의 높이 Mean height of transverse rib	
	최소 Min. Value (mm)	최대 Max. Value (mm)
Max. D13	공칭 지름의 4.0% 4.0% of nominal diameter	최소값의 2배 Twice the minimum value
D13~D16	공칭 지름의 4.5% 4.5% of nominal diameter	최소값의 2배 Twice the minimum value
Min. D19	공칭 지름의 5.0% 5.0% of nominal diameter	최소값의 2배 Twice the minimum value

19

철근

DEFORMED BARS FOR CONCRETE REINFORCEMENT (KS D3504-2011, KS D3688-2011)

● 길이 허용차 (Length Tolerance)

종류 Length	길이의 허용차 Tolerance
7m and under	+40mm 0
Over 7m	길이 1m 또는 그 단수가 증가할 때마다 위에 적은 허용치에 5mm를 더한다. 다만, 최대치는 120mm까지로 한다. (Add 5mm to above variation while length increase every 1m but not over 120mm in variation.)

비고 1. 코일의 경우에는 적용하지 않는다.

This shall not be applied to coil.

비고 2. 주문자는 표기 이외의 허용차를 지정할 수 있다.

The purchaser can designate the permissible deviations other than markings.

● 단면 색 표시 (Coloring)

종류의 기호	종류를 구별하는 표시 방법	Grade	Marking methods for identifying types
	도색에 의한 색 구별 표시		Marks of distinguishing colors by painting
SD300	녹색	SD300	Green
SD400	황색	SD400	Yellow
SD500	흑색	SD500	Black
SD600	회색	SD600	Gray
SD700	하늘색	SD700	Sky blue
SD400 W	백색	SD400 W	White
SD500 W	분홍색	SD500 W	Pink
SD400 S	보라색	SD400 S	Violet
SD500 S	적색	SD500 S	Red
SD600 S	청색	SD600 S	Blue
SD700 S	주황	SD700 S	Orange

D4, D5, D6, D7, D8 및 나사 모양의 철근(호칭 D 22 이하)와 I목음마대의 표시 중 색 구별 표시는 아래 표를 따른다. 다만, 제품 1개 마다의 표시(Roll Marking)를 한 경우에는 색 구별 표시를 생략하여도 좋다.

The marks of distinguishing colors shall be applied by D4, D5, D6, D7, D8 and screw shaped bars(under the designation of D22), or a bundle in accordance with Table.

Note, however, that in case each product is identified, the marks of distinguishing colors may be omitted.

● 무게 허용차 (Weight Tolerance)

치수 Size	한 개의 무게 허용차 Piece	한 묶음의 무게 허용차 Bundle
Under D10	+ 규정하지 않음(Under fined), - 8%	±7%
D10~Under D16	±6%	±5%
D16~Under D29	±5%	±4%
D29 and Over	±4%	±3.5%

● 치수 및 단위 무게 (Dimensions and Unit Weights)

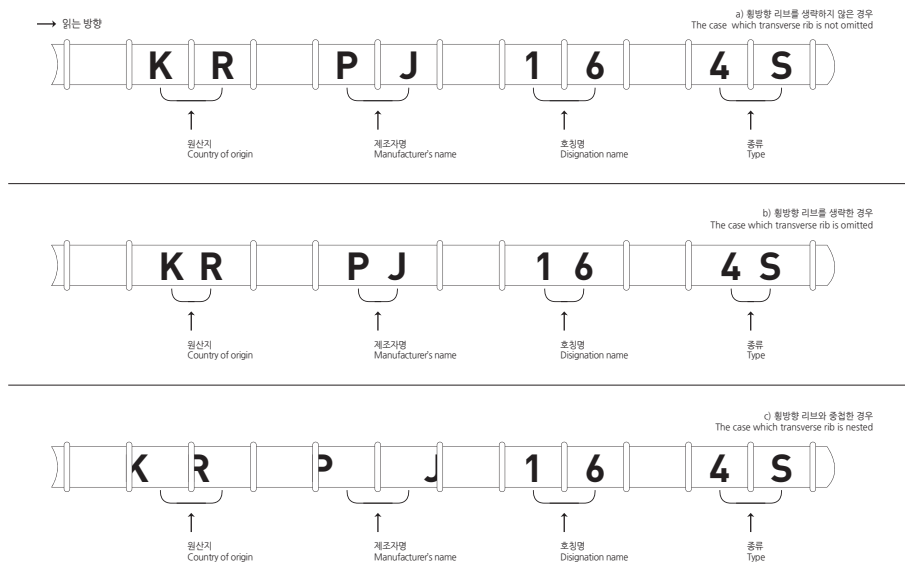
KS-JIS		ASTM		CSA		BS		AS/NZS	
호칭명 Size (mm)	단위무게 Unit Weight (kg/m)	호칭 Bar Design No.	단위무게 Unit Weight (kg/m)	호칭지름 Diameter (inch)	단위무게 Unit Weight (kg/m)	호칭지름 Diameter (inch)	단위무게 Unit Weight (kg/m)	호칭지름 Diameter (inch)	단위무게 Unit Weight (kg/m)
D 10	0.56	3 [10]	0.56	10	0.785	8	0.395	10	0.617
D 13	0.995	4 [13]	0.994	15	1.57	10	0.616	12	0.888
D 16	1.56	5 [16]	1.552	20	2.355	12	0.888	16	1.58
D 19	2.25	6 [19]	2.235	25	3.925	13	1.042		
D 22	3.04	7 [22]	3.042	30	5.495	14	1.209		
D 25	3.98	8 [25]	3.973	35	7.85	16	1.579		
D 29	5.04	9 [29]	5.06	45	11.775	18	1.998		
D 32	6.23	10 [32]	6.404	55	19.625	20	2.466		
D 35	7.51	11 [36]	7.907			22	2.984		
D 38	8.95					25	3.854		
D 41	10.5					28	4.834		
D 43	11.4	14 [43]	11.38			32	6.313		
D 51	15.9					36	7.991		
D 57	20.3	18 [57]	20.24			40	9.864		

● 용도별 구분과 표시방법 (Rolling Mark)

철근 표면에 원산지(나라이름), 제조사, 호칭지름, 강종 등을 1.5 m 이하 간격마다 반복적으로 표시합니다. (단, 지름이 작아 롤링표시가 힘든 D4, D5, D6, D8은 양단면 도색 기준을 그대로 적용)

(The ribbed steel bar shall have the mark repeatedly for every intervals of 1.5 m or less for identification by rolling as shown in Fig. 2.

However, For the designation D4, D5, D6, and D8 the mark of distinguishing colors by painting shall be applied instead of marking by rolling.)

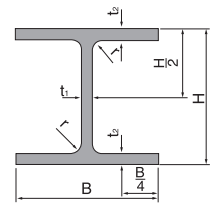


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H-BEAMS (KS D 3503, 3515, 3866/3502)

● 치수 및 단위무게 (Dimensions and Unit Weights)

호칭치수 Nominal Size (mm)	표준단면 치수 Standard Sectional Dimension (mm)				단면적 Sectional Area (cm ²)	단위무게 Unit Weight (kg/m)	단면2차 모멘트 Moment of Inertia (cm ⁴)		단면2차 반지름 Radius of Gyration (cm)		단면계수 Modulus of Section (cm ³)	
	H×B	t _f	t _w	r	A	W	I _x	I _y	i _x	i _y	Z _x	Z _y
100 × 100	100 × 100	6	8	10	21.9	17.2	383	134	4.18	2.47	76.5	26.7
125 × 125	125 × 125	6.5	9	10	30.31	23.8	847	293	5.29	3.11	136	47
150 × 75	150 × 75	5	7	8	17.85	14	666	49.5	6.11	1.66	88.8	13.2
150 × 100	148 × 100	6	9	11	26.84	21.1	1,020	151	6.17	2.37	138	30.1
150 × 150	150 × 150	7	10	11	40.14	31.5	1,640	563	6.39	3.75	219	75.1
200 × 100	198 × 99	4.5	7	11	23.18	18.2	1,580	114	8.26	2.21	160	23
	200 × 100	5.5	8	11	27.16	21.3	1,840	134	8.24	2.22	184	26.8
200 × 150	194 × 150	6	9	13	39.01	30.6	2,690	507	8.3	3.61	277	67.6
200 × 200	200 × 200	8	12	13	63.53	49.9	4,720	1,600	8.62	5.02	472	160
	200 × 204	12	12	13	71.53	56.2	4,980	1,700	8.35	4.88	498	167
	208 × 202	10	16	13	83.69	65.7	6,530	2,200	8.83	5.13	628	218
250 × 125	248 × 124	5	8	12	32.68	25.7	3,540	255	10.4	2.79	285	41.1
	250 × 125	6	9	12	37.66	29.6	4,050	294	10.4	2.79	324	47
250 × 175	244 × 175	7	11	16	56.24	44.1	6,120	984	10.4	4.18	502	113
250 × 250	244 × 252	11	11	16	82.06	64.4	8,790	2,940	10.3	5.98	720	233
	248 × 249	8	13	16	84.7	66.5	9,930	3,350	10.8	6.29	801	269
	250 × 250	9	14	16	92.18	72.4	10,800	3,650	10.8	6.29	867	292
	250 × 255	14	14	16	104.7	82.2	11,500	3,880	10.5	6.09	919	304
300 × 150	298 × 149	5.5	8	13	40.8	32	6,320	442	12.4	3.29	424	59.3
	300 × 150	6.5	9	13	46.78	36.7	7,210	508	12.4	3.29	481	67.7
300 × 200	294 × 200	8	12	18	72.38	56.8	11,300	1,600	12.5	4.71	771	160
	298 × 201	9	14	18	83.36	65.4	13,300	1,900	12.6	4.77	893	189
300 × 300	294 × 302	12	12	18	107.7	84.5	16,900	5,520	12.5	7.16	1,150	365
	298 × 299	9	14	18	110.8	87	18,800	6,240	13	7.5	1,270	417
	300 × 300	10	15	18	119.8	94	20,400	6,750	13.1	7.51	1,360	450
	300 × 305	15	15	18	134.8	106	21,500	7,100	12.6	7.26	1,440	466
	304 × 301	11	17	18	134.8	106	23,400	7,730	13.2	7.57	1,540	514
	310 × 305	15	20	18	165.3	130	28,150	9,460	13.2	7.6	1,810	620
	310 × 310	20	20	18	180.8	142	29,390	9,940	12.8	7.5	1,890	642
350 × 175	346 × 174	6	9	14	52.68	41.4	11,100	792	14.5	3.88	641	91
	350 × 175	7	11	14	63.14	49.6	13,600	984	14.7	3.95	775	112
	354 × 176	8	13	14	73.68	57.8	16,100	1,180	14.8	4.01	909	134
350 × 250	336 × 249	8	12	20	88.15	69.2	18,500	3,090	14.5	5.92	1,100	248
	340 × 250	9	14	20	101.5	79.7	21,700	3,650	14.6	6	1,280	292
350 × 350	338 × 351	13	13	20	135.3	106	28,200	9,380	14.4	8.33	1,670	534
350 × 350	344 × 348	10	16	20	146	115	33,300	11,200	15.1	8.78	1,940	646
	344 × 354	16	16	20	166.6	131	35,300	11,800	14.6	8.43	2,050	669
	350 × 350	12	19	20	173.9	137	40,300	13,600	15.2	8.84	2,300	776
	350 × 357	19	19	20	191.4	156	42,800	14,400	14.7	8.53	2,450	809
400 × 200	396 × 199	7	11	16	72.16	56.6	20,000	1,450	16.7	4.48	1,010	145
	400 × 200	8	13	16	84.12	66	23,700	1,740	16.8	4.54	1,190	174
	404 × 201	9	15	16	96.16	75.5	27,500	2,030	16.9	4.6	1,360	202
400 × 300	386 × 299	9	14	22	120.1	94.3	33,700	6,240	16.7	7.81	1,740	418
	390 × 300	10	16	22	136	107	38,700	7,210	16.9	7.28	1,980	481



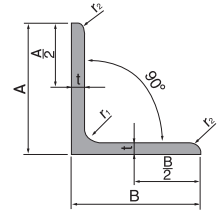
● 치수 및 단위무게 (Dimensions and Unit Weights)

호칭치수 Nominal Size (mm)	표준단면 치수 Standard Sectional Dimension (mm)				단면적 Sectional Area (cm ²)	단위무게 Unit Weight (kg/m)	단면2차 모멘트 Moment of Inertia (cm ⁴)		단면2차 반지름 Radius of Gyration (cm)		단면계수 Modulus of Section (cm ³)	
	H×B	t _f	t _w	r			I _x	I _y	i _x	i _y	Z _x	Z _y
400 × 400	388 × 402	15	15	22	178.5	140	49,000	16,300	16.6	9.54	2,520	809
	394 × 398	11	18	22	186.8	147	56,100	18,900	17.3	10.1	2,850	951
	394 × 405	18	18	22	214.4	168	59,700	20,000	16.7	9.65	3,030	985
	400 × 400	13	21	22	218.7	172	66,600	22,400	17.5	10.1	3,330	1,120
	400 × 408	21	21	22	250.7	197	70,900	23,800	16.8	9.75	3,540	1,170
	406 × 403	16	24	22	254.9	200	78,000	26,200	17.5	10.1	3,840	1,300
	414 × 405	18	28	22	295.4	232	92,800	31,000	17.7	10.2	4,480	1,530
	428 × 407	20	35	22	360.7	283	119,000	39,400	18.2	10.4	5,570	1,930
	442 × 413	26	42	22	444.2	349	150,000	49,400	18.4	10.5	6,810	2,390
	452 × 416	29	47	22	499	392	173,000	56,500	18.6	10.6	7,670	2,720
	458 × 417	30	50	22	528.6	415	187,000	60,500	18.8	10.7	8,170	2,900
	462 × 419	32	52	22	554.5	435	198,000	63,900	18.9	10.7	8,550	3,050
450 × 200	472 × 422	35	57	22	610.5	479	223,000	71,500	19.1	10.8	9,450	3,390
	484 × 426	39	63	22	680.5	534	256,000	81,400	19.4	10.9	10,600	3,820
450 × 300	498 × 432	45	70	22	770.1	605	298,000	94,000	19.7	11.1	13,000	4,370
	446 × 199	8	12	18	84.3	66.2	28,700	1,580	18.5	4.33	1,290	159
500 × 200	450 × 200	9	14	18	96.76	76	33,500	1,870	18.6	4.4	1,490	187
	434 × 299	10	15	24	135	106	46,800	6,690	18.6	7.04	2,160	448
500 × 300	440 × 300	11	18	24	157.4	124	56,100	8,110	18.9	7.18	2,550	541
	496 × 199	9	14	20	101.3	79.5	41,900	1,840	20.3	4.27	1,690	185
600 × 200	500 × 200	10	16	20	114.2	89.6	47,800	2,140	20.5	4.33	1,910	214
	506 × 201	11	19	20	131.3	103	56,500	2,580	20.7	4.43	2,230	257
600 × 300	482 × 300	11	15	26	145.5	114	60,400	6,760	20.4	6.82	2,500	451
	488 × 300	11	18	26	163.5	128	71,000	8,110	20.8	7.04	2,910	541
700 × 300	596 × 199	10	15	22	120.5	94.6	68,700	1,980	23.9	4.05	2,310	199
	600 × 200	11	17	22	134.4	106	77,600	2,280	24	4.12	2,590	228
800 × 300	606 × 201	12	20	22	152.5	120	90,400	2,720	24.3	4.22	2,980	271
	612 × 202	13	23	22	170.7	134	103,000	3,180	24.6	4.31	3,380	314
900 × 300	582 × 300	12	17	28	174.5	137	103,000	7,670	24.3	6.63	3,530	511
	588 × 300	12	20	28	192.5	151	118,000	9,020	24.8	6.85	4,020	601
900 × 300	594 × 302	14	23	28	222.4	175	137,000	10,600	24.9	6.9	4,620	701
	692 × 300	13	20	28	211.5	166	172,000	9,020	28.6	6.53	4,980	602
900 × 300	696 × 300	13	22	28	223.5	175	187,000	9,920	28.9	6.66	5,370	662
	700 × 300	13	24	28	235.5	185	201,000	10,800	29.3	6.78	5,760	722
900 × 300	702 × 301	14	25	28	248.5	195	212,000	11,400	29.2	6.77	6,030	757
	708 × 302	15	28	28	273.6	215	237,000	12,900	29.4	6.86	6,700	853
900 × 300	714 × 303	16	31	28	298.9	235	263,000	14,400	29.7	6.94	7,370	951
	792 × 300	14	22	28	243.4	191	254,000	9,930	32.3	6.39	6,410	662
900 × 300	796 × 300	14	24	28	255.4	200	273,000	10,800	32.7	6.51	6,850	722
	800 × 300	14	26	28	267.4	210	292,000	11,700	33	6.62	7,290	782
900 × 300	802 × 301	15	27	28	281.5	221	306,000	12,300	32.9	6.61	7,620	818
	808 × 302	16	30	28	307.6	241	339,000	13,800	33.2	6.7	8,400	915
900 × 300	814 × 303	17	33	28	333.9	262	374,000	15,300	33.4	6.78	9,180	1,010
	890 × 299	15	23	28	270.9	213	345,000	10,300	35.7	6.16	7,760	688
900 × 300	894 × 299	15	25	28	282.8	222	369,000	11,200	36.1	6.29	8,260	748
	900 × 300	16	28	28	309.8	243	411,000	12,600	36.4	6.39	9,140	843
900 × 300	906 × 301	17	31	28	336.8	264	454,000	14,100	36.7	6.48	10,000	940
	912 × 302	18	34	28	364	286	498,000	15,700	37	6.56	10,900	1,040
	918 × 303	19	37	28	391.3	307	542,000	17,200	37.2	6.63	11,800	1,140

생산가능 사이즈 (Available Size)

21 | 등변 γ형강

EQUAL ANGLES (KS D3503, 3515/3502)

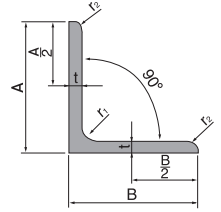


● 치수 및 단위무게 (Dimensions and Unit Weights)

표준단면 치수 Standard Sectional Dimension (mm)				단면적 Sectional Area (cm ²)	단위무게 Unit Weight (kg/m)	중심의 위치 Center of Gravity (cm)		단면2차 모멘트 Moment of Inertia (cm ⁴)		단면2차 반지름 Radius of Gyration (cm)		단면계수 Modulus of Section (cm ³)	
A×B	t	r ₁	r ₂			Cx, Cy	Ix, Iy	max.Ix	min.Iy	ix, iy	max.Ix	min.Iy	Zx, Zy
25 × 25	3	4	2	1.427	1.12	0.719	0.797	1.26	0.332	0.747	0.94	0.483	0.448
30 × 30	3	4	2	1.727	1.36	0.844	1.42	2.26	0.59	0.908	1.14	0.585	0.661
40 × 40	3	4.5	2	2.336	1.83	1.09	3.53	5.6	1.46	1.23	1.55	0.79	1.21
	5	4.5	3	3.755	2.95	1.17	5.42	8.59	2.25	1.2	1.51	0.774	1.91
45 × 45	4	6.5	3	3.492	2.74	1.24	6.5	10.3	2.7	1.36	1.72	0.88	2
50 × 50	4	6.5	3	3.892	3.06	1.37	9.06	14.4	3.76	1.53	1.92	0.983	2.49
	6	6.5	4.5	5.664	4.46	1.44	12.6	20	5.23	1.5	1.88	0.963	3.55
60 × 60	4	6.5	3	4.692	3.68	1.61	16	25.4	6.62	1.85	2.33	1.19	3.66
	5	6.5	3	5.802	4.55	1.66	19.6	31.2	8.09	1.84	2.32	1.18	4.52
	6	6.5	4.5	6.844	5.37	1.69	22.6	35.9	9.3	1.82	2.29	1.17	5.24
65 × 65	6	8.5	4	7.527	5.91	1.81	29.4	46.6	12.2	1.98	2.49	1.27	6.26
	8	8.5	6	9.761	7.66	1.88	36.8	58.3	15.3	1.94	2.44	1.25	7.96
70 × 70	6	8.5	4	8.127	6.38	1.93	37.1	58.9	15.3	2.14	2.69	1.37	7.33
75 × 75	6	8.5	4	8.727	6.85	2.06	46.1	73.2	19	2.3	2.9	1.48	8.47
	9	8.5	6	12.69	9.96	2.17	64.4	102	26.7	2.25	2.84	1.45	12.1
	12	8.5	6	16.56	13	2.29	81.9	129	24.5	2.22	2.79	1.44	15.7
80 × 80	6	8.5	4	9.327	7.32	2.18	56.4	89.6	23.2	2.46	3.1	1.58	9.7
	7	8.5	4	10.797	8.48	2.23	64.2	102.4	26.8	2.44	3.08	1.58	11.12
90 × 90	6	10	5	10.55	8.28	2.42	80.7	128	33.4	2.77	3.48	1.78	12.3
	7	10	5	12.22	9.59	2.46	93	148	38.3	2.76	3.48	1.77	14.2
	10	10	7	17	13.3	2.57	125	199	51.7	2.71	3.42	1.74	19.5
	13	10	7	21.71	17	2.69	156	248	65.3	2.68	3.38	1.73	24.8
100 × 100	7	10	5	13.62	10.7	2.71	129	205	53.2	3.08	3.88	1.98	17.7
	10	10	7	19	14.9	2.82	175	278	72	3.04	3.83	1.95	24.4
	13	10	7	24.31	19.1	2.94	220	348	91.1	3	3.78	1.94	31.1
120 × 120	8	12	5	18.76	14.7	3.24	258	410	106	3.71	4.67	2.38	29.5
130 × 130	9	12	6	22.74	17.9	3.53	366	583	150	4.01	5.06	2.57	38.7
	12	12	8.5	29.76	23.4	3.64	467	743	192	3.96	5	2.54	49.9
	15	12	8.5	36.75	28.8	3.76	568	902	234	3.93	4.95	2.53	61.5
150 × 150	10	14	7	29.21	22.9	4.05	627	997	258	4.63	5.84	2.97	57.3
	12	14	7	34.77	27.3	4.14	740	1,18	304	4.61	5.82	2.96	68.1
	15	14	10	42.74	33.6	4.24	888	1,41	365	4.56	5.75	2.92	82.6
	19	14	10	53.38	41.9	4.4	1,09	1,73	451	4.52	5.69	2.91	103
175 × 175	12	15	11	40.52	31.8	4.73	1,17	1,86	480	5.38	6.78	3.44	91.8
	15	15	11	50.21	39.4	4.85	1,44	2,29	589	5.35	6.75	3.42	114
200 × 200	15	17	12	57.75	45.3	5.46	2,18	3,47	891	6.14	7.75	3.93	150
	20	17	12	76	59.7	5.67	2,82	4,49	1,16	6.09	7.68	3.9	197
	25	17	12	93.75	73.6	5.86	3,42	5,42	1,41	6.04	7.61	3.88	242
250 × 250	25	24	12	119.4	93.7	7.1	6,95	11	2,86	7.63	9.62	4.9	388
	35	24	18	162.6	128	7.45	9,11	14,4	3,79	7.49	9.42	4.83	519

생산가능 사이즈 (Available Size)

22 | 부등변 γ형강 UNEQUAL ANGLES (KS D3503, 3515/3502)

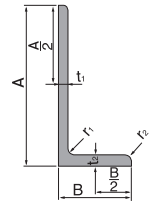


● 치수 및 단위무게 (Dimensions and Unit Weights)

표준단면 치수 Standard Sectional Dimension (mm)				단면적 Sectional Area (cm ²)	단위무게 Unit Weight (kg/m)	중심의 위치 Center of Gravity (cm)		단면2차 모멘트 Moment of Inertia (cm)				단면2차 반지름 Radius of Gyrations (cm)				Tanα	단면계수 Modulus of Section (cm)	
A×B	t	r ₁	r ₂			C _x	C _y	I _x	I _y	max. I _u	min. I _v	I _x	I _y	max. I _u	min. I _v		Z _x	Z _y
50 × 30	3	6	2	2.33	1.83	1.65	0.66	6.06	2.05	86	9.9	1.91	0.99	6.76	1	0.36	1.8	0.704
100 × 75	7	10	5	11.87	9.32	3.06	1.83	118	56.9	144	30.8	3.15	2.19	3.49	1.61	0.548	17	10
	10	10	7	16.5	13	3.18	1.94	159	76.1	194	41.3	3.11	2.15	3.43	1.58	0.543	23.3	13.7
125 × 75	7	10	5	13.62	10.7	4.1	1.64	219	60.4	243	36.4	4.01	2.11	4.23	1.64	0.362	26.1	10.3
	10	10	7	19	14.9	4.23	1.75	299	80.8	330	49.0	3.96	2.06	4.17	1.61	0.357	36.1	14.1
	13	10	7	24.31	19.1	4.35	1.87	376	101	415	61.9	3.93	2.04	4.13	1.6	0.352	46.1	17.9
150 × 90	9	12	6	20.94	16.4	4.95	1.99	485	133	537	80.4	4.81	2.52	5.06	1.96	0.361	48.2	19
	12	12	8.5	27.36	21.5	5.07	2.1	619	167	685	102.0	4.76	2.47	5	1.93	0.357	62.3	24.3

생산가능 사이즈 (Available Size)

23 | 조선용 γ형강 INVERTED ANGLES (KS D3503, 3515/3502)



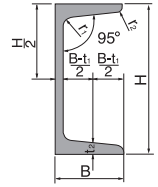
● 치수 및 단위무게 (Dimensions and Unit Weights)

표준단면 치수 Standard Sectional Dimension (mm)				단면적 Sectional Area (cm ²)	단위무게 Unit Weight (kg/m)	중심의 위치 Center of Gravity (cm)		단면2차 모멘트 Moment of Inertia (cm)				단면2차 반지름 Radius of Gyrations (cm)				Tanα	단면계수 Modulus of Section (cm)	
A×B	t	r ₁	r ₂			C _x	C _y	I _x	I _y	max. I _u	min. I _v	I _x	I _y	max. I _u	min. I _v		Z _x	Z _y
200 × 90	9	14	7	29.66	23.3	6.36	2.15	1,210	200	1,290	125	6.39	2.6	6.58	2.05	0.263	88.7	29.2
250 × 90	10	15	8.5	37.47	29.4	8.61	1.92	2,440	223	2,520	147	8.08	2.44	8.2	1.98	0.182	149	31.5
250 × 90	12	16	8.5	42.95	33.7	8.99	1.89	2,790	238	2,870	160	8.07	2.35	8.18	1.93	0.173	174	33.5
300 × 90	11	16	9.5	46.22	36.3	11	1.76	4,370	245	4,440	168	9.72	2.3	9.8	1.9	0.136	229	33.8
300 × 90	13	17	9.5	52.67	41.3	11.3	1.75	4,940	259	5,020	181	9.68	2.22	9.76	1.85	0.128	265	35.8
350 × 100	12	17	11	57.74	45.3	13	1.87	7,440	362	7,550	251	11.3	2.5	11.4	2.08	0.124	338	44.5
400 × 100	13	18	12	68.59	53.8	15.4	1.77	11,500	388	11,600	277	12.9	2.38	13	2.01	0.0996	467	47.1

생산가능 사이즈 (Available Size)

24 | C형강

CHANNELS (KS D3503, 3515/3502)



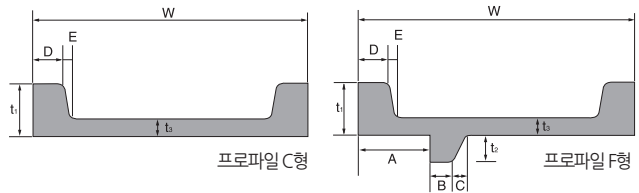
● 치수 및 단위무게 (Dimensions and Unit Weights)

표준단면 치수 Standard Sectional Dimension (mm)					단면적 Sectional Area (cm ²)	단위무게 Unit Weight (kg/m)	중심의 위치 Center of Gravity (cm)		단면2차 모멘트 Moment of Inertia (cm ⁴)		단면2차 반지름 Radius of Gyration (cm)		단면계수 Modulus of Section (cm ³)	
H×B	t	r ₁	r ₂	r ₃			C _x	C _y	I _x	I _y	I _x	I _y	Z _x	Z _y
75 × 40	5	7	8	4	8.818	6.92	0	1.28	75.3	12.2	2.92	1.17	20.1	4.47
100 × 50	5	7.5	8	4	11.92	9.36	0	1.54	188	26	3.97	1.48	37.6	7.52
125 × 65	6	8	8	4	17.11	13.4	0	1.9	424	61.8	4.98	1.9	67.8	13.4
150 × 75	6.5	10	10	5	23.71	18.6	0	2.28	861	117	6.03	2.22	115	22.4
200 × 80	7.5	11	12	6	31.33	24.6	0	2.21	195	168	7.88	2.32	195	29.1
200 × 90	8	13.5	14	7	38.65	30.3	0	2.74	249	277	8.02	2.68	249	44.2
250 × 90	9	13	14	7	44.07	34.6	0	2.4	418	294	9.74	2.58	334	44.5
300 × 90	9	13	14	7	48.57	38.1	0	2.22	644	309	11.5	2.52	429	45.7
380 × 100	10.5	16	18	9	69.39	54.5	0	2.41	145	535	14.5	2.78	763	70.5
380 × 100	13	20	24	12	85.71	67.3	0	2.54	176	655	14.3	2.76	926	87.8

생산가능 사이즈 (Available Size)

25 | 프로파일

PROFILES (SPS-KOSA 0257-7079)



● 화학성분 (Chemical Composition)

강종 Grade	호칭치수 Nominal Size	화학성분 Chemical Composition (%)				
		C	Si	Mn	P	S
SSP410	PF-C (63.5×4)	Max. 0.35	Max. 0.55	Max. 1.6	Max. 0.04	Max. 0.04
SSP410	PF-F (63.5×4)	Max. 0.35	Max. 0.55	Max. 1.6	Max. 0.04	Max. 0.04

● 형상 및 치수 (Dimensions, Sectional Properties and Tolerance)

호칭치수 Nominal Size	W	A	B	C	D	E	t ₁	t ₂	t ₃	단위무게 Unit Weight (kg/m)
PF-C	63.5	-	-	-	6	-	8	-	4	2.36
PF-F	63.5	12.3	3	-	5	-	8	6	4	2.56

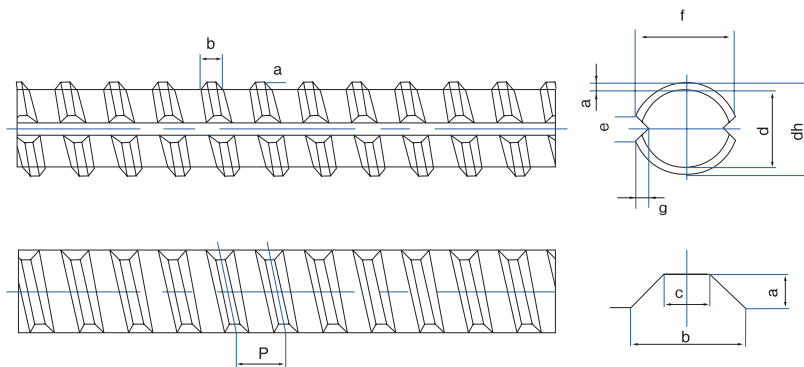
26 | 나사봉강 ROCK BOLTS

● 화학성분 (Chemical Composition)

강종 Grade	화학성분 Chemical Composition (%)				
	C	Si	Mn	P	S
SD400	-	-	-	Max. 0.05	Max. 0.05

● 형상 및 치수 (Dimensions, Sectional Properties and Tolerance)

호칭치수 Nominal Size	d	dh	e	g	f	a	b	c	p
M25	24.5	28.5	6.5	1.5	23.5	2	6	4	12
M29	27.5	31.7	5	1.5	27.5	2.1	6	3	14



27 | 평강

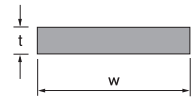
FLAT BARS (KS D 3503/3502)

● 치수 및 단위무게 (Dimensions and Unit Weights)

표준단면 치수 Standard Sectional Dimension (mm)		단면적 Sectional Area (cm ²)	단위무게 Unit Weight (kg/m)
t	w		
3.2	89	2.848	2.23
4.5	25	1.125	0.88
4.5	32	1.44	1.13
4.5	38	1.71	1.34
4.5	44	1.98	1.55
4.5	50	2.25	1.77
4.5	60	2.7	2.12
4.5	65	2.925	2.3
4.5	70	3.15	2.47
4.5	75	3.375	2.65
4.5	80	3.6	2.83
4.5	90	4.05	3.18
4.5	100	4.5	3.53
6	25	1.5	1.18
6	32	1.92	1.51
6	38	2.28	1.79
6	44	2.64	2.07
6	50	3	2.36
6	60	3.6	2.83
6	65	3.9	3.06
6	70	4.2	3.3
6	75	4.5	3.53
6	80	4.8	3.77
6	90	5.4	4.24
6	100	6	4.71
6	110	6.6	5.18
6	125	7.5	5.89
6	150	9	7.06
9	25	2.25	1.77
9	32	2.88	2.26
9	38	3.42	2.68
9	44	3.96	3.11
9	50	4.5	3.53
9	60	5.4	4.24
9	65	5.85	4.59
9	70	6.3	4.95
9	75	6.75	5.3
9	80	7.2	5.65
9	90	8.1	6.36
9	100	9	7.06
9	110	9.9	7.77
9	125	11.25	8.83
9	150	13.5	10.6
9	160	14.4	11.3
9	165	14.85	11.7
9	170	15.3	12

표준단면 치수 Standard Sectional Dimension (mm)		단면적 Sectional Area (cm ²)	단위무게 Unit Weight (kg/m)
t	w		
9	175	15.75	12.4
9	180	16.2	12.7
9	190	17.1	13.4
9	200	18	14.1
9	250	22.5	17.7
9	300	27	21.2
10	50	5	3.92
10	80	8	6.28
10	90	9	7.06
10	100	10	7.85
10	125	12.5	9.81
10	150	15	11.8
11	125	13.75	10.8
12	25	3	2.36
12	32	3.84	3.01
12	38	4.56	3.58
12	44	5.28	4.14
12	50	6	4.71
12	60	7.2	5.65
12	65	7.8	6.12
12	70	8.4	6.59
12	75	9	7.06
12	80	9.6	7.54
12	90	10.8	8.48
12	100	12	9.42
12	110	13.2	10.4
12	125	15	11.8
12	150	18	14.1
12	160	19.2	15.1
12	165	19.8	15.5
12	170	20.4	16
12	175	21	16.5
12	180	21.6	17
12	190	22.8	17.9
12	200	24	18.8
12	250	30	23.6
12	300	36	28.3
12	350	42	33
12	400	48	37.7
14	150	21	6.5
16	25	4	3.14
16	32	5.12	4.02
16	38	6.08	4.77
16	44	7.04	5.53
16	50	8	6.23
16	60	9.6	7.54

※ 사전 협의 필요 (Prior Discussion is Required)



● 치수 및 단위무게 (Dimensions and Unit Weights)

표준단면 치수 Standard Sectional Dimension (mm)		단면적 Sectional Area (cm ²)	단위무게 Unit Weight (kg/m)
t	w		
16	65	10.4	8.16
16	70	11.2	8.79
16	75	12	9.42
16	80	12.8	10
16	90	14.4	11.3
16	100	16	12.6
16	110	17.6	13.8
16	125	20	15.7
16	150	24	18.8
16	160	25.6	20.1
16	165	26.4	20.7
16	170	27.2	21.4
16	175	28	22
16	180	28.8	22.6
16	190	30.4	23.9
16	200	32	25.1
16	250	40	31.4
16	300	48	37.7
16	350	55	44
16	400	64	50.2
19	32	6.08	4.77
19	38	7.22	5.67
19	44	8.36	6.56
19	50	9.5	7.46
19	60	11.4	8.95
19	65	12.35	9.69
19	70	13.3	10.4
19	75	14.25	11.2
19	80	15.2	11.9
19	90	17.1	13.4
19	100	19	14.9
19	110	20.9	16.4
19	125	23.75	18.6
19	150	28.5	22.4
19	160	30.4	23.9
19	165	31.35	24.6
19	170	32.3	25.4
19	175	33.25	26.1
19	180	34.2	26.8
19	190	36.1	28.3
19	200	38	29.8
19	250	47.5	37.3
19	300	57	44.7
19	350	66.5	52.2
19	400	76	59.7

표준단면 치수 Standard Sectional Dimension (mm)		단면적 Sectional Area (cm ²)	단위무게 Unit Weight (kg/m)
t	w		
22	160	35.2	27.6
22	165	36.3	28.5
22	170	37.4	29.4
22	175	38.5	30.2
22	180	39.6	31.1
22	190	41.8	32.8
22	200	44	34.5
22	250	55	43.2
22	300	66	51.8
22	350	77	60.4
22	400	88	69.1
25	160	40	31.4
25	165	41.25	32.4
25	170	42.85	33.4
25	175	43.75	34.3
25	180	45	35.3
25	190	47.5	37.3
25	200	50	39.2
25	250	62.5	49.1
25	300	75	58.9
25	350	87.5	68.7
25	400	100	78.5
28	160	44.8	35.2
28	165	46.2	36.3
28	170	47.6	37.4
28	175	49	38.5
28	180	50.4	39.6
28	190	53.2	41.8
28	200	56	44
28	250	70	55
28	300	84	65.9
28	350	98	76.9
28	400	112	87.9
32	160	51.2	40.2
32	165	52.8	41.4
32	170	54.4	42.7
32	175	56	44
32	180	57.6	45.2
32	190	60.8	47.7
32	200	64	50.2
32	250	80	62.8
32	300	96	75.4
32	350	112	87.9
32	400	128	100

28 | 원형강

ROUND BARS

● 화학성분 및 기계적 성질 (Chemical Composition and Mechanical Properties)

강종 Grade	화학성분 Chemical Composition [%]				
	C	Si	Mn	P	S
SS275	Max. 0.25	Max. 0.45	Max. 1.40	Max. 0.05	Max. 0.05

● 치수 및 단위무게 (Dimensions and Unit Weights)

지름 Diameter (mm)	단면적 Sectional Area (cm ²)	단위무게 Unit Weight (kg/m)	지름 Diameter (mm)	단면적 Sectional Area (cm ²)	단위무게 Unit Weight (kg/m)
9	0.6363	0.499	(27)	5.726	4.49
10	0.7854	0.617	28	6.158	4.83
11	0.9503	0.746	29	6.602	5.183
12	1.131	0.888	30	7.069	5.55
13	1.327	1.04	32	8.042	6.31
(14)	1.539	1.21	(33)	8.553	6.71
16	2.011	1.58	36	10.18	7.99
(18)	2.545	2	38	11.34	8.9
19	2.835	2.23	(39)	11.95	9.38
20	3.142	2.47	42	13.85	10.9
22	3.801	2.98	(45)	15.9	12.5
24	4.524	3.55	46	16.62	13
25	4.909	3.85	50	19.64	15.4

 생산가능 사이즈 (Available Size)

● 기타 원형강 (Half Round Bar, Square Bar)

호칭치수 Nominal Size	단면적 Sectional Area (cm ²)	단위무게 Unit Weight (kg/m)
HR 60	14.14	11.1
S 22	4.84	3.8

 생산가능 사이즈 (Available Size)

29 | I형강

I - BARS

● 치수 및 단위무게 (Dimensions and Unit Weights)

호칭치수 Nominal Size	폭 Width (mm)	두께 1 Thickness (mm)	두께 2 Thickness (mm)	단위무게 Unit Weight (kg/m)
32 × 5 × 3	32	5	3	0.93
38 × 5 × 3	38	5	3	1.1
44 × 5 × 3	44	5	3	1.27
50 × 5 × 3	50	5	4	1.44
55 × 7 × 4	55	7	4	2.14
60 × 7 × 4	60	7	4	2.3
65 × 7 × 4	65	7	4	2.45
75 × 7 × 4	75	7	4	2.86

30 | 농기구 칼날용 평강 ROTARY TINE AND ROTARY (TINE HOLDER FOR AGRICULTURE)

● 종류 및 화학성분 (Classes and chemical Composition)

강종 Grade	화학성분 Chemical Composition (%)						
	C	Si	Mn	P	S	Cr	Cu
SPS 5	0.52 ~ 0.6	0.15 ~ 0.35	0.65 ~ 0.95	Max. 0.04	Max. 0.04	0.65 ~ 0.95	Max. 0.4

● 폭 및 두께 허용차 (Tolerances on Width and Thickness Tolerance)

폭 Width (mm)	폭 허용차 Tolerance (mm)	두께 Thickness (mm)															
		5	6	7	8	9	10	11	12	13	14	16	18	20	22	25	30
		두께의 허용차 Tolerance (mm)															
45	±0.5	±0.15	±0.15					±0.25									
50	±0.6	±0.15	±0.15	±0.18	±0.2	±0.2	±0.25	±0.25	±0.25	±0.3							
60	±0.6	±0.15	±0.15	±0.18	±0.2	±0.2	±0.25	±0.25	±0.3	±0.3		±0.35					
70	±0.8		±0.18	±0.18	±0.2	±0.25	±0.25	±0.25	±0.3	±0.3	±0.3	±0.35	±0.35	±0.4	±0.45	±0.5	
80	±0.8			±0.2	±0.2	±0.25	±0.25	±0.3	±0.3	±0.3	±0.3	±0.35	±0.35	±0.4			
90	±1					±0.25	±0.25	±0.3	±0.3	±0.3	±0.3	±0.35	±0.35	±0.4	±0.45	±0.5	
100	±1							±0.3	±0.3	±0.3	±0.3	±0.35	±0.35	±0.4	±0.45	±0.5	
150	±1											±0.4		±0.4		±0.5	±0.5

31 | 무늬H형강 EMBOSSED H-SECTIONS (KS D 3515/3502)

호칭치수 Nominal Size (mm)	표준단면 치수 Standard Sectional Dimension (mm)				단위무게 Unit Weight (kg/m)
	HxB	t1	t2	r	
190x197	190x197	5	7	13	33.2

32 | 열간압연 강널말뚝 HOT ROLLED STEEL SHEET PILES (KS F 4604)

호칭치수 Nominal Size (mm)	표준단면 치수 Standard Sectional Dimension (mm)			단위무게 Unit Weight (kg/m)
	H	B	두께 Thickness (mm)	
400x150	150	400	13	60
400x170	170	400	15.5	76.1

Dongkuk Steel Worldwide

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