

PRODUCTS GUIDE



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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.

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We Create Better Life with Steel

철로 다져가는 행복이 있습니다

**60년 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.

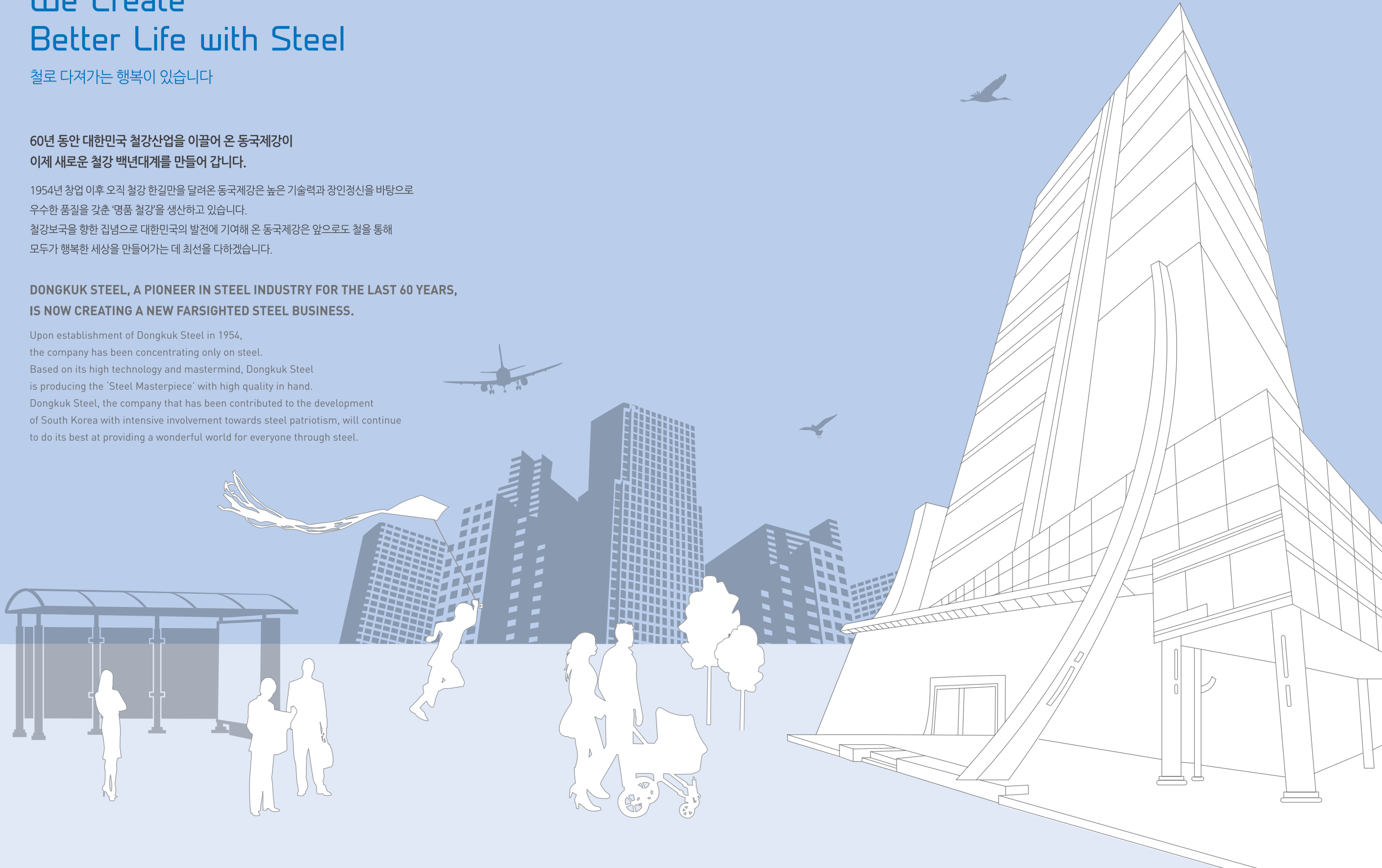
철강보국을 향한 집념으로 대한민국의 발전에 기여해 온 동국제강은 앞으로도 철을 통해
모두가 행복한 세상을 만들어가는 데 최선을 다하겠습니다.

**DONGKUK STEEL, A PIONEER IN STEEL INDUSTRY FOR THE LAST 60 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

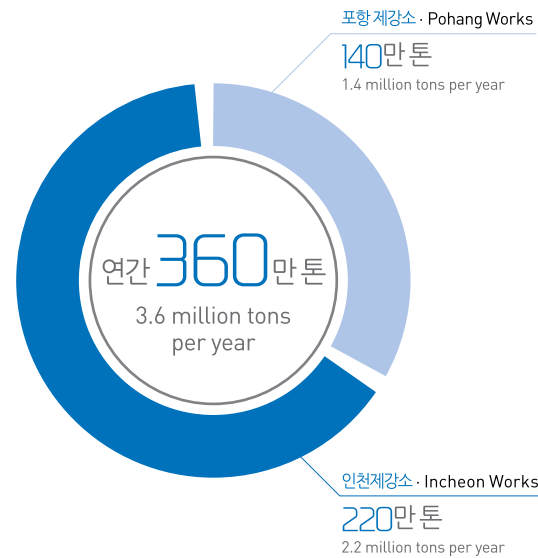
Capacities of Dongkuk Steel in numbers

동국제강의 역량, 숫자로 말하다

제강 생산량 · STEEL MAKING VOLUME

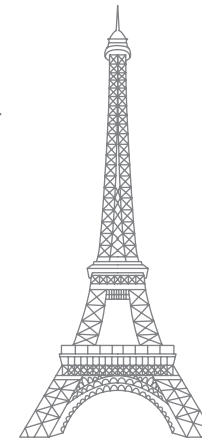
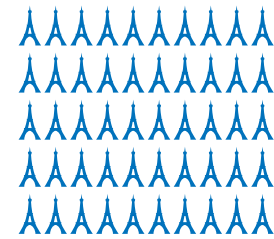
동국제강은 인천·포항제강소의 전기로에서 연 360만톤의 쇳물을 생산합니다. 이 쇳물은 봉강과 형강의 반제품인 빌릿, 빔블랭크, 블룸으로 만들어집니다. 국내 최초 전기로 시대의 포문을 연 동국제강은 과감하고 지속적인 설비투자로 '명품 철강' 생산을 향한 도전을 이어가고 있습니다.

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.



제강 · STEEL MAKING

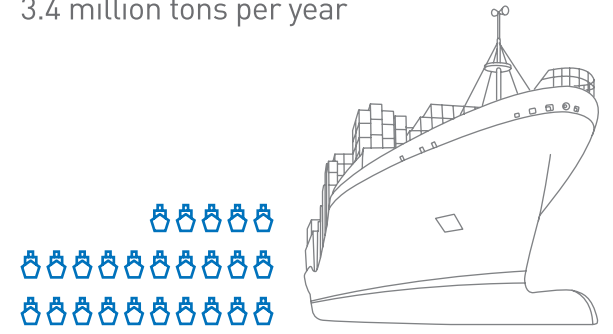
연간 360만 톤
3.6 million tons per year



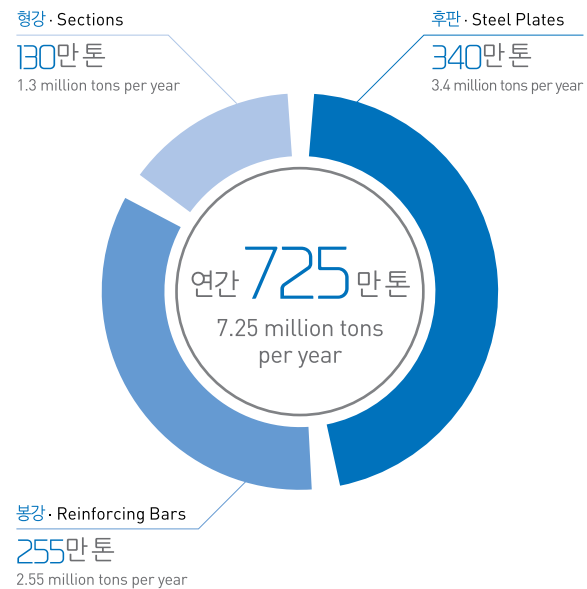
에펠탑 500개를 세울 수 있는 양
The amount equivalent to build 500 Eiffel Towers

후판 · STEEL PLATES

연간 340만 톤
3.4 million tons per year



컨테이너선 248척을 건조할 수 있는 양
The amount equivalent to build 248 container ships



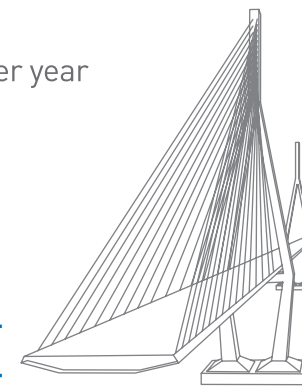
제품 생산량 · ROLLED PRODUCTS VOLUME

동국제강은 연 725만톤의 후판, 봉강, 형강을 만들고 있습니다. 주력 제품인 후판은 세계 5위의 생산 규모를 갖추고 있으며, 각 제품은 일 반용을 비롯해 해양구조물에 쓰이는 고급 후판, 내진용 고급 봉형강 등 다양하게 생산됩니다.

Dongkuk Steel produces 7.25 million tons of steel plates, reinforcing bars, and sections per year. The production capacity of its anchor product, steel plates, proudly ranks fifth in the world. Dongkuk Steel produces a wide variety of products starting with structural steel for general use to high-class steel plates for marine structures, earthquake-resistant bar, and shaped steel.

봉강 · REINFORCING BARS

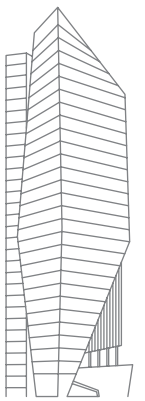
연간 255만 톤
2.55 million tons per year



인천대교 20개를 건축할 수 있는 양
The amount equivalent to build 20 Incheon Bridge buildings

형강 · SECTIONS

연간 130만 톤
1.3 million tons per year



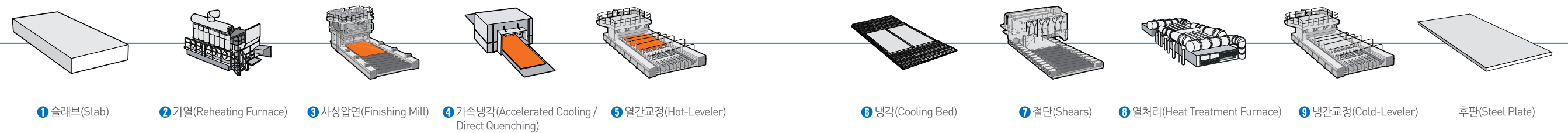
페럼타워 급 빌딩 391개를 건축할 수 있는 양
The amount equivalent to build 391 Ferrum Tower-class buildings

Process

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

최신 설비로 최고의 제품을 생산하다

후판 · STEEL PLATES



동국제강의 주력제품 후판은 일반적으로 두께 6mm 이상의 두꺼운 강판을 말하며, 슬래브를 원재료로 만듭니다. 주로 건축, 교량, 선박, 해양구조물 등으로 사용됩니다. 동국제강은 1971년 국내 최초로 후판을 생산했으며, 포항과 당진공장에서 연간 340만 톤의 후판을 생산하고 있습니다. 동국제강의 후판은 일반강에서부터 고장력, TMCP, 열처리, 해양구조물 등 고급강에 이르는 모든 제품을 생산하고 있습니다.

Steel plates, generally plates thicker than 6mm, 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. Today, it produces 3.4 million tons of steel plates annually at the steel works in Pohang and Dangjin. It 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.



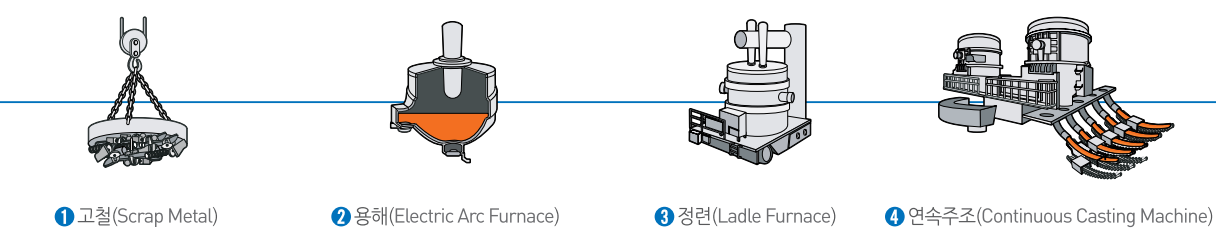
멀픽(Mulpic) : 멀픽(Mulpic)은 고급강재인 정밀제어 열가공처리(TMCP : Thermo Mechanical Control Process) 제품을 만들기 위한 설비입니다. 압연된 제품을 가속냉각(ACC : Accelerated Cooling)하거나 또는 직접담금질(DQ : Direct Quenching) 처리하여 보다 단단한 고품질 제품 생산이 가능합니다.

열처리로(Heat Treatment Furnace) : 열처리로(Heat Treatment Furnace)는 압력용기, 압력보일러용강재, 풍력타워, 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.

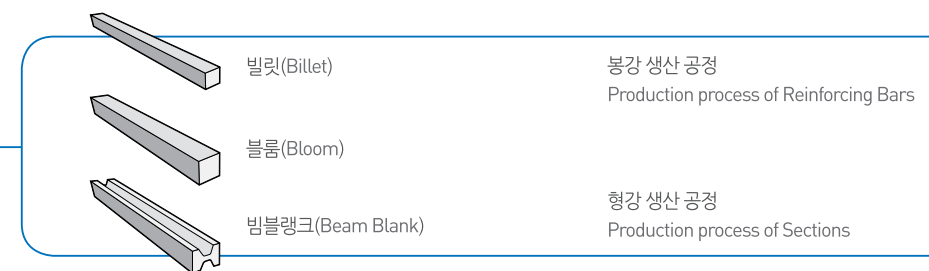
Heat Treatment Furnace : The heat treatment furnace is the sophisticated facility required for producing high-quality heat treated products for pressure vessels, wind towers, and API steel plates.

제강/연주 · STEEL MAKING / CASTING

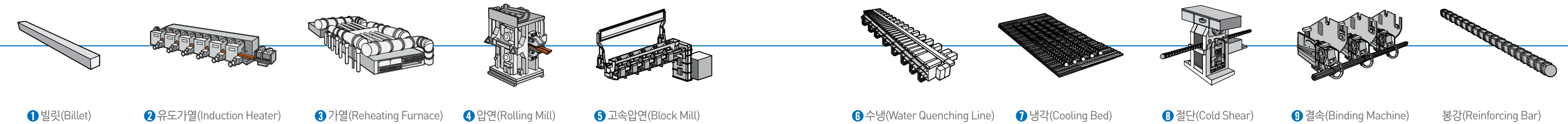


동국제강은 직류 전기로와 트윈베셀(Twin Vessel) 전기로에 이어 친환경 에코아크(Eco-Arc)전기로를 국내 최초로 선보였습니다. 에코아크 전기로는 에너지 효율 극대화화 이를 통한 온실가스 배출 저감효과에 초점을 맞춘 혁신적인 전기로 제강 공법으로, 기존 전기로 공법보다 에너지 사용량을 30% 줄일 수 있고, 투입되는 원료(철스크랩) 선택의 폭을 넓힐 수 있습니다.

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).



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. 최근에는 최초로 내진용 봉강의 KS규격 제정에 성공하며 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.



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.

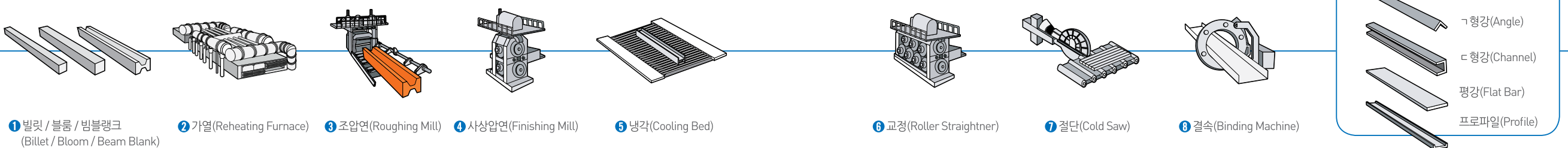
트윈채널(Twin Channel) : 봉강을 냉각상 위에 정확히 안착시키는 설비로 주로 소형봉강 생산에 사용됩니다. 국내에서는 동국제강이 최초 도입한 설비로 제품의 품질향상에 큰 역할을 합니다.

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.

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.



스탠드 익스체인지(Standard Exchange) : 동국제강은 워킹빔 방식의 가열로와 조압연 · 사상압연 등 2개의 압연공정을 채택, 압연기술을 최적화 했습니다. 특히 회전속도가 각기 다른 직렬방식의 탠덤밀(Tandem Mill)과 롤(Roll) 교체시간을 최소화하기 위해 국내 최초로 스탠드 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

포항제강소 · POHANG WORKS



전통과 기술력이 집중한 생산기지

포항제강소는 철강 생산 노하우와 기술력이 결집된 세계적인 철강 생산기지입니다.

1991년 1후판공장, 1997년 2후판공장과 형강공장, 1999년 봉강공장을 차례로 준공, 동국제강의 제2창업 시대를 열고 지속적인 설비 합리화, 최신 기술력 도입 및 개발 등 신속한 변화를 추구하고 있습니다. 포항제강소의 제강공장은 국내 최초로 트윈베셀 타입 전기로를 도입했으며, 2후판공장은 4단 가역식 압연공정을 채택, 두께의 편차를 감소시킨 고정밀도 제품을 생산하고 있습니다. 또한 국내 최초 워크롤시프트(Work Roll Shift)를 도입, 후판의 정밀도와 평탄도를 더욱 높였습니다. 이 밖에 단일생산라인에서 다양한 사이즈의 제품을 생산할 수 있는 형강공장과 연속 압연설비(Ebros)를 갖춘 봉강공장이 있습니다.

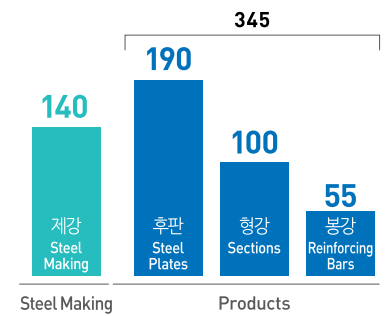
A production base with tradition and technology

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

With the completion of No.1 plate mill in 1991, the section mill and No.2 plate mill in 1997, and the reinforcing bar mill in 1999, it opened the era of the second foundation, 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 reversible 4-high mill was adopted at the No.2 plate mill to enable the rolling of products with super high accuracy and deviation. In addition, a work roll shifting system was implemented to further increase accuracy as well as the flatness of steel plates. Moreover, the section mill can produce various products in single production line, and the reinforcing bar mill is equipped with continuous rolling process(Ebros).

연간생산능력 Annual Production Capacity

(단위 : 만톤, unit:10,000 tons)



동국제강 제2창업의 메카

- 총 연면적 837,860㎡
- 조강생산 연간 140만 톤, 제품생산 연간 345만 톤
- 후판, H형강, 채널 앵글 등 일반 형강, 봉강

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 3.45 million tons for steel products
- Steel plates, H-Beams, Channels, Angles, Reinforcing bars

인천제강소 · INCHEON WORKS



친환경 설비 갖춘 봉강 전문 생산공장

동국제강 제2의 생산기지 인천제강소는 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. 인천제강소는 오랜 경험과 기술력이 집약된 친환경 철강기지로 도약하고 있습니다.

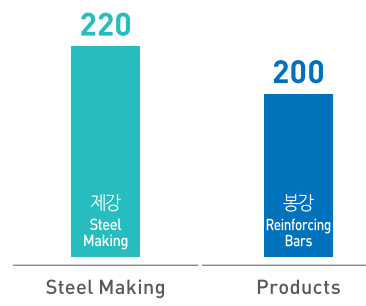
Specialized in reinforcing bar production with environment-friendly equipment

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 200만 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 million tons for steel products
- Reinforcing bars

당진공장 · DANGJIN WORKS



최고급 후판 생산공장

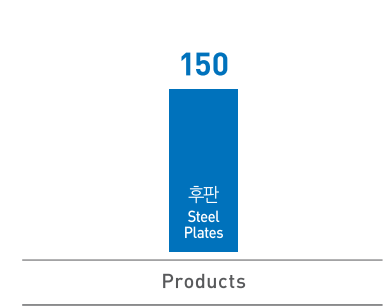
2010년 준공한 당진공장은 일반 후판은 물론 특수선과 해양구조물, 초대형 선박 등에 사용되는 고급강까지 모든 제품을 생산합니다. 고급강 생산비중이 높은 만큼 당진공장은 정보기술(IT)과 철강 기술이 결합된 첨단 시설로 구성되어 있습니다. 1.2km에 이르는 생산라인은 원재료인 슬래브 가열부터 압연, 절단에 이르기까지 전 과정이 컴퓨터로 통제됩니다. 당진공장에는 원자재 및 반제품이 어디에 어떤 형태로 있는지 실시간으로 파악할 수 있는 첨단 물류시스템 'RTLS(Real Time Location System)'를 적용했습니다. 또 슬래브를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

연간생산능력 Annual Production Capacity

(단위 : 만 톤, unit:10,000 tons)



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)

부산공장 · BUSAN WORKS



고객 맞춤, 다품종 중소형 형강 생산

1963년 부산 용호동에서 대규모 철근공장을 가동하던 동국제강은 1998년 주력공장을 포항으로 이전하면서 부산 신평동의 철근공장을 인수했습니다. 현재의 부산 공장은 고부가 중소형 형강제품 개발에 주력하며 다품종 소량 맞춤 생산 전문 공장으로 탈바꿈했습니다. 부산공장은 동국제강의 장

인정신과 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. Busan 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

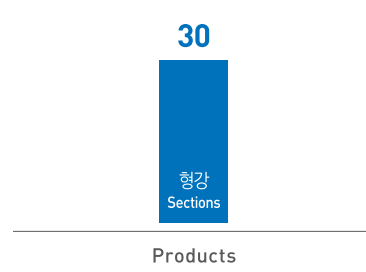
동국제강 중앙기술연구소는 2005년 설립되어, 고기능·고품질 제품 개발과 친환경 공정기술 개발에 주력하고 있습니다. 중앙기술연구소는 현재 전 세계 철강분야의 지식과 정보를 집약하고 제품 개발, 신기술 창출을 위한 연구개발에 박차를 가하며 동국제강의 경쟁력을 강화해 나가고 있습니다. 글로벌 무한 경쟁시대를 향한 동국제강의 목표는 바로 '기술력'과 '세계화'입니다. 세계를 주도하는 최고의 기술력을 갖추기 위해 중앙기술연구소가 중추적인 역할을 담당합니다.

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.

연간 생산능력 Annual Production Capacity

(단위: 만톤, unit: 10,000 tons)



전통과 자부심의 뿌리, 끊임없이 변화하는 공장

- 총 연면적 18,694㎡
- 제품생산량 연간 30만 톤
- ㄱ형강, ㄷ형강, 평강, 프로파일

The root of tradition and pride, the constantly evolving plant

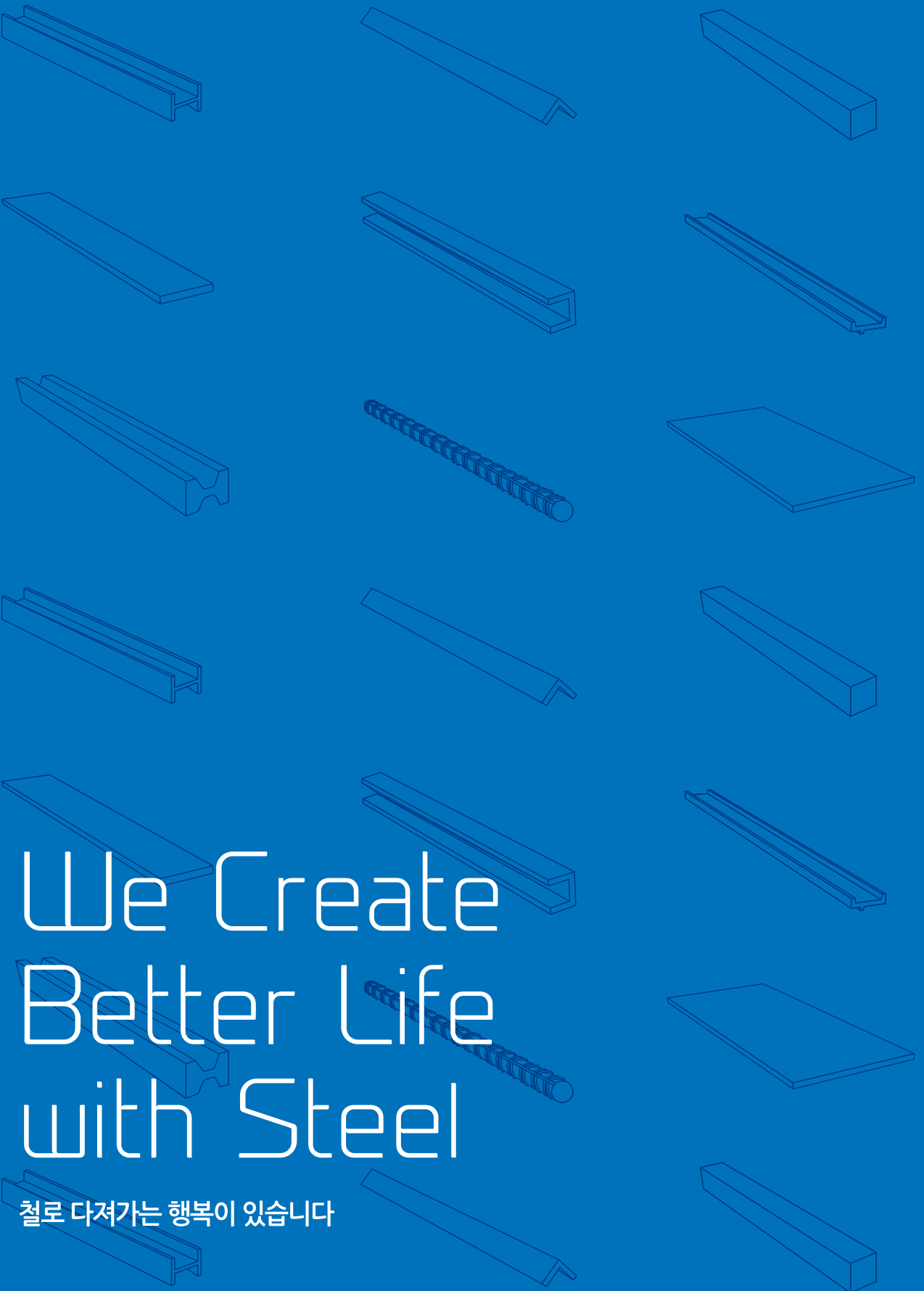
- Gross floor area : 18,694㎡
- Annual production of 300,000 tons
- Angles, Channels, Flat bars, Profile

원천기술 개발로 부가가치 제고

- 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)



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 D3503	일반구조용 압연강재 Rolled Steels for General Structure	9404	등변 ㄱ형강 Equal Angles	SS400, SS490, SS540	포항제강소 Pohang Works	1992.10.16
			H 형강 H-Beams	SS400, SS490		
			ㄷ형강 Channels			
			평강 Flat Bars			
			강판 Plates			
96-01-012	등변 ㄱ형강, 원형강, 평강, ㄷ형강 Equal Angles, Round Bars, Flat Bars, Channels	SS400	부산공장 Pusan Works	1999.08.28		
	10-0066	강판 Plates	SS400, SS490	당진공장 Dangjin Works	2010.02.10	
	KS D3504	철근 콘크리트용 봉강 Deformed Bars for Concrete Reinforcement	380	이형봉강 Deformed Bars	SD300, SD400, SD400W, SD500, SD500W, SD600, SD700	포항제강소 Pohang Works
1372			SD300, SD400, SD400W, SD500, SD500W, SD600		인천제강소 Incheon Works	1976.12.24
KS D3515	용접구조용 압연강재 Rolled Steels for Welded Structures	9405	ㄱ형강, 평강 Angles, Flat Bar	SM400A-B, SM490A-B	포항제강소 Pohang Works	1992.10.16
			ㄷ형강 Channels	SM490A-B-YA		
			H형강 H-Beams	SM400A-B, SM490A-B-C, SM490YA-YB, SM520B-C		
			강판 Plates	SM400A-B-C, SM520B-C, SM490A-B-C-YA-YB, SM570		
		12-0138	ㄱ형강 Angles	SM490A	부산공장 Pusan Works	2012.03.21
10-0067	강판 Plates	SM400A-B-C, SM490A-B-C-YA-YB, SM520B-C, SM570	당진공장 Dangjin Works	2010.03.09		
KS D3866	건축구조용 압연 H형강 Hot rolled H-beam for Building Structure	09-0400	H형강 H-Beams	SHN400, SHN490, SHN520	포항제강소 Pohang Works	2010.04.07
KS D3868	교량구조용 압연강재 Rolled Steels for Bridge Structures	10-0253	강판 Plates	HSB500, HSB500L, HSB600, HSB600L	당진공장 Dangjin Works	2010.03.09

● CE 마크 인증 (CPD, PED)

규격 Standards	인증범위 Scope of Certificate	인증번호 Certificate No.	제품 Products	사업장 Mill	인증일자 Date of Certificate
CPD	열간 압연 구조용강 Hot Rolled Products of Structural Steels	0035-CDP-A251	강판, H형강, ㄱ형강 Plates, H-Beams, Angles	포항제강소 Pohang Works	2006.06.28
		0035-CDP-A254		당진공장 Dangjin Works	2010.04.08
PED	제조사 품질 보증서 Quality Assurance System for Manufacturer of Materials	01 202 ROK/Q-03 0022	강판 Plates	포항제강소 Pohang Works	2009.05.15
		01 202 ROK/Q-10 0044		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)	포항제강소 Pohang Works	2014.03.10

● SNI 인증

규격 Standards	규격명 Name of Standards	인증번호 Certificate No.	제품 Products	강종 Grade	사업장 Mill	인증일자 Date of Certificate
07-0601-2006	열간압연 강판 Hot Rolled Steel Sheets, Plates and Strips	1285.242-77.140-VIII-2012	강판 Plates	Bj PC	포항제강소 Pohang Works	2012.08.14
2610 - 2011	H형강 H Profile Steel (Bj PH-beam)	1284.242-77.140-VIII-2012	H형강 Bj PH-beams	Bj PHC 400		

● 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	KSKR08055	강판, 형강 Plates, Sections	-	포항제강소 Pohang Works	2008.08.13
		KSKR10005	강판 Plates	SS330, SS400, SS490, SS540	당진공장 Dangjin Works	2010.05.20
		KSKR08129	형강 Sections	SS400	부산공장 Pusan Works	2008.12.03
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	KSKR08056	강판, 형강 Plates, Sections	-	포항제강소 Pohang Works	2008.08.13
		KSKR10006	강판 Plates	SM400A-B-C, SM490A-B-C-YA-YB, SM520B-C, SM570	당진공장 Dangjin Works	2010.05.20
JIS G 3112	철근 콘크리트용 봉강 Steel Bars for Concrete Reinforcement	KSKR18057	봉강 Bars	D10~D51	포항제강소 Pohang Works	2008.08.13
		CRKR09001		SD295A-B, SD345, SD390, SD490	인천제강소 Incheon Works	2009.04.24
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	KSKR11016	전품목 All Products	SN400A-B-C, SN490B-C	당진공장 Dangjin Works	2011.09.08
		KSKR12042	H형강 H-Beams	SN490B, SN400B	포항제강소 Pohang Works	2013.02.14

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품질인증 현황
CERTIFICATE

● 품질경영시스템 (QMS)

규격 Standards	종류 및 등급 Range of Certificates	인증번호 Certificate No.	인증기관 Accredited Unit	사업장 Mill	인증일자 Date of Certificate
ISO 9001:2008	강판, 형강, 봉강, 빌렛 Plates, Sections, Bars, Billets	SE00938902	로이드인증원 Lloyd's Resister Quality Assurance	포항제강소, 인천제강소, 부산공장, 본사 Pohang Works, Incheon Works, Pusan Works, Head Office	1994.11.24
ISO 17025 : 2006	화학성분 역학 (인장, 충격, 경도) Mechanical Test Chemical Test	368	한국인정기구 Korea Laboratory Accreditation Scheme	포항제강소 중앙시험실 Pohang Laboratory	2008.08
KEPIC-SN	철근 Reinforcing Steel Bar	DN-280	대한전기협회 Korea Electric Association	포항제강소 봉강공장 Pohang Works	2006.11
		DN-589		인천제강소 1호압연공장 Incheon Works	2012.12.14
DVN MSA	선체구조용 강판, 형강 제조 검사 Plates, Sections Survey	MSA No. R-1485 REV.6	노르웨이선급협회 DVN	포항제강소 Pohang Works	2012.12.31

● 선급 승인 (Classification)

구분 Classification	승인번호 Approval No.	제품 Products	강종 Grade	사업장 Mill	승인일자 Date of Approval	비고 Note
한국선급협회 (KR)	POH04101-SP001	강판 Plates	A, B, D, E, AH32-36, DH32-36, EH32-36	포항제강소 Pohang Works	1992.01.28	
			A(Z25-35), B(Z25-35), D(Z25-35), E(Z25-35), AH32-36-40(Z25-35), DH32-36-40(Z25-35), EH32-36-40(Z25-35)	당진공장 Dangjin Works	2010.01.05	
	POH04101-SP002	형강 Sections	A, B, D, E, AH32, DH32	포항제강소 Pohang Works	1999.05.02	Approval Certificate for Quality Assurance System
	POH04101-QA001	강판, 형강 Plates, Sections	-		2010.01.05	
노르웨이선급협회 (DNV)	AMM-6215	강판 Plates	NV A, NV B, NV D, NV E, NV A32-36, NV D32-36, NV E32-36	포항제강소 Pohang Works	2009.06.29	
		형강 Sections	NV A, NV B, NV A32			
	AMM-4612	강판 Plates	NV A, NV B, NV D, NV E, NV E(Z25-35), NV A32-36-40(Z35), NV D32-36-40(Z25-35), NV E32-36-40(Z35), A420, D420, E420, DW420, EW420	당진공장 Dangjin Works	2011.12.16	
미국선급협회 (ABS)	977161	강판 Plates	A, B, D	포항제강소 Pohang Works	2012.12.17	
	834152		A, B, D, E, AH32-36, DH32-36EH32-36		2011.12.08	
	586303		A, B, D, E, AH32-36, DH32-36		2010.05.13	
	484927		AH32, AH36, DH32, DH36		2009.08.03	
	552387	형강 Sections	A, B, D, E, AH32, DH32		2010.03.08	
	834374	강판 Plates	A, B, D, E(Z35), AH32-36-40(Z35), DH3236-40(Z35), EH32-36-40(Z35)	당진공장 Dangjin Works	2011.12.12	

● 선급 승인 (Classification)

구분 Classification	승인번호 Approval No.	제품 Products	강종 Grade	사업장 Mill	승인일자 Date of Approval	비고 Note
영국선급협회 (LR)	MD00-0414-0013-1	강판 Plates	A, B, D, E, AH32-36, DH32-36, EH32-36	포항제강소 Pohang Works	2013.07.09	
		형강 Sections	A, B, D, AH32, DH32			
	MD00-3773-0005-1	강판 Plates	A, B, D, E, AH32-36-40, DH32-36-40, EH32-36-40	당진공장 Dangjin Works	2012.07.06	
독일선급협회 (GL)	WZ 919 HH 12	강판 Plates	GL-A, GL-B, GL-D, GL-E, GL-A32-36, GL-D32-36, GL-E32-36	포항제강소 Pohang Works	2011.11.30	
		형강 Sections	GL-A, GL-B, GL-D, GL-A32, GL-D32			
	WZ 2170 HH 3	강판 Plates	GL-A(Z25-35), GL-B(Z25-35), GL-D(Z25-35), GL-E(Z25-35), GL-A32-36-40(Z25-35), GL-D32-36-40(Z25-35), GL-E32-36-40(Z25-35)	당진공장 Dangjin Works	2011.12.12	
일본해사협회 (NK)	09EW4566ROL	강판 Plates	KA, KB, KD, KE, KA32-36, KD32-36, KE32-36	포항제강소 Pohang Works	2013.08.15	
	09EW2124ROL	형강 Sections	KA, KB, KD, KA32, KD32			
	NKR-551ROL	강판 Plates	KA(Z25-35), KB(Z25-35), KD(Z25-35), KE(Z25-35), KA32-36-40(Z25-35), KD32-36-40(Z25-35), KE32-36-40(Z25-35)	당진공장 Dangjin Works	2012.01.30	
이탈리아선급협회 (RINA)	FAB334513PU	강판 Plates	A, B, D, E, A32-36, D32-36, E32-36	포항제강소 Pohang Works	2014.02.12	
	FAB285411PU		A(Z25-35), B(Z25-35), D(Z25-35), E(Z25-35), AH32-36-40(Z25-35), DH32-36-40(Z25-35), EH32-36-40(Z25-35)	당진공장 Dangjin Works	2011.11.23	
중국선급협회 (CCS)	FS09W00014	강판 Plates	A, B, D, E, A32-36, D32-36, E32-36	포항제강소 Pohang Works	2011.06.03	
	FS11W00019T		A(Z25-35), B(Z25-35), D(Z25-35), E(Z25-35), AH32-36-40(Z25-35), DH32-36-40(Z25-35), EH32-36-40(Z25-35)	당진공장 Dangjin Works	2011.10.18	
프랑스선급협회 (BV)	09684-C0 BV	강판 Plates	AH32-36, DH32-36, EH32-36	포항제강소 Pohang Works	2009.07.31	
	12285-B0 BV		A, B, D, E		2010.08.21	
	18934-B0 BV		A, B, D, E		2011.08.28	
	18935-B0 BV		AH32-36, DH32-36, EH32-36			
	14731-B0 BV		AH32-36, DH32-36		2011.03.14	
	14730-B1 BV	형강 Sections	A, B, D	당진공장 Dangjin Works	2012.02.10	
	22704-A4 BV		A, B, D, E(Z25-35), AH32-36-40(Z25-35), DH32-36-40(Z25-35), EH32-36-40(Z25-35)		2009.11.05	
	08809-C0 BV		A, B, D			
	08810-C0 BV		AH32, DH32			
	SMA.W.II-1952-D.1		Recognition for BV Mode II Survey Scheme		2010.10.21	
러시아선급협회 (RS)	7.1.4.1	강판 Plates	A, B, D, E, AH32-36, DH32-36, EH32-36	포항제강소 Pohang Works	2013.07.30	
	11-00086-294		PC-A, PC-B, PC-D, PC-E(Z25-35), PC-AH32-36-40(Z25-35), PC-EH32-36-40(Z25-35)	당진공장 Dangjin Works	2011.12.16	

02

철근 포장TABLE
PACKING TABLE OF REINFORCING BARS

- 환산중량 단위무게 : KS D3504기준

• 1본 중량 : 단중x1본길이 (소수 2자리 뺌)

• 포장중량 : 1본중량x포장본수 (kg서 뺌)

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	140	140	120	120	100	100	80
		중량 (Bundle Weight)		955	1,035	976	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	24.75	27
		총본수 (Pcs/Bundle)		74	68	63	59	56	49	44	40	37
		중량 (Bundle Weight)		999	995	992	996	1,008	992	990	990	999
		총길이 (Length x Pcs/Bundle)		444	442	441	442.5	448	441	440	440	444
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	43.78	47.76
		총본수 (Pcs/Bundle)		42	39	36	33	32	28	25	23	21
		중량 (Bundle Weight)		1,003	1,009	1,003	985	1,019	1,003	995	1,007	1,003
		총길이 (Length x Pcs/Bundle)		252	253.5	252	247.5	256	252	250	253	252
D29	5.04	1본 중량 (Weight/Piece)		30.24	32.76	35.28	37.8	40.32	45.36	50.4	55.44	60.48
		총본수 (Pcs/Bundle)		33	31	28	26	25	22	20	18	17
		중량 (Bundle Weight)		998	1,016	988	983	1,008	998	1,008	998	1,028
		총길이 (Length x Pcs/Bundle)		198	201.5	196	195	200	198	200	198	204
D32	6.23	1본 중량 (Weight/Piece)		37.38	40.5	43.61	46.73	49.84	56.07	62.3	68.53	74.76
		총본수 (Pcs/Bundle)		27	25	23	21	20	18	16	15	13
		중량 (Bundle Weight)		1,009	1,013	1,003	981	997	1,009	997	1,028	972
		총길이 (Length x Pcs/Bundle)		162	162.5	161	157.5	160	162	160	165	156
D35	7.51	1본 중량 (Weight/Piece)		45.06	48.82	52.57	56.33	60.08	67.59	75.1	82.61	90.12
		총본수 (Pcs/Bundle)		22	20	19	18	17	15	13	12	11
		중량 (Bundle Weight)		991	976	999	1,014	1,021	1,014	976	991	991
		총길이 (Length x Pcs/Bundle)		132	130	133	135	136	135	130	132	132
D38	8.95	1본 중량 (Weight/Piece)		53.7	58.18	62.65	67.13	71.6	80.55	89.5	98.45	107.4
		총본수 (Pcs/Bundle)		19	17	16	15	14	12	11	10	9
		중량 (Bundle Weight)		1,020	989	1,002	1,007	1,002	967	985	985	967
		총길이 (Length x Pcs/Bundle)		114	110.5	112	112.5	112	108	110	110	108
D41	10.5	1본 중량 (Weight/Piece)		63	68.25	73.5	78.75	84	94.5	105	115.5	126
		총본수 (Pcs/Bundle)		16	15	14	13	12	11	10	9	8
		중량 (Bundle Weight)		1,008	1,024	1,029	1,024	1,008	1,040	1,050	1,040	1,008
		총길이 (Length x Pcs/Bundle)		96	97.5	98	97.5	96	99	100	99	96
D51	15.9	1본 중량 (Weight/Piece)		95.4	103.4	111.3	119.3	127.2	143.1	159	174.9	190.8
		총본수 (Pcs/Bundle)		11	10	9	8	8	7	6	6	5
		중량 (Bundle Weight)		1,049	1,034	1,002	954	1,018	1,002	954	1,049	954
		총길이 (Length x Pcs/Bundle)		66	65	63	60	64	63	60	66	60

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

- 환산중량 단위무게 : KS D3504기준

• 1본 중량 : 단중x1본길이 (소수 2자리 뺌)

• 포장중량 : 1본중량x포장본수 (kg서 뺌)

호칭명 Size	단위중량 Unit Weight (kg/m)	길이 Length (m)										
			구분 Classification	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)	600	540	540	480	420	420	360	300	300	
		중량 (Bundle Weight)	2,016	1,966	2,116	2,016	1,882	2,116	2,016	1,848	2,016	
		총길이 (Length x Pcs/Bundle)	3,600	3,510	3,780	3,600	3,360	3,780	3,600	3,300	3,600	
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)	320	320	280	280	240	240	200	200	160	
		중량 (Bundle Weight)	1,910	2,070	1,952	2,088	1,910	2,150	1,990	2,190	1,910	
		총길이 (Length x Pcs/Bundle)	1,920	2,080	1,960	2,100	1,920	2,160	2,000	2,200	1,920	
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)	210	210	180	180	150	150	120	120	120	
		중량 (Bundle Weight)	1,966	2,130	1,966	2,106	1,872	2,106	1,872	2,106	2,246	
		총길이 (Length x Pcs/Bundle)	1,260	1,365	1,260	1,350	1,200	1,350	1,200	1,320	1,440	
D19	2.25	1본 중량 (Weight/Piece)	13.5	14.63	15.75	16.88	18	20.25	22.5	24.75	27	
		총본수 (Pcs/Bundle)	148	136	126	118	112	98	88	80	74	
		중량 (Bundle Weight)	1,998	1,990	1,984	1,992	2,016	1,984	1,990	1,990	1,998	
		총길이 (Length x Pcs/Bundle)	880	884	882	885	896	882	880	880	888	
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)	110	102	94	88	82	74	66	60	54	
		중량 (Bundle Weight)	2,006	2,016	2,000	2,006	1,994	2,024	2,006	2,006	1,970	
		총길이 (Length x Pcs/Bundle)	660	663	658	660	656	666	660	660	648	
D25	3.98	1본 중량 (Weight/Piece)	23.88	25.87	27.86	29.85	31.84	35.82	39.8	43.78	47.76	
		총본수 (Pcs/Bundle)	84	78	72	66	64	56	50	46	42	
		중량 (Bundle Weight)	2,006	2,018	2,006	1,970	2,038	2,006	1,990	2,014	2,006	
		총길이 (Length x Pcs/Bundle)	504	507	504	495	512	504	500	506	504	
D29	5.04	1본 중량 (Weight/Piece)	30.24	32.76	35.28	37.8	40.32	45.36	50.4	55.44	60.48	
		총본수 (Pcs/Bundle)	66	62	56	52	50	44	40	36	34	
		중량 (Bundle Weight)	1,996	2,032	1,976	1,966	2,016	1,996	2,016	1,996	2,056	
		총길이 (Length x Pcs/Bundle)	396	403	392	390	400	396	400	396	408	
D32	6.23	1본 중량 (Weight/Piece)	37.38	40.5	43.61	46.73	49.84	56.07	62.3	68.53	74.76	
		총본수 (Pcs/Bundle)	54	50	46	42	40	36	32	30	26	
		중량 (Bundle Weight)	2,018	2,026	2,006	1,962	1,994	2,018	1,994	2,056	1,994	
		총길이 (Length x Pcs/Bundle)	324	325	322	315	320	324	320	330	312	
D35	7.51	1본 중량 (Weight/Piece)	45.06	48.82	52.57	56.33	60.08	67.59	75.1	82.61	90.12	
		총본수 (Pcs/Bundle)	44	40	38	32	34	30	26	24	22	
		중량 (Bundle Weight)	1,982	1,952	1,998	2,028	2,042	2,028	1,952	1,982	1,982	
		총길이 (Length x Pcs/Bundle)	264	260	266	270	272	270	260	264	264	
D38	8.95	1본 중량 (Weight/Piece)	53.7	58.18	62.65	67.13	71.6	80.55	89.5	98.45	107.4	
		총본수 (Pcs/Bundle)	38	34	32	30	28	24	22	20	18	
		중량 (Bundle Weight)	2,040	1,978	2,004	2,014	2,004	1,934	1,970	1,970	1,934	
		총길이 (Length x Pcs/Bundle)	228	221	224	225	224	216	220	220	216	
D41	10.5	1본 중량 (Weight/Piece)	63	68.25	73.5	78.75	84	94.5	105	115.5	126	
		총본수 (Pcs/Bundle)	32	30	28	26	24	22	20	18	16	
		중량 (Bundle Weight)	2,016	2,048	2,058	2,048	2,016	2,080	2,100	2,080	2,016	
		총길이 (Length x Pcs/Bundle)	192	195	196	195	192	198	200	198	192	
D43	11.4	1본 중량 (Weight/Piece)	68.4	74.1	79.8	85.5	91.2	102.6	114	125.4	136.8	
		총본수 (Pcs/Bundle)	30	28	26	24	22	20	18	16	16	
		중량 (Bundle Weight)	2,052	2,075	2,075	2,052	2,006	2,052	2,052	2,006	2,189	
		총길이 (Length x Pcs/Bundle)	180	182	182	180	176	180	180	176	192	
D51	15.9	1본 중량 (Weight/Piece)	95.4	103.4	111.3	119.3	127.2	143.1	159	174.9	190.8	
		총본수 (Pcs/Bundle)	22	20	18	16	16	14	12	12	10	
		중량 (Bundle Weight)	2,099	2,068	2,003	1,903	2,035	2,003	1,908	2,099	1,908	
		총길이 (Length x Pcs/Bundle)	132	130	126	120	128	126	120	132	120	
D57	20.3	1본 중량 (Weight/Piece)	121.8	131.95	142.1	152.25	162.4	182.7	203	223.3	243.6	
		총본수 (Pcs/Bundle)	18	16	14	14	12	12	10	10	8	
		중량 (Bundle Weight)	2,192	2,111	1,989	2,132	1,949	2,192	2,030	2,233	1,949	
		총길이 (Length x Pcs/Bundle)	108	104	98	105	96	108	100	110	96	

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형강 포장TABLE
PACKING TABLE OF SECTIONS

● H형강 (H-Beams)

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

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

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

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

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형강 포장TABLE
PACKING TABLE OF SECTIONS

● H형강 (H-Beams)

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

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	1600	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

● H형강 (H-Beams)

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

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

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형강 포장TABLE
PACKING TABLE OF SECTIONS

● H형강 (H-Beams)

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

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	구분 Classification	길이 Length (m)	6	7	8	9	10	11	12	13	14	15
582×300 ×12/17	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)		3	3	3	3	3	2	2	2	2	2
		중량 (Bundle Weight)		2,466	2,877	3,288	3,699	4,110	3,014	3,288	3,562	3,836	4,110
588×300 ×12/20	151	1본 중량 (Weight/Piece)		906	1,057	1,208	1,359	1,510	1,661	1,812	1,963	2,114	2,265
		총본수 (Pcs/Bundle)		3	3	3	3	3	2	2	2	2	2
		중량 (Bundle Weight)		2,718	3,171	3,624	4,077	4,530	3,322	3,624	3,926	4,228	4,530
594×302 ×14/23	175	1본 중량 (Weight/Piece)		1,050	1,225	1,400	1,575	1,750	1,925	2,100	2,275	2,450	2,625
		총본수 (Pcs/Bundle)		3	3	3	2	2	2	2	2	2	2
		중량 (Bundle Weight)		3,150	3,675	4,200	3,150	3,500	3,850	4,200	4,550	4,900	5,250

● C형강 (Channels)

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

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)		41.52	48.44	55.36	62.28	69.2	76.12	83.04
		총본수 (Pcs/Bundle)		30	32	32	32	32	32	32
		중량 (Bundle Weight)		1,329	1,550	1,772	1,993	2,214	2,436	2,657
100×50 ×5/7.5	9.36	1본 중량 (Weight/Piece)		56.2	65.5	74.9	84.2	93.6	103	112
		총본수 (Pcs/Bundle)		30	30	30	24	24	24	24
		중량 (Bundle Weight)		1,686	1,965	2,247	2,021	2,246	2,472	2,688
125×65 ×6/8	13.4	1본 중량 (Weight/Piece)		80.4	93.8	107	121	134	147	161
		총본수 (Pcs/Bundle)		16	16	16	16	16	16	16
		중량 (Bundle Weight)		1,286	1,501	1,712	1,936	2,144	2,352	2,576
150×75 ×6.5/10	18.6	1본 중량 (Weight/Piece)		112	130	149	167	186	205	223
		총본수 (Pcs/Bundle)		12	12	12	12	12	12	12
		중량 (Bundle Weight)		1,344	1,560	1,788	2,004	2,232	2,460	2,676
200×80 ×7.5/11	24.6	1본 중량 (Weight/Piece)		100	172	134	221	246	271	295
		총본수 (Pcs/Bundle)		20	20	20	12	12	12	12
		중량 (Bundle Weight)		2,960	3,440	3,940	2,652	2,952	3,252	3,540
200×90 ×8/13.5	30.3	1본 중량 (Weight/Piece)		182	212	242	273	303	333	364
		총본수 (Pcs/Bundle)		16	16	12	12	12	12	8
		중량 (Bundle Weight)		2,912	3,392	2,904	3,276	3,636	3,996	2,912
250×90 ×9/13	34.6	1본 중량 (Weight/Piece)		208	242	277	311	346	381	415
		총본수 (Pcs/Bundle)		16	16	12	12	12	12	8
		중량 (Bundle Weight)		3,328	3,872	3,324	3,732	4,152	4,572	3,320

● ㄱ형강 (Angles)

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

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

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형강 포장TABLE
PACKING TABLE OF SECTIONS

▣ ㄱ형강 (Angles)

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

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

▣ 평강 (Flat Bars)

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

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

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형강 포장TABLE

PACKING TABLE OF SECTIONS

● 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

- 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
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

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

● 프로파일 (Profile)

호칭치수 Nominal Size	단위중량 Unit Weight (kg/m)	구분 Classification 길이 Length (m)	6.1
P/F C	2.36	1본 중량 (Weight/Piece) 총본수 (Pcs/Bundle) 중량 (Bundle Weight)	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

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강판 치수 및 중량표

DIMENSIONS AND WEIGHTS TABLE OF STEEL PLATES

무게 (Weight) : Kg

VxL(ft) W(mm) L(mm) T(mm) kg/m²		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

무게 (Weight) : Kg

WxL(ft) W(mm) L(mm) T(mm) kg/m²		8×20	8×30	10×20	10×30	10×40	11×20	11×30	11×40	12×20	12×30
		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
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	13,91

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강판 치수 및 중량표

DIMENSIONS AND WEIGHTS TABLE OF STEEL PLATES

무게 (Weight) : Kg

WxL(ft) W(m) L(m) T(mm) kg/m ²		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

무게 (Weight) : Kg

T(mm) kg/m ²		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		

05 | 강판 치수 및 중량표 DIMENSIONS AND WEIGHTS TABLE OF STEEL PLATES

무게 (Weight): Kg

T(m) kg/m		WxL(ft) W(m) L(m)			12×40	13×20	13×30	13×40	14x20	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
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	

06

일반구조용 강판

ROLLED STEELS FOR GENERAL STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)																								
				C	Si	Mn	P	S	Cr	Mo	Ni	Al.t	Cu	N	Nb	Ti	V											
KSD 3503 /JIS 3101	SS330	AR.N	-	-	-	-	Max. 0.05	Max. 0.05	-	-	-	-	-	-	-	-	-											
	SS400	AR.N	-	-	-	-	Max. 0.05	Max. 0.05	-	-	-	-	-	-	-	-	-											
	SS490	AR.N	-	-	-	-	Max. 0.05	Max. 0.05	-	-	-	-	-	-	-	-	-											
ASTM A36	-	-	t ≤ 20	Max. 0.25	Max. 0.04	-	Max. 0.04	Max. 0.05	Max. 0.43	Max. 0.13	Max. 0.43	-	Max. 0.2	-	Max. 0.03	Max. 0.04	Max. 0.04											
			20 < t ≤ 40																									
			40 < t ≤ 65	Max. 0.26	0.15 - 0.4																							
			65 < t ≤ 100	Max. 0.27																								
ASTM A283	Grade A	-	t ≤ 40	Max. 0.14	Max. 0.4	Max. 0.9	Max. 0.035	Max. 0.04	Max. 0.2	-	-	-	Max. 0.2	-	-	-	-											
			40 < t		0.15 - 0.4																							
	Grade B	-	t ≤ 40	Max. 0.17	Max. 0.4	Max. 0.9	Max. 0.035	Max. 0.04	-	-	-	-	Max. 0.2	-	-	-	-											
			40 < t		0.15 - 0.4																							
	Grade C	-	t ≤ 40	Max. 0.24	Max. 0.4	Max. 0.9	Max. 0.035	Max. 0.04	-	-	-	-	Max. 0.2	-	-	-	-											
			40 < t		0.15 - 0.4																							
	Grade D	-	t ≤ 40	Max. 0.27	Max. 0.4	Max. 0.9	Max. 0.035	Max. 0.04	-	-	-	-	Max. 0.2	-	-	-	-											
			40 < t		0.15 - 0.4																							
ASME SA36 / SA36M	-	-	t ≤ 20	Max. 0.25	Max. 0.4	-	Max. 0.04	Max. 0.05	-	-	-	-	Min. 0.2	-	-	-	-											
			20 < t ≤ 40	Max. 0.25	Max. 0.4													0.80 - 1.2	Max. 0.04	Max. 0.05								
			40 < t ≤ 65	Max. 0.26	0.15 - 0.4	0.80 - 1.2												Max. 0.04	Max. 0.05	-	-	-	-	Min. 0.2	-	-	-	-
			65 < t ≤ 100	Max. 0.27	0.15 - 0.4	0.85 - 1.2												Max. 0.04	Max. 0.05	-	-	-	-	Min. 0.2	-	-	-	-
			100 < t	Max. 0.29	0.15 - 0.4	0.85 - 1.2												Max. 0.04	Max. 0.05	-	-	-	-	Min. 0.2	-	-	-	-
EN - 10025 Part2	S235 JR	AR, TM,N	t ≤ 16	Max. 0.17	-	Max. 1.4	Max. 0.035	Max. 0.035	-	-	-	-	Max. 0.55	Max. 0.012	-	-	-											
			16 < t ≤ 40	Max. 0.17																								
			40 < t	Max. 0.2																								

● 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 [%]	온도 [°C]	최소값 [J]
t ≤ 16	205	330 ~ 430	t ≤ 5	No. 5	26	-	-
16 < t ≤ 40	165		5 < t ≤ 16	No. 1A	21		
40 < t ≤ 100	175		16 < t ≤ 40	No. 1A	26		
100 < t	165		40 < t	No. 4	28		
t ≤ 16	245	400 ~ 510	t ≤ 5	No. 5	21	-	-
16 < t ≤ 40	235		5 < t ≤ 16	No. 1A	17		
40 < t ≤ 100	215		16 < t ≤ 40	No. 1A	21		
100 < t	205		40 < t	No. 4	23		
t ≤ 16	285	490 ~ 610	t ≤ 5	No. 5	19	-	-
16 < t ≤ 40	275		5 < t ≤ 16	No. 1A	15		
40 < t ≤ 100	255		16 < t ≤ 40	No. 1A	19		
100 < t	245		40 < t	No. 4	21		
-	250	400 ~ 550	-	G = 50	23	-	-
				G = 200	20		
-	165	310 ~ 415	-	G = 50	30	-	-
				G = 200	27		
-	185	345 ~ 450	-	G = 50	28	-	-
				G = 200	25		
-	205	380 ~ 515	-	G = 50	25	-	-
				G = 200	22		
-	230	415 ~ 550	-	G = 50	23	-	-
				G = 200	20		
-	250	400 ~ 550	-	L = 200	20	-	-
t ≤ 3	235	360 ~ 510	t ≤ 3	L0 = 80	17 ~21	20	27
3 < t ≤ 16		360 ~ 510		L0 = 5.65√S0	26		
16 < t ≤ 40	225						
40 < t ≤ 63	215				24		
63 < t ≤ 80	215						
80 < t ≤ 100	245				21		
100 < t ≤ 150	195	350 ~ 500					
150 < t ≤ 200	185	340 ~ 490					
200 < t ≤ 250	175						

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일반구조용 강판

ROLLED STEELS FOR GENERAL STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	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 Part2	S235 J0	AR, TM,N	t ≤ 16	Max. 0.17	-	Max. 0.14	Max. 0.03	Max. 0.03	-	-	-	-	Max. 0.55	Max. 0.012	-	-	-
			16 < t ≤ 40	Max. 0.17													
			40 < t	Max. 0.17													
			t ≤ 16	Max. 0.17													
			16 < t ≤ 40	Max. 0.17													
			40 < t	Max. 0.17													
	S235 J2	AR, TM,N	t ≤ 16	Max. 0.17	-	Max. 0.14	Max. 0.03	Max. 0.03	-	-	-	-	Max. 0.55	-	-	-	-
			16 < t ≤ 40	Max. 0.17													
			40 < t	Max. 0.17													
			t ≤ 16	Max. 0.21	-	Max. 1.5	Max. 0.035	Max. 0.035	-	-	-	-	Max. 0.55	Max. 0.012	-	-	-
			16 < t ≤ 40	Max. 0.21													
			40 < t	Max. 0.22													
	S275 JR	AR, TM,N	t ≤ 16	Max. 0.18	-	Max. 1.5	Max. 0.035	Max. 0.035	-	-	-	-	Max. 0.55	Max. 0.012	-	-	-
			16 < t ≤ 40	Max. 0.18													
			40 < t	Max. 0.18													
	S275 J0	AR, TM,N	t ≤ 16	Max. 0.18	-	Max. 1.5	Max. 0.035	Max. 0.035	-	-	-	-	Max. 0.55	Max. 0.012	-	-	-
			16 < t ≤ 40	Max. 0.18													
			40 < t	Max. 0.18													

● 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 [%]	온도 [°C]	최소값 [J]	
t ≤ 3	235	360 ~ 510	t ≤ 3	L0 = 80	17 ~21	0	27	
3 < t ≤ 16		360 ~ 510	3 < t ≤ 16	L0 = 5.65√S0	26			
16 < t ≤ 40	16 < t ≤ 40		25					
40 < t ≤ 63	40 < t ≤ 63				24			
63 < t ≤ 80	63 < t ≤ 80							22
80 < t ≤ 100	80 < t ≤ 100							
100 < t ≤ 150	195		350 ~ 500		100 < t ≤ 150			21
150 < t ≤ 200	185	340 ~ 490	150 < t ≤ 200					
200 < t ≤ 250	175		200 < t ≤ 250					
t ≤ 3	235	360 ~ 510	t ≤ 3		L0 = 80			17 ~21
3 < t ≤ 16		360 ~ 510	3 < t ≤ 16		L0 = 5.65√S0	26		
16 < t ≤ 40	16 < t ≤ 40		25					
40 < t ≤ 63	40 < t ≤ 63			24				
63 < t ≤ 80	63 < t ≤ 80					22		
80 < t ≤ 100	215						80 < t ≤ 100	21
100 < t ≤ 150	195		350 ~ 500	100 < t ≤ 150		21		
150 < t ≤ 200	185	340 ~ 490	150 < t ≤ 200					
200 < t ≤ 250	175		200 < t ≤ 250					
250 < t ≤ 400	165	330 ~ 480	250 < t ≤ 400	21				
t ≤ 3	275	410 ~ 560	t ≤ 3	L0 = 80		15 ~19	20	27
3 < t ≤ 16	275		3 < t ≤ 16	L0 = 5.65√S0	23			
16 < t ≤ 40	265		16 < t ≤ 40		22			
40 < t ≤ 63	255		40 < t ≤ 63		21			
63 < t ≤ 80	245		63 < t ≤ 80		19			
80 < t ≤ 100	235		80 < t ≤ 100			18		
100 < t ≤ 150	225	400 ~ 540	100 < t ≤ 150					
150 < t ≤ 200	215	380 ~ 450	150 < t ≤ 200					
200 < t ≤ 250	205		200 < t ≤ 250					
t ≤ 3	275	430 ~ 580	t ≤ 3		L0 = 80	15 ~19		
3 < t ≤ 16	275	63 < t ≤ 80	3 < t ≤ 16		L0 = 5.65√S0	23		
16 < t ≤ 40	265		16 < t ≤ 40	22				
40 < t ≤ 63	255		40 < t ≤ 63	21				
63 < t ≤ 80	245		63 < t ≤ 80	19				
80 < t ≤ 100	235		80 < t ≤ 100			18		
100 < t ≤ 150	225		400 ~ 540				100 < t ≤ 150	
150 < t ≤ 200	215	380 ~ 450	150 < t ≤ 200					
200 < t ≤ 250	205		200 < t ≤ 250					

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일반구조용 강판

ROLLED STEELS FOR GENERAL STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	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 Part2	S275 J2	AR, TM,N	t ≤ 16	Max. 0.18	-	Max. 1.5	Max. 0.025	Max. 0.025	-	-	-	-	Max. 0.55	-	-	-	-
			16 < t ≤ 40	Max. 0.18													
			40 < t	Max. 0.18													
	S355 JR	AR, TM,N	t ≤ 16	Max. 0.24	Max. 0.55	Max. 1.6	Max. 0.035	Max. 0.035	-	-	-	-	Max. 0.55	Max. 0.012	-	-	-
			16 < t ≤ 40	Max. 0.24													
			40 < t	Max. 0.24													
	S355 J0	AR, TM,N	t ≤ 16	Max. 0.2	Max. 0.55	Max. 1.6	Max. 0.03	Max. 0.03	-	-	-	-	Max. 0.03	Max. 0.012	-	-	-
			16 < t ≤ 40	Max. 0.2													
			40 < t	Max. 0.22													
	S355 J2	AR, TM,N	t ≤ 16	Max. 0.2	Max. 0.55	Max. 1.6	Max. 0.025	Max. 0.025	-	-	-	-	Max. 0.55	-	-	-	-
			16 < t ≤ 40	Max. 0.2													
			40 < 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 [%]	온도 [°C]	최소값 [J]			
t ≤ 3	275	430 ~ 580	t ≤ 3	L0 = 80	15 ~19	-20	27			
3 < t ≤ 16	275	410 ~ 560	3 < t ≤ 16	L0 = 5.65√S0	23					
16 < t ≤ 40	265		16 < t ≤ 40		22					
40 < t ≤ 63	255		40 < t ≤ 63					21		
63 < t ≤ 80	245		63 < t ≤ 80					19		
80 < t ≤ 100	235		80 < t ≤ 100		18					
100 < t ≤ 150	225	400 ~ 540	100 < t ≤ 150							
150 < t ≤ 200	215	380 ~ 450	150 < t ≤ 200							
200 < t ≤ 250	205		200 < t ≤ 250							
250 < t ≤ 400	195	380 ~ 540	250 < t ≤ 400	L0 = 80	18	222	27			
t ≤ 3	355	510 ~ 680	t ≤ 3	L0 = 5.65√S0	14 - 18					
3 < t ≤ 16		470 ~ 630	3 < t ≤ 16		22					
16 < t ≤ 40			16 < t ≤ 40		21					
40 < t ≤ 63			40 < t ≤ 63		20					
63 < t ≤ 80			63 < t ≤ 80		18					
80 < t ≤ 100	315	450 ~ 600	80 < t ≤ 100	17						
100 < t ≤ 150	295	450 ~ 600	100 < t ≤ 150							
150 < t ≤ 200	285		150 < t ≤ 200							
200 < t ≤ 250	275	510 ~ 680	200 < t ≤ 250	L0 = 5.65√S0	14 - 18	0	27			
t ≤ 3	355	470 ~ 630	t ≤ 3		L0 = 80			22		
3 < t ≤ 16	355		3 < t ≤ 16					21		
16 < t ≤ 40	345		16 < t ≤ 40					20		
40 < t ≤ 63	335		40 < t ≤ 63					18		
63 < t ≤ 80	325		63 < t ≤ 80					17		
80 < t ≤ 100	315	450 ~ 600	80 < t ≤ 100		L0 = 5.65√S0			20	-20	27
100 < t ≤ 150	295	450 ~ 600	100 < t ≤ 150							
150 < t ≤ 200	285		150 < t ≤ 200							
200 < t ≤ 250	275	450 ~ 600	200 < t ≤ 250							
t ≤ 3	355	470 ~ 630	t ≤ 3	L0 = 80	14 - 18	-20	27			
3 < t ≤ 16			L0 = 5.65√S0	3 < t ≤ 16	22					
16 < t ≤ 40				16 < t ≤ 40	21					
40 < t ≤ 63				40 < t ≤ 63	20					
63 < t ≤ 80				63 < t ≤ 80	18					
80 < t ≤ 100	315	450 ~ 600	80 < t ≤ 100	L0 = 5.65√S0	20	-20	27			
100 < t ≤ 150	295	450 ~ 600	100 < t ≤ 150							
150 < t ≤ 200	285		150 < t ≤ 200							
200 < t ≤ 250	275	450 ~ 600	200 < t ≤ 250							
250 < t ≤ 400	265	450 ~ 600	250 < t ≤ 400		17	-20	27			

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일반구조용 강판

ROLLED STEELS FOR GENERAL STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	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 Part2	S355 K2	AR, TM,N	t ≤ 16	Max. 0.2													
			16 < t ≤ 40	Max. 0.2	Max. 0.22	Max. 1.6	Max. 0.025	Max. 0.025	-	-	-	-	Max. 0.55	-	-	-	-
			40 < 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 [%]	온도 [°C]	최소값 [J]
t ≤ 3	355	510 ~ 680	t ≤ 3	L0 = 80	14 ~ 18	-20	40
3 < t ≤ 16		470 ~ 630	3 < t ≤ 16	L0 = 5.65√S0	22		
16 < t ≤ 40	345		16 < t ≤ 40		21		
40 < t ≤ 63	335		40 < t ≤ 63		20		
63 < t ≤ 80	325		63 < t ≤ 80		18		
80 < t ≤ 100	315		80 < t ≤ 100		17		
100 < t ≤ 150	295	450 ~ 600	100 < t ≤ 150	450 ~ 600	17	-20	33
150 < t ≤ 200	285	450 ~ 600	150 < t ≤ 200		17		
200 < t ≤ 250	275		200 < t ≤ 250		17		
250 < t ≤ 400	265	450 ~ 600	250 < t ≤ 400		17	-20	33

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용접구조용 강판
ROLLED STEELS FOR WELDED STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	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 3515 /JIS G 3106	SM 400A	AR, TM,N	t ≤ 50	Max. 0.23	-	Min. 2.5 x C	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
			50 < t ≤ 200	Max. 0.23		0.6 - 1.4											
	SM 400B	AR, TM,N	t ≤ 50	Max. 0.2	Max. 0.35	0.6 - 1.4	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
			50 < t ≤ 200	Max. 0.22													
	SM 400C	AR, TM,N	t ≤ 100	Max. 0.018	Max. 0.35	Max. 1.4	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
	SM 490A	AR, TM,N	t ≤ 50	Max. 0.2	Max. 0.55	Max. 1.6	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
			50 < t ≤ 200	Max. 0.22													
	SM 490B	AR, TM,N	t ≤ 50	Max. 0.18	Max. 0.55	Max. 1.6	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
			50 < t ≤ 200	Max. 0.2													
	SM 490C	AR, TM,N	t ≤ 100	Max. 0.18	Max. 0.55	Max. 1.6	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
	SM 490YA	AR, TM,N	t ≤ 100	Max. 0.2	Max. 0.55	Max. 1.6	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-

● 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 [%]	온도 [°C]	최소값 [J]
t ≤ 16	245	400 ~ 510	t ≤ 5	No. 5	23	-	-
16 < t ≤ 40	235		5 < t ≤ 16	No. 1A	18		
40 < t ≤ 75	215		16 < t ≤ 50	No. 1A	22		
75 < t ≤ 100	215						
100 < t ≤ 160	205		50 < t	No. 4	24		
100 < t ≤ 200	195						
t ≤ 16	245	400 ~ 510	t ≤ 5	No. 5	23	0	27
16 < t ≤ 40	235		5 < t ≤ 16	No. 1A	18		
40 < t ≤ 75	215		16 < t ≤ 50	No. 1A	22		
75 < t ≤ 100	215						
100 < t ≤ 160	205		50 < t	No. 4	24		
100 < t ≤ 200	195						
t ≤ 16	245	400 ~ 510	t ≤ 5	No. 5	23	0	47
16 < t ≤ 40	235		5 < t ≤ 16	No. 1A	18		
40 < t ≤ 75	215		16 < t ≤ 50	No. 1A	22		
75 < t ≤ 100	215		50 < t	No. 4	24		
t ≤ 16	325	490 ~ 610	t ≤ 5	No. 5	22	-	-
16 < t ≤ 40	315		5 < t ≤ 16	No. 1A	17		
40 < t ≤ 75	295		16 < t ≤ 50	No. 1A	21		
75 < t ≤ 100	295						
100 < t ≤ 160	285		50 < t	No. 4	23		
100 < t ≤ 200	275						
t ≤ 16	325	490 ~ 610	t ≤ 5	No. 5	22	0	27
16 < t ≤ 40	315		5 < t ≤ 16	No. 1A	17		
40 < t ≤ 75	295		16 < t ≤ 50	No. 1A	21		
75 < t ≤ 100	295						
100 < t ≤ 160	285		50 < t	No. 4	23		
100 < t ≤ 200	275						
t ≤ 16	325	490 ~ 610	t ≤ 5	No. 5	22	0	47
16 < t ≤ 40	315		5 < t ≤ 16	No. 1A	17		
40 < t ≤ 75	295		16 < t ≤ 50	No. 1A	21		
75 < t ≤ 100	295		50 < t	No. 4	23		
t ≤ 16	365	490 ~ 610	t ≤ 5	No. 5	19	-	-
16 < t ≤ 40	335		5 < t ≤ 16	No. 1A	15		
40 < t ≤ 75	325		16 < t ≤ 50	No. 1A	19		
75 < t ≤ 100	325		50 < t	No. 4	21		

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용접구조용 강판
ROLLED STEELS FOR WELDED STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	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 3515 /JIS G 3106	SM 490YB	AR, TM,N	t ≤ 100	Max. 0.2	Max. 0.55	Max. 1.6	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
	SM 520B	AR, TM,N	t ≤ 100	Max. 0.2	Max. 0.55	Max. 1.6	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
	SM 520C	AR, TM,N	t ≤ 100	Max. 0.2	Max. 0.55	Max. 1.6	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
	SM 570	AR, TM,N, QT	t ≤ 100	Max. 0.18	Max. 0.55	Max. 1.6	Max. 0.035	Max. 0.035	-	-	-	-	-	-	-	-	-
	Grade 42	-	t ≤ 40	Max. 0.21	Max. 0.4	Max. 1.35	Max. 0.04	Max. 0.05	-	-	-	-	-	-	-	-	-
			40 < t		0.15 - 0.4												
	Grade 50	-	t ≤ 40	Max. 0.23	Max. 0.4	Max. 1.35	Max. 0.04	Max. 0.05	-	-	-	-	-	-	-	-	-
			40 < t		0.15 - 0.4												
ASTM A572	Grade 55	-	t ≤ 40	Max. 0.25	Max. 0.4	Max. 1.35	Max. 0.04	Max. 0.05	-	-	-	-	-	-	-	-	-
			40 < t		0.15 - 0.4												
	Grade 60	-	t ≤ 40	Max. 0.26	Max. 0.4	Max. 1.35	Max. 0.04	Max. 0.05	-	-	-	-	-	-	-	-	-
	Grade 65	-	t ≤ 40	Max. 0.26	Max. 0.4	Max. 1.35	Max. 0.04	Max. 0.05	-	-	-	-	-	-	-	-	-
	Grade A	-	Max. 40mm	Max. 0.14	Max. 0.4	Max. 0.9	Max. 0.035	Max. 0.04	-	-	-	-	Min. 0.2	-	-	-	-
			Over 40mm		0.15 - 0.4												
ASME SA283/ SA283M	Grade B	-	Max. 40mm	Max. 0.17	Max. 0.4	Max. 0.9	Max. 0.035	Max. 0.04	-	-	-	-	Min. 0.2	-	-	-	-
			Over 40mm		0.15 - 0.4												
	Grade C	-	Max. 40mm	Max. 0.24	Max. 0.4	Max. 0.9	Max. 0.035	Max. 0.04	-	-	-	-	Min. 0.2	-	-	-	-
			Over 40mm		0.15 - 0.4												
	Grade D	-	Max. 40mm	Max. 0.27	Max. 0.4	Max. 0.9	Max. 0.035	Max. 0.04	-	-	-	-	Min. 0.2	-	-	-	-
			Over 40mm		0.15 - 0.4												

● 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 [%]	온도 [°C]	최소값 [J]
t ≤ 16	365	490 - 610	t ≤ 5	No. 5	19	0	27
16 < t ≤ 40	335		5 < t ≤ 16	No. 1A	15		
40 < t ≤ 75	325		16 < t ≤ 50	No. 1A	19		
75 < t ≤ 100	325		50 < t	No. 4	21		
t ≤ 16	365	490 - 610	t ≤ 5	No. 5	19	0	27
16 < t ≤ 40	335		5 < t ≤ 16	No. 1A	15		
40 < t ≤ 75	325		16 < t ≤ 50	No. 1A	19		
75 < t ≤ 100	325		50 < t	No. 4	21		
t ≤ 16	365	490 - 610	t ≤ 5	No. 5	19	0	47
16 < t ≤ 40	335		5 < t ≤ 16	No. 1A	15		
40 < t ≤ 75	325		16 < t ≤ 50	No. 1A	19		
75 < t ≤ 100	325		50 < t	No. 4	21		
t ≤ 16	460	570 - 720	t ≤ 16	No. 5	19	-5	47
16 < t ≤ 40	450		16 < t ≤ 50	No. 5	26		
40 < t ≤ 75	430		50 < t	No. 4	20		
75 < t ≤ 100	420						
-	290	415	-	G = 50	24	-	-
				G = 200	20		
-	345	450	-	G = 50	21	-	-
				G = 200	18		
-	380	485	-	G = 50	20	-	-
				G = 200	17		
-	415	520	-	G = 50	18	-	-
				G = 200	16		
-	450	550	-	G = 50	17	-	-
				G = 200	15		
-	165	310 - 415	-	L = 200	27	-	-
-	185	345 - 450	-	L = 200	25	-	-
-	205	380 - 515	-	L = 200	22	-	-
-	230	415 - 550	-	L = 200	20	-	-

07

용접구조용 강판
ROLLED STEELS FOR WELDED STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	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 Part3	S275N	N, NR	-	Max. 0.18	Max. 0.4	0.5 - 1.5	Max. 0.03	Max. 0.025	Max. 0.3	Max. 0.1	Max. 0.3	Min. 0.02	Max. 0.55	Max. 0.015	Max. 0.05	Max. 0.05	Max. 0.05
	S275 NL	N, NR	-	Max. 0.16			Max. 0.025	Max. 0.02									
	S355N	N, NR	-	Max. 0.2	Max. 0.5	0.9 - 1.65	Max. 0.03	Max. 0.025	Max. 0.3	Max. 0.1	Max. 0.5	Min. 0.02	Max. 0.55	Max. 0.015	Max. 0.05	Max. 0.05	Max. 0.12
	S355 NL	N, NR	-	Max. 0.18			Max. 0.025	Max. 0.02									
	S420N	N, NR	-	Max. 0.2	Max. 0.6	1.0 - 1.7	Max. 0.03	Max. 0.025	Max. 0.3	Max. 0.1	Max. 0.8	Min. 0.02	Max. 0.55	Max. 0.025	Max. 0.05	Max. 0.05	Max. 0.2
	S420 NL	N, NR					Max. 0.025	Max. 0.02									

● 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 [%]	온도 [°C]	최소값 [J]
t ≤ 16	275	370 ~ 510	t ≤ 16	L0 = 5.65√S0 비례시험편 Proportional Test Piece	24	20	55 / 31
16 < t ≤ 40	265		16 < t ≤ 40			0	47 / 27
40 < t ≤ 63	255		40 < t ≤ 63		24	-10	43 / 24
63 < t ≤ 80	245		63 < t ≤ 80			-20	40 / 20
80 < t ≤ 100	235		80 < t ≤ 100		23	-30	-
100 < t ≤ 150	225	350 ~ 480	100 < t ≤ 150		23	-40	-
150 < t ≤ 200	215		150 < t ≤ 200			20	63 / 40
200 < t ≤ 250	205		200 < t ≤ 250			0	55 / 34
						-10	51 / 30
						-20	47 / 27
						-30	40 / 23
						-40	31 / 20
						-50	27 / 16
t ≤ 16	355	470 ~ 630	t ≤ 16	L0 = 5.65√S0 비례시험편 Proportional Test Piece	22	N	
16 < t ≤ 40	345		16 < t ≤ 40			20	55 / 31
40 < t ≤ 63	335		40 < t ≤ 63		22	0	47 / 27
63 < t ≤ 80	325		63 < t ≤ 80			-10	43 / 24
80 < t ≤ 100	315		80 < t ≤ 100		21	-20	40 / 20
100 < t ≤ 150	295	450 ~ 600	100 < t ≤ 150		21	-30	-
150 < t ≤ 200	285		150 < t ≤ 200			20	63 / 40
200 < t ≤ 250	275		200 < t ≤ 250			0	55 / 34
						-10	51 / 30
						-20	47 / 27
						-30	40 / 23
						-40	31 / 20
						-50	27 / 16
t ≤ 16	420	520 ~ 680	t ≤ 16	L0 = 5.65√S0 비례시험편 Proportional Test Piece	19	N	
16 < t ≤ 40	400		16 < t ≤ 40			20	55 / 31
40 < t ≤ 63	390		40 < t ≤ 63		19	0	47 / 27
63 < t ≤ 80	370		63 < t ≤ 80			-10	43 / 24
80 < t ≤ 100	360		80 < t ≤ 100		19	-20	40 / 20
100 < t ≤ 150	340	500 ~ 650	100 < t ≤ 150		18	-30	-
150 < t ≤ 200	330		150 < t ≤ 200			20	63 / 40
200 < t ≤ 250	320		200 < t ≤ 250			0	55 / 34
						-10	51 / 30
						-20	47 / 27
						-30	40 / 23
						-40	31 / 20
						-50	27 / 16

07

용접구조용 강판
ROLLED STEELS FOR WELDED STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	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 Part4	S275M	TM	-				Max. 0.03	Max. 0.025									
	S275 ML	TM	-	Max. 0.13	Max. 0.5	Max. 1.5			Max. 0.3	Max. 0.1	Max. 0.3	Min. 0.02	Max. 0.55	Max. 0.015	Max. 0.05	Max. 0.05	Max. 0.08
	S355M	TM	-				Max. 0.03	Max. 0.025									
	S355 NL	TM	-	Max. 0.14	Max. 0.5	Max. 1.6			Max. 0.3	Max. 0.1	Max. 0.5	Min. 0.02	Max. 0.55	Max. 0.015	Max. 0.05	Max. 0.05	Max. 0.1
	S420M	TM	-				Max. 0.03	Max. 0.025									
	S420 ML	TM	-	Max. 0.16	Max. 0.5	Max. 1.7			Max. 0.3	Max. 0.2	Max. 0.8	Min. 0.02	Max. 0.55	Max. 0.025	Max. 0.05	Max. 0.05	Max. 0.12

● 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 [%]	온도 [°C]	최소값 [J]
t ≤ 16	275	370 ~ 530	t ≤ 16	L0 = 5.65√S0 비례시험편 Proportional Test Piece	24	M	
16 < t ≤ 40	265		16 < t ≤ 40			20	55 / 31
						0	47 / 27
40 < t ≤ 63	255	360 ~ 520	40 < t ≤ 63			-10	43 / 24
						-20	40 / 20
						-30	-
						ML	
63 < t ≤ 80	245	350 ~ 510	63 < t ≤ 80			20	63 / 40
80 < t ≤ 100	245	350 ~ 510	80 < t ≤ 100	L0 = 5.65√S0 비례시험편 Proportional Test Piece	22	0	55 / 34
100 < t ≤ 120	240	350 ~ 510	100 < t ≤ 120			-10	51 / 30
						-20	47 / 27
						-30	40 / 23
						-40	31 / 20
						-50	27 / 16
t ≤ 16	355	470 ~ 630	t ≤ 16			M	
16 < t ≤ 40	345		16 < t ≤ 40			20	55 / 31
						0	47 / 27
40 < t ≤ 63	335	450 ~ 610	40 < t ≤ 63			-10	43 / 24
						-20	40 / 20
						-30	-
						ML	
63 < t ≤ 80	325	440 ~ 600	63 < t ≤ 80			20	63 / 40
80 < t ≤ 100	325	440 ~ 600	80 < t ≤ 100			0	55 / 34
100 < t ≤ 120	320	430 ~ 590	100 < t ≤ 120			-10	51 / 30
						-20	47 / 27
						-30	40 / 23
						-40	31 / 20
						-	27 / 16
t ≤ 16	420	520 ~ 680	t ≤ 16	L0 = 5.65√S0 비례시험편 Proportional Test Piece	19	M	
16 < t ≤ 40	400		16 < t ≤ 40			20	55 / 31
						0	47 / 27
40 < t ≤ 63	390	500 ~ 660	40 < t ≤ 63			-10	43 / 24
						-20	40 / 20
						-30	-
						ML	
63 < t ≤ 80	380	480 ~ 640	63 < t ≤ 80			20	63 / 40
80 < t ≤ 100	370	470 ~ 630	80 < t ≤ 100			0	55 / 34
100 < t ≤ 120	365	460 ~ 620	100 < t ≤ 120			-10	51 / 30
						-20	47 / 27
						-30	40 / 23
						-40	31 / 20
						-50	27 / 16

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건축구조용 강판
STEELS FOR BUILDING STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	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 /JIS G 3136	SN 400A	AR, TM,N	6 < t ≤ 100	Max. 0.24	-	-	Max. 0.05	Max. 0.05	-	-	-	-	-	-	-	-	-
	SN 400B	AR, TM,N	6 < t ≤ 50	Max. 0.2	Max. 0.35	0.6 ~ 1.4	Max. 0.03	Max. 0.015	-	-	-	-	-	-	-	-	
			50 < t ≤ 100	Max. 0.22													
	SN 400C	AR, TM,N	16 < t ≤ 50	Max. 0.2	Max. 0.35	0.6 ~ 1.4	Max. 0.02	Max. 0.008	-	-	-	-	-	-	-	-	
			50 < t ≤ 100	Max. 0.22													
	SN 490B	AR, TM,N	6 < t ≤ 50	Max. 0.18	Max. 0.55	Max. 1.6	Max. 0.03	Max. 0.015	-	-	-	-	-	-	-	-	-
			50 < t ≤ 100	Max. 0.2													
	SN 490C	AR, TM,N	16 < t ≤ 50	Max. 0.18	Max. 0.55	Max. 1.6	Max. 0.02	Max. 0.008	-	-	-	-	-	-	-	-	-
			50 < t ≤ 100	Max. 0.2													
	ASTM A709	Grade 36	-	t ≤ 20	Max. 0.25	Max. 0.4	-	Max. 0.04	Max. 0.05	-	-	-	-	Max. 0.2	-	-	-
20 < t ≤ 40				0.80 ~ 1.2													
40 < t ≤ 65					0.15 ~ 1.4												
65 < t ≤ 100						0.85 ~ 1.2											
Grade 50		-	t ≤ 40		Max. 0.23	Max. 0.4	Max. 1.35	Max. 0.04	Max. 0.05	-	-	-	-	-	-	-	-
			40 < t	0.15 ~ 1.4													

● 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 [%]	온도 [°C]	최소값 [J]
6 < t ≤ 12	235	400 ~ 510	6 < t ≤ 16	No. 1A	17	-	-
12 < t < 16	235		16 < t ≤ 50	No. 1A	21		
t = 16	235		50 < t ≤ 100	No. 4	23		
16 < t ≤ 14	235						
40 < t ≤ 100	215						
6 < t ≤ 12	235	400 ~ 510	6 < t ≤ 16	No. 1A	18	0	27
12 < t < 16	235 ~ 355		16 < t ≤ 50	No. 1A	22		
t = 16	235 ~ 355		50 < t ≤ 100	No. 4	24		
16 < t ≤ 14	235 ~ 355						
40 < t ≤ 100	215 ~ 355						
t = 16	235 ~ 355	400 ~ 510	t = 16	No. 1A	18	0	27
16 < t ≤ 14	235 ~ 355		16 < t ≤ 50	No. 1A	22		
40 < t ≤ 100	215 ~ 355		50 < t ≤ 100	No. 4	24		
6 < t ≤ 12	325	490 ~ 610	6 < t ≤ 16	No. 1A	17	0	27
12 < t < 16	325 ~ 445		16 < t ≤ 50	No. 1A	21		
t = 16	325 ~ 445		50 < t ≤ 100	No. 4	23		
16 < t ≤ 14	325 ~ 445						
40 < t ≤ 100	295 ~ 415						
t = 16	325 ~ 445	490 ~ 610	t = 16	No. 1A	17	0	27
16 < t ≤ 14	325 ~ 445		16 < t ≤ 50	No. 1A	21		
40 < t ≤ 100	295 ~ 415		50 < t ≤ 100	No. 4	23		
t ≤ 75	250	400 ~ 550	-	G = 50	23	-	-
						-	-
75 < t	250	400	-	G = 200	20	-	-
						-	-
all	345	450	-	G = 50	21	-	-
			-	G = 200	18	-	-

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교량구조용 강판

ROLLED STEELS FOR BRIDGE STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	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 3868	HSB 500	TM	t ≤ 100	Max. 0.18	Max. 0.55	Max. 1.8	Max. 0.02	Max. 0.006	-	-	-	-	-	-	-	-	-
	HSB 500L	TM	t ≤ 100	Max. 0.18	Max. 0.55	Max. 1.8	Max. 0.02	Max. 0.006	-	-	-	-	-	-	-	-	-
	HSB 600	TM	t ≤ 100	Max. 0.1	Max. 0.55	Max. 1.8	Max. 0.02	Max. 0.006	-	-	-	-	-	-	-	-	-
	HSB 600L	TM	t ≤ 100	Max. 0.1	Max. 0.55	Max. 1.8	Max. 0.02	Max. 0.006	-	-	-	-	-	-	-	-	-

● 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 [%]	온도 [°C]	최소값 [J]
t ≤ 100	380	500	t ≤ 16	No. 1A	15	-5	47
			16 < t ≤ 40	No. 1A	19		
			t > 40	No. 4	21		
t ≤ 100	380	500	t ≤ 16	No. 1A	15	-20	47
			16 < t ≤ 40	No. 1A	19		
			t > 40	No. 4	21		
t ≤ 100	450	600	t ≤ 16	No. 5	19	-5	47
			16 < t ≤ 40	No. 5	26		
			t > 40	No. 4	20		
t ≤ 100	450	600	t ≤ 16	No. 5	19	-20	47
			16 < t ≤ 40	No. 5	26		
			t > 40	No. 4	20		

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보일러 및 압력용기용 강판

ROLLED STEELS FOR BOILER AND PRESSURE VESSEL

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	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 3521 /JIS G 3115	SPPV 235	AR, N	t ≤ 100	Max. 0.18	Max. 0.35	Max. 1.4	Max. 0.03	Max. 0.03	-	-	-	-	-	-	-	-	-
			100 < t ≤ 200	Max. 0.2													
	SPPV 315	AR, N	t ≤ 150	Max. 0.18	Max. 0.55	Max. 1.6	Max. 0.03	Max. 0.03	-	-	-	-	-	-	-	-	-
	SPPV 355	AR, N	t ≤ 150	Max. 0.2	Max. 0.55	Max. 1.6	Max. 0.03	Max. 0.03	-	-	-	-	-	-	-	-	-
KS D 3560 /JIS G 3103	SB 410	AR, N, NR	t ≤ 25	Max. 0.24	0.15 - 0.4	Max. 0.9	Max. 0.03	Max. 0.03	-	-	-	-	-	-	-	-	-
			25 < t ≤ 50	Max. 0.27													
			50 < t ≤ 200	Max. 0.3													
	SB 480	AR, N, NR	t ≤ 25	Max. 0.31	0.15 - 0.4	Max. 1.2	Max. 0.03	Max. 0.03	-	-	-	-	-	-	-	-	-
			25 < t ≤ 50	Max. 0.33													
			50 < t ≤ 200	Max. 0.35													
JIS G 3118	SGV 410	AR, TN, N, NR, QT	t ≤ 12.5	Max. 0.21	0.15 - 0.4	0.85 - 1.2	Max. 0.03	Max. 0.03	-	-	-	-	-	-	-	-	-
			12.5 < t ≤ 50	Max. 0.23													
			50 < t ≤ 100	Max. 0.25													
			100 < t ≤ 200	Max. 0.27													
	SGV 450	AR, TN, N, NR, QT	t ≤ 12.5	Max. 0.24	0.15 - 0.4	0.85 - 1.2	Max. 0.03	Max. 0.03	-	-	-	-	-	-	-	-	-
			12.5 < t ≤ 50	Max. 0.26													
			50 < t ≤ 100	Max. 0.28													
			100 < t ≤ 200	Max. 0.29													
	SGV 480	AR, TN, N, NR, QT	t ≤ 12.5	Max. 0.27	0.15 - 0.4	0.85 - 1.2	Max. 0.03	Max. 0.03	-	-	-	-	-	-	-	-	-
			12.5 < t ≤ 50	Max. 0.28													
			50 < t ≤ 100	Max. 0.3													
			100 < t ≤ 200	Max. 0.31													
ASTM A515	Grade 60	AR, N	t ≤ 12.5	Max. 0.24	0.15 - 0.4	Max. 0.9	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	-
			12.5 < t ≤ 50	Max. 0.27													
			50 < t ≤ 100	Max. 0.29													
			100 < t ≤ 200	Max. 0.31													
	Grade 65	AR, N	t ≤ 12.5	Max. 0.28	0.15 - 0.4	Max. 0.9	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	-
			12.5 < t ≤ 50	Max. 0.31													
			50 < t ≤ 100	Max. 0.33													
			100 < t ≤ 200	Max. 0.33													
	Grade 70	AR, N	t ≤ 12.5	Max. 0.31	0.15 - 0.4	Max. 1.2	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	-
			12.5 < t ≤ 50	Max. 0.33													
			50 < t ≤ 100	Max. 0.35													
			100 < t ≤ 200	Max. 0.35													

● 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 [%]	온도 [°C]	최소값 [J]
6 < t ≤ 50	235	400 ~ 510	t ≤ 16	No. 1A	17	0	47
50 < t ≤ 100	215		16 < t ≤ 40	No. 1A	21		
100 < t ≤ 200	195		t > 40	No. 4	24		
6 < t ≤ 50	315	490 ~ 610	t ≤ 16	No. 1A	16	0	47
50 < t ≤ 100	295		16 < t ≤ 40	No. 1A	20		
100 < t ≤ 200	275		t > 40	No. 4	23		
6 < t ≤ 50	355	520 ~ 640	t ≤ 16	No. 1A	14	0	47
50 < t ≤ 100	335		16 < t ≤ 40	No. 1A	18		
100 < t ≤ 200	315		t > 40	No. 4	21		
6 < t ≤ 200	225	410 ~ 550	t ≤ 50	No. 1A	21	-	-
			t > 50	No. 10	25		
6 < t ≤ 200	265	480 ~ 620	t ≤ 50	No. 1A	17	-	-
			t > 50	No. 10	23		
t ≤ 200	225	410 ~ 490	t ≤ 50	No. 1A	21	-	-
			t > 50	No. 10	25		
t ≤ 200	245	450 ~ 540	t ≤ 50	No. 1A	19	-	-
			t > 50	No. 10	23		
t ≤ 200	265	480 ~ 590	-	G = 50	17	-	-
			-	G = 200	21		
t ≤ 25	220	415 ~ 550	-	G = 50	25	-	-
25 < t ≤ 50				G = 200	21		
50 < t ≤ 100			-				
100 < t ≤ 200							
t ≤ 25	240	450 ~ 585	-	G = 50	23	-	-
25 < t ≤ 50				G = 200	19		
50 < t ≤ 100			-				
100 < t ≤ 200							
t ≤ 25	260	485 ~ 620	-	G = 50	21	-	-
25 < t ≤ 50				G = 200	17		
50 < t ≤ 100			-				
100 < t ≤ 200							

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보일러 및 압력용기용 강판

ROLLED STEELS FOR BOILER AND PRESSURE VESSEL

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)													
				C	Si	Mn	P	S	Cr	Mo	Ni	Al.t	Cu	N	Nb	Ti	V
ASTM A516	Grade 55	AR, N	t ≤ 12.5	Max. 0.18	0.15 - 0.4	0.6 - 0.9	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	-
			12.5 < t ≤ 50	Max. 0.2		0.6 - 1.2											
			50 < t ≤ 100	Max. 0.22													
			100 < t ≤ 200	Max. 0.24													
	Grade 60	AR, N	t ≤ 12.5	Max. 0.21	0.15 - 0.4	0.6 - 0.9	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	-
			12.5 < t ≤ 50	Max. 0.23		0.85 - 1.2											
			50 < t ≤ 100	Max. 0.25													
			100 < t ≤ 200	Max. 0.27													
	Grade 65	AR, N	t ≤ 12.5	Max. 0.24	0.15 - 0.4	0.85 - 1.2	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	-
			12.5 < t ≤ 50	Max. 0.26		0.85 - 1.2											
			50 < t ≤ 100	Max. 0.28													
			100 < t ≤ 200	Max. 0.29													
	Grade 70	AR, N	t ≤ 12.5	Max. 0.27	0.15 - 0.4	0.6 - 0.9	Max. 0.025	Max. 0.025	-	-	-	-	-	-	-	-	-
			12.5 < t ≤ 50	Max. 0.28		0.85 - 1.2											
			50 < t ≤ 100	Max. 0.3													
			100 < t ≤ 200	Max. 0.31													
ASTM A537	Class 1	N, QT	t ≤ 40	Max. 0.24	0.15 - 0.5	0.7 - 1.35	Max. 0.035	Max. 0.035	Max. 0.25	Max. 0.08	Max. 0.25	-	Max. 0.35	-	-	-	-
			40 < t			1 - 1.6											
	Class 2	N, QT	t ≤ 40	Max. 0.24	0.15 - 0.5	0.7 - 1.35	Max. 0.035	Max. 0.035	Max. 0.25	Max. 0.08	Max. 0.25	-	Max. 0.35	-	-	-	-
			40 < t			1 - 1.6											

※ A516 계열 Sour Service는 별도 협의 필요(Additional Consultation Required for A516 Line)

● 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 [%]	온도 [°C]	최소값 [J]
t ≤ 12.5	205	380 ~ 515	-	G = 50	27	-51	18
12.5 < t ≤ 50							
50 < t ≤ 100							
100 < t ≤ 200							
t ≤ 12.5	220	415 ~ 550	-	G = 50	25	-51	18
12.5 < t ≤ 50							
50 < t ≤ 100							
100 < t ≤ 200							
t ≤ 12.5	240	450 ~ 585	-	G = 50	23	-51	18
12.5 < t ≤ 50							
50 < t ≤ 100							
100 < t ≤ 200							
t ≤ 12.5	260	485 ~ 620	-	G = 50	21	-46	20
12.5 < t ≤ 50							
50 < t ≤ 100							
100 < t ≤ 200							
t ≤ 65	345	485 ~ 620	t ≤ 50	G = 50	22	-62	20
65 < t ≤ 100	310	450 ~ 585	50 < t ≤ 100		-		
100 < t ≤ 150	-	-	100 < t ≤ 200	G = 200	18	-68	27
t ≤ 65	415	550 ~ 690	t ≤ 50	G = 50	22		
65 < t ≤ 100	380	515 ~ 655	50 < t ≤ 100		20		
100 < t ≤ 150	315	485 ~ 620	100 < t ≤ 200	G = 200	-		

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라인파이프용 강판

ROLLED STEELS FOR LINE PIPE

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)													
				C	Si	Mn	P	S	Cr	Mo	Ni	Al.t	Cu	N	Nb	Ti	V
ANSI / API 5L	PSL2 BR	AR	-	Max. 0.24	Max. 0.4	Max. 1.2	Max. 0.025	Max. 0.15	Max. 0.3	Max. 0.15	Max. 0.3	-	Max. 0.5	-	Max. Nb + V 0.06		Max. 0.4
	PSL2 BN	N, NR	-	Max. 0.24	Max. 0.4	Max. 1.2	Max. 0.025	Max. 0.015	Max. 0.3	Max. 0.15	Max. 0.3	-	Max. 0.5	-	Max. Nb + V 0.06		Max. 0.4
	PSL2 BM	TM	-	Max. 0.22	Max. 0.45	Max. 1.2	Max. 0.025	Max. 0.015	Max. 0.3	Max. 0.15	Max. 0.3	-	Max. 0.5	-	Max. 0.5	Max. 0.5	Max. 0.4
	PSL2 X42N	N, NR	-	Max. 0.24	Max. 0.4	Max. 1.2	Max. 0.025	Max. 0.015	Max. 0.3	Max. 0.15	Max. 0.3	-	Max. 0.5	-	Max. 0.5	Max. 0.6	Max. 0.4
	PSL2 X42M	TM	-	Max. 0.22	Max. 0.45	Max. 1.3	Max. 0.025	Max. 0.015	Max. 0.3	Max. 0.15	Max. 0.3	-	Max. 0.5	-	Max. 0.5	Max. 0.5	Max. 0.4
	PSL2 X46N	N, NR	-	Max. 0.24	Max. 0.4	Max. 1.4	Max. 0.025	Max. 0.015	Max. 0.3	Max. 0.15	Max. 0.3	-	Max. 0.5	-	Max. 0.5	Max. 0.7	Max. 0.4
	PSL2 X46M	TM	-	Max. 0.22	Max. 0.45	Max. 1.3	Max. 0.025	Max. 0.015	Max. 0.3	Max. 0.15	Max. 0.3	-	Max. 0.5	-	Max. 0.5	Max. 0.5	Max. 0.4
	PSL2 X52N	N, NR	-	Max. 0.24	Max. 0.45	Max. 1.4	Max. 0.025	Max. 0.015	Max. 0.3	Max. 0.15	Max. 0.3	-	Max. 0.5	-	Max. 0.5	Max. 0.4	Max. 0.4
	PSL2 X52M	TM	-	Max. 0.22	Max. 0.45	Max. 1.4	Max. 0.025	Max. 0.015	Max. 0.3	Max. 0.15	Max. 0.3	-	Max. 0.5	-	Max. Nb + V + Ti 0.15		
	PSL2 X56N	N, NR	-	Max. 0.24	Max. 0.45	Max. 1.4	Max. 0.025	Max. 0.015	Max. 0.3	Max. 0.15	Max. 0.3	-	Max. 0.5	-	Max. 0.5	Max. 0.1	Max. 0.4
	PSL2 X56M	TM	-	Max. 0.22	Max. 0.45	Max. 1.4	Max. 0.025	Max. 0.015	Max. 0.3	Max. 0.15	Max. 0.3	-	Max. 0.5	-	Max. Nb + V + Ti 0.15		
	PSL2 X60N	N, NR	-	Max. 0.24	Max. 0.45	Max. 1.4	Max. 0.025	Max. 0.015	Max. 0.5	Max. 0.5	Max. 0.5	-	Max. 0.5	-	Max. 0.5	Max. 0.1	Max. 0.4
	PSL2 X60M	TM	-	Max. 0.12	Max. 0.45	Max. 1.6	Max. 0.025	Max. 0.015	Max. 0.5	Max. 0.5	Max. 0.5	-	Max. 0.5	-	Max. Nb + V + Ti 0.15		
	PSL2 X65M	TM	-	Max. 0.12	Max. 0.45	Max. 1.6	Max. 0.025	Max. 0.015	Max. 0.5	Max. 0.5	Max. 0.5	-	Max. 0.5	-	Max. Nb + V + Ti 0.15		
	PSL2 X70M	TM	-	Max. 0.12	Max. 0.45	Max. 1.7	Max. 0.025	Max. 0.015	Max. 0.5	Max. 0.5	Max. 0.5	-	Max. 0.5	-	Max. Nb + V + Ti 0.15		

※ Sour Service는 별도 협의 필요(Additional Consultation Required for Sour Service)

● 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 [%]	온도 [°C]	최소값 [J]
-	245 ~ 450	415 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	245 ~ 450	415 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	245 ~ 450	415 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	290 ~ 495	415 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	290 ~ 495	415 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	320 ~ 525	435 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	320 ~ 525	435 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	320 ~ 525	435 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	360 ~ 530	460 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	390 ~ 545	490 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	390 ~ 545	490 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	415 ~ 565	520 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	415 ~ 565	520 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	450 ~ 600	535 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)
-	486 ~ 635	570 ~ 760	-	G = 50(200)	규격참조 (According to API 5L)	0 (According to Agreement)	40 (Max. O.D.)

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해양구조물용 강판
ROLLED STEELS FOR OFFSHORE STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)													
				C	Si	Mn	P	S	Cr	Mo	Ni	Al.t	Cu	N	Nb	Ti	V
Total	S355KT/ KL+20	TM	t ≤ 16	Max. 0.22	Max. 0.5	Max. 1.6	Max. 0.045	Max. 0.045	Max. 0.2	Max. 0.08	Max. 0.5	Min. 0.06	Max. 0.3	Max. 0.009	Max. 0.05	Max. 0.03	Max. 0.08
			16 < t ≤ 83	Max. 0.22	Max. 0.5	Max. 1.6	Max. 0.02 (Z35 or 16mm≤t)	Max. 0.005 (Z35 or 16mm≤t)	Max. 0.2	Max. 0.08	Max. 0.5	Min. 0.06	Max. 0.3	Max. 0.009	Max. 0.05	Max. 0.03	Max. 0.08
		TM	t ≤ 16	Max. 0.22	Max. 0.5	Max. 1.6	Max. 0.045	Max. 0.045	Max. 0.2	Max. 0.08	Max. 0.5	Min. 0.06	Max. 0.3	Max. 0.009	Max. 0.05	Max. 0.03	Max. 0.08
			16 < t ≤ 83	Max. 0.22	Max. 0.5	Max. 1.6	Max. 0.02 (Z35 or 16mm≤t)	Max. 0.005 (Z35 or 16mm≤t)	Max. 0.2	Max. 0.08	Max. 0.5	Min. 0.06	Max. 0.3	Max. 0.009	Max. 0.05	Max. 0.03	Max. 0.08
	S355KT/ KLO	TM	t ≤ 16	Max. 0.22	Max. 0.5	Max. 1.6	Max. 0.045	Max. 0.045	Max. 0.2	Max. 0.08	Max. 0.5	Min. 0.06	Max. 0.3	Max. 0.009	Max. 0.05	Max. 0.03	Max. 0.08
			16 < t ≤ 83	Max. 0.22	Max. 0.5	Max. 1.6	Max. 0.02 (Z35 or 16mm≤t)	Max. 0.005 (Z35 or 16mm≤t)	Max. 0.2	Max. 0.08	Max. 0.5	Min. 0.06	Max. 0.3	Max. 0.009	Max. 0.05	Max. 0.03	Max. 0.08
		TM	t ≤ 16	Max. 0.22	Max. 0.5	Max. 1.6	Max. 0.045	Max. 0.045	Max. 0.2	Max. 0.08	Max. 0.5	Min. 0.06	Max. 0.3	Max. 0.009	Max. 0.05	Max. 0.03	Max. 0.08
			16 < t ≤ 83	Max. 0.22	Max. 0.5	Max. 1.6	Max. 0.02 (Z35 or 16mm≤t)	Max. 0.005 (Z35 or 16mm≤t)	Max. 0.2	Max. 0.08	Max. 0.5	Min. 0.06	Max. 0.3	Max. 0.009	Max. 0.05	Max. 0.03	Max. 0.08
	S355KT/ KL-20	TM	t ≤ 16	Max. 0.22	Max. 0.5	Max. 1.6	Max. 0.045	Max. 0.045	Max. 0.2	Max. 0.08	Max. 0.5	Min. 0.06	Max. 0.3	Max. 0.009	Max. 0.05	Max. 0.03	Max. 0.08
			16 < t ≤ 83	Max. 0.22	Max. 0.5	Max. 1.6	Max. 0.02 (Z35 or 16mm≤t)	Max. 0.005 (Z35 or 16mm≤t)	Max. 0.2	Max. 0.08	Max. 0.5	Min. 0.06	Max. 0.3	Max. 0.009	Max. 0.05	Max. 0.03	Max. 0.08
		TM	t ≤ 16	Max. 0.22	Max. 0.5	Max. 1.6	Max. 0.045	Max. 0.045	Max. 0.2	Max. 0.08	Max. 0.5	Min. 0.06	Max. 0.3	Max. 0.009	Max. 0.05	Max. 0.03	Max. 0.08
			16 < t ≤ 83	Max. 0.22	Max. 0.5	Max. 1.6	Max. 0.02 (Z35 or 16mm≤t)	Max. 0.005 (Z35 or 16mm≤t)	Max. 0.2	Max. 0.08	Max. 0.5	Min. 0.06	Max. 0.3	Max. 0.009	Max. 0.05	Max. 0.03	Max. 0.08

● 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 [%]	온도 [°C]	최소값 [J]
t ≤ 16	355	470 - 630	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	22	20	40
16 < t ≤ 40	345		16 < t ≤ 40				
40 < t ≤ 63	335		40 < t ≤ 63				
63 < t ≤ 80	325		63 < t ≤ 80				
80 < t ≤ 100	315		80 < t ≤ 100				
t ≤ 16	355	470 - 630	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	22	0	40
16 < t ≤ 40	345		16 < t ≤ 40				
40 < t ≤ 63	335		40 < t ≤ 63				
63 < t ≤ 80	325		63 < t ≤ 80				
80 < t ≤ 100	315		80 < t ≤ 100				
t ≤ 16	355	470 - 630	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	22	-20	40
16 < t ≤ 40	345		16 < t ≤ 40				
40 < t ≤ 63	335		40 < t ≤ 63				
63 < t ≤ 80	325		63 < t ≤ 80				
80 < t ≤ 100	315		80 < t ≤ 100				
t ≤ 16	355	470 - 630	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	22	-40	40
16 < t ≤ 40	345		16 < t ≤ 40				
40 < t ≤ 63	335		40 < t ≤ 63				
63 < t ≤ 80	325		63 < t ≤ 80				
80 < t ≤ 100	315		80 < t ≤ 100				

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해양구조물용 강판
ROLLED STEELS FOR OFFSHORE STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	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	N, NR	t ≤ 20	Max. 0.2	Max. 0.5	0.9 -1.65	Max. 0.035	Max. 0.03	Max. 0.3	Max. 0.1	Max. 0.5	Min. 0.02	Max. 0.35	Max. 0.015	Max. 0.06	Max. 0.03	Max. 0.12
	S355 G3+N	N, NR	t ≤ 40	Max. 0.18	Max. 0.5	0.9 -1.65	Max. 0.03	Max. 0.025	Max. 0.3	Max. 0.1	Max. 0.5	Min. 0.02	Max. 0.35	Max. 0.015	Max. 0.06	Max. 0.03	Max. 0.12
	S355 G7+N	N	t ≤ 150	Max. 0.14	0.15 -0.55	1 -1.65	Max. 0.02	Max. 0.01	Max. 0.25	Max. 0.08	Max. 0.5	0.015 - 0.055	Max. 0.3	Max. 0.01	Max. 0.04	Max. 0.025	Max. 0.06
	S355 G8+N	N	t ≤ 150	Max. 0.14	0.15 -0.55	1 -1.65	Max. 0.02	Max. 0.007	Max. 0.25	Max. 0.08	Max. 0.5	0.015 - 0.055	Max. 0.3	Max. 0.01	Max. 0.04	Max. 0.025	Max. 0.06
	S355 G9+N	N	t ≤ 150	Max. 0.12	0.15 -0.55	Max. 1.65	Max. 0.02	Max. 0.01	Max. 0.2	Max. 0.08	Max. 0.7	0.015 - 0.055	Max. 0.3	Max. 0.01	Max. 0.03	Max. 0.025	Max. 0.06
	S355 G10+N	N	t ≤ 150	Max. 0.12	0.15 -0.55	Max. 1.65	Max. 0.015	Max. 0.005	Max. 0.2	Max. 0.08	Max. 0.7	0.015 - 0.055	Max. 0.3	Max. 0.01	Max. 0.03	Max. 0.025	Max. 0.06

● 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 (%)	온도 (°C)	최소값 (J)
t ≤ 16	355	470 - 630	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	22	-20	50
16 < t ≤ 25	345		16 < t ≤ 25				
25 < t ≤ 40	-		25 < t ≤ 40				
40 < t ≤ 63	-		40 < t ≤ 63				
63 < t ≤ 100	-		63 < t ≤ 100				
100 < t ≤ 150	-	-	100 < t ≤ 150				
t ≤ 16	355	470 - 630	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	22	-40	50
16 < t ≤ 25	345		16 < t ≤ 25				
25 < t ≤ 40	345		25 < t ≤ 40				
40 < t ≤ 63	-		40 < t ≤ 63				
63 < t ≤ 100	-		63 < t ≤ 100				
100 < t ≤ 150	-	-	100 < t ≤ 150				
t ≤ 16	355	470 - 630	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	22	-40	50
16 < t ≤ 25	355		16 < t ≤ 25				
25 < t ≤ 40	345		25 < t ≤ 40				
40 < t ≤ 63	335		40 < t ≤ 63				
63 < t ≤ 100	325		63 < t ≤ 100				
100 < t ≤ 150	320	460 ~ 620	100 < t ≤ 150				
t ≤ 16	355	470 - 630	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	22	-40	50
16 < t ≤ 25	355		16 < t ≤ 25				
25 < t ≤ 40	345		25 < t ≤ 40				
40 < t ≤ 63	335		40 < t ≤ 63				
63 < t ≤ 100	325		63 < t ≤ 100				
100 < t ≤ 150	320	460 ~ 620	100 < t ≤ 150				
t ≤ 16	355	470 - 630	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	22	-40	50
16 < t ≤ 25	355		16 < t ≤ 25				
25 < t ≤ 40	345		25 < t ≤ 40				
40 < t ≤ 63	335		40 < t ≤ 63				
63 < t ≤ 100	325		63 < t ≤ 100				
100 < t ≤ 150	320	460 ~ 620	100 < t ≤ 150				
t ≤ 16	355	470 - 630	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	22	-40	50
16 < t ≤ 25	355		16 < t ≤ 25				
25 < t ≤ 40	345		25 < t ≤ 40				
40 < t ≤ 63	335		40 < t ≤ 63				
63 < t ≤ 100	325		63 < t ≤ 100				
100 < t ≤ 150	320	460 ~ 620	100 < t ≤ 150				

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해양구조물용 강판
ROLLED STEELS FOR OFFSHORE STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	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 G5+M	TM	t ≤ 40	Max. 0.14	Max. 0.5	Max. 1.6	Max. 0.035	Max. 0.03	-	Max. 0.2	Max. 0.3	Min. 0.02	-	Max. 0.015	Max. 0.05	Max. 0.05	Max. 0.1
	S355 G6+M	TM	t ≤ 40	Max. 0.14	Max. 0.5	Max. 1.6	Max. 0.03	Max. 0.025	-	Max. 0.2	Max. 0.3	Min. 0.02	-	Max. 0.015	Max. 0.05	Max. 0.05	Max. 0.1
	S355 G7+M	TM	t ≤ 100	Max. 0.14	0.15 ~0.55	1 ~1.65	Max. 0.02	Max. 0.01	Max. 0.2	Max. 0.08	Max. 0.5	0.015 ~0.055	Max. 0.3	Max. 0.01	Max. 0.04	Max. 0.025	Max. 0.06
	S355 G8+M	TM	t ≤ 100	Max. 0.14	0.15 ~0.55	1 ~1.65	Max. 0.02	Max. 0.007	Max. 0.25	Max. 0.08	Max. 0.5	0.015 ~0.055	Max. 0.3	Max. 0.01	Max. 0.04	Max. 0.025	Max. 0.06
	S355 G9+M	TM	t ≤ 150	Max. 0.12	0.15 ~0.55	Max. 1.65	Max. 0.02	Max. 0.01	Max. 0.2	Max. 0.08	Max. 0.7	0.015 ~0.055	Max. 0.3	Max. 0.01	Max. 0.03	Max. 0.025	Max. 0.06
	S355 G10+M	TM	t ≤ 150	Max. 0.12	0.15 ~0.55	Max. 1.65	Max. 0.015	Max. 0.005	Max. 0.2	Max. 0.08	Max. 0.7	0.015 ~0.055	Max. 0.3	Max. 0.01	Max. 0.03	Max. 0.025	Max. 0.06

● 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 (%)	온도 (°C)	최소값 (J)
t ≤ 16	355	470 ~ 610	t ≤ 16	L0=5.65√S0 비례시험편 Proportional Test Piece	22	-20	50
16 < t ≤ 25	345		16 < t ≤ 25				
25 < t ≤ 40	-		25 < t ≤ 40				
40 < t ≤ 63	-		40 < t ≤ 63				
63 < t ≤ 100	-		63 < t ≤ 100				
100 < t ≤ 150	-	-	100 < t ≤ 150				
t ≤ 16	355	470 ~ 610	t ≤ 16	L0=5.65√S0 비례시험편 Proportional Test Piece	22	-40	50
16 < t ≤ 25	345		16 < t ≤ 25				
25 < t ≤ 40	345		25 < t ≤ 40				
40 < t ≤ 63	-		40 < t ≤ 63				
63 < t ≤ 100	-		63 < t ≤ 100				
100 < t ≤ 150	-	-	100 < t ≤ 150				
t ≤ 16	355	470 ~ 630	t ≤ 16	L0=5.65√S0 비례시험편 Proportional Test Piece	22	-40	50
16 < t ≤ 25	355		16 < t ≤ 25				
25 < t ≤ 40	345		25 < t ≤ 40				
40 < t ≤ 63	335		40 < t ≤ 63				
63 < t ≤ 100	325		63 < t ≤ 100				
100 < t ≤ 150	-	-	100 < t ≤ 150				
t ≤ 16	355	470 ~ 630	t ≤ 16	L0=5.65√S0 비례시험편 Proportional Test Piece	22	-40	50
16 < t ≤ 25	355		16 < t ≤ 25				
25 < t ≤ 40	345		25 < t ≤ 40				
40 < t ≤ 63	335		40 < t ≤ 63				
63 < t ≤ 100	325		63 < t ≤ 100				
100 < t ≤ 150	-	-	100 < t ≤ 150				
t ≤ 16	355	470 ~ 630	t ≤ 16	L0=5.65√S0 비례시험편 Proportional Test Piece	22	-40	50
16 < t ≤ 25	355		16 < t ≤ 25				
25 < t ≤ 40	345		25 < t ≤ 40				
40 < t ≤ 63	335		40 < t ≤ 63				
63 < t ≤ 100	325		63 < t ≤ 100				
100 < t ≤ 150	-	-	100 < t ≤ 150				
t ≤ 16	355	470 ~ 630	t ≤ 16	L0=5.65√S0 비례시험편 Proportional Test Piece	22	-40	50
16 < t ≤ 25	355		16 < t ≤ 25				
25 < t ≤ 40	345		25 < t ≤ 40				
40 < t ≤ 63	335		40 < t ≤ 63				
63 < t ≤ 100	325		63 < t ≤ 100				
100 < t ≤ 150	-	-	100 < t ≤ 150				

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해양구조물용 강판
ROLLED STEELS FOR OFFSHORE STRUCTURES

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	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	S420 G1+M	TM	t ≤ 100	Max. 0.14	0.15 ~ 0.55	Max. 1.65	Max. 0.02	Max. 0.01	Max. 0.25	Max. 0.25	Max. 0.7	0.015 ~ 0.055	Max. 0.3	Max. 0.01	Max. 0.04	Max. 0.025	Max. 0.08
	S420 G2+M	TM	t ≤ 100	Max. 0.14	0.15 ~ 0.55	Max. 1.65	Max. 0.02	Max. 0.007	Max. 0.25	Max. 0.25	Max. 0.7	0.015 ~ 0.055	Max. 0.3	Max. 0.01	Max. 0.04	Max. 0.025	Max. 0.08
	S460 G1+M	TM	t ≤ 100	Max. 0.14	0.15 ~ 0.55	Max. 1.65	Max. 0.02	Max. 0.01	Max. 0.25	Max. 0.25	Max. 0.7	0.015 ~ 0.055	Max. 0.3	Max. 0.01	Max. 0.04	Max. 0.025	Max. 0.08
	S460 G2+M	TM	t ≤ 100	Max. 0.14	0.15 ~ 0.55	Max. 1.65	Max. 0.02	Max. 0.007	Max. 0.25	Max. 0.25	Max. 0.7	0.015 ~ 0.055	Max. 0.3	Max. 0.01	Max. 0.04	Max. 0.025	Max. 0.08
Norsok M -120	Y20	TM	t ≤ 150	Max. 0.12	0.15 ~ 0.55	Max. 1.65	Max. 0.015	Max. 0.005	Max. 0.2	Max. 0.08	Max. 0.7	0.015 ~ 0.055	Max. 0.3	Max. 0.01	Max. 0.03	Max. 0.025	Max. 0.06
	Y30	TM	t ≤ 100	Max. 0.14	0.15 ~ 0.55	Max. 1.65	Max. 0.02	Max. 0.007	Max. 0.25	Max. 0.25	Max. 0.7	0.015 ~ 0.055	Max. 0.3	Max. 0.01	Max. 0.04	Max. 0.025	Max. 0.08
	Y40	TM	t ≤ 100	Max. 0.14	0.15 ~ 0.55	Max. 1.65	Max. 0.02	Max. 0.007	Max. 0.25	Max. 0.25	Max. 0.7	0.015 ~ 0.055	Max. 0.3	Max. 0.01	Max. 0.04	Max. 0.025	Max. 0.08

● 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 (%)	온도 (°C)	최소값 (J)
t ≤ 16	420	500 ~ 660	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	19	-20	50
16 < t ≤ 40	400		16 < t ≤ 40				
40 < t ≤ 63	390	480 ~ 640	40 < t ≤ 63				
63 < t ≤ 80	380		63 < t ≤ 80				
80 < t ≤ 100	380		80 < t ≤ 100				
t ≤ 16	420	500 ~ 660	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	19	-40	50
16 < t ≤ 40	400		16 < t ≤ 40				
40 < t ≤ 63	390	480 ~ 640	40 < t ≤ 63				
63 < t ≤ 80	380		63 < t ≤ 80				
80 < t ≤ 100	380		80 < t ≤ 100				
t ≤ 16	460	540 ~ 700	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	17	-40	50
16 < t ≤ 25	440		16 < t ≤ 25				
25 < t ≤ 40	420	520 ~ 680	25 < t ≤ 40				
40 < t ≤ 63	415		40 < t ≤ 63				
63 < t ≤ 80	405	505 ~ 665	63 < t ≤ 80				
80 < t ≤ 100	400		80 < t ≤ 100				
t ≤ 16	460	540 ~ 700	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	17	-40	50
16 < t ≤ 25	440		16 < t ≤ 25				
25 < t ≤ 40	420	520 ~ 680	25 < t ≤ 40				
40 < t ≤ 63	415		40 < t ≤ 63				
63 < t ≤ 80	405	505 ~ 665	63 < t ≤ 80				
80 < t ≤ 100	400		80 < t ≤ 100				
t ≤ 16	355	470 ~ 630	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	22	-40	50
16 < t ≤ 25	355		16 < t ≤ 25				
25 < t ≤ 40	345		25 < t ≤ 40				
40 < t ≤ 63	335		40 < t ≤ 63				
63 < t ≤ 100	325	-	63 < t ≤ 100				
100 < t ≤ 150	-		100 < t ≤ 150				
t ≤ 16	420	500 ~ 660	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	19	-40	50
16 < t ≤ 40	400		16 < t ≤ 40				
40 < t ≤ 63	390	480 ~ 640	40 < t ≤ 63				
63 < t ≤ 80	380		63 < t ≤ 80				
80 < t ≤ 100	380		80 < t ≤ 100				
t ≤ 16	460	540 ~ 700	t ≤ 16	L0 =5.65√S0 비례시험편 Proportional Test Piece	17	-40	60
16 < t ≤ 25	440		16 < t ≤ 25				
25 < t ≤ 40	420	520 ~ 680	25 < t ≤ 40				
40 < t ≤ 63	415		40 < t ≤ 63				
63 < t ≤ 80	405	505 ~ 665	63 < t ≤ 80				
80 < t ≤ 100	400		80 < t ≤ 100				

● 화학성분 (Chemical Composition)

규격 Standards	강종 Grade	제조공정 Process	두께 Thickness (mm)	화학성분 Chemical Composition (wt%, Ladle 기준)													
				C	Si	Mn	P	S	Cr	Mo	Ni	Al.t	Cu	N	Nb	Ti	V
API 2W	Grade 50	TM	t ≤ 150	Max. 0.16	0.05 ~ 0.5	1.15 ~ 1.6	Max. 0.03	Max. 0.01	Max. 0.25	Max. 0.08	Max. 0.75	0.02 ~ 0.06	Max. 0.35	Max. 0.012	Max. 0.03	Max. 0.0005	N ≤ 0.005 : 0.003-0.02 N > 0.005 : 0.007-0.02
	Grade 60	TM	t ≤ 100	Max. 0.16	0.05 ~ 0.4	1.15 ~ 1.6	Max. 0.03	Max. 0.01	Max. 0.25	Max. 0.15	Max. 1	0.02 ~ 0.06	Max. 0.35	Max. 0.012	Max. 0.03	Max. 0.0005	N ≤ 0.005 : 0.003-0.02 N > 0.005 : 0.007-0.02
API 2H	Grade 42	N	t ≤ 100	Max. 0.18	0.05 ~ 0.4	0.9 ~ 1.35	Max. 0.03	Max. 0.01	-	-	-	0.02 ~ 0.06		Max. 0.012	Max. 0.04	협의 Discu- ssion	Max. 0.02
	Grade 50	N	t ≤ 100	Max. 0.18	0.05 ~ 0.4	1.15 ~ 1.6	Max. 0.03	Max. 0.01	-	-	-	0.02 ~ 0.06		Max. 0.012	0.01 ~ 0.04	협의 Discu- ssion	Max. 0.02

● 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 [%]	온도 [°C]	최소값 [J]
t ≤ 25	345 ~ 517	448	t ≤ 100	G=50	23	-40	41
t ≤ 25	345 ~ 483	448		G=200	18		
t ≤ 25	414 ~ 621	517	t ≤ 100	G=50	22	-40	48
t ≤ 25	414 ~ 586	517		G=200	16		
t ≤ 75	289	427 ~ 565	t ≤ 100	G=50	22	-40	25
t ≤ 75	289			G=200	18		
t ≤ 75	345	483 ~ 620	t ≤ 100	G=50	21	-40	30
t ≤ 75	324			G=200	16		

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기계구조용 강판

CARBON STEEL FOR MACHINE STRUCTURAL USE (KS D3752-1986)

● 화학성분 (Chemical Composition)

강종 Grade	화학성분 Chemical Composition (wt%, Ladle 기준)				
	C	Si	Mn	P (Max)	S (Max)
SM 10C	0.08 ~ 0.13	0.15 ~ 0.35	0.3 ~ 0.6	0.03	0.035
SM 12C	0.10 ~ 0.15	0.15 ~ 0.35	0.3 ~ 0.6	0.03	0.035
SM 15C	0.13 ~ 0.18	0.15 ~ 0.35	0.3 ~ 0.6	0.03	0.035
SM 17C	0.15 ~ 0.2	0.15 ~ 0.35	0.3 ~ 0.6	0.03	0.035
SM 20C	0.18 ~ 0.23	0.15 ~ 0.35	0.3 ~ 0.6	0.03	0.035
SM 22C	0.2 ~ 0.25	0.15 ~ 0.35	0.3 ~ 0.6	0.03	0.035
SM 25C	0.22 ~ 0.28	0.15 ~ 0.35	0.3 ~ 0.6	0.03	0.035
SM 28C	0.25 ~ 0.31	0.15 ~ 0.35	0.6 ~ 0.9	0.03	0.035
SM 30C	0.27 ~ 0.33	0.15 ~ 0.35	0.6 ~ 0.9	0.03	0.035
SM 33C	0.3 ~ 0.36	0.15 ~ 0.35	0.6 ~ 0.9	0.03	0.035
SM 35C	0.32 ~ 0.38	0.15 ~ 0.35	0.6 ~ 0.9	0.03	0.035
SM 38C	0.35 ~ 0.41	0.15 ~ 0.35	0.6 ~ 0.9	0.03	0.035
SM 40C	0.37 ~ 0.43	0.15 ~ 0.35	0.6 ~ 0.9	0.03	0.035
SM 43C	0.4 ~ 0.46	0.15 ~ 0.35	0.6 ~ 0.9	0.03	0.035
SM 45C	0.42 ~ 0.48	0.15 ~ 0.35	0.6 ~ 0.9	0.03	0.035
SM 48C	0.45 ~ 0.51	0.15 ~ 0.35	0.6 ~ 0.9	0.03	0.035
SM 50C	0.47 ~ 0.53	0.15 ~ 0.35	0.6 ~ 0.9	0.03	0.035
SM 53C	0.5 ~ 0.56	0.15 ~ 0.35	0.6 ~ 0.9	0.03	0.035
SM 55C	0.52 ~ 0.58	0.15 ~ 0.35	0.6 ~ 0.9	0.03	0.035
SM 58C	0.55 ~ 0.61	0.15 ~ 0.35	0.6 ~ 0.9	0.03	0.035

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조선용 강판 및 형강

PLATES AND SECTIONS FOR HULL STRUCTURES

● 선급 승인 (Classification)

구분 Classification	제품 Products	강종 Grade		사업장 Mill	두께 Thickness (mm)	열처리 Heat Treatment
ABS, BV, CCS DNV, GL, KR LR, NK, RINA, RS	후판 Plate	A, B	Z25-35	당진공장 Dangjin Works	50	As Rolled
		D, AH32-36			35	
		DH32-36			25	
		A, B	-	포항제강소 Pohang Works	83	
		D			35	
		AH32-36			50	
		DH32-36			25	
		A, B, D	Z25-35	당진공장 Dangjin Works	50	Controlled Rolling
		AH32-36				
		DH32-36				
		A, B, D	-	포항제강소 Pohang Works	50	
		AH32-36, DH32-36			35	
		A, B, D	Z25-35	당진공장 Dangjin Works	83	Normalized
		AH32-36, DH32-36, EH32-36			70	
		A, B, D, E			83	TMCP
		AH32-36-40, DH32-36-40, EH32-36-40				
A,B	-	포항제강소 Pohang Works	50	TMCP (Non-acc)		
D, E, AH32-36, DH32-36, EH32-36						
KR, GL, ABS, DNV, BV, NK, LR	형강 Section	A, B	-	포항제강소 Pohang Works	32	As Rolled
		D			25	
		AH32			32	
		DH32			25	

KR, NK, CCS not certified

DNV not certified

● 기계적 성질 (Mechanical Properties)

구분 Classification	강종 Grade	항복강도 Yield Strength (MPa)	인장강도 Tensile Strength (MPa)	연신율 Elongation (%)	온도 [°C]	충격시험 Impact Test					
						최소값 [J]					
						t ≤ 50mm		50mm < t ≤ 70mm		70mm < t ≤ 100mm	
						Long.	Trans.	Long.	Trans.	Long.	Trans.
ABS, BV, CCS, DNV, GL, KR, LR, NK, RINA, RS	A, B, D, E	235	400~520	22	20	-	-	34	24	41	27
					0	27	20	34	24	41	27
					-20	27	20	34	24	41	27
					-40	24	20	34	24	41	27
	AH32, DH32, EH32, FH32	315	440~570	22	0	31	22	38	26	46	31
					-20	31	22	38	26	46	31
					-40	31	22	38	26	46	31
					-60	31	22	38	26	46	31
	AH36, DH36, EH36, FH36	355	490~630	21	0	34	24	41	27	50	34
					-20	34	24	41	27	50	34
					-40	34	24	41	27	50	34
					-60	34	24	41	27	50	34
	AH40, DH40, EH40, FH40	390	510~660	20	0	39	26	46	31	55	37
					-20	39	26	46	31	55	37
					-40	39	26	46	31	55	37
					-60	39	26	46	31	55	37

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

● 화학성분 (Chemical Composition)

강종 Grade	화학성분 Chemical Composition [wt%, Ladle 기준]							
	C ^[2]	Si	Mn	P	S	N ^[3]	Cu	Ceq ^[2]
SD300 SD350 SD400 SD500 SD600 SD700	-	-	-	Max. 0.05	Max. 0.05	-	-	Max. 0.63
SD400W	Max. 0.22	Max. 0.6	Max. 1.6	Max. 0.05	Max. 0.05	Max. 0.12	-	Max. 0.50
SD500W	[Max. 0.24] ⁽⁴⁾	[Max. 0.65]	[Max. 1.7]	[Max. 0.055]	[Max. 0.055]	[Max. 0.013]		[Max. 0.52]
SD400S	Max. 0.29	Max. 0.3	Max. 1.5	Max. 0.04	Max. 0.04	-	Max. 0.2	Max. 0.55
SD500S	Max. 0.32	Max. 0.3	Max. 1.8	Max. 0.04	Max. 0.04	-	Max. 0.2	Max. 0.6

주 : ⁽²⁾ SD400W와 SD500W에서 치수가 호칭명 D32를 과하는 것에 대해서는 탄소함량 0.25%이하 (0.27%이하), 탄소당량 0.55%이하 (0.57%이하) 로 한다.
(In case the dimension exceeds D 32 in SD400W and SD500W, the carbon content and carbon equivalent shall be 0.25 % or less (0.27 % or less) and 0.55 % or less (0.57 % or less), respectively.)
⁽³⁾ 질소결합원소가 충분히 있을 경우에는 질소함량이 높아도 좋다.
(The higher content of nitrogen may be used if sufficient quantities of nitrogen-binding elements are present.)
⁽⁴⁾ 괄호 안의 값은 제품 분석의 경우에 적용한다.
(The values in parentheses are applied to the product analysis.)

● 기계적 성질 (Mechanical Properties)

강종 Grade	항복점 또는 0.2% 항복강도 [N/mm]	인장강도 [N/mm]	인장시험편	연신률 ⁽²⁾ [%]	굽힘성	
					굽힘각도	안쪽반지름
SD300	Min. 300	Min. 440	2호에 준한 것 (Based on No.2)	Min. 16	180°	Max. D16 공칭 지름의 1.5배 (1.5 Times the Nominal Diameter)
			3호에 준한 것 (Based on No.3)	Min. 18		Over D16 공칭 지름의 2배 (2 Times the Nominal Diameter)
SD350	Min. 350	Min. 490	2호에 준한 것 (Based on No.2)	Min. 18	180°	Max. D16 공칭 지름의 1.5배 (1.5 Times the Nominal Diameter)
			3호에 준한 것 (Based on No.3)	Min. 20		Over D16 Max. D41 공칭 지름의 2배 (2 Times the Nominal Diameter) D51 공칭 지름의 1.5배 (1.5 Times the Nominal Diameter)
SD400	Min. 400	Min. 560	2호에 준한 것 (Based on No.2)	Min. 16	180°	공칭 지름의 2.5배 (2.5 Times the Nominal Diameter)
			3호에 준한 것 (Based on No.3)	Min. 18		
SD500	Min. 500	Min. 620	2호에 준한 것 (Based on No.2)	Min. 12	90°	Max. D25 공칭 지름의 2.5배 (2.5 Times the Nominal Diameter)
			3호에 준한 것 (Based on No.3)	Min. 14		Over D25 공칭 지름의 3배 (3 Times the Nominal Diameter)
SD600	Min. 600	Min. 710	2호에 준한 것 (Based on No.2)	Min. 10	90°	Max. D25 공칭 지름의 2.5배 (2.5 Times the Nominal Diameter)
			3호에 준한 것 (Based on No.3)			Over D25 공칭 지름의 3배 (3 Times the Nominal Diameter)
SD700	Min. 700	Min. 800	2호에 준한 것 (Based on No.2)	Min. 10	90°	Max. D25 공칭 지름의 2.5배 (2.5 Times the Nominal Diameter)
			3호에 준한 것 (Based on No.3)			Over D25 공칭 지름의 3배 (3 Times the Nominal Diameter)
SD400W	Min. 400	Min. 560	2호에 준한 것 (Based on No.2)	Min. 16	180°	공칭 지름의 2.5배 (2.5 Times the Nominal Diameter)
			3호에 준한 것 (Based on No.3)	Min. 18		
SD500W	Min. 500	Min. 620	2호에 준한 것 (Based on No.2)	Min. 12	90°	Max. D25 공칭 지름의 2.5배 (2.5 Times the Nominal Diameter)
			3호에 준한 것 (Based on No.3)	Min. 14		Over D25 공칭 지름의 3배 (3 Times the Nominal Diameter)
SD400S	400 - 520	항복 강도의 1.25배 이상 Min. 1.25 Times the YP/YS	2호에 준한 것 (Based on No.2)	Min. 16	180°	Max. D25 Over D25 공칭 지름의 2.5배 (2.5 Times the Nominal Diameter) 공칭 지름의 3배 (3 Times the Nominal Diameter)
	3호에 준한 것 (Based on No.3)		Min. 18			
SD500S	500 - 650		2호에 준한 것 (Based on No.2)	Min. 12		
			3호에 준한 것 (Based on No.3)	Min. 14		

주 : ⁽²⁾ 이형 봉강에서 치수가 호칭명 D32를 과하는 것에 대해서는 호칭명 3을 증가할 때마다 위의 표를 기준으로 연신률의 값에서 각각 2%를 감한다. 다만, 감하는 한도는 4%로 한다.
(In case the dimension of the ribbed bar exceeds D 32, subtract 2 from the elongation in Table 3 whenever the designation is increased by 3. Note, however, that the limit on subtraction shall not be more than 4.)

● 치수 및 단위무게 (Dimension and Unit Weight)

호칭명 Size	단위 무게 Unit Weight (kg/m)	공칭 지름 Diameter (mm)	공칭 단면적 Cross Sectional Area (cm ²)	공칭 둘레 Perimeter (cm)	마디의 평균 간격 최대치 Max. Average Spacing (cm)	마디높이		마디틈 합계의 최대치 Maximum Total Gaps to Knots (mm)	마디와 축선과의 각도
						최소치 Minimum Value (mm)	최대치 Maximum Value (mm)		
D10	0.56	9.53	0.7133	3	6.7	0.4	0.8	7.5	Min. 45°
D13	0.995	12.7	1.267	4	8.9	0.5	1	10	
D16	1.56	15.9	1.986	5	11.1	0.7	1.4	12.5	
D19	2.25	19.1	2.865	6	13.4	1	2	15	
D22	3.01	22.2	3.871	7	15.5	1.1	2.2	17.5	
D25	3.98	25.4	5.067	8	17.8	1.3	2.6	20	
D29	5.04	28.6	6.424	9	20	1.4	2.8	22.5	
D32	6.23	31.8	7.942	10	22.3	1.6	3.2	25	
D35	7.51	34.9	9.566	11	24.4	1.7	3.4	27.5	
D38	8.95	38.1	11.4	12	26.7	1.9	3.8	30	
D41	10.5	41.3	13.4	13	28.9	2.1	4.2	32.5	
D43	11.4	43	14.52	13.5	30.1	2.2	4.4	33.8	
D51	15.9	50.8	20.27	16	35.6	2.5	5	40	
D57	20.3	57.3	25.79	18	40.1	2.9	5.8	45	

주 : 공칭 단면적, 공칭 둘레 및 단위 무게의 산출방법은 다음에 따른다. (The nominal Cross-Sectional Area, nominal circumference, and unit Mass shall be calculated according to the following formula.)
$$\text{공칭 단면적 (S)} = \frac{0.785 \times d^2}{100} \quad \text{: 유효 숫자 넷째 자리에서 끝맺음 한다. (Nominal Cross-Sectional Area (S) = } \frac{0.785 \times d^2}{100} \text{ : Calculate to 4 significant digits.)}$$

$$\text{공식 둘레 (l)} = 0.3142 \times d \quad \text{: 소수점 이하 셋째 자리에서 끝맺음 한다. (Nominal Circumference (l) = } 0.3142 \times d \text{ : Calculate to one decimal place.)}$$

$$\text{단위 무게} = 0.785 \times S \quad \text{: 유효 숫자 셋째 자리에서 끝맺음 한다. (Unit Mass = } 0.785 \times S \text{ : Calculate to 3 significant digits.)}$$

$$\text{1개 무게} = \text{단위 무게} \times \text{길이} \quad \text{: 유효 숫자 넷째 자리에서 끝맺음 한다. (Mass of 1 set = Unit Mass} \times \text{Length = Calculate to 4 significant digits.)}$$

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

길이 허용차 (Tolerance on Length)

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.

단면 색 표시 (Coloring)

강종 Grade	양단면 색깔 Marking Color	강종 Grade	양단면 색깔 Marking Color
SD300	녹색 (Green)	SD600	회색 (Grey)
SD350	적색 (Red)	SD700	하늘색 (Skyblue)
SD400, SD400S	황색 (Yellow)	SD400W	백색 (White)
SD500, SD500S	흑색 (Black)	SD500W	분홍색 (Pink)

주: 종류의 구별을 위한 위 표의 색표시 이외의 사항은 인수인도-당사자 사이의 협의에 따라 표시사항을 변경할 수 있다.
(To distinguish grade, it is possible to change marking condition by manufacturer and customer delivery agreement.)

무게 허용차 (Tolerance on Weight)

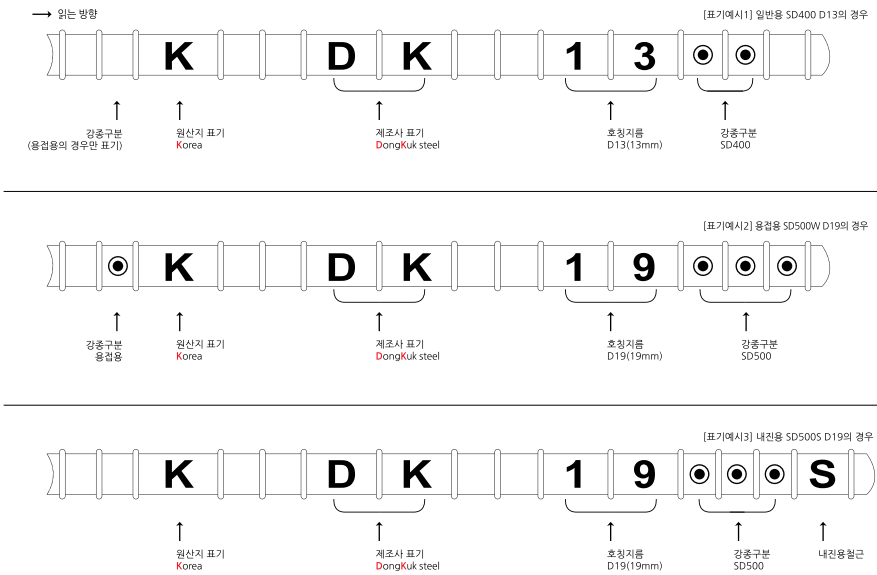
치수 Size	한 개의 무게 허용차 Piece	한 묶음의 무게 허용차 Bundle
Under D10	+ 규정하지 않음(Under fined), - 8%	±7%
D10~Under D16	±6%	±5%
D16~Under D29	±5%	±4%
D29 and Over	±4%	±3.5%

규격별 단중표 (Dimension and Variation Shape)

KS-JIS		ASTM		CSA		BS	
호칭명 Size (mm)	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	3/8"	0.56	10	0.785	8	0.395
D 13	0.995	1/2"	0.994	15	1.57	10	0.616
D 16	1.56	5/8"	1.552	20	2.355	12	0.888
D 19	2.25	3/4"	2.235	25	3.925	13	1.042
D 22	3.04	7/8"	3.042	30	5.495	14	1.209
D 25	3.98	1"	3.973	35	7.85	16	1.579
D 29	5.04	9/8"	5.06	45	11.775	18	1.998
D 32	6.23	5/4"	6.404	55	19.625	20	2.466
D 35	7.51	11/8"	7.907			22	2.984
D 38	8.95					25	3.854
D 41	10.5					28	4.834
D 43	11.4	7/4"	11.38			32	6.313
D 51	15.9					36	7.991
D 57	20.3	9/4"	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 at intervals of 1.5 m or less for identification by rolling as shown in Fig. 2. For the designation D4, D5, D6, and D8, however, the mark of distinguishing colors by painting shall be applied instead of marking by rolling.)



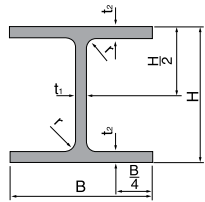
16

H형강

H-BEAMS (KS D3503, 3515/3502, F4603)

● 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 Gyraton (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
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	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



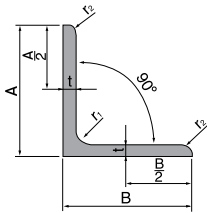
● 치수 및 단위무게 (Dimensions and Unit Weights)

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 Gyraton (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
400×200	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
	388×402	15	15	22	178.5	140	49,000	16,300	16.6	9.54	2,520	809
400×400	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
	458×417	30	50	22	528.6	415	187,000	60,500	18.8	10.7	8,170	2,900
	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
450×200	450×200	9	14	18	96.76	76	33,500	1,870	18.6	4.4	1,490	187
450×300	434×299	10	15	24	135	106	46,800	6,690	18.6	7.04	2,160	448
	440×300	11	18	24	157.4	124	56,100	8,110	18.9	7.18	2,550	541
500×200	496×199	9	14	20	101.3	79.5	41,900	1,840	20.3	4.27	1,690	185
	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
500×300	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
	596×199	10	15	22	120.5	94.6	68,700	1,980	23.9	4.05	2,310	199
600×200	600×200	11	17	22	134.4	106	77,600	2,280	24	4.12	2,590	228
	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
600×300	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
	594×302	14	23	28	222.4	175	137,000	10,600	24.9	6.9	4,620	701
700×300	692×300	13	20	28	211.5	166	172,000	9,020	28.6	6.53	4,980	602
	700×300	13	24	28	235.5	185	201,000	10,800	29.3	6.78	5,760	722
	708×302	15	28	28	273.6	215	237,000	12,900	29.4	6.86	6,700	853
800×300	792×300	14	22	28	243.4	191	254,000	9,930	32.3	6.39	6,410	662
	800×300	14	26	28	267.4	210	292,000	11,700	33	6.62	7,290	782
	808×302	16	30	28	307.6	241	339,000	13,800	33.2	6.7	8,400	915
900×300	890×299	15	23	28	270.9	213	345,000	10,300	35.7	6.16	7,760	688
	900×300	16	28	28	309.8	243	411,000	12,600	36.4	6.39	9,140	843
	912×302	18	34	28	364	286	498,000	15,700	37	6.56	10,900	1,040

생산가능 사이즈 (Available Size)

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등변 γ형강
EQUAL ANGLES (KS D3503, 3515/3502)



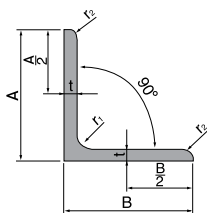
● 치수 및 단위무게 (Dimensions and Unit Weights)

표준단면 치수 Standard Sectional Dimension (mm)				단면적 Sectional Area	단위무게 Unit Weight	중심의 위치 Center of Gravity (cm)		단면2차 모멘트 Moment of Inertia (cm)		단면2차 반지름 Radius of Gyration (cm)		단면계수 Modulus of Section (cm)	
A×B	t	r ₁	r ₂			Cx,Cy	I _x , I _y	max.lu	min.lv	i _x ,i _y	max.lu	min.lv	Z _x , Z _y
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	1.09 451	1.73 451	4.52	5.69	2.91	103	
175×175	12	15	11	40.52	31.8	4.73	1.17 480	1.86 480	5.38	6.78	3.44	91.8	
	15	15	11	50.21	39.4	4.85	1.44 589	2.29 589	5.35	6.75	3.42	114	
200×200	15	17	12	57.75	45.3	5.46	2.18 891	3.47 891	6.14	7.75	3.93	150	
	20	17	12	76	59.7	5.67	2.82 1.16	6.09 1.16	7.68	3.9	197		
	25	17	12	93.75	73.6	5.86	3.42 1.41	6.04 1.41	7.61	3.88	242		
250×250	25	24	12	119.4	93.7	7.1	6.95 11	2.86 11	7.63	9.62	4.9	388	
	35	24	18	162.6	128	7.45	9.11 14.4	3.79 14.4	7.49	9.42	4.83	519	

생산가능 사이즈 (Available Size)

18

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



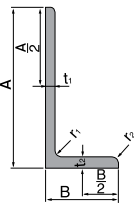
● 치수 및 단위무게 (Dimensions and Unit Weights)

표준단면 치수 Standard Sectional Dimension (mm)				단면적 Sectional Area	단위무게 Unit Weight	중심의 위치 Center of Gravity (cm)		단면2차 모멘트 Moment of Inertia (cm)				단면2차 반지름 Radius of Gyration (cm)				Tanα	단면계수 Modulus of Section (cm)	
A×B	t	r ₁	r ₂			C _x	C _y	I _x	I _y	max.lu	min.lv	I _x	I _y	max.lu	min.lv		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
	15	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
150×90	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)

19

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



● 치수 및 단위무게 (Dimensions and Unit Weights)

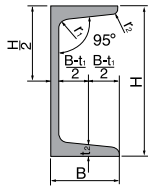
표준단면 치수 Standard Sectional Dimension (mm)				단면적 Sectional Area	단위무게 Unit Weight	중심의 위치 Center of Gravity (cm)		단면2차 모멘트 Moment of Inertia (cm)				단면2차 반지름 Radius of Gyration (cm)				Tanα	단면계수 Modulus of Section (cm)	
A×B	t	r ₁	r ₂			C _x	C _y	I _x	I _y	max.lu	min.lv	I _x	I _y	max.lu	min.lv		Z _x	Z _y
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)

20

ㄷ형강

CHANNELS (KS D3503, 3515/3502)



● 치수 및 단위무게 (Dimensions and Unit Weights)

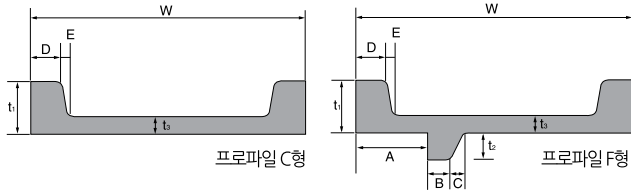
표준단면 치수 Standard Sectional Dimension (mm)					단면적 Sectional Area cm ²	단위무게 Unit Weight kg/m	중심의 위치 Center of Gravity (cm)		단면2차 모멘트 Moment of Inertia (cm ⁴)		단면2차 반지름 Radius of Gyraton (cm)		단면계수 Modulus of Section (cm ³)	
H×B	t	r ₁	r ₁	r ₂			C _x	C _y	I _x	I _y	I _x	I _y	Z _x	Z _y
75×40	5	7	8	4	8.818	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)

21

프로파일

PROFILES



● 화학성분 (Chemical Composition)

화학성분 Chemical Composition (%)					
강종 Grade	호칭치수 Nominal Size	C	Mn	P	S
SS490	PF-C (63.5×4)	-	-	Max. 0.05	Max. 0.05
SS540	PF-F (63.5×4)	Max. 0.3	Max. 1.6	Max. 0.04	Max. 0.04

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

표준단면 치수 Standard Sectional Dimension (mm)	W	A	B	C	D	E	t ₁	t ₂	t ₃	단위무게 Unit Weight (kg/m)
기준치	63.5	-	-	-	7	1	8	-	4	2.36
허용차	±0.5	-	-	-	±0.5	±0.3	±0.5	-	±0.3	±3.5
기준치	63.5	12.5	4	1	5	2	8	6	4	2.56
허용차	±0.5	+0.5	±0.5	±0.5	±0.5	±0.3	±0.5	±0.5	±0.3	±3.5
		-0.3								

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나사봉강

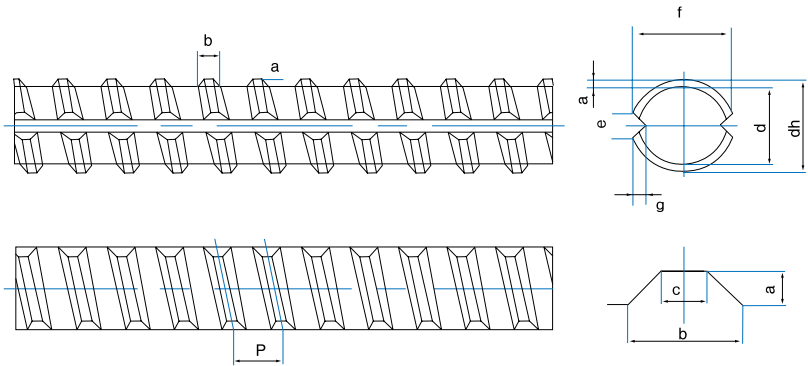
ROCK BOLTS

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

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

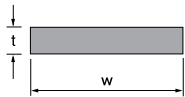
● 형상 및 치수 (Dimensions, Sectional Properties and Tolerance)

호칭치수 Nominal Size	표준단면 치수 Standard Sectional Dimension (mm)	d	dh	e	g	f	a	b	c	p
M25	기준치	24.5	28.5	6.5	1.5	23.5	2	6	4	12
	허용치	±0.3	±0.3	-	-	-	±0.2	-	-	±0.1
M29	기준치	27.5	31.7	5	1.5	27.5	2.1	6	3	14
	허용치	±0.3	±0.3	-	-	-	±0.2	-	-	±0.1



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평강
FLAT BARS (KS D3052)



● 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

● 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	56	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

※ 사전 협의 필요 (Prior Discussion is Required)

24

원형강
ROUND BARS

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

강종 Grade	화학성분 Chemical Composition [%]				
	C	Si	Mn	P	S
SS400	-	-	-	Max. 0.05	Max. 0.05

● 치수 및 단위무게 (Dimensions and Unit Weights)

지름 Diameter (mm)	단면적 Sectional Area (cm²)	단위무게 Unit Weight (kg/m)	지름 Diameter (mm)	단면적 Sectional Area (cm²)	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 (cm²)	단위무게 Unit Weight (kg/m)
HR 60	14.14	11.1
S 22	4.84	3.8

 생산가능 사이즈 (Available Size)

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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

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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)

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

Business Network

동국제강 사업장 주소

Domestic

본사 Head Office

서울 중구 을지로5길 19
(수하동, 페럼타워)
전화:02-317-1114
19 Euljiro 5-gil, Jung-gu, Seoul
(Suha-dong, Ferrum Tower)
Tel : 82-(0)2-317-1114

포항제강소 Pohang Works

경북 포항시 남구 대송면 철강산단로 195
전화:054-278-6111
195 Cheolgangsandan-ro,
Deasong-myeon, Nam-gu,
Pohang, Gyeongbuk
Tel : 82-(0)54-278-6111

인천제강소 Incheon Works

인천광역시 동구 중봉대로 15
전화:032-830-6216
15 Jungbongdae-ro, Dong-gu,
Incheon
Tel : 82-(0)32-830-6216

당진공장 Dangjin Works

충남 당진시 송악읍 고대공단1길 25
전화:041-351-4984
25 Godaegongdan 1-gil,
Songakeup, Dangjin, Chungnam
Tel : 82-(0)41-351-4984

부산공장 Busan Works

부산 사하구 하신번영로 76
전화:051-294-2133
76 Hasinbeonyeong-ro,
Saha-gu, Busan
Tel : 82-(0)51-294-2133

중앙기술연구소 R&D Center

경북 포항시 남구 대송면 건포산업로
3214번길 70
전화:054-271-2710
70 Geonposaneop-ro 3214-gil,
Daesong-myeon, Nam-gu,
Pohang, Gyeongbuk
Tel : 82-(0)54-271-2710



Overseas

LOS ANGELES BRANCH

DONGKUK INTERNATIONAL, INC.
19750 Magellan Drive Torrance, CA,
90502, USA
Tel : 1-310-523-9595
Fax : 1-310-523-9599

NEW YORK OFFICE

DONGKUK INTERNATIONAL, INC.
400 Kelby Street, 11th Floor, Fort
Lee, NJ. 07024, USA
Tel : 1-201-592-8600
Fax : 1-201-947-3999

CSP(Companhia Siderúrgica do Pecém)

Rodovia CE 422, S/N, Km 11.5, São
Gonçalo do Amarante, CE, Brazil
CEP 62670-000
Tel : 55-85-3033-3800
Fax : 55-85-3033-3899

TOKYO BRANCH

DONGKUK CORPORATION
7Floor, Seika Building 2-7-6,
Kayaba-cho, Nihonbashi,
Chuo-Ku, Tokyo 103-0025, Japan
Tel : 81-3-5623-5723
Fax : 81-3-5623-5722

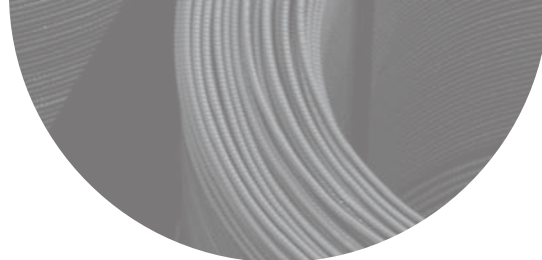
SHANGHAI REPRESENTATIVE OFFICE

DONGKUK STEEL MILL CO., Ltd.
Room 914, Tower A, City Center of
Shanghai No. 100, Zun Yi Road,
Shanghai, China 200051
Tel : 86-21-6229-0114
Fax : 86-21-6229-0221

UAE BRANCH

DONGKUK STEEL MILL CO., Ltd.
#3305, Jumeirrah Business Center
No. 1, JLT. Dubai, UAE
Tel : 971-4-435-7305
Fax : 971-4-435-7306





DONGKUK STEEL BAR IN COIL

DKOIL





DKOIL?

DKOIL is the premium reinforcing bar in coil brand, optimized for bar processing works.

Available sizes

**#3(D10), #4(D13)
#5(D16), #6(D19)**

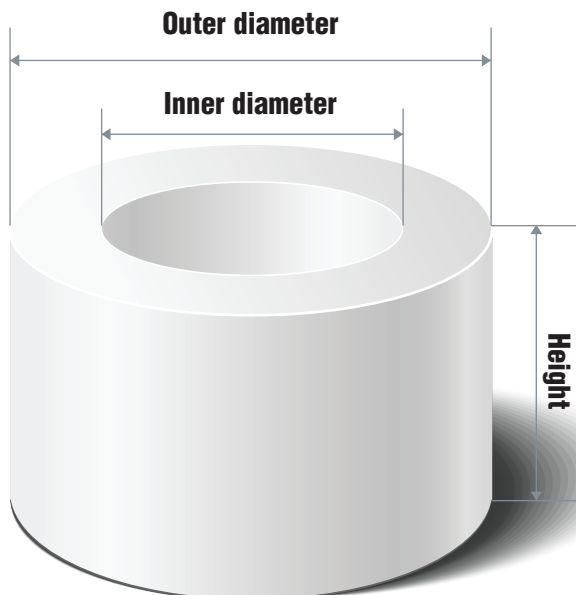
Available steel grades

**ASTM A615, G40~G75,
KS D3504 SD400~SD600,
KS D3504 SD400S~SD600S**

Available unit weights

**1.7 ~ 3.7
ton/coil**

DKOIL Specifications



Dimension	Size(mm)	Note
Outer diameter	1,130~1,330	Depends on unit weight
Inner diameter	900	Fixed dimensions
Height	800	

Features

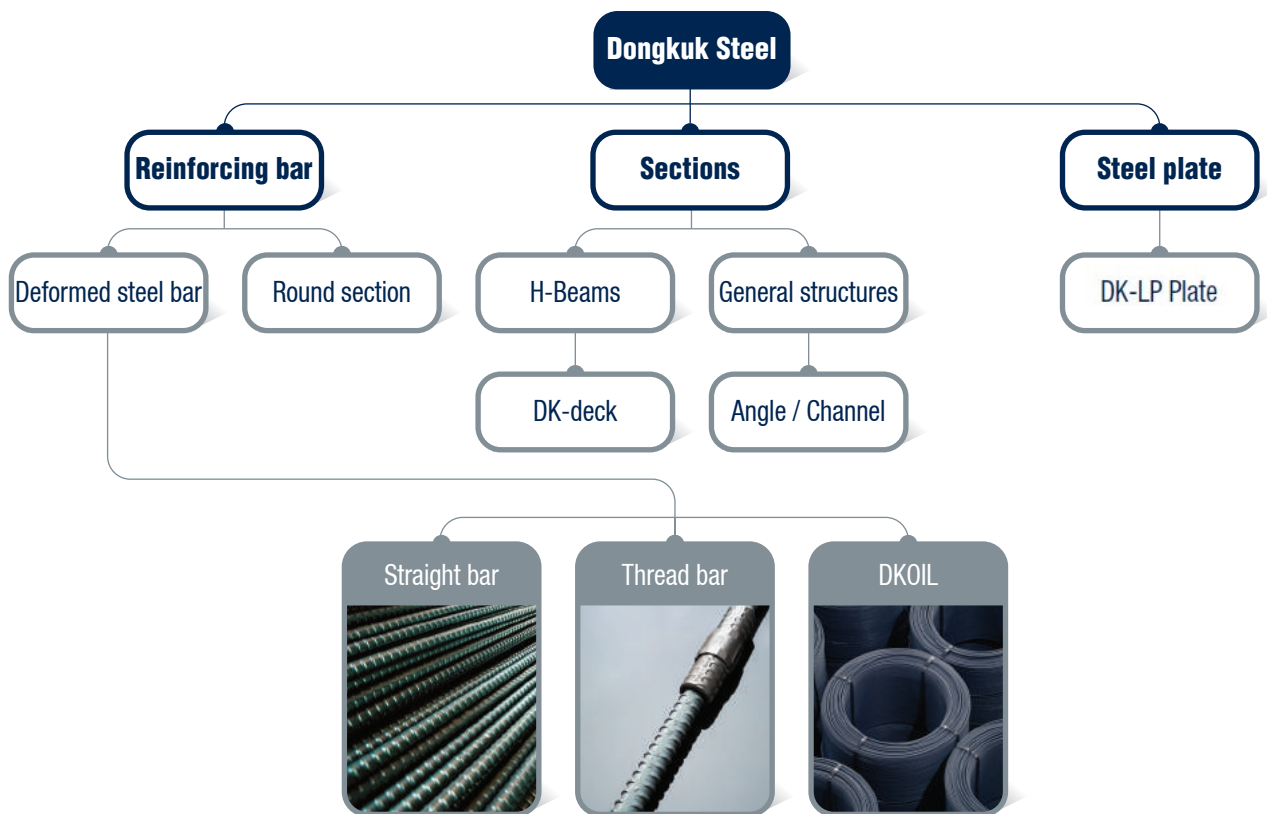
**Efficient
management with
compact type**

Superior straightness

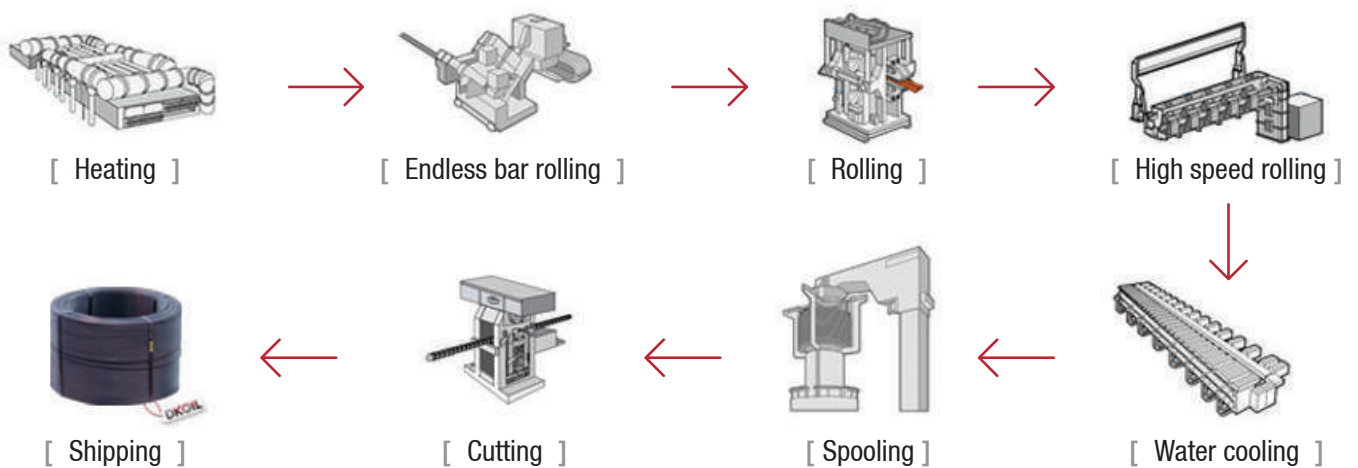
**Maximization of
production efficiency with
massive size**



Products



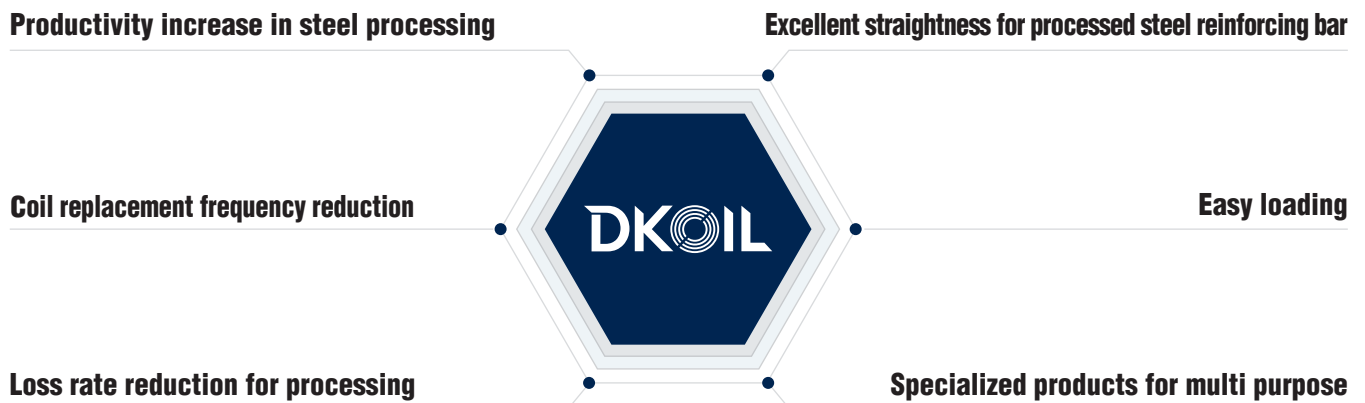
DKOIL manufacturing process





Benefits

Dongkuk Steel produces the highest quality steel coil by integrating the latest steel processing facilities. DKOIL guarantees excellent productivity and straightness with steel coils of high unit weights and greater inner diameters. Dongkuk Steel also is the first developer and commercializer for seismic-resistance bar in coil in Korea.



Supporting for reinforcing bar processing and construction industries

Processing industry

- Improvement of precise processing
- Maximization of production efficiency
- Reduction of costs

Construction industry

- Just-in-time delivery
- Efficient schedule management
(Reduction of construction period)
- Simplification in material management



POSCO Haeundae LCT



LOTTE Icheon Anheung-dong APT



DAELIM Chuncheon Hansup City

Application Case

Construction Company	Project	Scale (household)
POSCO E&C	Busan L City	1,443
GS E&C	Ansan Ggran City	7,653
DAELIM	Chuncheon Hansup City	1,423
LOTTE E&C	Icheon Anheungdong Complex	736
DAEWOO E&C	Uiwang Poil Central Prugio	1,774
HANWHA E&C	Changwon Daewondong APT	1,530
SHINAN	Dasan Jigeum B-3 Insvilage	1,079
SK E&C	Pohang Duho APT	752
JUNGHEUNG	Hwaseong Dongtan B2 block	528

Certification status

Standards	Range of Certificates	Certificate No.	Accredited Unit	Mill	Date of Certificate
ISO 9001:2015	Billets, Blooms, Beam blanks, Sections, Bars	QMS-4456	Korean Standards Association	Head Office, Pohang Works, Pohang Bar Works	2018.06.11
KS Q ISO/IEC 17025	Mechanical Test Chemical Test	KT368	Korea Laboratory Accreditation Scheme	Pohang Works	2008.08.11 (The 1st issue date)
Certificate of registration	Reinforcing Steel Bar	201801724	KHNP(Korea Hydro&Nuclear Power)	Pohang Works	2018.11.27
KEPIC	KEPIC-SN	DN-280	KEA(Korea Electronic Association)	Bar Mill, Pohang Works	2018.11.15
KS	KS D 3504 SD300(D41 ↓), SD400, 500 (D51 ↓), SD400W, SD500W (D51 ↓) SD600, SD700 (D57 ↓) SD400S, SD500S, SD600S (D32 ↓)	NO.380	KSA(Korean Standards Association)	Bar Mill, Pohang Works	2019.01.23
JIS	JIS G 3112 SD295A, SD345, SD390, SD490	CRKR18008	KTR(Korea Testing&Research Institute)	Bar Mill, Pohang Works	2019.02.15



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