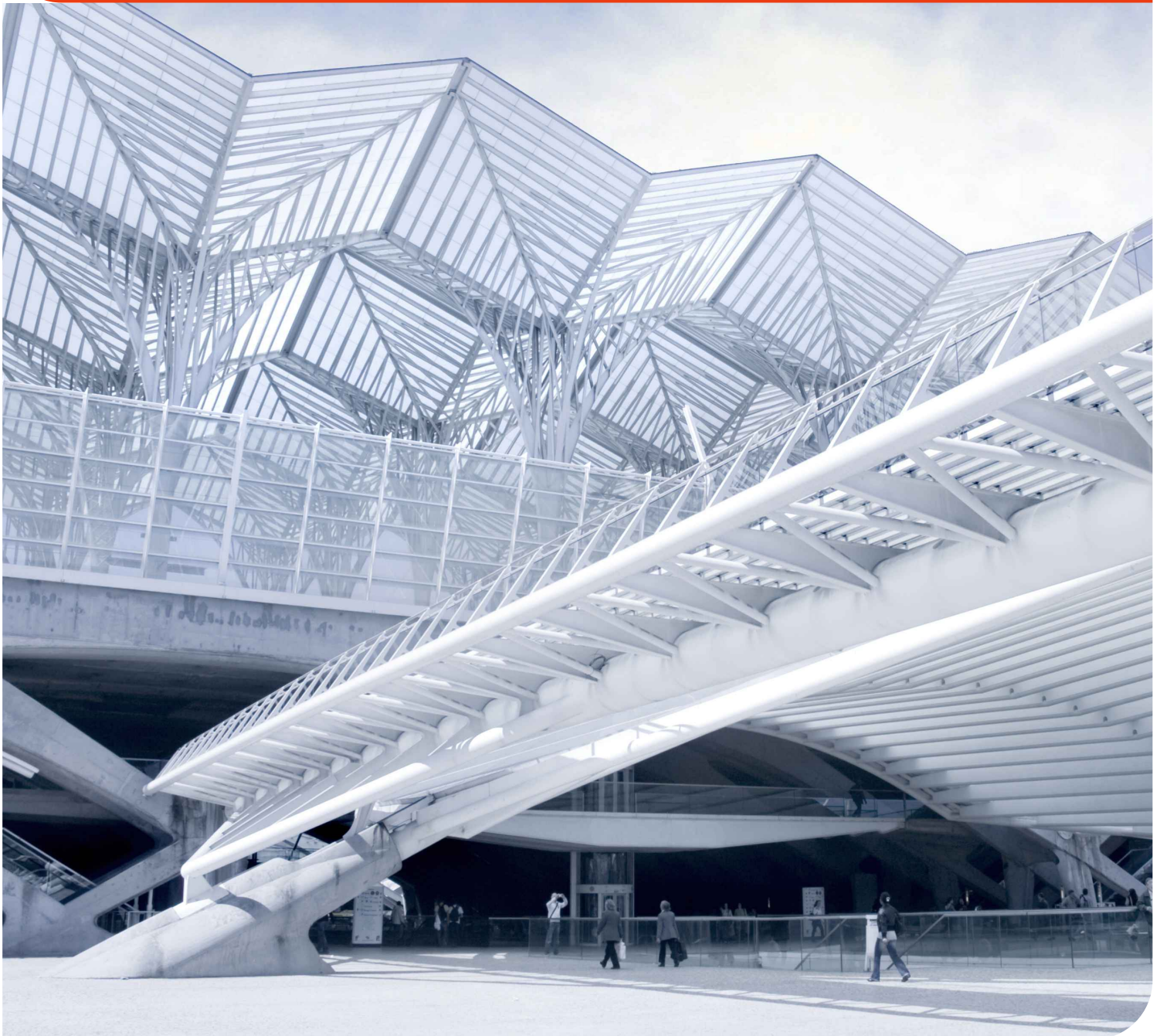
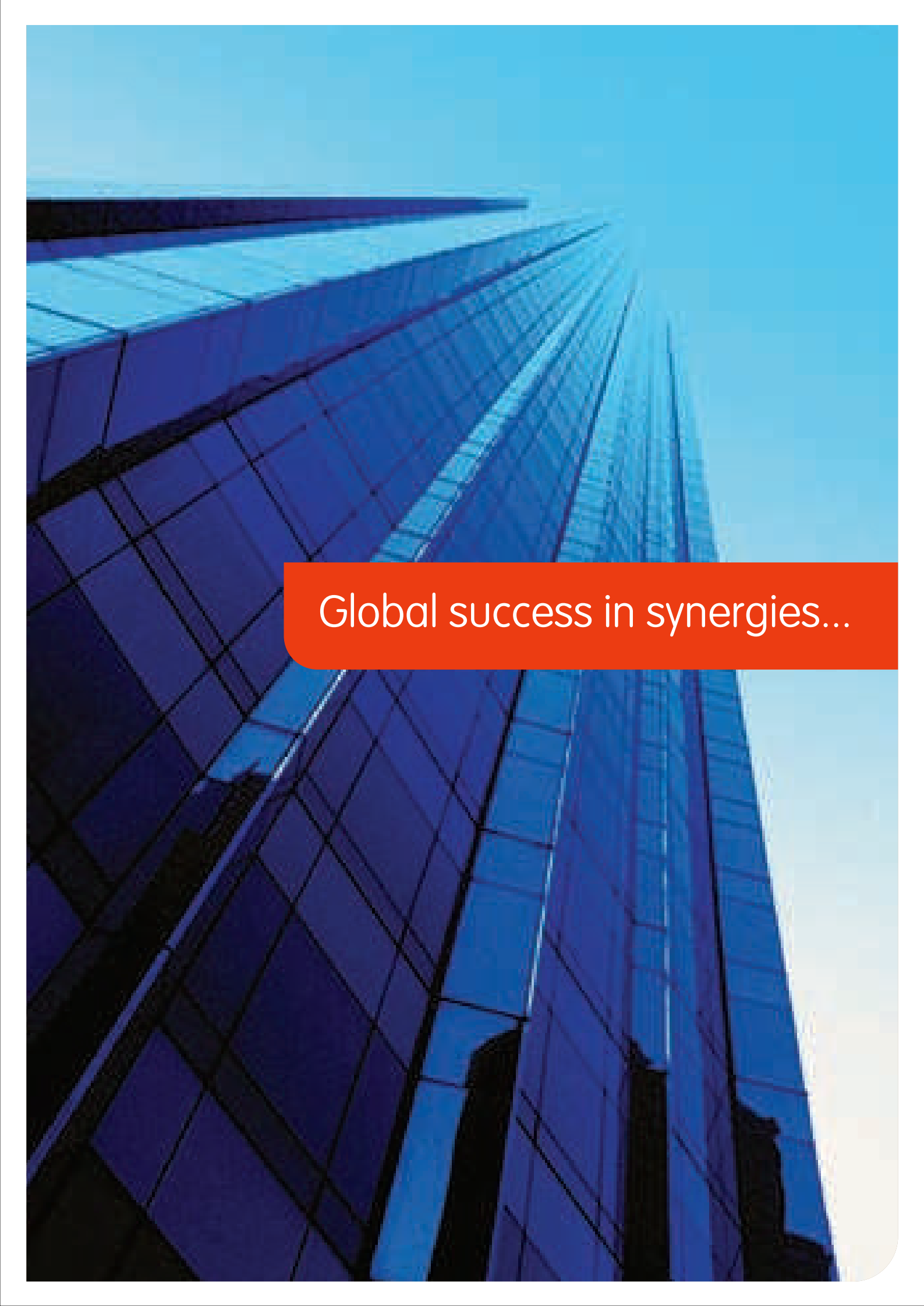




ArcelorMittal  
Distribution Solutions  
**R O Z A K**

Freedom of Amazing Variety



A low-angle, upward-looking shot of a modern skyscraper with a glass facade. The building's lines converge towards the top of the frame, creating a sense of height and scale. The sky is a clear, bright blue. An orange rectangular banner is positioned in the middle of the image, containing white text.

Global success in synergies...

Established in 1983, Rozak Demir Profil Tic. ve San. Tic. A.Ş., by merging with ArcelorMittal Distribution Solutions in 2008, became the largest iron & steel distribution and service center of Europe's biggest iron & steel distribution network with its inventory volume heading up to 200 thousand tons and a variety of products over 1000.

AMDS-ROZAK provides services of import and domestic product range via storage facilities in various strategic regions throughout Turkey like Gebze, İkitelli, Karadeniz Ereğli, in all areas where there is need for iron & steel products, from construction industry to machinery production and shipbuilding industry. Besides the standard products, materials on project basis with specific steel grade and dimensions can also be supplied.

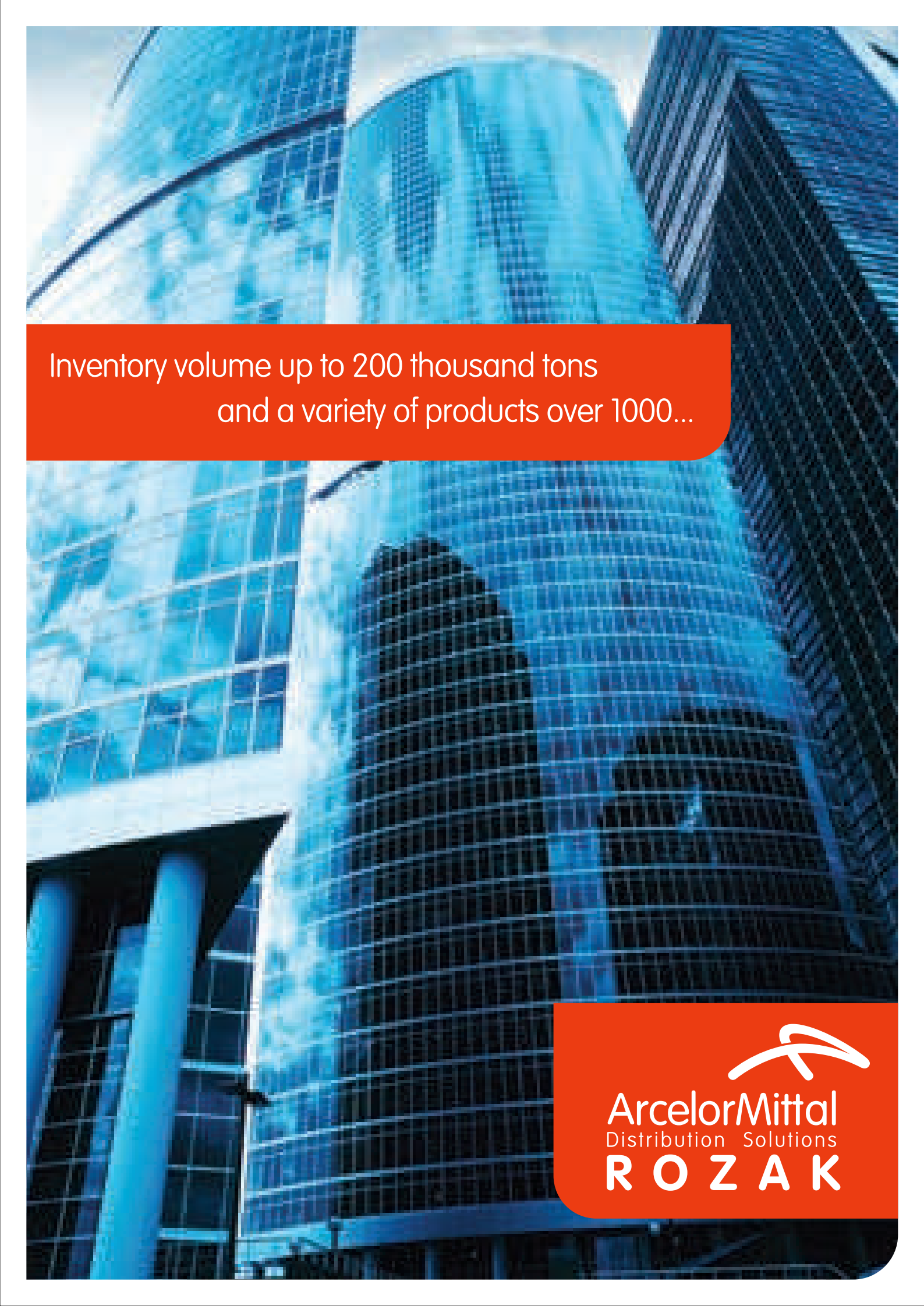
AMDS-ROZAK has reached to a leadership position in Turkish iron & steel market by customer value oriented, fast, innovative service approach which integrates with technology. Still not satisfied with these, giving priority to "continuous education" and "continuous development" within the direction of objectives brings global success to the Company.

The main objective of AMDS-ROZAK is to increase service quality. In order to reach this, the Company became a member of Turkish Constructional Steel Association (TUCSA) and is actively participating in and supporting their facilities with great contributions.

AMDS-ROZAK, being the first seller organization to be given the TUCSAMARK certificate in Turkey, acts upon focusing on absolute customer satisfaction, and by being the quality leader in material supply, with principals of continuity, speed and confidence.

To many future projects and synergies...

Best regards.



Inventory volume up to 200 thousand tons  
and a variety of products over 1000...



ArcelorMittal  
Distribution Solutions  
**R O Z A K**

# PRODUCT RANGE

Domestic and Import Materials;  
Available stocks in standard steel grades;  
S235 (St37.2), S275 (St44.2), S355 (St52.3)  
Upon request availability in special dimensions and steel grades  
for your projects.

## European Wide Flange Profiles

- HEA – HEB – HEM 100 - 1000 mm
- HD Wide Flange Columns, 260 - 400 mm
- HL Extra Wide Flange Beams, 920 - 1100 mm

## European I & U Profiles

- IPE 80 - 750 mm
- UPE 80 - 400 mm

## European Standard I & U Profiles

- IPN 80 - 600 mm
- UPN 40 - 400 mm

## Merchant Profiles

- Equal Angles, 20 - 250 mm
- Unequal Angles, 45 - 200 mm
- Equal Flange Tees, 30 – 80 mm
- Flat Bars 10 - 300 mm
- Square 6 – 250 mm
- Transmission Bars 6 - 200 mm
- Round Bars 5-250 mm

## Flat Products

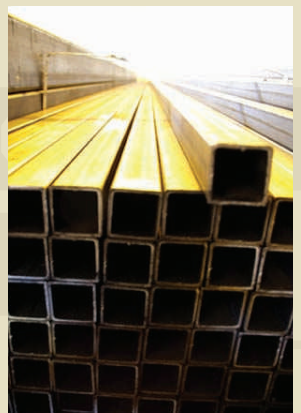
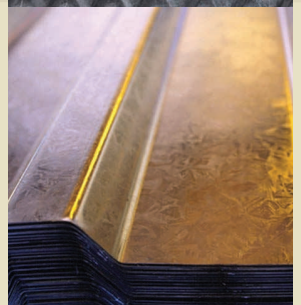
- Hot Rolled Plates, 1,5 to 200 mm Thickness & Width of 1000 mm to 3000 mm
- Hot Rolled Coils and Hot Rolled Sheets
- Cold Rolled Coils and Cold Rolled Sheets
- ALUZINC, Galvanized, PPGI
- Pressure Vessels, Pipeline, Shipbuilding Plates
- Boiler Plates, according to ASTM and EN
- Abrasion Resistance Plates
- Atmospheric Corrosion Resistance Plates
- Other (DKP – Diamond - Teardrop)

## Hollow Section Profiles

- CHS-Circular Hollow Sections, 10 - 406.7 mm
- SHS-Square Hollow Sections, 10 - 400 mm
- RHS-Rectangular Hollow Sections, 10\*20 - 500\*300 mm

## Hot Rolled Crane Rails

- A 45 - A 150, European Norm Crane Rails
- CR 104 - CR 175, American Norm Crane Rails
- MRS 73 - MRS 221, Special Crane Rails
- Other Crane Rails (GCRD 42 - 45, GCR 108 – 183)
- Accessories, Clips and Pads



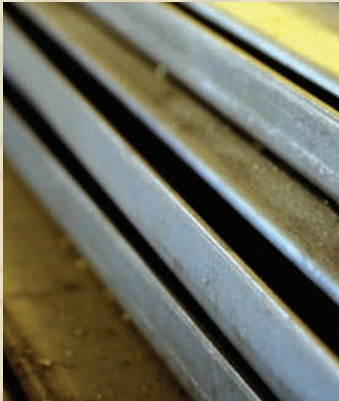


### **Hot Rolled Steel Sheet Piles**

- U Sections, PU 6R - PU 32, 600 mm width; AU 14 - AU 26, 750 mm width
- Z Sections, AZ 12 - AZ 50
- Straight Web Sections, AS 500
- HZ Pile Wall Systems, 575-975 mm
- Box Pile Wall Systems, CAZ, CAU; U and AZ "Jagged" Wall
- HZ-AZ Combined Wall Systems

### **European Norm Wide Flange Bearing Piles**

- HP 200 - 360 mm



### **Fabricated Profiles**

- IFB Integrated Floor Beams, 120 - 334 mm
- SFB Slim Floor Beams, 140 - 340 mm
- ACB Castellated Beam with Circular Opening
- Angelina™ Castellated Beams with Sinusoidal Opening
- Castellated Beams with Hexagonal or Octagonal Opening
- Shot Blasted and Prime Coated Beams
- Cambered or Curved Beams

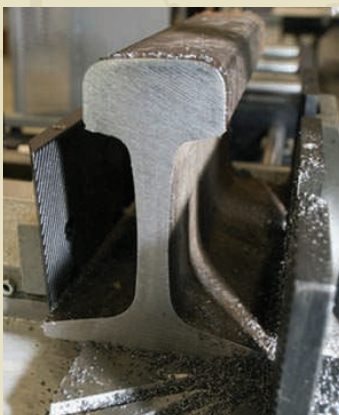
### **Fabricated Plates**

- Shot Blasted and Prime Coated Plates
- Guillotine (0,80 - 12 mm), Abgant Bending (12 mm), Cold Bending
- CNC, Plasma (25mm) - Oxygen (200mm) Cutting
- Corrugated and Trapezoidal Floor Deck
- Facade and Roofing Panels, Sheets and Profiles



### **Wire Products**

- Low Carbon Steel Wires: Bright, Coppered, Annealed, Galvanized, PVC coated
- High Carbon Steel Wires
- Spring Wires
- Oil Tempered Wires
- High Carbon Strands&Ropes
- Flat&Shaped Wires
- Steel Fibres for Flooring and Shotcrete Applications
- Prestressed Concrete Wires and Strands
- CrapalOptimum® Vineyard Wires



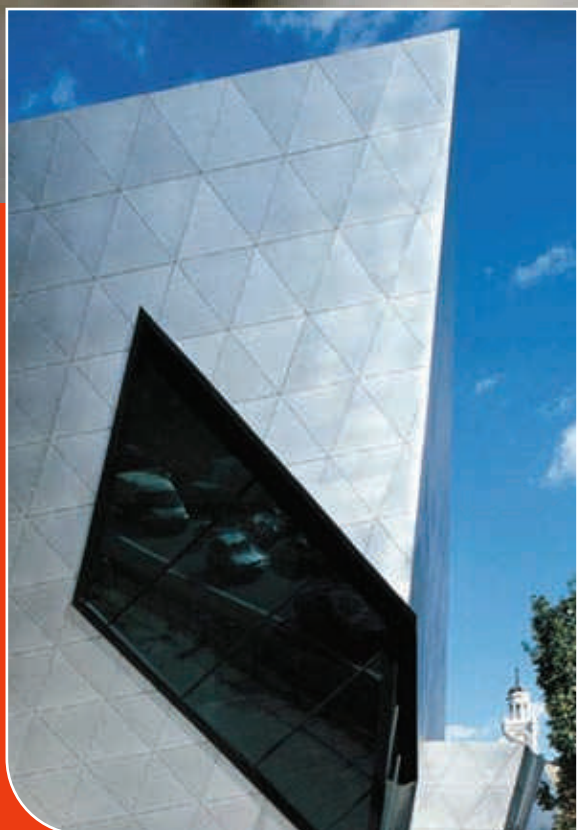
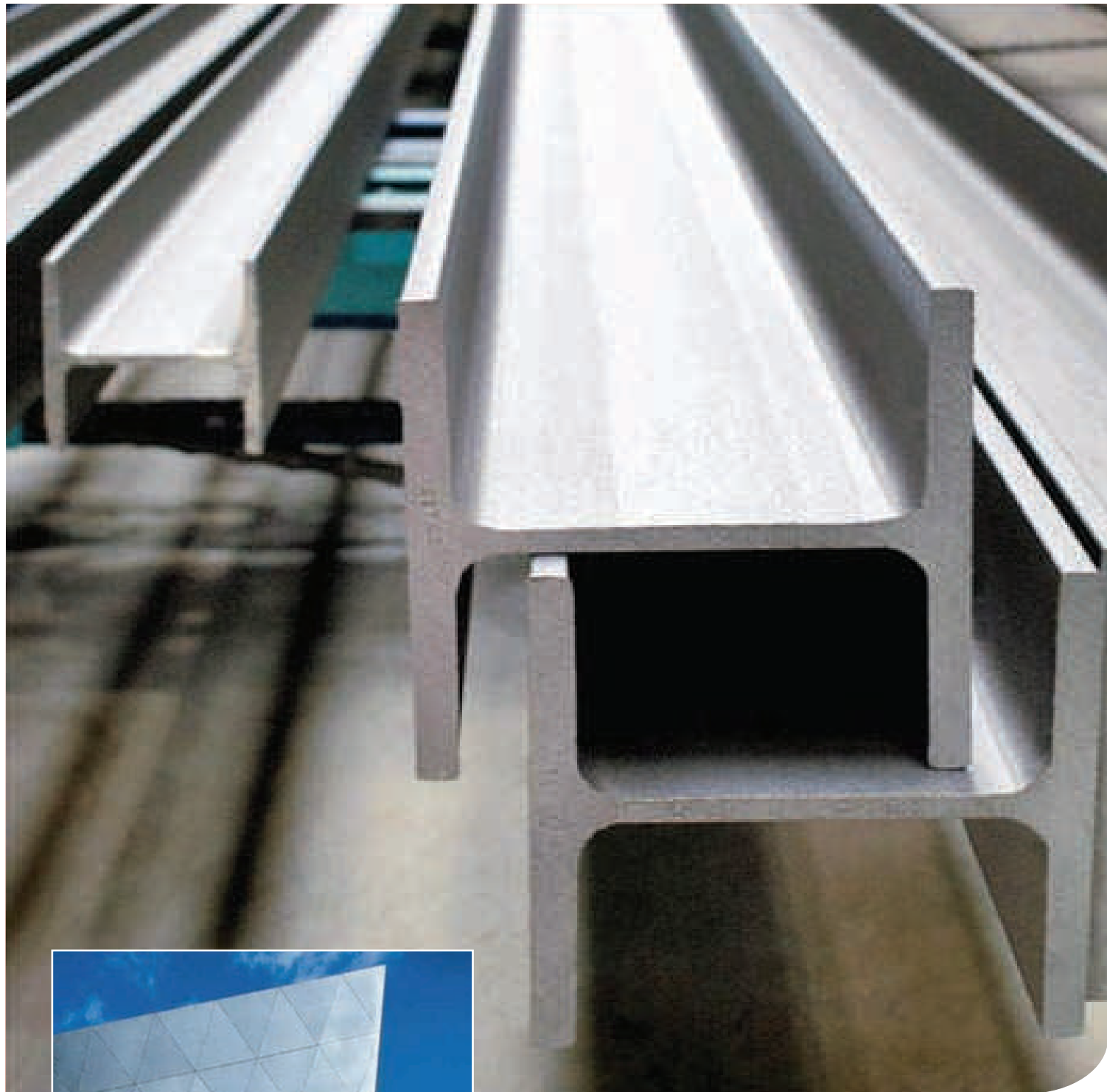
### **Mining Sections**

- Rockbolts, 16 - 25 mm
- TH Profiles, TH 13 - TH 44/58
- I Profiles, GI 100 - GI 130, W Sections, PH 140, American Norm, 4 - 6 inc
- Connection Accesories

### **Other Products**

- Reinforcement Bars (Bar - Rebar)
- Decorative Iron (Wrought Iron - Pressed Metal Sheet)
- Extended - Perforated - Metal Sheet
- Böhler Welding Electrods





  
ArcelorMittal  
Distribution Solutions  
**ROZAK**



# Steel in life and architecture



Steel is among the first alloys following the discovery of iron. An alloy obtained by the elements Iron (Fe) and Carbon (C), steel is a part of our daily life with products produced by using different production technologies. The industrialization of world countries have accelerated fast since the discovery of steel. The most important reasons why steel is preferred as a part of daily life are;

- Sensitivity to thermal processes,
- Being easily shaped,
- Being able to be coated with metals, plastic, enamel and paint.

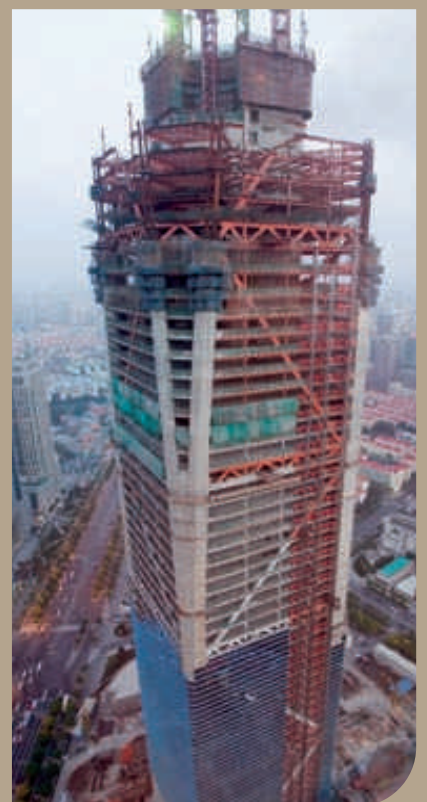
Thanks to its property of easy processing, steel is the indispensable material of many industries and sectors from defense industry to automotive and white appliances industries, from machinery industry to shipbuilding and construction sectors.

The usage of steel in architecture and buildings go back to the period between 18th & 19th centuries. The emerging of the steel which can be used in buildings (meaning structural steel) corresponds to the second half of 1800's. The wide span bridges, big stations and high skyscrapers constructed by using such structural steel still stays standing today. The usage of structural steel in our country began with the usages in constructions of railways and train stations, in penstocks and dam shutters, and from the houses we live in to the shopping centers in which we shop; from the plants, power plants and industrial buildings in which we work to the ports and terminal buildings to or from which we travel or make transportation and to the roofs of stadiums where we enjoy the sports events; from the highway and railway system bridges over which we travel to high buildings; today structural steel is being used in the construction of such facilities surrounding us. Almost all of these facilities are being constructed within the leadership of large contractors of our country by our structural steel work companies which possess fabrication technologies equivalent to the EC standards and which continuously modernize themselves.





Steel  
Structure  
means...



The concrete based building culture in many countries has started giving way to the approach of **“using the right materials at the right places”**.

New generation structural steel is essential for contemporary and future modern buildings. Just as the reinforcement steel bars are indispensable for reinforced concrete in terms of its contributions to the capacity of the concrete section and therefore to the economy of the building, the contribution of compositely using structural steel and concrete together to the building economy can never be ignored.

In other words, to transform the composite usage of the structural materials by acknowledging and apprehending their nature into an advantage would yield to the optimum architectural, engineering and economical results.

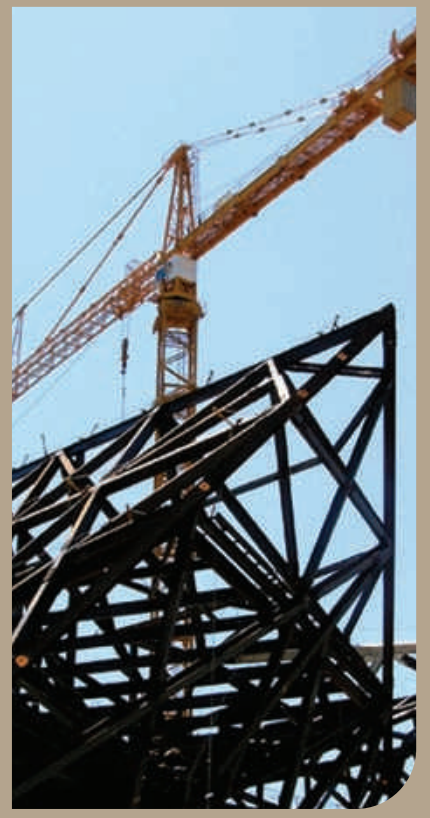
We could list the advantages of using structural steel under a number of main headings.

### **Architectural advantages**

- Easy usage of the aesthetic, authentic and creative forms the architect might visualize...
- Being the indispensable construction material for very high and magnificent buildings...
- Wider, more capacious and more functional usage areas with less number of columns...
- Larger net usage area with columns having smaller cross sections...
- The eases it brings on large floor openings and extensive technical service details...
- Being structurally flexible and easy to adapt to functional changes...

### **Advantages in terms of Engineering and Earthquake**

- Probable earthquake effects on the building being proportionally less due to the reason that the weight of steel structures being 40-60% lighter than conventional structures...
- Again due to its lightness, sufficiency of smaller foundation sizes and excavation depths even under worse soil conditions...
- Ductility of steel structures, meaning to be able to achieve larger deformations without collapsing, ability to survive through possible earthquakes with minimum damage, without collapsing and losing its load bearing property...
- Easy and fast repair of the damages occurred (if any) after possibly big earthquakes...
- Easy adaptation of various energy dissipating steel systems against earthquakes...
- In case when heavy parts are required in any part of the building such as a pool, practical transfer of such extraordinarily heavy loads to the foundation by carrying them via lighter bearing systems...
- The elements and materials of the steel structure, which are produced in the plants under tight and continuous inspections with the reliance compliant to the quality programs required by the specifications, can easily be checked even with the naked eye and even after their installations...
- All works, that are carried out, is able to be controlled and documented...



### **Advantages in terms of Job-site and Logistics Planning**

- Quick implementation without the need for use of forming, molding and scaffolding...
- Being mostly independent of weather conditions, easy installation even in challenging winter conditions...
- Clean and comfortable installation opportunity in restricted and narrow job-site conditions...
- Structural steel to be controllable, testable and certifiable during all phases from production to processing and installation and even during usage as a building...
- Low tolerances in its measurement, less problems, less repairs, clean and easy application...
- Easy transportation with smaller and lighter vehicles, depending on the project...

### **Economical Advantages**

- Not cheap, but economical due to fast building construction...
- Completing the projects in half time when compared with conventional construction implementations, depending on the project and the cash flow...
- Earlier return on investment in comparison with the conventional systems...
- Columns with smaller dimensions provide more net usage area i.e. rentable area when compared with conventional buildings...
- Increased net usage area, flexible interior space, installation of fittings in an easy to replace manner, all these yielding to higher marketability and market value of the building...
- Opportunity to construct more layers for the same heights due to thin integrated flooring system options...

### **Advantages in terms of Building Life and Renewability**

- Steel structures enabling every kind of structural changes, be it big or small, like changes, repairs, support or disassembling of the components...
- Reusability property of structural steel, meaning demounting and being used in another project...
- Easy implementation of changing user demands and technological changes over time, thus longer technological and economical life times for steel structures...
- Structural renewals and necessary reinforcements due to changing intentions of usage being easier to be implemented even when the building is in use...

### **Environmental Advantages**

- When compared to other construction materials, the least harmful material to the environment in each phase from production to construction, not harmful to health, 100% recyclable ...
- Recycle opportunity with no loss by melting...
- Leaving no wastes or scrap, producing no contamination or toxicants...
- The best adapting material to sustainable design of buildings...



Let's design your steel  
building together...



Our technical team with more than 100 years of technical experience is ready to share **creative** and **economical steel solutions** with you.

We are happy to provide free technical advice during project and design development stages of your projects to optimise the use of our products and to answer your questions about the use of sections and merchant bars.

This technical advice covers the design of structural elements, construction details, surface protection, fire safety, metallurgy and welding. Our specialists are ready to support your initiatives anywhere in the world.



To facilitate the design of your projects, we also offer software and technical documentation that you can consult or download from our website. You can reach 7/24 to our expert engineers whenever you need additional technical information.

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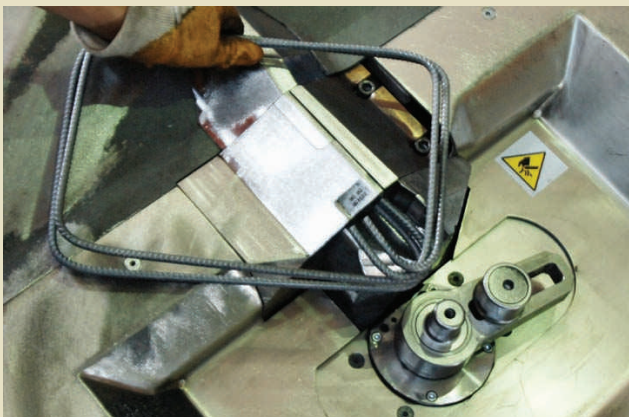
Safer buildings with ready  
steel reinforcement rebars...

The process of preparing the reinforcing bars used in constructions by bending them manually are now done by the automated reinforcing bar preparing machines. With these machines, the reinforcing bars can be bended with appropriate angles without reducing their diameters or specifications.

With machines having the highest technology and quality in their sectors, we can deliver to your job-site all kinds of rebars, from stirrups and bent-up bars used in columns, beams and slabs to bore pile reinforcements of foundation applications as ready and in a convenient state for your project specification.

The losses and wastes in terms of rebar calculations and the errors in your projects are brought down to zero with the modeling made under the control of our expert engineers by using advanced software. A "check up" of rebar usage values in your project are provided in this way.

- 0% excess material with production compliant with your project...
- Savings on labor and time up to 50%...
- Due to production appropriate for the project, prevention of unnecessary concrete usages by noticing of possible molding mistakes...
- Enabling minimum finance cost by purchasing only the necessary quantity of rebar at necessary times by following up your project...
- A cleaner and tidier site environment by delivering only the sufficient reinforcement to the job-site...
- Savings on machinery and equipment...
- Compliance with the quality and technique with the production made in plant fabrication environment...
- Production compliant with TSE 708 and same strength on every point due to correct bending diameters...



# Non-Alloy Structural Steels According to European Standard

## Mechanical Properties of Steel Grades for Flat and Long Products

| Norm            | Grades                            | Minimum yields strength R <sub>eH</sub><br>N/mm <sup>2</sup> |            |            |            |             |              |              | Tensile Strength R <sub>m</sub><br>N/mm <sup>2</sup> |            |              |             | Miniumum Elongation<br>Lo=5,65√S <sub>o</sub><br>% |            |             |              |              | Notch Impact<br>Test |                               |
|-----------------|-----------------------------------|--------------------------------------------------------------|------------|------------|------------|-------------|--------------|--------------|------------------------------------------------------|------------|--------------|-------------|----------------------------------------------------|------------|-------------|--------------|--------------|----------------------|-------------------------------|
|                 |                                   | Nominal Thikness (mm)                                        |            |            |            |             |              |              | Nominal Thikness (mm)                                |            |              |             | Nominal Thikness (mm)                              |            |             |              |              | Temp.                | Minimum<br>Absorbed<br>energy |
|                 |                                   | ≤16                                                          | >16<br>≤40 | >40<br>≤63 | >63<br>≤80 | >80<br>≤100 | >100<br>≤150 | >150<br>≤200 | <3                                                   | ≥3<br>≤100 | >100<br>≤150 | >50<br>≤200 | ≤3<br>≤40                                          | >40<br>≤63 | >63<br>≤100 | >100<br>≤150 | >150<br>≤200 | °C                   | J                             |
| EN 10025-2:2004 | S 235 JR<br>S 235 J0<br>S 235 J2* | 235                                                          | 225        | 215        |            |             | 195          | 185          | 360-510                                              | 360-510    | 350-500      | 340-490     | 26                                                 | 25         | 24          | 22           | 21           | +20<br>0<br>-20      | 27<br>27<br>27                |
|                 | S275 JR<br>S275 J0<br>S275 J2*    | 275                                                          | 265        | 255        | 245        | 235         | 225          | 215          | 430-580                                              | 410-560    | 400-540      | 380-540     | 23                                                 | 22         | 21          | 19           | 18           | +20<br>0<br>-20      | 27<br>27<br>27                |
|                 | S355JR<br>S355J0                  | 355                                                          | 345        | 335        | 325        | 315         | 295          | 285          | 510-680                                              | 470-630    | 450-600      | 450-600     | 22                                                 | 21         | 20          | 18           | 17           | +20<br>0             | 27<br>27                      |
|                 | S355J2<br>S355K2                  |                                                              |            |            |            |             |              |              |                                                      |            |              |             |                                                    |            |             |              |              | -20<br>-20           | 27<br>40                      |
|                 | S450J0                            | 450                                                          | 430        | 410        | 390        | 380         | 380          | -            | -                                                    | 550-720    | 530-700      | -           |                                                    | 17         |             |              | -            | 0                    | 27                            |

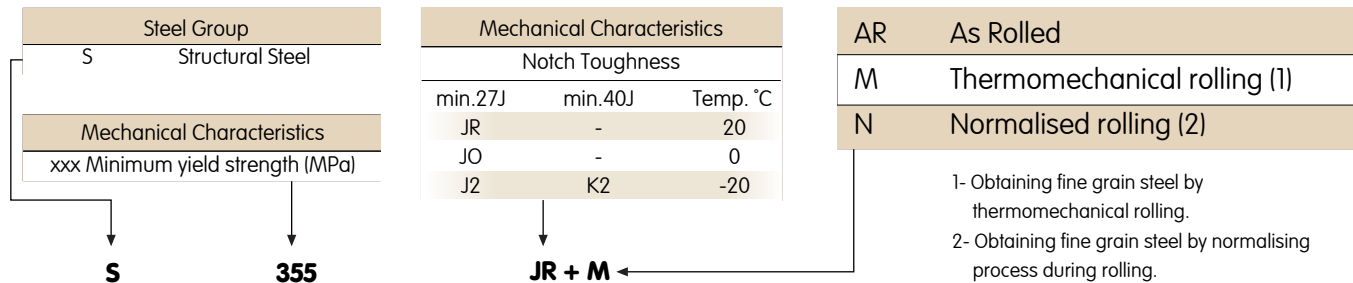
\*Available upon agreement. Subject to final confirmation of the mills.  
This table is taken from EN-10025-2:2004. Additional information about the values, options and special conditions are given in this Norm in detail.

## Chemical Properties of Steel Grades for Flat and Long Products

| Norm | Grade | C<br>max<br>%          |            |     | Mn<br>max<br>% | Si<br>max<br>% | P<br>max<br>% | S<br>max<br>% | N<br>max<br>% | Cu<br>max<br>% | Other<br>max<br>% | CEV<br>max<br>%        |            |             |              |
|------|-------|------------------------|------------|-----|----------------|----------------|---------------|---------------|---------------|----------------|-------------------|------------------------|------------|-------------|--------------|
|      |       | Nominal Thickness (mm) |            |     |                |                |               |               |               |                |                   | Nominal Thickness (mm) |            |             |              |
|      |       | ≤16                    | >16<br>≤40 | >40 |                |                |               |               |               |                |                   | ≤30                    | ≤30<br>≤40 | >40<br>≤150 | >150<br>≤200 |

|                 |           |      |      |      |      |       |       |       |       |      |      |      |      |      |      |
|-----------------|-----------|------|------|------|------|-------|-------|-------|-------|------|------|------|------|------|------|
| EN 10025-2:2004 | S 235 JR  | 0.17 | 0.17 | 0.20 | 0.40 | -     | 0.035 | 0.035 | 0.012 | 0.55 | -    | 0.35 | 0.35 | 0.38 | 0.40 |
|                 | S 235 J0  | 0.17 | 0.17 | 0.17 | 0.40 | -     | 0.030 | 0.030 | 0.012 | 0.55 | -    | 0.35 | 0.35 | 0.38 | 0.40 |
|                 | S 235 J2* | 0.17 | 0.17 | 0.17 | 0.40 | -     | 0.025 | 0.025 | -     | 0.55 | -    | 0.35 | 0.35 | 0.38 | 0.40 |
|                 | S275 JR   | 0.21 | 0.21 | 0.22 | 0.50 | -     | 0.035 | 0.035 | 0.012 | 0.55 | -    | 0.40 | 0.40 | 0.42 | 0.44 |
|                 | S275 J0   | 0.18 | 0.18 | 0.18 | 0.50 | -     | 0.030 | 0.030 | 0.012 | 0.55 | -    | 0.40 | 0.40 | 0.42 | 0.44 |
|                 | S275 J2*  | 0.18 | 0.18 | 0.18 | 0.50 | -     | 0.025 | 0.025 | -     | 0.55 | -    | 0.40 | 0.40 | 0.42 | 0.44 |
|                 | S355JR    | 0.24 | 0.24 | 0.24 | 0.60 | 0.55  | 0.035 | 0.035 | 0.012 | 0.55 | -    | 0.45 | 0.47 | 0.47 | 0.49 |
|                 | S355J0    | 0.20 | 0.20 | 0.22 | 0.60 | 0.55  | 0.030 | 0.030 | 0.012 | 0.55 | -    | 0.45 | 0.47 | 0.47 | 0.49 |
|                 | S355J2    | 0.20 | 0.20 | 0.22 | 0.60 | 0.55  | 0.025 | 0.025 | -     | 0.55 | -    | 0.45 | 0.47 | 0.47 | 0.49 |
|                 | S355K2    | 0.20 | 0.20 | 0.22 | 0.60 | 0.55  | 0.025 | 0.025 | -     | 0.55 | -    | 0.45 | 0.47 | 0.47 | -    |
| S450J0          | 0.20      | 0.20 | 0.22 | 0.70 | 0.55 | 0.030 | 0.030 | 0.025 | 0.55  | -    | 0.47 | 0.49 | 0.49 |      |      |

\*Available upon agreement. Subject to final confirmation of the mills.  
This table is taken from EN-10025-2:2004. Additional information about the values, options and special conditions are given in this Norm in detail.





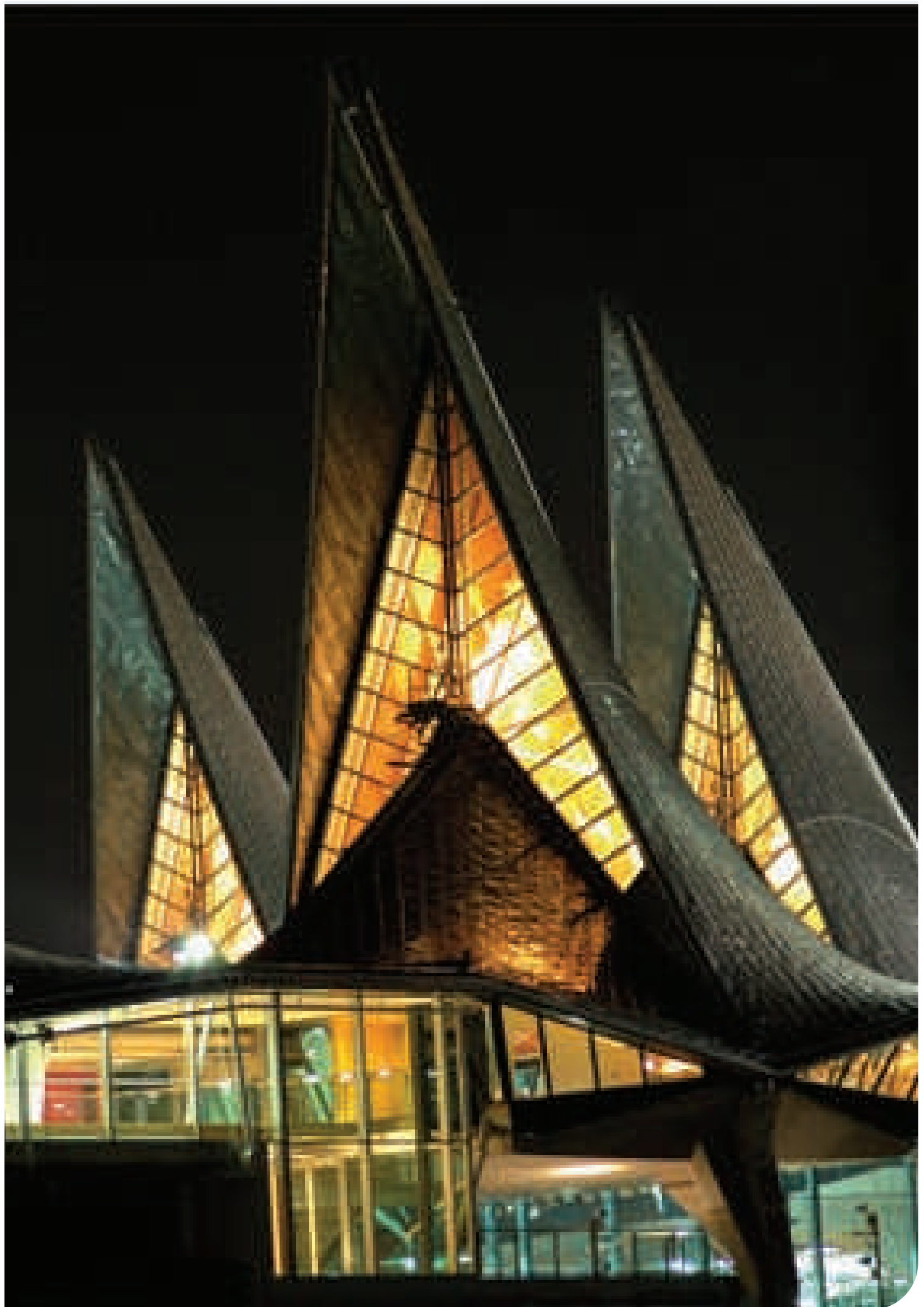
# COMPARISON TABLES OF TYPICAL STEEL GRADES

## STRUCTURAL STEEL GRADES

| EUROPE    |          |             | GERMANY   | FRANCE     | ITALY    | U.K.    | U.S.                      | JAPAN     |           | RUSSIA      |
|-----------|----------|-------------|-----------|------------|----------|---------|---------------------------|-----------|-----------|-------------|
| Material# | EN 10025 | EN10025(90) | DIN 17100 | NFA 35-501 | UNI 7070 | BS 4360 | ASTM                      | JIS G3101 | JIS 3106  | GOST 380-94 |
| 1.0035    | S185     | Fe 310-0    | St 33     | A 33       | Fe 320   |         | A 283 A / A 569 C         | SS 330    |           |             |
| 1.0037    | S235JR   | Fe 360 B    | St 37-2   | E 24-2     | Fe 360 B | 40 A    | A 283 C / A 570 Gr 33, 36 | SS 400    |           | St2sp; ps   |
| 1.0038    | S235JRG2 | Fe 360B(FN) | RSt 37-2  | E 24-2 NE  |          | 40 B    | A 570 Gr 36               |           | SM 400A   | St3ps; sp   |
| 1.0114    | S235 J0  | Fe 360 C    | St 37-3 U | E 24-3     | Fe 360 C | 40 C    |                           |           | SM 400B   |             |
| 1.0116    | S235J2G3 | Fe 360 D1   | St 37-3 N | E 24-4     | Fe 360 D | 40 D    | A 515 Gr 55 / A573 Gr 70  |           |           | St3kp       |
| 1.0117    | S235J2G4 | Fe 360 D2   |           |            |          |         |                           |           |           |             |
| 1.0044    | S275JR   | Fe430 B     | St 44-2   | E 28-2     | Fe 430 B | 43 B    | A 283 D                   | SS 490    |           | St4ps; sp   |
| 1.0143    | S275JO   | Fe430 C     | St 44-3 U | E 28-3     | Fe 430 C | 43 C    | A 578 Gr 70 / A 572 Gr 42 |           |           |             |
| 1.0144    | S275J2G3 | Fe 430 D1   | St 44-3 N | E 28-4     | Fe 430 D | 43 D    | A 633 Gr A                |           |           | St4kp       |
| 1.0145    | S275J2G4 | Fe 430 D2   |           |            |          |         |                           |           |           |             |
| 1.0045    | S355JR   | Fe 510 B    |           | E 36-2     | Fe 510 B | 50 B    | A 572 Gr 50 / A 678 Gr A  |           | SM 490A   |             |
| 1.0553    | S355JO   | Fe 510 C    | St 52-3 U | E 36-3     | Fe 510 C | 50 C    | A 441                     |           | SM 490B   |             |
| 1.0570    | S355J2G3 | Fe 510 D1   | St 52-3 N |            | Fe 510 D | 50 D    |                           |           | SS 490 C  | 17GS        |
| 1.0577    | S355J2G4 | Fe 510 D2   |           |            |          |         |                           |           | SS 490 YA |             |
| 1.0595    | S355K2G3 | Fe 510 DD1  |           | E 36-4     |          | 50 DD   |                           |           | SS490 YB  |             |
| 1.0596    | S355K2G4 | Fe 510 DD2  |           |            |          |         |                           |           | SM 520 B  |             |
| 1.0050    | E295     | Fe 490-2    | St 50-2   | A 50-2     | Fe 490   |         | A 570 Gr 50 / A 572 Gr 50 | SS 500    |           | St5ps; sp   |
| 1.0060    | E335     | Fe 590-2    | St 60-2   | A 60-2     | Fe 590   |         |                           |           | SM 490A   | St6ps; sp   |
| 1.0070    | E360     | Fe 690-2    | St 70-2   | A 70-2     | Fe 690   |         |                           |           | SS490B    |             |

## BOILER STEEL GRADES

| EUROPA    |            | GERMANY     | FRANCE     | ITALY        | U.K.                     | SPAIN        | U.S.                                   | JAPAN             |
|-----------|------------|-------------|------------|--------------|--------------------------|--------------|----------------------------------------|-------------------|
| Material# | EN 10028-2 | DIN 17155   | NFA 36-205 | UNI 5869     | BS 1501                  | UNE 36087    | ASTM                                   | JIS G3115         |
| 1.0345    | P235GH     | HI          | A 37 CP    | Fe 360 - 1KW | 161 Gr. 360 / 164 Gr 360 | A 37 RCI     | A 515 Gr 55 / A 414 Gr C / A 516 Gr 55 | SPV 24            |
| 1.0425    | P265GH     | HI1         | A 42 CP    | Fe 410 - 1KW | 161 Gr. 400 / 164 Gr 400 | A 42 RCI     | A 285 Gr C / A 414 Gr D / A 662 Gr A   |                   |
| 1.0481    | P295GH     | 17 Mn 4     | A 48 CP    | Fe 510 - 1KW | 224 Gr 490               | A 47 RCI     | A 414 Gr E,F / A 516 Gr 65             | SPV 32            |
| 1.0473    | P355GH     | 19 Mn 6     | A 52 CP    | Fe E 355-2   |                          | A 52 RCI     | A 414 Gr G / A 516 Gr 70 / A 537       | SGV 410 / SGV 450 |
| 1.5415    | 16Mo3      | 15 Mo 3     | 15 D3      | 16 Mo 3      | 1503 / 243 B             | 16 Mo 3      | A 204 Gr A                             |                   |
| 1.7335    | 13CrMo4-5  | 13CrMo 4 4  | 15 CD 4-05 | 14 CrMo 3    | 620 Gr 27                | 14 CrMo 4.5  | A 387 Gr 12 / A182 (F11; 12)           |                   |
| 1.7380    | 10CrMo9-10 | 10CrMo 9 10 | 10 CD 9.10 | 12 CrMO 9.10 | 622 Gr 31                |              | A 387 Gr 22 / A182 (F22)               |                   |
| 1.7383    | 11CrMo9-10 |             |            | 12 CrMO 9.10 |                          | 12 CrMo 9.10 |                                        |                   |



## HEA - HEB - HEM PROFILES (EU 53-62, Tolerances EN 10034)

| Section | Dimension<br>mm | G<br>Unit Weight<br>kg/m | h<br>Depth<br>mm | b<br>Width<br>mm | tw<br>Web Thickness<br>mm | t <sub>f</sub><br>Flange Thickness<br>mm | r<br>Corner Radius<br>mm | Single profile<br>weight<br>kg/12.1 m | Length of<br>1 ton profile<br>m/ton |
|---------|-----------------|--------------------------|------------------|------------------|---------------------------|------------------------------------------|--------------------------|---------------------------------------|-------------------------------------|
| HEA     | 100             | 16.7                     | 96               | 100              | 5.0                       | 8.0                                      | 12                       | 202                                   | 62                                  |
| HEA     | 120             | 19.9                     | 114              | 120              | 5.0                       | 8.0                                      | 12                       | 241                                   | 50                                  |
| HEA     | 140             | 24.7                     | 133              | 140              | 5.5                       | 8.5                                      | 12                       | 299                                   | 40                                  |
| HEA     | 160             | 30.4                     | 152              | 160              | 6.0                       | 9.0                                      | 15                       | 368                                   | 33                                  |
| HEA     | 180             | 35.5                     | 171              | 180              | 6.0                       | 9.5                                      | 15                       | 430                                   | 28                                  |
| HEA     | 200             | 42.3                     | 190              | 200              | 6.5                       | 10.0                                     | 18                       | 512                                   | 24                                  |
| HEA     | 220             | 50.5                     | 210              | 220              | 7.0                       | 11.0                                     | 18                       | 611                                   | 20                                  |
| HEA     | 240             | 60.3                     | 230              | 240              | 7.5                       | 12.0                                     | 21                       | 730                                   | 17                                  |
| HEA     | 260             | 68.2                     | 250              | 260              | 7.5                       | 12.5                                     | 24                       | 825                                   | 15                                  |
| HEA     | 280             | 76.4                     | 270              | 280              | 8.0                       | 13.0                                     | 24                       | 924                                   | 13                                  |
| HEA     | 300             | 88.3                     | 290              | 300              | 8.5                       | 14.0                                     | 27                       | 1068                                  | 11                                  |
| HEA     | 320             | 97.6                     | 310              | 300              | 9.0                       | 15.5                                     | 27                       | 1181                                  | 10                                  |
| HEA     | 340             | 105.0                    | 330              | 300              | 9.5                       | 16.5                                     | 27                       | 1271                                  | 10                                  |
| HEA     | 360             | 112.0                    | 350              | 300              | 10.0                      | 17.5                                     | 27                       | 1355                                  | 9                                   |
| HEA     | 400             | 125.0                    | 390              | 300              | 11.0                      | 19.0                                     | 27                       | 1513                                  | 8                                   |
| HEA     | 450             | 140.0                    | 440              | 300              | 11.5                      | 21.0                                     | 27                       | 1694                                  | 7                                   |
| HEA     | 500             | 155.0                    | 490              | 300              | 12.0                      | 23.0                                     | 27                       | 1876                                  | 6                                   |
| HEA     | 550             | 166.0                    | 540              | 300              | 12.5                      | 24.0                                     | 27                       | 2009                                  | 6                                   |
| HEA     | 600             | 178.0                    | 590              | 300              | 13.0                      | 25.0                                     | 27                       | 2154                                  | 6                                   |
| HEA     | 650             | 190.0                    | 640              | 300              | 13.5                      | 26.0                                     | 27                       | 2299                                  | 5                                   |
| HEA     | 700             | 204.0                    | 690              | 300              | 14.5                      | 27.0                                     | 27                       | 2468                                  | 5                                   |
| HEA     | 800             | 224.0                    | 790              | 300              | 15.0                      | 28.0                                     | 30                       | 2710                                  | 4                                   |
| HEA     | 900             | 252.0                    | 890              | 300              | 16.0                      | 30.0                                     | 30                       | 3049                                  | 4                                   |
| HEA     | 1000            | 272.0                    | 990              | 300              | 16.5                      | 31.0                                     | 30                       | 3291                                  | 4                                   |
| HEB     | 100             | 20.4                     | 100              | 100              | 6.0                       | 10.0                                     | 12                       | 247                                   | 49                                  |
| HEB     | 120             | 26.7                     | 120              | 120              | 6.5                       | 11.0                                     | 12                       | 323                                   | 37                                  |
| HEB     | 140             | 33.7                     | 140              | 140              | 7.0                       | 12.0                                     | 12                       | 408                                   | 30                                  |
| HEB     | 160             | 42.6                     | 160              | 160              | 8.0                       | 13.0                                     | 15                       | 515                                   | 23                                  |
| HEB     | 180             | 51.2                     | 180              | 180              | 8.5                       | 14.0                                     | 15                       | 620                                   | 20                                  |
| HEB     | 200             | 61.3                     | 200              | 200              | 9.0                       | 15.0                                     | 18                       | 742                                   | 16                                  |
| HEB     | 220             | 71.5                     | 220              | 220              | 9.5                       | 16.0                                     | 18                       | 865                                   | 14                                  |
| HEB     | 240             | 83.2                     | 240              | 240              | 10.0                      | 17.0                                     | 21                       | 1007                                  | 12                                  |
| HEB     | 260             | 93.0                     | 260              | 260              | 10.0                      | 17.5                                     | 24                       | 1125                                  | 11                                  |
| HEB     | 280             | 103.0                    | 280              | 280              | 10.5                      | 18.0                                     | 24                       | 1246                                  | 10                                  |
| HEB     | 300             | 117.0                    | 300              | 300              | 11.0                      | 19.0                                     | 27                       | 1416                                  | 9                                   |
| HEB     | 320             | 127.0                    | 320              | 300              | 11.5                      | 20.5                                     | 27                       | 1537                                  | 8                                   |
| HEB     | 340             | 134.0                    | 340              | 300              | 12.0                      | 21.5                                     | 27                       | 1621                                  | 7                                   |
| HEB     | 360             | 142.0                    | 360              | 300              | 12.5                      | 22.5                                     | 27                       | 1718                                  | 7                                   |
| HEB     | 400             | 155.0                    | 400              | 300              | 13.5                      | 24.0                                     | 27                       | 1876                                  | 6                                   |
| HEB     | 450             | 171.0                    | 450              | 300              | 14.0                      | 26.0                                     | 27                       | 2069                                  | 6                                   |
| HEB     | 500             | 187.0                    | 500              | 300              | 14.5                      | 28.0                                     | 27                       | 2263                                  | 5                                   |
| HEB     | 550             | 199.0                    | 550              | 300              | 15.0                      | 29.0                                     | 27                       | 2408                                  | 5                                   |
| HEB     | 600             | 212.0                    | 600              | 300              | 15.5                      | 30.0                                     | 27                       | 2565                                  | 5                                   |
| HEB     | 650             | 225.0                    | 650              | 300              | 16.0                      | 31.0                                     | 27                       | 2723                                  | 4                                   |
| HEB     | 700             | 241.0                    | 700              | 300              | 17.0                      | 32.0                                     | 27                       | 2916                                  | 4                                   |
| HEB     | 800             | 262.0                    | 800              | 300              | 17.5                      | 33.0                                     | 30                       | 3170                                  | 4                                   |
| HEB     | 900             | 291.0                    | 900              | 300              | 18.5                      | 35.0                                     | 30                       | 3521                                  | 3                                   |
| HEB     | 1000            | 314.0                    | 1000             | 300              | 19.0                      | 36.0                                     | 30                       | 3799                                  | 3                                   |
| HEM     | 100             | 41.8                     | 120              | 106              | 12.0                      | 20.0                                     | 12                       | 506                                   | 24                                  |
| HEM     | 120             | 52.1                     | 140              | 126              | 12.5                      | 21.0                                     | 12                       | 630                                   | 19                                  |
| HEM     | 140             | 63.2                     | 160              | 146              | 13.0                      | 22.0                                     | 12                       | 765                                   | 16                                  |
| HEM     | 160             | 76.2                     | 180              | 166              | 14.0                      | 23.0                                     | 15                       | 922                                   | 13                                  |
| HEM     | 180             | 88.9                     | 200              | 186              | 14.5                      | 24.0                                     | 15                       | 1076                                  | 11                                  |
| HEM     | 200             | 103.0                    | 220              | 206              | 15.0                      | 25.0                                     | 18                       | 1246                                  | 10                                  |
| HEM     | 220             | 117.0                    | 240              | 226              | 15.5                      | 26.0                                     | 18                       | 1416                                  | 9                                   |
| HEM     | 240             | 157.0                    | 270              | 248              | 18.0                      | 32.0                                     | 21                       | 1900                                  | 6                                   |
| HEM     | 260             | 172.0                    | 290              | 268              | 18.0                      | 32.5                                     | 24                       | 2081                                  | 6                                   |
| HEM     | 280             | 189.0                    | 310              | 288              | 18.5                      | 33.0                                     | 24                       | 2287                                  | 5                                   |
| HEM     | 300             | 238.0                    | 340              | 310              | 21.0                      | 39.0                                     | 27                       | 2880                                  | 4                                   |
| HEM     | 320             | 245.0                    | 359              | 309              | 21.0                      | 40.0                                     | 27                       | 2965                                  | 4                                   |
| HEM     | 340             | 248.0                    | 377              | 309              | 21.0                      | 40.0                                     | 27                       | 3001                                  | 4                                   |
| HEM     | 360             | 250.0                    | 395              | 308              | 21.0                      | 40.0                                     | 27                       | 3025                                  | 4                                   |
| HEM     | 400             | 256.0                    | 432              | 307              | 21.0                      | 40.0                                     | 27                       | 3098                                  | 4                                   |
| HEM     | 450             | 263.0                    | 478              | 307              | 21.0                      | 40.0                                     | 27                       | 3182                                  | 4                                   |
| HEM     | 500             | 270.0                    | 524              | 306              | 21.0                      | 40.0                                     | 27                       | 3267                                  | 4                                   |
| HEM     | 550             | 278.0                    | 572              | 306              | 21.0                      | 40.0                                     | 27                       | 3364                                  | 4                                   |
| HEM     | 600             | 285.0                    | 620              | 305              | 21.0                      | 40.0                                     | 27                       | 3449                                  | 4                                   |
| HEM     | 650             | 293.0                    | 668              | 305              | 21.0                      | 40.0                                     | 27                       | 3545                                  | 3                                   |
| HEM     | 700             | 301.0                    | 716              | 304              | 21.0                      | 40.0                                     | 27                       | 3642                                  | 3                                   |
| HEM     | 800             | 317.0                    | 814              | 303              | 21.0                      | 40.0                                     | 30                       | 3836                                  | 3                                   |
| HEM     | 900             | 333.0                    | 910              | 302              | 21.0                      | 40.0                                     | 30                       | 4029                                  | 3                                   |
| HEM     | 1000            | 349.0                    | 1008             | 302              | 21.0                      | 40.0                                     | 30                       | 4223                                  | 3                                   |

## IPE PROFILES (EU 19-57, Tolerances EN 10034)

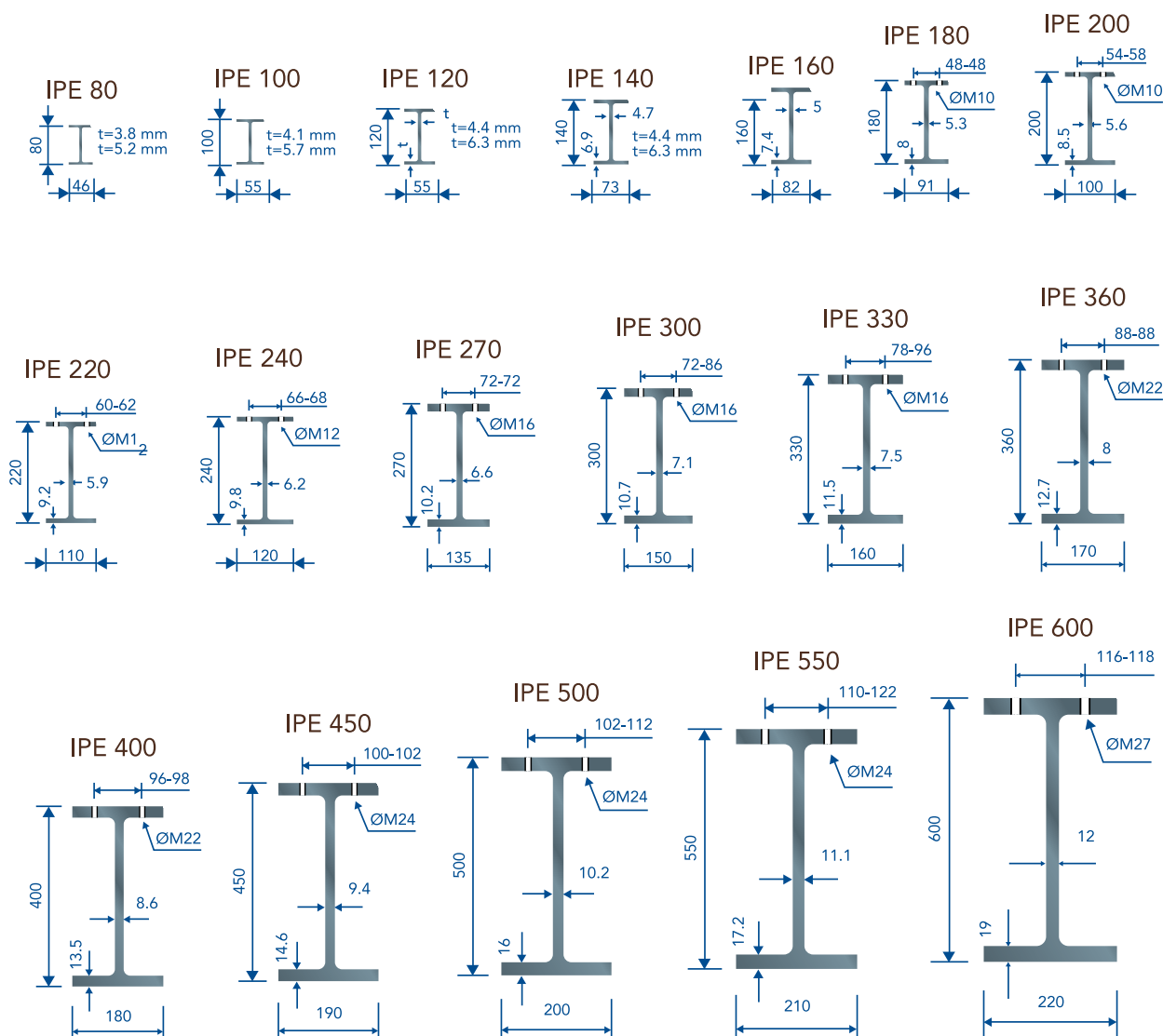
| Section | Dimension<br>mm | G<br>Unit Weight<br>kg/m | h<br>Depth<br>mm | b<br>Width<br>mm | tw<br>Web Thickness<br>mm | tf<br>Flange Thickness<br>mm | r<br>Corner Radius<br>mm | Single profile<br>weight<br>kg/12.1 m | Length of<br>1 ton profile<br>m/ton |
|---------|-----------------|--------------------------|------------------|------------------|---------------------------|------------------------------|--------------------------|---------------------------------------|-------------------------------------|
| IPE     | 100             | 8.1                      | 100              | 55               | 4.1                       | 5.7                          | 7                        | 98                                    | 123                                 |
| IPE     | 120             | 10.4                     | 120              | 64               | 4.4                       | 6.3                          | 7                        | 126                                   | 96                                  |
| IPE     | 140             | 12.9                     | 140              | 73               | 4.7                       | 6.9                          | 7                        | 156                                   | 78                                  |
| IPE     | 160             | 15.8                     | 160              | 82               | 5.0                       | 7.4                          | 9                        | 191                                   | 63                                  |
| IPE     | 180             | 18.8                     | 180              | 91               | 5.3                       | 8.0                          | 9                        | 227                                   | 53                                  |
| IPE     | 200             | 22.4                     | 200              | 100              | 5.6                       | 8.5                          | 12                       | 271                                   | 45                                  |
| IPE     | 220             | 26.2                     | 220              | 110              | 5.9                       | 9.2                          | 12                       | 317                                   | 38                                  |
| IPE     | 240             | 30.7                     | 240              | 120              | 6.2                       | 9.8                          | 15                       | 371                                   | 33                                  |
| IPE     | 270             | 36.1                     | 270              | 135              | 6.6                       | 10.2                         | 15                       | 437                                   | 28                                  |
| IPE     | 300             | 42.2                     | 300              | 150              | 7.1                       | 10.7                         | 15                       | 511                                   | 24                                  |
| IPE     | 330             | 49.1                     | 330              | 160              | 7.5                       | 11.5                         | 18                       | 594                                   | 20                                  |
| IPE     | 360             | 57.1                     | 360              | 170              | 8.0                       | 12.7                         | 18                       | 691                                   | 18                                  |
| IPE     | 400             | 66.3                     | 400              | 180              | 8.6                       | 13.5                         | 21                       | 802                                   | 15                                  |
| IPE     | 450             | 77.6                     | 450              | 190              | 9.4                       | 14.6                         | 21                       | 939                                   | 13                                  |
| IPE     | 500             | 90.7                     | 500              | 200              | 10.2                      | 16.0                         | 21                       | 1097                                  | 11                                  |
| IPE     | 550             | 106.6                    | 550              | 210              | 11.1                      | 17.2                         | 24                       | 1283                                  | 9                                   |
| IPE     | 600             | 122.0                    | 600              | 220              | 12.0                      | 19.0                         | 24                       | 1476                                  | 8                                   |
| IPE     | 750X147         | 147.2                    | 753              | 265              | 13.2                      | 17.0                         | 17                       | 1781                                  | 7                                   |
| IPE     | 750X173         | 173.7                    | 762              | 267              | 14.4                      | 21.6                         | 17                       | 2102                                  | 6                                   |



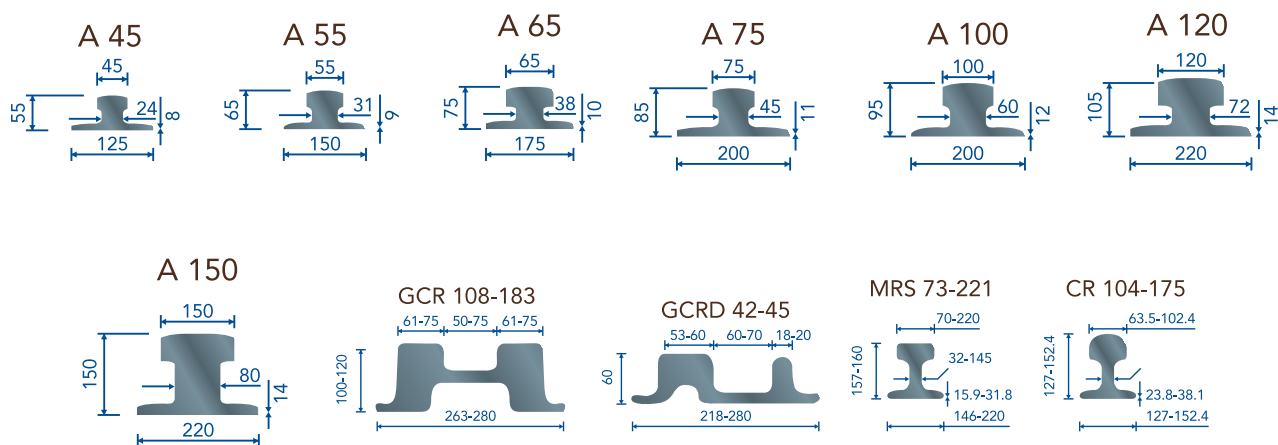
## UPE PROFILES (DIN 1026-2, Tolerances EN 10279)

| Section | Dimension<br>mm | G<br>Unit Weight<br>kg/m | h<br>Depth<br>mm | b<br>Width<br>mm | tw<br>Web Thickness<br>mm | tf<br>Flange Thickness<br>mm | r<br>Corner Radius<br>mm | Single profile<br>weight<br>kg/12.1 m | Length of<br>1 ton profile<br>m/ton |
|---------|-----------------|--------------------------|------------------|------------------|---------------------------|------------------------------|--------------------------|---------------------------------------|-------------------------------------|
| UPE     | 80              | 7.9                      | 80               | 50               | 4.0                       | 7.0                          | 10                       | 96                                    | 127                                 |
| UPE     | 100             | 9.8                      | 100              | 55               | 4.5                       | 7.5                          | 10                       | 119                                   | 102                                 |
| UPE     | 120             | 12.1                     | 120              | 60               | 5.0                       | 8.0                          | 12                       | 146                                   | 83                                  |
| UPE     | 140             | 14.5                     | 140              | 65               | 5.0                       | 9.0                          | 12                       | 175                                   | 69                                  |
| UPE     | 160             | 17.0                     | 160              | 70               | 5.5                       | 9.5                          | 12                       | 206                                   | 59                                  |
| UPE     | 180             | 19.7                     | 180              | 75               | 5.5                       | 10.5                         | 12                       | 238                                   | 51                                  |
| UPE     | 200             | 22.8                     | 200              | 80               | 6.0                       | 11.0                         | 13                       | 276                                   | 44                                  |
| UPE     | 220             | 26.6                     | 220              | 85               | 6.5                       | 12.0                         | 13                       | 322                                   | 38                                  |
| UPE     | 240             | 30.2                     | 240              | 90               | 7.0                       | 12.5                         | 15                       | 365                                   | 33                                  |
| UPE     | 270             | 35.2                     | 270              | 95               | 7.5                       | 13.5                         | 15                       | 426                                   | 28                                  |
| UPE     | 300             | 44.4                     | 300              | 100              | 9.5                       | 15.0                         | 15                       | 537                                   | 23                                  |
| UPE     | 330             | 53.2                     | 330              | 105              | 11.0                      | 16.0                         | 18                       | 644                                   | 19                                  |
| UPE     | 360             | 61.2                     | 360              | 110              | 12.0                      | 17.0                         | 18                       | 741                                   | 16                                  |
| UPE     | 400             | 72.2                     | 400              | 115              | 13.5                      | 18.0                         | 18                       | 874                                   | 14                                  |

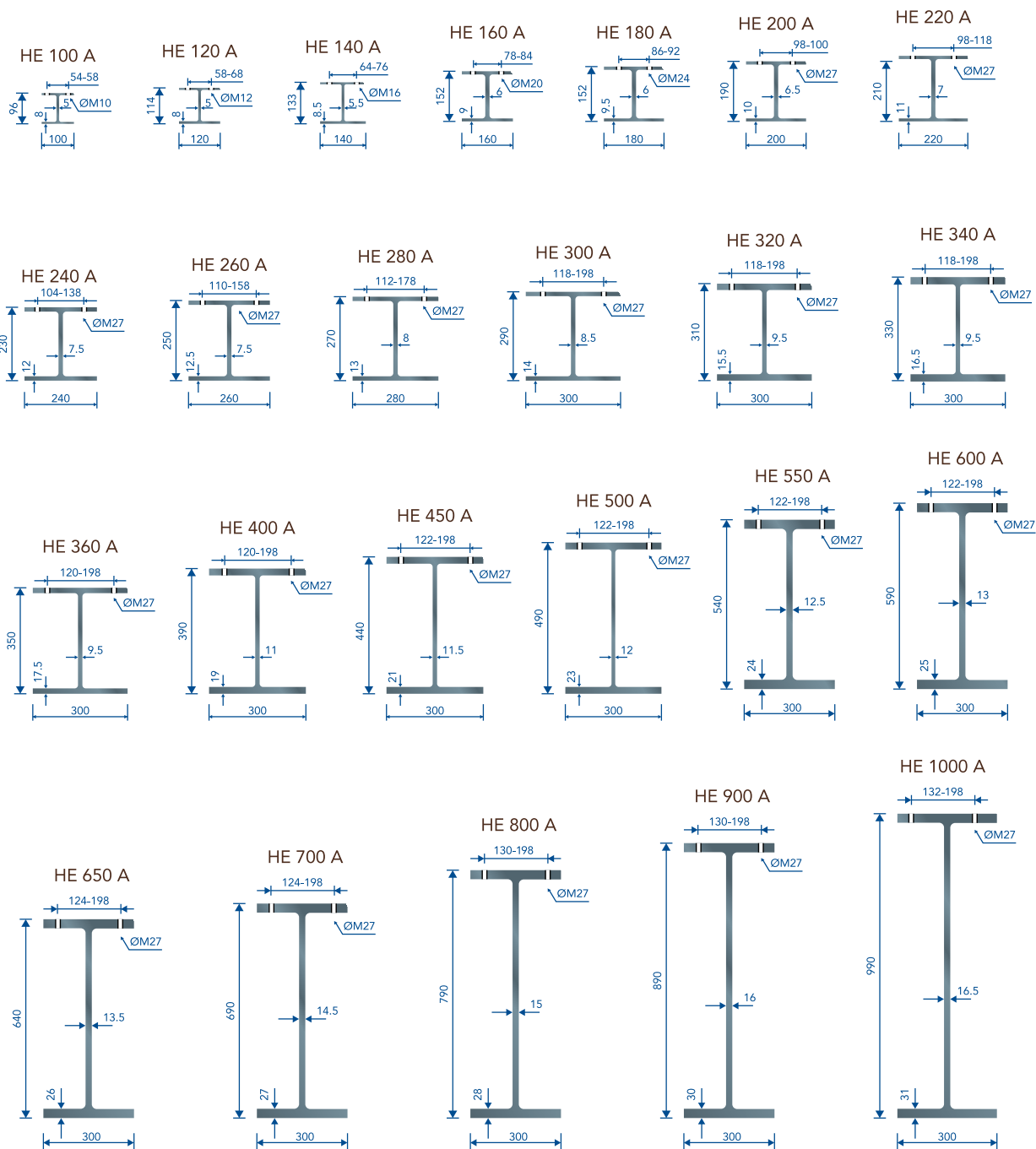
## IPE PROFILES



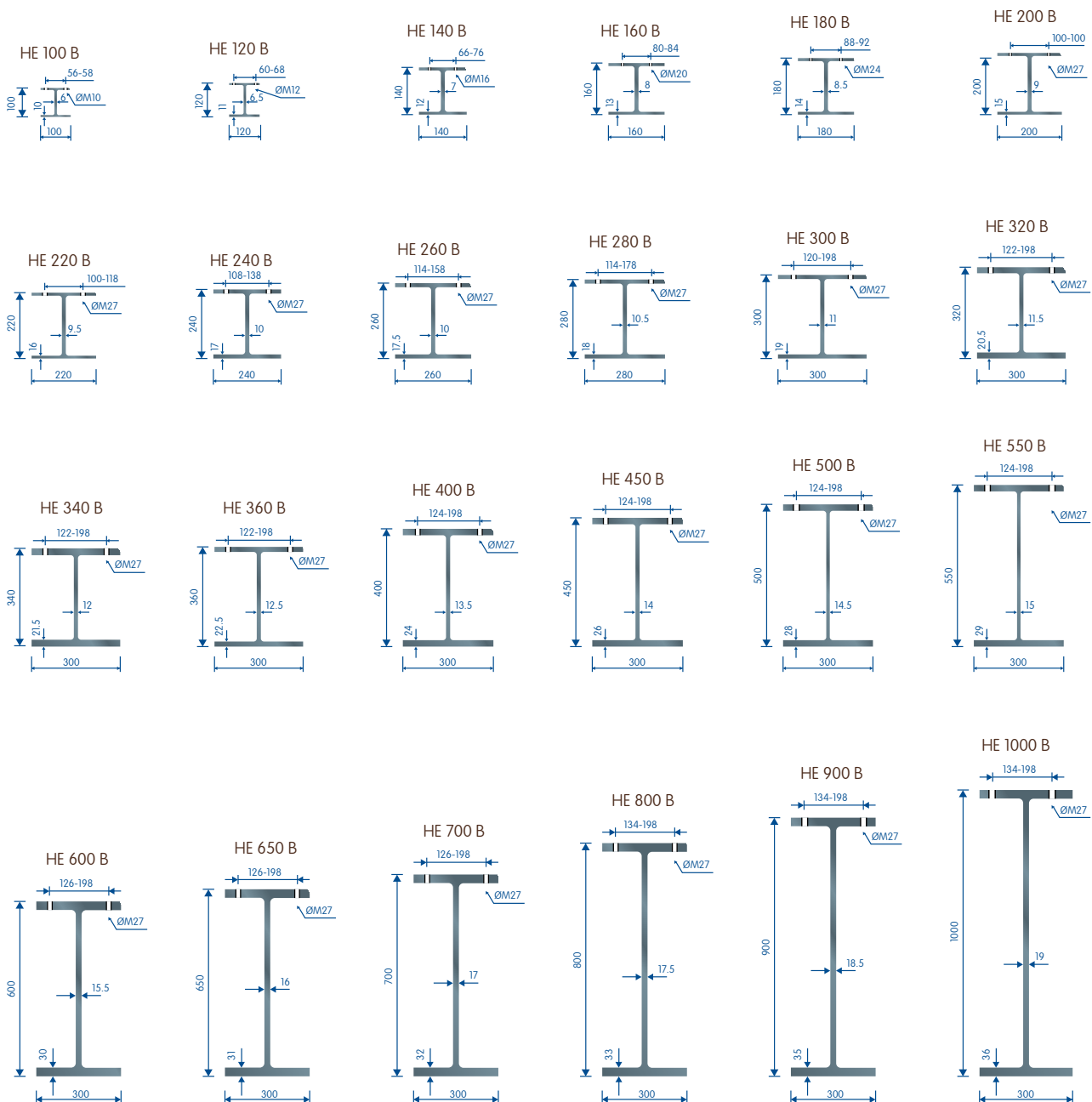
## CRANE RAILS



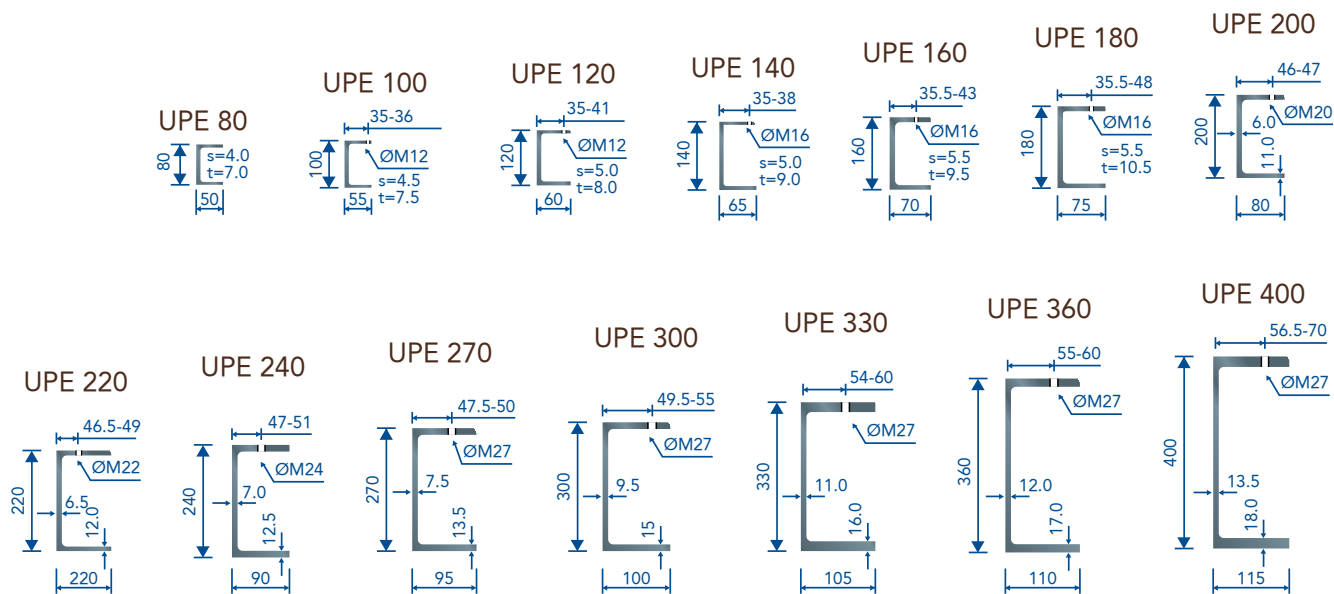
# HEA PROFILES



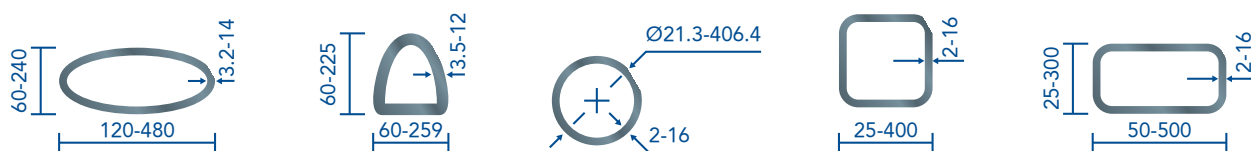
## HEB PROFILES



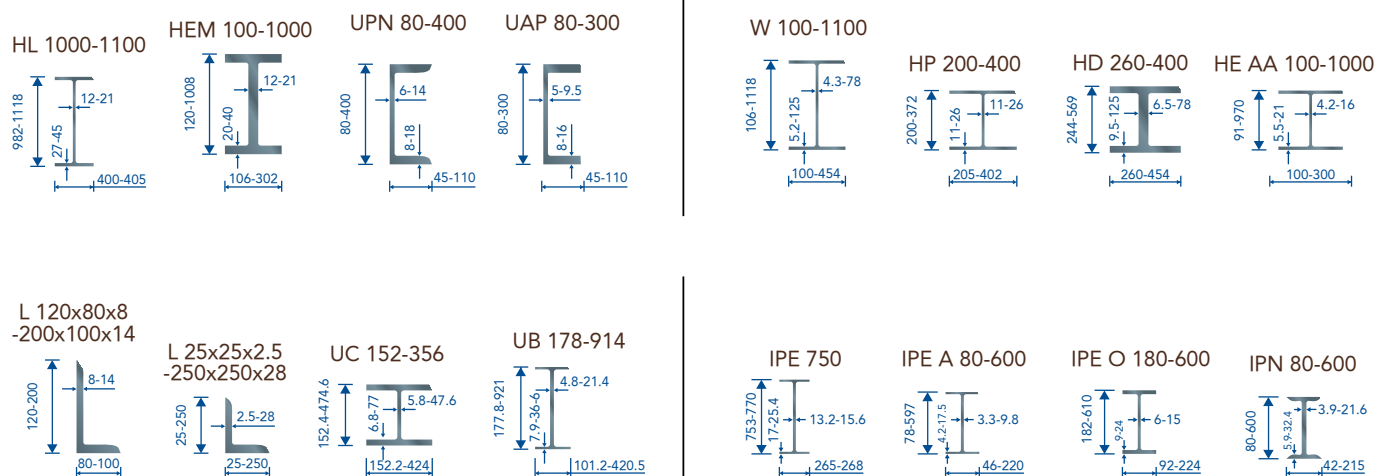
## UPE PROFILES



## HOLLOW SECTION PROFILES

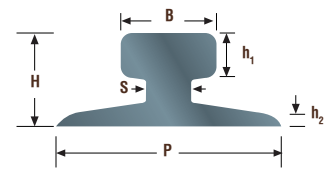


## OTHER PROFILES

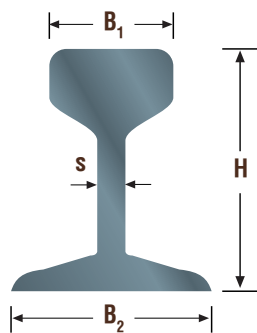


## CRANE RAILS (DIN 536)

| Section | G<br>Unit Weight<br>kg/m | h<br>Depth<br>mm | B<br>Head Width<br>mm | P<br>Base Width<br>mm | S<br>Web Thickness<br>mm | h <sub>1</sub><br>Head Thickness<br>mm | h <sub>2</sub><br>Base Thickness<br>mm | Single<br>rail weight<br>kg/12 m |
|---------|--------------------------|------------------|-----------------------|-----------------------|--------------------------|----------------------------------------|----------------------------------------|----------------------------------|
| A45     | 22.1                     | 55               | 45                    | 125                   | 24                       | 20.0                                   | 8                                      | 265                              |
| A55     | 31.8                     | 65               | 55                    | 150                   | 31                       | 25.0                                   | 9                                      | 382                              |
| A65     | 43.1                     | 75               | 65                    | 175                   | 38                       | 30.0                                   | 10                                     | 517                              |
| A75     | 56.2                     | 85               | 75                    | 200                   | 45                       | 35.0                                   | 11                                     | 674                              |
| A100    | 74.3                     | 95               | 100                   | 200                   | 60                       | 40.0                                   | 12                                     | 892                              |
| A120    | 100.0                    | 105              | 120                   | 220                   | 72                       | 47.5                                   | 14                                     | 1200                             |
| A150    | 150.3                    | 150              | 150                   | 220                   | 80                       | 47.5                                   | 14                                     | 1804                             |



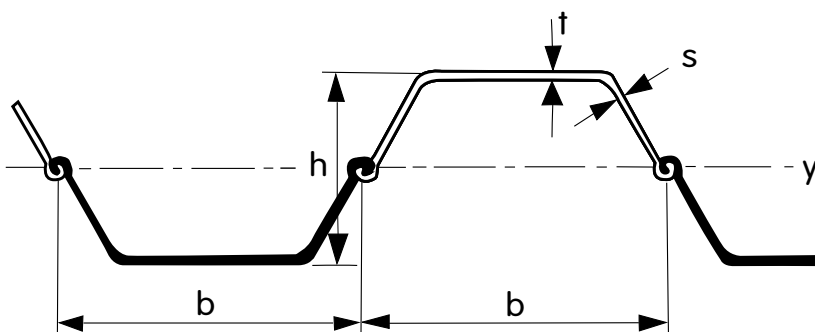
## RAILS



| Section | H<br>Depth<br>mm | B1<br>Head Width<br>mm | B2<br>Base Width<br>mm | S<br>Web Thickness<br>mm | G<br>Unit Weight<br>kg/m |
|---------|------------------|------------------------|------------------------|--------------------------|--------------------------|
| S 10    | 75               | 35                     | 56                     | 10                       | 11.00                    |
| S 12    | 80               | 34                     | 65                     | 7                        | 12.00                    |
| S 14    | 80               | 38                     | 70                     | 9                        | 14.00                    |
| S 18    | 93               | 43                     | 82                     | 10                       | 18.30                    |
| S 20    | 100              | 44                     | 82                     | 10                       | 33.47                    |
| S 24    | 115              | 53                     | 90                     | 10                       | 24.43                    |
| S 33    | 134              | 58                     | 105                    | 11                       | 33.47                    |
| S 41    | 138              | 67                     | 125                    | 12                       | 40.95                    |
| S 49    | 149              | 67                     | 125                    | 14                       | 49.43                    |
| S 54    | 154              | 67                     | 125                    | 16                       | 54.54                    |
| S 64    | 172              | 74                     | 150                    | 16                       | 64.92                    |

## SHEET PILES

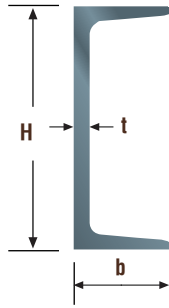
| Section     | G<br>Unit Weight<br>kg/m | G<br>Unit Weight<br>kg/m <sup>2</sup> | h<br>Depth<br>mm | b<br>Width<br>mm | S<br>Web Thickness<br>mm | t<br>Flange Thickness<br>mm | Single Sheet Pile<br>weight<br>kg / 8 m | Single Sheet Pile<br>weight<br>kg / 12 m |
|-------------|--------------------------|---------------------------------------|------------------|------------------|--------------------------|-----------------------------|-----------------------------------------|------------------------------------------|
| AU 14       | 77.9                     | 103.8                                 | 408              | 750              | 8.3                      | 10.0                        | 623                                     | 935                                      |
| AU 16       | 86.3                     | 115.0                                 | 411              | 750              | 9.3                      | 11.5                        | 690                                     | 1036                                     |
| AU 17       | 89.0                     | 118.7                                 | 412              | 750              | 9.7                      | 12.0                        | 712                                     | 1068                                     |
| AU 18       | 88.5                     | 118.0                                 | 441              | 750              | 9.1                      | 10.5                        | 708                                     | 1062                                     |
| AU 20       | 96.9                     | 129.2                                 | 444              | 750              | 10.0                     | 12.0                        | 775                                     | 1163                                     |
| AU 21       | 99.7                     | 132.9                                 | 445              | 750              | 10.3                     | 12.5                        | 798                                     | 1196                                     |
| AU 23       | 102.1                    | 136.1                                 | 447              | 750              | 9.5                      | 13.0                        | 817                                     | 1225                                     |
| AU 25       | 110.4                    | 147.2                                 | 450              | 750              | 10.2                     | 14.5                        | 883                                     | 1325                                     |
| AU 26       | 113.2                    | 150.9                                 | 451              | 750              | 10.5                     | 15.0                        | 906                                     | 1358                                     |
| PU 12       | 66.1                     | 110.1                                 | 360              | 600              | 9.0                      | 9.8                         | 529                                     | 793                                      |
| PU 12 10/10 | 69.6                     | 116.0                                 | 360              | 600              | 10.0                     | 10.0                        | 557                                     | 835                                      |
| PU 18       | 76.9                     | 128.2                                 | 430              | 600              | 9.0                      | 11.2                        | 615                                     | 923                                      |
| PU 22       | 86.1                     | 143.6                                 | 450              | 600              | 9.5                      | 12.1                        | 689                                     | 1033                                     |
| PU 28       | 101.8                    | 169.6                                 | 454              | 600              | 10.1                     | 15.2                        | 814                                     | 1222                                     |
| PU 32       | 114.1                    | 190.2                                 | 452              | 600              | 11.0                     | 19.5                        | 913                                     | 1369                                     |



## UPN PROFILES

(DIN 1026-1, Tolerances EN 10279)

| H<br>Depth<br>mm | b<br>Width<br>mm | t<br>Thickness<br>mm | G<br>Unit Weight<br>kg/m |
|------------------|------------------|----------------------|--------------------------|
| 40               | 20               | 5.0                  | 2.87                     |
| 50               | 25               | 5.0                  | 3.86                     |
| 65               | 42               | 5.5                  | 7.09                     |
| 80               | 45               | 6.0                  | 8.65                     |
| 100              | 50               | 6.0                  | 10.60                    |
| 120              | 55               | 7.0                  | 13.30                    |
| 140              | 60               | 7.0                  | 16.00                    |
| 160              | 65               | 7.5                  | 18.90                    |
| 180              | 70               | 8.0                  | 22.00                    |
| 200              | 75               | 8.5                  | 25.30                    |
| 220              | 80               | 9.0                  | 29.40                    |
| 240              | 85               | 9.5                  | 33.20                    |
| 260              | 90               | 10.0                 | 37.90                    |
| 280              | 95               | 10.0                 | 41.90                    |
| 300              | 100              | 10.0                 | 46.10                    |
| 320              | 100              | 14.0                 | 59.50                    |
| 350              | 100              | 14.0                 | 60.60                    |
| 380              | 102              | 13.5                 | 62.60                    |
| 400              | 110              | 14.0                 | 71.80                    |



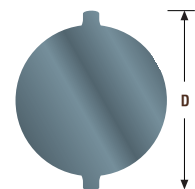
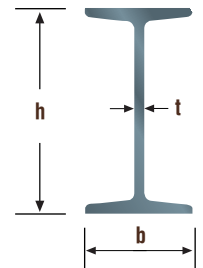
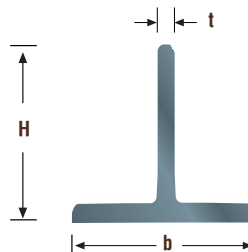
## IPN PROFILES

(DIN 1025-1, Tolerances EN 10024)

| H<br>Depth<br>mm | b<br>Width<br>mm | t<br>Thickness<br>mm | G<br>Unit Weight<br>kg/m |
|------------------|------------------|----------------------|--------------------------|
| 80               | 42               | 5                    | 5.94                     |
| 100              | 50               | 4.5                  | 8.34                     |
| 120              | 58               | 5.1                  | 11.10                    |
| 140              | 66               | 5.7                  | 14.30                    |
| 160              | 74               | 6.3                  | 17.90                    |
| 180              | 82               | 6.9                  | 21.90                    |
| 200              | 90               | 7.5                  | 26.20                    |
| 220              | 98               | 8.1                  | 31.00                    |
| 240              | 106              | 8.7                  | 36.20                    |
| 260              | 113              | 9.4                  | 41.90                    |
| 280              | 119              | 10.1                 | 47.90                    |
| 300              | 125              | 10.8                 | 54.20                    |
| 320              | 131              | 11.5                 | 61.00                    |
| 340              | 137              | 12.2                 | 68.14                    |
| 360              | 143              | 13.0                 | 76.10                    |
| 380              | 149              | 13.7                 | 84.00                    |
| 400              | 155              | 14.4                 | 92.50                    |
| 450              | 170              | 16.2                 | 115.00                   |
| 500              | 185              | 18.0                 | 141.00                   |
| 550              | 200              | 19.0                 | 166.00                   |
| 600              | 215              | 21.6                 | 199.00                   |

## T PROFILES (EN 10055)

| H<br>Depth<br>mm | b<br>Width<br>mm | t<br>Thickness<br>mm | G<br>Unit Weight<br>kg/m |
|------------------|------------------|----------------------|--------------------------|
| 20               | 20               | 3.0                  | 0.87                     |
| 25               | 25               | 3.5                  | 1.27                     |
| 25               | 25               | 4.5                  | 1.61                     |
| 30               | 30               | 4.0                  | 1.76                     |
| 30               | 30               | 5.0                  | 2.16                     |
| 35               | 35               | 4.5                  | 2.31                     |
| 35               | 35               | 5.5                  | 2.78                     |
| 40               | 40               | 5.0                  | 2.94                     |
| 40               | 40               | 6.0                  | 3.49                     |
| 45               | 45               | 6.5                  | 4.26                     |
| 50               | 50               | 7.0                  | 5.11                     |
| 60               | 60               | 8.0                  | 7.03                     |
| 70               | 70               | 9.0                  | 9.26                     |
| 80               | 80               | 10.0                 | 11.80                    |
| 90               | 90               | 10.0                 | 13.40                    |
| 100              | 100              | 11.0                 | 16.40                    |
| 120              | 120              | 13.0                 | 23.20                    |
| 140              | 140              | 15.0                 | 31.30                    |



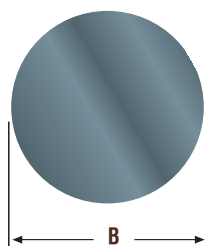
## STEEL REINFORCEMENT REBARS

| D (mm) | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 25    | 26    | 28    | 30    |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| kg/m   | 0.395 | 0.617 | 0.888 | 1.208 | 1.578 | 1.998 | 2.466 | 2.984 | 3.551 | 3.853 | 4.168 | 4.834 | 5.549 |

| D (mm) | 32    | 34    | 36    | 38    | 40    | 42     | 44     | 45     | 46     | 48     | 50     | 55     | 60     |
|--------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| kg/m   | 6.313 | 7.127 | 7.990 | 8.903 | 9.865 | 10.876 | 11.936 | 12.485 | 13.046 | 14.205 | 15.413 | 18.650 | 22.195 |

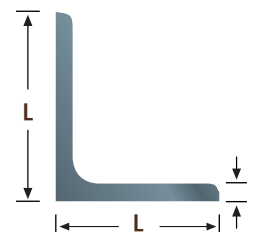
## ROUND BARS (EN 10060)

| B<br>mm | Unit Weight<br>kg/m | B<br>mm | Unit Weight<br>kg/m | B<br>mm | Unit Weight<br>kg/m |
|---------|---------------------|---------|---------------------|---------|---------------------|
| 5       | 0.15                | 30      | 5.54                | 75      | 34.65               |
| 6       | 0.22                | 32      | 6.31                | 77      | 36.52               |
| 7       | 0.30                | 33      | 6.71                | 80      | 39.42               |
| 8       | 0.39                | 34      | 7.12                | 85      | 44.51               |
| 9       | 0.50                | 35      | 7.55                | 90      | 49.90               |
| 10      | 0.62                | 36      | 7.98                | 95      | 55.59               |
| 11      | 0.75                | 37      | 8.43                | 100     | 61.60               |
| 12      | 0.89                | 38      | 8.90                | 105     | 67.91               |
| 13      | 1.04                | 39      | 9.37                | 110     | 74.54               |
| 14      | 1.21                | 40      | 9.86                | 115     | 81.47               |
| 15      | 1.39                | 42      | 10.87               | 120     | 88.70               |
| 16      | 1.58                | 45      | 12.47               | 130     | 104.10              |
| 17      | 1.78                | 46      | 13.04               | 140     | 120.74              |
| 18      | 2.00                | 47      | 13.61               | 150     | 138.60              |
| 19      | 2.22                | 48      | 14.19               | 160     | 157.70              |
| 20      | 2.46                | 50      | 15.40               | 170     | 178.02              |
| 21      | 2.72                | 52      | 16.66               | 180     | 199.57              |
| 22      | 2.98                | 55      | 18.63               | 190     | 222.38              |
| 23      | 3.26                | 57      | 20.01               | 200     | 246.40              |
| 24      | 3.55                | 60      | 22.18               | 210     | 271.66              |
| 25      | 3.85                | 62      | 23.68               | 220     | 298.14              |
| 26      | 4.16                | 65      | 26.03               | 230     | 325.86              |
| 27      | 4.49                | 67      | 27.65               | 240     | 354.82              |
| 28      | 4.83                | 70      | 30.18               | 250     | 385.00              |



## SQUARE BARS (EN 10059)

| BxB<br>mm | Unit Weight<br>kg/m | BxB<br>mm | Unit Weight<br>kg/m | BxB<br>mm | Unit Weight<br>kg/m |
|-----------|---------------------|-----------|---------------------|-----------|---------------------|
| 5 x 5     | 0.20                | 30 x 30   | 7.07                | 75 x 75   | 44.16               |
| 6 x 6     | 0.28                | 32 x 32   | 8.04                | 77 x 77   | 46.54               |
| 7 x 7     | 0.39                | 33 x 33   | 8.55                | 80 x 80   | 50.24               |
| 8 x 8     | 0.50                | 34 x 34   | 9.08                | 85 x 85   | 56.72               |
| 9 x 9     | 0.64                | 35 x 35   | 9.62                | 90 x 90   | 63.59               |
| 10 x 10   | 0.79                | 36 x 36   | 10.17               | 95 x 95   | 70.85               |
| 11 x 11   | 0.95                | 37 x 37   | 10.75               | 100 x 100 | 78.50               |
| 12 x 12   | 1.13                | 38 x 38   | 11.34               | 105 x 105 | 86.55               |
| 13 x 13   | 1.33                | 39 x 39   | 11.94               | 110 x 110 | 94.99               |
| 14 x 14   | 1.54                | 40 x 40   | 12.56               | 115 x 115 | 103.82              |
| 15 x 15   | 1.77                | 42 x 42   | 13.85               | 120 x 120 | 113.04              |
| 16 x 16   | 2.01                | 45 x 45   | 15.90               | 130 x 130 | 132.67              |
| 17 x 17   | 2.27                | 46 x 46   | 16.61               | 140 x 140 | 153.86              |
| 18 x 18   | 2.54                | 47 x 47   | 17.34               | 150 x 150 | 176.63              |
| 19 x 19   | 2.83                | 48 x 48   | 18.09               | 160 x 160 | 200.96              |
| 20 x 20   | 3.14                | 50 x 50   | 19.63               | 170 x 170 | 226.87              |
| 21 x 21   | 3.46                | 52 x 52   | 21.23               | 180 x 180 | 254.34              |
| 22 x 22   | 3.80                | 55 x 55   | 23.75               | 190 x 190 | 283.39              |
| 23 x 23   | 4.15                | 57 x 57   | 25.51               | 200 x 200 | 314.00              |
| 24 x 24   | 4.52                | 60 x 60   | 28.26               | 210 x 210 | 346.19              |
| 25 x 25   | 4.91                | 62 x 62   | 30.18               | 220 x 220 | 379.94              |
| 26 x 26   | 5.31                | 65 x 65   | 33.17               | 230 x 230 | 415.27              |
| 27 x 27   | 5.72                | 67 x 67   | 35.24               | 240 x 240 | 452.16              |
| 28 x 28   | 6.15                | 70 x 70   | 38.47               | 250 x 250 | 490.63              |



## ANGLES (EN 10056)

| L x t<br>mm mm | Unit Weight<br>kg/m | L x t<br>mm mm | Unit Weight<br>kg/m | L x t<br>mm mm | Unit Weight<br>kg/m | L x t<br>mm mm | Unit Weight<br>kg/m | L x t<br>mm mm | Unit Weight<br>kg/m | L x t<br>mm mm | Unit Weight<br>kg/m |
|----------------|---------------------|----------------|---------------------|----------------|---------------------|----------------|---------------------|----------------|---------------------|----------------|---------------------|
| 20 x 2         | 0.60                | 45 x 3         | 2.09                | 60 x 4         | 4.18                | 70 x 6         | 6.38                | 90 x 7         | 9.60                | 110 x 7        | 11.80               |
| 25 x 2.2       | 0.82                | 45 x 4         | 2.74                | 60 x 5         | 4.56                | 75 x 6         | 7.00                | 100 x 6        | 9.29                | 110 x 8        | 13.40               |
| 30 x 2.2       | 0.99                | 50 x 3         | 2.33                | 65 x 5         | 5.00                | 75 x 7         | 8.00                | 110 x 7        | 10.70               | 110 x 9        | 15.00               |
| 35 x 3         | 1.60                | 50 x 4         | 3.06                | 65 x 6         | 5.93                | 80 x 6         | 7.34                | 110 x 7        | 12.20               | 120 x 8        | 14.70               |
| 40 x 3         | 1.84                | 45 x 4         | 3.70                | 70 x 5         | 5.37                | 80 x 7         | 8.48                | 110 x 9        | 13.50               | 120 x 9        | 16.40               |
|                |                     |                |                     | 90 x 6         | 8.30                | 110 x 6        | 10.24               | 120 x 10       | 18.20               |                |                     |

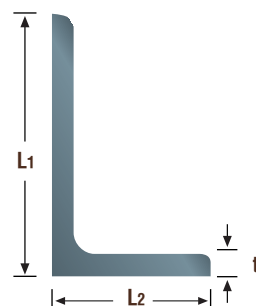
## ANGLES (EN 10056)

| L<br>mm | x | t<br>mm | Unit Weight<br>kg/m | L<br>mm | x | t<br>mm | Unit Weight<br>kg/m | L<br>mm | x | t<br>mm | Unit Weight<br>kg/m |
|---------|---|---------|---------------------|---------|---|---------|---------------------|---------|---|---------|---------------------|
| 20      | x | 3       | 0.88                | 70      | x | 5       | 5.37                | 120     | x | 8       | 14.70               |
| 20      | x | 4       | 1.14                | 70      | x | 6       | 6.38                | 120     | x | 10      | 18.20               |
| 25      | x | 3       | 1.12                | 70      | x | 7       | 7.38                | 120     | x | 11      | 19.90               |
| 25      | x | 4       | 1.45                | 70      | x | 8       | 8.36                | 120     | x | 12      | 21.60               |
| 25      | x | 5       | 1.77                | 70      | x | 9       | 9.37                | 120     | x | 13      | 23.30               |
| 30      | x | 3       | 1.36                | 70      | x | 11      | 11.20               | 120     | x | 15      | 26.60               |
| 30      | x | 4       | 1.76                | 75      | x | 5       | 5.78                | 130     | x | 12      | 23.60               |
| 30      | x | 5       | 2.18                | 75      | x | 6       | 6.87                | 130     | x | 14      | 27.20               |
| 35      | x | 3       | 1.60                | 75      | x | 7       | 7.94                | 130     | x | 16      | 30.90               |
| 35      | x | 4       | 2.09                | 75      | x | 8       | 9.03                | 140     | x | 13      | 27.50               |
| 35      | x | 5       | 2.57                | 75      | x | 10      | 11.10               | 140     | x | 15      | 31.40               |
| 40      | x | 3       | 1.84                | 75      | x | 12      | 13.10               | 140     | x | 17      | 35.30               |
| 40      | x | 4       | 2.42                | 80      | x | 6       | 7.34                | 150     | x | 12      | 27.30               |
| 40      | x | 5       | 2.97                | 80      | x | 7       | 8.49                | 150     | x | 14      | 31.60               |
| 40      | x | 6       | 3.52                | 80      | x | 8       | 9.63                | 150     | x | 15      | 33.80               |
| 45      | x | 3       | 2.09                | 80      | x | 9       | 10.80               | 150     | x | 16      | 35.90               |
| 45      | x | 4       | 2.74                | 80      | x | 10      | 11.90               | 150     | x | 18      | 40.10               |
| 45      | x | 5       | 3.38                | 80      | x | 12      | 14.10               | 160     | x | 15      | 36.20               |
| 45      | x | 6       | 4.00                | 90      | x | 6       | 8.30                | 160     | x | 17      | 40.70               |
| 50      | x | 3       | 2.33                | 90      | x | 8       | 10.90               | 180     | x | 16      | 43.50               |
| 50      | x | 4       | 3.06                | 90      | x | 9       | 12.20               | 180     | x | 18      | 48.60               |
| 50      | x | 5       | 3.77                | 90      | x | 10      | 13.40               | 180     | x | 20      | 53.70               |
| 50      | x | 6       | 4.47                | 90      | x | 11      | 14.70               | 180     | x | 22      | 58.60               |
| 55      | x | 5       | 4.18                | 90      | x | 13      | 17.10               | 200     | x | 16      | 48.50               |
| 55      | x | 6       | 4.95                | 100     | x | 6.5     | 9.90                | 200     | x | 18      | 54.30               |
| 55      | x | 7       | 5.71                | 100     | x | 7       | 10.70               | 200     | x | 20      | 59.90               |
| 60      | x | 4       | 3.70                | 100     | x | 8       | 12.20               | 200     | x | 24      | 71.10               |
| 60      | x | 5       | 4.57                | 100     | x | 10      | 15.00               | 200     | x | 28      | 82.00               |
| 60      | x | 6       | 5.42                | 100     | x | 12      | 17.80               | 250     | x | 20      | 75.60               |
| 60      | x | 7       | 6.26                | 100     | x | 14      | 20.60               | 250     | x | 22      | 82.80               |
| 65      | x | 5       | 4.98                | 100     | x | 15      | 21.90               | 250     | x | 24      | 90.00               |
| 65      | x | 6       | 5.91                | 100     | x | 16      | 23.20               | 250     | x | 25      | 93.50               |
| 65      | x | 7       | 6.83                | 100     | x | 20      | 28.40               | 250     | x | 26      | 97.00               |
| 65      | x | 8       | 7.73                | 110     | x | 10      | 16.60               | 250     | x | 27      | 105.00              |
| 65      | x | 9       | 8.62                | 110     | x | 12      | 19.70               | 250     | x | 28      | 104.00              |
|         |   |         |                     | 110     | x | 14      | 22.80               |         |   |         |                     |

## UNEQUAL ANGLES (EN10056)

|                                             | Unit Weight (kg/m) |      |       |       |       |       |
|---------------------------------------------|--------------------|------|-------|-------|-------|-------|
| <div>L1xL2<br/>mm</div> <div>t<br/>mm</div> | 5                  | 6    | 8     | 10    | 12    | 15    |
| 60x50                                       | 4.15               | 4.93 | 6.43  | 7.88  |       |       |
| 75X50                                       | 4.74               | 5.63 | 7.39  | 9.05  |       |       |
| 75x60                                       | 5.14               | 6.11 | 8.01  | 9.85  |       |       |
| 80x40                                       |                    | 5.41 | 7.07  | 8.67  |       |       |
| 90x60                                       |                    | 6.83 | 8.97  | 11.04 |       |       |
| 90x75                                       |                    | 7.55 | 9.93  | 12.23 |       |       |
| 100x50                                      |                    | 6.85 | 8.99  | 11.06 | 13.06 |       |
| 100x75                                      |                    | 8.04 | 10.57 | 13.03 | 15.44 |       |
| 100x90                                      |                    | 8.77 | 11.53 | 14.23 | 16.87 |       |
| 125x75                                      |                    |      | 12.16 | 15.01 | 17.81 |       |
| 125x80                                      |                    |      | 12.47 | 15.41 | 18.28 | 22.47 |
| 125x90                                      |                    |      | 13.12 | 16.21 | 19.24 | 23.65 |
| 130x75                                      |                    |      | 12.47 | 15.41 | 18.28 | 22.47 |
| 190x90                                      |                    |      |       | 16.60 | 19.72 | 24.26 |
| 150x90                                      |                    |      |       | 18.20 | 21.60 | 26.60 |

Upon request  
according to;  
TS 909  
DIN 1029  
ASTM A6



## FLATS (EN 79-69, Tolerances 10058)

L: Width (mm) t: Thickness (mm)



|     | Unit Weight (kg / m) |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|----------------------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L ↑ | 3                    | 4    | 5    | 6    | 7     | 8     | 10    | 12    | 14    | 15    | 16    | 18    | 20    | 22    | 25    | 30    | 35    | 40    | 50    |
| 10  | 0.27                 | 0.31 | 0.39 | 0.47 | 0.55  | 0.63  |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 12  | 0.28                 | 0.38 | 0.38 | 0.57 | 0.66  | 0.75  | 0.94  |       |       |       |       |       |       |       |       |       |       |       |       |
| 14  | 0.33                 | 0.44 | 0.55 | 0.66 | 0.68  | 0.88  | 1.10  | 1.32  |       |       |       |       |       |       |       |       |       |       |       |
| 15  | 0.35                 | 0.47 | 0.59 | 0.71 | 0.82  | 0.94  | 1.18  | 1.41  |       |       |       |       |       |       |       |       |       |       |       |
| 16  | 0.38                 | 0.50 | 0.63 | 0.75 | 0.88  | 1.00  | 1.26  | 1.51  | 1.76  |       |       |       |       |       |       |       |       |       |       |
| 18  | 0.42                 | 0.57 | 0.71 | 0.85 | 0.99  | 1.13  | 1.41  | 1.70  | 1.98  | 2.12  | 2.26  |       |       |       |       |       |       |       |       |
| 20  | 0.47                 | 0.63 | 0.79 | 0.94 | 1.10  | 1.26  | 1.57  | 1.88  | 2.20  | 2.36  | 2.51  | 2.83  |       |       |       |       |       |       |       |
| 22  | 0.59                 | 0.67 | 0.86 | 1.04 | 1.21  | 1.38  | 1.73  | 2.07  | 2.42  | 2.59  | 2.76  | 3.10  | 3.45  |       |       |       |       |       |       |
| 25  | 0.60                 | 0.78 | 0.98 | 1.18 | 1.37  | 1.57  | 1.96  | 2.36  | 2.75  | 2.94  | 3.14  | 3.53  | 3.93  | 4.32  |       |       |       |       |       |
| 30  | 0.71                 | 0.94 | 1.18 | 1.41 | 1.65  | 1.88  | 2.36  | 2.83  | 3.30  | 3.53  | 3.77  | 4.24  | 4.71  | 5.18  | 5.89  |       |       |       |       |
| 35  | 0.84                 | 1.10 | 1.37 | 1.65 | 1.92  | 2.20  | 2.75  | 3.30  | 3.85  | 4.40  | 4.95  | 5.50  | 6.04  | 6.87  | 8.24  |       |       |       |       |
| 40  | 0.94                 | 1.26 | 1.57 | 1.88 | 2.20  | 2.51  | 3.14  | 3.77  | 4.40  | 4.71  | 5.02  | 5.65  | 6.28  | 6.91  | 7.85  | 9.42  | 10.99 |       |       |
| 45  | 1.06                 | 1.41 | 1.77 | 2.12 | 2.47  | 2.83  | 3.53  | 4.24  | 4.95  | 5.30  | 5.65  | 6.36  | 7.06  | 7.77  | 8.83  | 10.06 | 12.36 | 14.13 |       |
| 50  | 1.18                 | 1.57 | 1.96 | 2.36 | 2.75  | 3.14  | 3.92  | 4.71  | 5.50  | 5.89  | 6.28  | 7.06  | 7.85  | 8.64  | 9.81  | 11.78 | 13.74 | 15.70 |       |
| 55  | 1.30                 | 1.73 | 2.16 | 2.59 | 3.02  | 3.45  | 4.32  | 5.18  | 6.04  | 6.48  | 6.91  | 7.77  | 8.64  | 9.50  | 10.08 | 12.95 | 15.11 | 17.27 |       |
| 60  | 1.41                 | 1.88 | 2.36 | 2.83 | 3.30  | 3.77  | 4.71  | 5.65  | 6.59  | 7.06  | 7.54  | 8.48  | 9.42  | 10.36 | 11.78 | 14.13 | 16.49 | 18.84 | 23.60 |
| 65  | 1.53                 | 2.04 | 2.55 | 3.06 | 3.57  | 4.08  | 5.10  | 6.12  | 7.14  | 7.65  | 8.16  | 9.19  | 10.21 | 11.23 | 12.76 | 15.31 | 17.86 | 20.41 | 25.50 |
| 70  | 1.65                 | 2.20 | 2.75 | 3.30 | 3.85  | 4.40  | 5.50  | 6.59  | 7.69  | 8.24  | 8.79  | 9.89  | 11.00 | 12.10 | 13.74 | 16.49 | 19.23 | 21.98 | 27.50 |
| 75  | 1.77                 | 2.36 | 2.94 | 3.53 | 4.12  | 4.71  | 5.89  | 7.06  | 8.24  | 8.83  | 9.42  | 10.60 | 11.80 | 12.95 | 14.72 | 17.66 | 20.61 | 23.55 | 29.40 |
| 80  | 1.88                 | 2.51 | 3.14 | 3.77 | 4.40  | 5.02  | 6.28  | 7.54  | 8.79  | 9.42  | 10.00 | 11.30 | 12.56 | 13.82 | 15.70 | 18.84 | 21.98 | 25.12 | 31.40 |
| 90  | 2.12                 | 2.83 | 3.53 | 4.24 | 4.95  | 5.65  | 7.06  | 8.48  | 9.89  | 10.60 | 11.30 | 12.71 | 14.13 | 15.54 | 17.66 | 21.20 | 24.73 | 28.26 | 35.30 |
| 100 | 2.36                 | 3.14 | 3.92 | 4.71 | 5.50  | 6.28  | 7.85  | 9.42  | 11.00 | 11.78 | 12.56 | 14.13 | 15.70 | 17.27 | 19.63 | 23.55 | 27.48 | 31.40 | 39.20 |
| 110 | 2.59                 | 3.45 | 4.32 | 5.18 | 6.04  | 6.91  | 8.64  | 10.36 | 12.09 | 12.95 | 13.82 | 15.54 | 17.27 | 18.99 | 21.59 | 25.91 | 30.22 | 34.54 | 43.20 |
| 120 | 2.83                 | 3.77 | 4.71 | 5.65 | 6.59  | 7.54  | 9.42  | 11.30 | 13.19 | 14.13 | 15.07 | 16.96 | 18.84 | 20.72 | 23.55 | 28.26 | 32.97 | 37.68 | 47.10 |
| 130 | 3.06                 | 4.08 | 5.10 | 6.12 | 7.14  | 8.16  | 10.21 | 12.25 | 14.29 | 15.31 | 16.33 | 18.37 | 20.41 | 22.45 | 25.51 | 30.62 | 35.72 | 40.82 | 51.00 |
| 140 | 3.30                 | 4.40 | 5.50 | 6.59 | 7.69  | 8.79  | 11.00 | 13.19 | 15.39 | 16.49 | 17.58 | 19.78 | 21.98 | 24.18 | 27.48 | 32.97 | 38.47 | 43.96 | 55.00 |
| 150 | 3.53                 | 4.71 | 5.80 | 7.06 | 8.24  | 9.42  | 11.78 | 14.13 | 16.49 | 17.66 | 18.84 | 21.20 | 23.55 | 25.91 | 29.44 | 35.33 | 41.21 | 47.10 | 58.88 |
| 160 | 3.77                 | 5.02 | 6.28 | 7.54 | 8.79  | 10.05 | 12.56 | 15.07 | 17.60 | 18.84 | 20.09 | 22.60 | 25.12 | 27.60 | 31.40 | 37.68 | 44.00 | 50.24 | 62.80 |
| 170 | 4.00                 | 5.34 | 6.67 | 8.01 | 9.34  | 10.68 | 13.35 | 16.01 | 18.70 | 20.02 | 21.40 | 24.00 | 26.69 | 29.40 | 33.40 | 40.00 | 46.70 | 53.40 | 66.73 |
| 180 | 4.24                 | 5.65 | 7.06 | 8.48 | 9.89  | 11.30 | 14.13 | 16.96 | 19.80 | 21.20 | 22.60 | 25.40 | 28.26 | 31.10 | 35.30 | 42.39 | 49.50 | 56.50 | 70.65 |
| 200 | 4.71                 | 6.28 | 7.85 | 9.42 | 11.00 | 12.56 | 15.70 | 18.84 | 22.00 | 23.55 | 25.10 | 28.30 | 31.40 | 34.50 | 39.20 | 47.10 | 55.00 | 62.80 | 78.50 |

## WIDE FLATS (EN79-69, Tolerances EU 91-81)

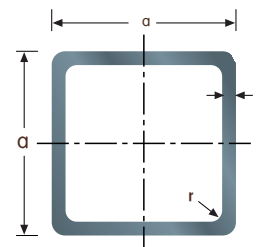
L: Width (mm) t: Thickness (mm)

| L<br>t | Unit Weight (kg / m) |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |
|--------|----------------------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
|        | 5                    | 6     | 8     | 9     | 10    | 12    | 15    | 20    | 25     | 30     | 35     | 40     | 45     | 50     | 55     | 60     |
| 150    | 5.80                 | 7.06  | 9.42  | 10.59 | 11.78 | 14.13 | 17.66 | 23.55 | 29.44  | 35.33  | 41.21  | 47.10  | 52.99  | 58.88  | 64.76  | 70.65  |
| 160    | 6.28                 | 7.54  | 10.05 | 11.30 | 12.56 | 15.07 | 18.84 | 25.12 | 31.40  | 37.68  | 44.00  | 50.24  | 56.52  | 62.80  | 69.08  | 75.36  |
| 170    | 6.67                 | 8.01  | 10.68 | 12.01 | 13.35 | 16.01 | 20.02 | 26.69 | 33.40  | 40.00  | 46.70  | 53.40  | 60.05  | 66.73  | 73.40  | 80.07  |
| 180    | 7.06                 | 8.48  | 11.30 | 12.72 | 14.13 | 16.96 | 21.20 | 28.26 | 35.30  | 42.39  | 49.50  | 56.50  | 63.59  | 70.65  | 77.72  | 84.78  |
| 190    | 7.46                 | 8.95  | 11.93 | 13.42 | 14.92 | 17.90 | 22.83 | 30.20 | 37.12  | 44.58  | 52.03  | 59.66  | 67.12  | 74.58  | 82.03  | 89.49  |
| 200    | 7.85                 | 9.42  | 12.56 | 14.13 | 15.70 | 18.84 | 23.55 | 31.40 | 39.20  | 47.10  | 55.00  | 62.80  | 70.65  | 78.50  | 86.35  | 94.20  |
| 220    | 8.64                 | 10.36 | 13.82 | 15.54 | 17.27 | 20.72 | 25.91 | 34.54 | 43.18  | 51.81  | 60.44  | 69.08  | 77.72  | 86.35  | 94.99  | 103.62 |
| 230    | 9.03                 | 10.83 | 14.44 | 16.25 | 18.06 | 21.67 | 27.08 | 36.11 | 45.14  | 54.17  | 63.19  | 72.22  | 81.25  | 90.27  | 99.30  | 108.33 |
| 240    | 9.42                 | 11.30 | 15.07 | 16.96 | 18.84 | 22.61 | 28.26 | 37.68 | 47.10  | 56.52  | 65.94  | 75.36  | 84.78  | 94.20  | 103.62 | 113.04 |
| 250    | 9.81                 | 11.78 | 15.70 | 17.66 | 19.63 | 23.55 | 29.44 | 39.25 | 49.06  | 58.88  | 68.69  | 78.50  | 88.31  | 98.13  | 107.94 | 117.75 |
| 280    | 10.99                | 13.19 | 17.58 | 19.78 | 21.98 | 26.38 | 32.97 | 43.96 | 54.95  | 65.94  | 76.93  | 87.62  | 98.91  | 109.90 | 120.89 | 131.88 |
| 300    | 11.78                | 14.13 | 18.84 | 21.20 | 23.55 | 28.26 | 35.33 | 47.10 | 58.88  | 70.65  | 82.43  | 94.20  | 105.98 | 117.75 | 129.53 | 141.30 |
| 320    | 12.56                | 15.07 | 20.10 | 22.61 | 25.12 | 30.14 | 37.68 | 50.24 | 62.80  | 75.36  | 87.92  | 100.48 | 113.04 | 125.60 | 138.16 | 150.72 |
| 350    | 13.74                | 16.49 | 21.98 | 24.73 | 27.48 | 32.97 | 41.21 | 54.95 | 68.69  | 82.43  | 96.16  | 109.90 | 123.64 | 137.38 | 151.11 | 164.85 |
| 380    | 14.92                | 17.90 | 23.86 | 26.85 | 29.83 | 35.80 | 44.75 | 59.66 | 74.58  | 89.49  | 104.41 | 119.32 | 134.24 | 149.15 | 164.07 | 178.98 |
| 400    | 15.70                | 18.84 | 25.12 | 28.26 | 31.40 | 37.68 | 47.10 | 62.80 | 78.50  | 94.20  | 109.90 | 125.60 | 141.30 | 157.00 | 172.70 | 188.40 |
| 420    | 16.49                | 19.78 | 26.38 | 29.67 | 32.97 | 39.56 | 49.46 | 65.94 | 82.43  | 98.91  | 115.40 | 131.80 | 148.37 | 164.85 | 181.34 | 197.82 |
| 450    |                      | 21.20 | 28.26 | 31.79 | 35.33 | 42.39 | 52.99 | 70.65 | 88.31  | 105.98 | 123.64 | 141.30 | 158.96 | 176.63 | 194.29 | 211.95 |
| 480    |                      | 22.61 | 30.14 | 33.91 | 37.68 | 45.22 | 56.52 | 75.36 | 94.20  | 113.04 | 131.88 | 150.72 | 169.56 | 188.40 | 207.24 | 226.08 |
| 500    |                      | 23.55 | 31.40 | 35.33 | 39.25 | 47.10 | 58.88 | 78.50 | 98.13  | 117.75 | 137.38 | 157.00 | 176.63 | 196.25 | 215.88 | 235.50 |
| 550    |                      |       | 34.54 | 38.86 | 43.18 | 51.81 | 64.76 | 86.35 | 107.94 | 129.53 | 151.11 | 172.70 | 194.29 | 215.88 | 237.46 | 259.05 |
| 600    |                      |       | 37.68 | 42.39 | 47.10 | 56.52 | 70.65 | 94.20 | 117.75 | 141.30 | 164.85 | 188.40 | 211.95 | 235.50 | 259.05 | 282.60 |

## SQUARE HOLLOW SECTION PROFILES (EN 10219)

a x a: Dimension (mm) t: Thickness (mm)

| a x a<br>t | Unit Weight (kg/m) |     |     |     |      |      |      |      |      |       |       |
|------------|--------------------|-----|-----|-----|------|------|------|------|------|-------|-------|
|            | 1.5                | 2.0 | 2.5 | 3.0 | 4.0  | 5.0  | 6.0  | 6.3  | 8.0  | 10.0  | 12.0  |
| 20 x 20    | 0.8                | 1.0 | 1.2 |     |      |      |      |      |      |       |       |
| 25 x 25    | 1.1                | 1.4 | 1.6 | 1.9 |      |      |      |      |      |       |       |
| 30 x 30    | 1.3                | 1.7 | 2.0 | 2.4 |      |      |      |      |      |       |       |
| 35 x 35    | 1.5                | 2.0 | 2.4 | 2.8 |      |      |      |      |      |       |       |
| 40 x 40    | 1.8                | 2.3 | 2.8 | 3.3 | 4.2  |      |      |      |      |       |       |
| 50 x 50    | 2.2                | 2.9 | 3.6 | 4.2 | 5.5  | 6.6  | 7.6  | 7.6  |      |       |       |
| 60 x 60    |                    | 3.6 | 4.4 | 5.2 | 6.7  | 8.1  | 9.4  | 9.6  |      |       |       |
| 70 x 70    |                    | 4.2 | 5.2 | 6.1 | 8.0  | 9.7  | 11.3 | 11.5 |      |       |       |
| 80 x 80    |                    | 4.8 | 6.0 | 7.1 | 9.2  | 11.3 | 13.2 | 13.5 | 16.4 |       |       |
| 90 x 90    |                    |     | 6.7 | 8.0 | 10.5 | 12.8 | 15.1 | 15.5 | 18.9 |       |       |
| 100 x 100  |                    |     | 7.5 | 9.0 | 11.7 | 14.4 | 17.0 | 17.5 | 21.4 | 25.6  |       |
| 110 x 110  |                    |     | 8.3 | 9.9 | 13.0 | 16.0 | 18.9 | 19.4 | 23.9 | 28.7  |       |
| 120 x 120  |                    |     |     |     | 14.2 | 17.5 | 20.7 | 21.4 | 26.4 | 31.8  |       |
| 140 x 140  |                    |     |     |     | 16.8 | 20.7 | 24.5 | 25.4 | 31.4 | 38.1  |       |
| 150 x 150  |                    |     |     |     | 18.0 | 22.3 | 26.4 | 27.4 | 33.9 | 41.3  |       |
| 160 x 160  |                    |     |     |     |      | 23.8 | 28.3 | 29.3 | 36.5 | 44.4  |       |
| 180 x 180  |                    |     |     |     |      | 27.0 | 32.1 | 33.3 | 41.5 | 50.7  |       |
| 200 x 200  |                    |     |     |     |      | 30.1 | 35.8 | 37.2 | 46.5 | 57.0  | 66.0  |
| 220 x 220  |                    |     |     |     |      |      | 39.6 | 41.2 | 51.5 | 63.2  | 73.5  |
| 250 x 250  |                    |     |     |     |      |      | 45.2 | 47.1 | 59.1 | 72.7  | 84.8  |
| 260 x 260  |                    |     |     |     |      |      | 47.1 | 49.1 | 61.6 | 75.8  | 88.6  |
| 300 x 300  |                    |     |     |     |      |      | 54.7 | 57.0 | 71.6 | 88.4  | 103.7 |
| 400 x 400  |                    |     |     |     |      |      | 73.5 | 76.8 | 96.7 | 119.8 | 141.3 |



### Tolerances

#### Wall Thickness

T ≤ 5mm ±%10  
T > 5mm ±0.5mm

#### Dimensions

H, B < 50mm ±0.5mm  
50 ≤ H, B < 100mm ±%1  
100 ≤ H, B < 200 ±%0.8  
H, B > 200mm ±%0.6mm

#### Corner Radius

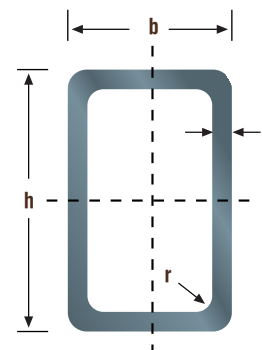
T ≤ 6mm; r = 1.6T - 2.4T  
6 < T ≤ 10mm; r = 2.0T - 3.0  
10mm < T; r = 2.4T - 3.6T

\* For your requirements of other dimensions, please contact to your Sales Account.

## RECTANGULAR HOLLOW SECTION PROFILES (EN 10219)

h x b: Dimension (mm) t: Thickness (mm)

| h x b<br>t | Unit Weight (kg / m) |     |     |      |      |      |      |      |      |       |       |
|------------|----------------------|-----|-----|------|------|------|------|------|------|-------|-------|
|            | 1.5                  | 2.0 | 2.5 | 3.0  | 4.0  | 5.0  | 6.0  | 6.3  | 8.0  | 10.0  | 12.0  |
| 30 x 10    | 0.8                  | 1.0 |     |      |      |      |      |      |      |       |       |
| 30 x 20    | 1.1                  | 1.4 | 1.6 |      |      |      |      |      |      |       |       |
| 40 x 20    | 1.3                  | 1.7 | 2.0 | 2.4  |      |      |      |      |      |       |       |
| 40 x 30    | 1.5                  | 2.0 | 2.4 | 2.8  |      |      |      |      |      |       |       |
| 50 x 20    | 1.5                  | 2.0 | 2.4 | 2.8  |      |      |      |      |      |       |       |
| 50 x 30    | 1.8                  | 2.3 | 2.8 | 3.3  |      |      |      |      |      |       |       |
| 50 x 40    | 2.0                  | 2.6 | 3.2 | 3.8  | 4.8  |      |      |      |      |       |       |
| 60 x 30    | 2.0                  | 2.6 | 3.2 | 3.8  | 4.8  |      |      |      |      |       |       |
| 60 x 40    | 2.2                  | 2.9 | 3.6 | 4.2  | 5.5  | 6.6  |      |      |      |       |       |
| 75 x 50    | 2.8                  | 3.7 | 4.6 | 5.4  | 7.0  | 8.5  | 9.9  | 10.0 |      |       |       |
| 80 x 40    | 2.7                  | 3.6 | 4.4 | 5.2  | 6.7  | 8.1  |      |      |      |       |       |
| 80 x 60    |                      | 4.2 | 5.2 | 6.1  | 8.0  | 9.7  | 11.3 | 11.5 |      |       |       |
| 90 x 50    |                      | 4.2 | 5.2 | 6.1  | 8.0  | 9.7  | 11.3 | 11.5 |      |       |       |
| 100 x 40   |                      | 4.2 | 5.2 | 6.1  | 8.0  | 9.7  |      |      |      |       |       |
| 100 x 50   |                      | 4.5 | 5.6 | 6.6  | 8.6  | 10.5 | 12.3 | 12.5 |      |       |       |
| 100 x 80   |                      | 5.4 | 6.7 | 8.0  | 10.5 | 12.8 | 15.1 | 15.5 | 18.9 |       |       |
| 120 x 50   |                      | 5.1 | 6.3 | 7.5  | 9.9  | 12.1 | 14.2 | 14.5 |      |       |       |
| 120 x 60   |                      | 5.4 | 6.7 | 8.0  | 10.5 | 12.8 | 15.1 | 15.5 |      |       |       |
| 120 x 80   |                      |     | 7.5 | 9.0  | 11.7 | 14.4 | 17.0 | 17.5 | 21.4 |       |       |
| 140 x 80   |                      |     |     | 9.9  | 13.0 | 16.0 | 18.9 | 19.4 | 23.9 |       |       |
| 160 x 80   |                      |     |     | 10.8 | 14.2 | 17.5 | 20.7 | 21.4 | 26.4 |       |       |
| 150 x 50   |                      |     |     | 9.0  | 11.7 | 14.4 | 17.0 | 17.5 |      |       |       |
| 150 x 100  |                      |     |     | 11.3 | 14.9 | 18.3 | 21.7 | 22.4 | 27.7 | 33.4  |       |
| 180 x 100  |                      |     |     | 12.7 | 16.8 | 20.7 | 24.5 | 25.4 | 31.4 | 38.1  |       |
| 180 x 120  |                      |     |     |      | 18.0 | 22.3 | 26.4 | 27.4 | 33.9 | 41.3  |       |
| 200 x 100  |                      |     |     | 13.7 | 18.0 | 22.3 | 26.4 | 27.4 | 33.9 | 41.3  |       |
| 200 x 120  |                      |     |     |      | 19.3 | 23.8 | 28.3 | 29.3 | 36.5 | 44.4  |       |
| 250 x 150  |                      |     |     |      | 24.3 | 30.1 | 35.8 | 37.2 | 46.5 | 57.0  |       |
| 260 x 180  |                      |     |     |      |      | 33.2 | 39.6 | 41.2 | 51.5 | 63.2  |       |
| 300 x 100  |                      |     |     |      | 24.3 | 30.1 | 35.8 | 37.2 | 46.5 | 57.0  |       |
| 300 x 200  |                      |     |     |      |      |      | 45.2 | 47.1 | 59.1 | 72.7  | 84.8  |
| 350 x 100  |                      |     |     |      |      |      | 40.5 | 42.2 | 52.8 | 64.8  |       |
| 350 x 250  |                      |     |     |      |      |      | 54.7 | 57.0 | 71.6 | 88.4  | 103.7 |
| 400 x 200  |                      |     |     |      |      |      | 54.7 | 57.0 | 71.6 | 88.4  | 103.7 |
| 500 x 300  |                      |     |     |      |      |      | 73.5 | 76.8 | 96.7 | 119.8 | 141.3 |



### Tolerances

#### Wall Thickness

T ≤ 5mm ±%10  
T > 5mm ±0.5mm

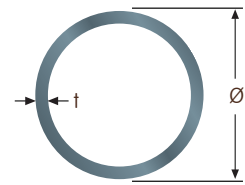
#### Dimensions

H, B < 50mm ±0.5mm  
50 ≤ H, B < 100mm ±%1  
100 ≤ H, B < 200 ±%0.8  
H, B > 200mm ±%0.6mm

#### Corner Radius

T ≤ 6mm; r = 1.6T - 2.4T  
6 < T ≤ 10mm; r = 2.0T - 3.0  
10mm < T; r = 2.4T - 3.6T

\* For your requirements of other dimensions, please contact to your Sales Account.



## CIRCULAR HOLLOW SECTION PROFILES (EN 10219)

Ø: Outer Diameter (mm) t: Thickness (mm)

| Ø \ t   | Unit Weight (kg/m) |     |     |      |      |      |      |      |      |      |      |      |      |      |      |
|---------|--------------------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
|         | 1.5                | 2.0 | 2.5 | 3.0  | 3.5  | 4.0  | 4.5  | 5.0  | 5.5  | 6.0  | 6.3  | 7.0  | 8.0  | 9.0  | 10.0 |
| Ø 21.3  | 0.7                | 1.0 | 1.2 | 1.4  |      |      |      |      |      |      |      |      |      |      |      |
| Ø 25.0  | 0.9                | 1.1 | 1.4 | 1.6  |      |      |      |      |      |      |      |      |      |      |      |
| Ø 26.9  | 0.9                | 1.2 | 1.5 | 1.8  | 2.0  |      |      |      |      |      |      |      |      |      |      |
| Ø 30.0  | 1.1                | 1.4 | 1.7 | 2.0  | 2.3  |      |      |      |      |      |      |      |      |      |      |
| Ø 33.7  | 1.2                | 1.6 | 1.9 | 2.3  | 2.6  |      |      |      |      |      |      |      |      |      |      |
| Ø 38.0  | 1.4                | 1.8 | 2.2 | 2.6  | 3.0  | 3.4  |      |      |      |      |      |      |      |      |      |
| Ø 42.4  | 1.5                | 2.0 | 2.5 | 2.9  | 3.4  | 3.8  |      |      |      |      |      |      |      |      |      |
| Ø 45.0  | 1.6                | 2.1 | 2.6 | 3.1  | 3.6  | 4.0  |      |      |      |      |      |      |      |      |      |
| Ø 48.3  | 1.7                | 2.3 | 2.8 | 3.4  | 3.9  | 4.4  | 4.9  |      |      |      |      |      |      |      |      |
| Ø 51.0  | 1.8                | 2.4 | 3.0 | 3.6  | 4.1  | 4.6  | 5.2  | 5.7  |      |      |      |      |      |      |      |
| Ø 57.0  | 2.1                | 2.7 | 3.4 | 4.0  | 4.6  | 5.2  | 5.8  | 6.4  |      |      |      |      |      |      |      |
| Ø 60.3  | 2.2                | 2.9 | 3.6 | 4.2  | 4.9  | 5.6  | 6.2  | 6.8  |      |      |      |      |      |      |      |
| Ø 63.0  |                    | 3.0 | 3.7 | 4.4  | 5.1  | 5.8  | 6.5  | 7.2  |      |      |      |      |      |      |      |
| Ø 76.1  |                    | 3.7 | 4.5 | 5.4  | 6.3  | 7.1  | 7.9  | 8.8  |      |      |      |      |      |      |      |
| Ø 88.9  |                    | 4.3 | 5.3 | 6.4  | 7.4  | 8.4  | 9.4  | 10.3 | 11.3 |      |      |      |      |      |      |
| Ø 102.0 |                    | 4.9 | 6.1 | 7.3  | 8.5  | 9.7  | 10.8 | 12.0 | 13.1 |      |      |      |      |      |      |
| Ø 108.0 |                    |     | 6.5 | 7.8  | 9.0  | 10.3 | 11.5 | 12.7 | 13.9 |      |      |      |      |      |      |
| Ø 114.3 |                    |     | 6.9 | 8.2  | 9.6  | 10.9 | 12.2 | 13.5 | 14.8 | 16.0 |      |      |      |      |      |
| Ø 127.0 |                    |     | 7.7 | 9.2  | 10.7 | 12.1 | 13.6 | 15.0 | 16.5 | 17.9 |      |      |      |      |      |
| Ø 139.7 |                    |     | 8.5 | 10.1 | 11.8 | 13.4 | 15.0 | 16.6 | 18.2 | 19.8 |      |      |      |      |      |
| Ø 152.4 |                    |     | 9.2 | 11.1 | 12.9 | 14.6 | 16.4 | 18.2 | 19.9 | 21.7 |      |      |      |      |      |
| Ø 168.3 |                    |     | 2.2 | 14.2 | 16.2 | 18.2 | 20.1 | 22.1 | 24.0 | 25.2 | 27.8 | 31.6 |      |      |      |
| Ø 219.1 |                    |     |     | 16.0 | 18.6 | 21.2 | 23.8 | 26.4 | 29.0 | 31.5 | 33.1 | 36.6 | 41.6 | 46.6 |      |
| Ø 273.0 |                    |     |     |      |      | 26.5 | 29.8 | 33.0 | 36.3 | 39.5 | 41.4 | 45.9 | 52.3 | 58.6 | 64.9 |
| Ø 323.9 |                    |     |     |      |      | 31.6 | 35.4 | 39.3 | 43.2 | 47.0 | 49.3 | 54.7 | 62.3 | 69.9 |      |

Wall Thickness  
Ø≤406.4mm  
T≤5mm ±%10  
T>5mm ±0.5mm

Outer Diameter  
Ø≤50mm; ±0.5mm  
50≤Ø≤1000mm; ±%1

\* For your requirements of other dimensions, please contact to your Sales Account.

## PRECISION TUBES (DIN 2393 DIN 2394)

| t (mm) | 1.0                | 1.2  | 1.5  | 1.8  | 2.0  | 2.2  | 2.5  |
|--------|--------------------|------|------|------|------|------|------|
| Ø (mm) | Unit Weight (kg/m) |      |      |      |      |      |      |
| 13     | 0.30               | 0.35 | 0.43 |      |      |      |      |
| 16     | 0.37               | 0.44 | 0.54 | 0.63 | 0.69 |      |      |
| 18     | 0.42               | 0.50 | 0.61 | 0.72 | 0.78 |      |      |
| 19     | 0.44               | 0.53 | 0.65 | 0.76 | 0.83 |      |      |
| 20     | 0.47               | 0.56 | 0.68 | 0.81 | 0.88 | 0.96 | 1.07 |
| 21     | 0.49               | 0.59 | 0.72 | 0.85 | 0.93 | 1.02 | 1.14 |
| 22     | 0.52               | 0.62 | 0.76 | 0.89 | 0.98 | 1.07 | 1.20 |
| 25     | 0.59               | 0.70 | 0.87 | 1.03 | 1.13 | 1.23 | 1.39 |
| 26     | 0.62               | 0.73 | 0.91 | 1.07 | 1.18 | 1.29 | 1.45 |
| 28     | 0.67               | 0.79 | 0.98 | 1.16 | 1.28 | 1.40 | 1.57 |
| 30     | 0.72               | 0.85 | 1.05 | 1.25 | 1.38 | 1.50 | 1.70 |
| 32     | 0.76               | 0.91 | 1.12 | 1.34 | 1.48 | 1.61 | 1.82 |
| 35     | 0.83               | 1.00 | 1.24 | 1.47 | 1.62 | 1.78 | 2.00 |
| 38     | 0.91               | 1.08 | 1.35 | 1.60 | 1.77 | 1.94 | 2.20 |
| 40     | 0.96               | 1.15 | 1.42 | 1.69 | 1.87 | 2.05 | 2.31 |
| 42     |                    | 1.21 | 1.49 | 1.78 | 1.97 | 2.15 | 2.43 |
| 45     |                    | 1.30 | 1.61 | 1.91 | 2.12 | 2.32 | 2.62 |
| 48     |                    | 1.38 | 1.72 | 2.05 | 2.26 | 2.48 | 2.80 |
| 50     |                    | 1.44 | 1.79 | 2.14 | 2.36 | 2.59 | 2.93 |
| 51     |                    | 1.47 | 1.83 | 2.18 | 2.41 | 2.64 | 2.99 |
| 55     |                    | 1.59 | 1.98 | 2.36 | 2.61 | 2.86 | 3.23 |
| 60     |                    |      |      | 2.58 | 2.86 | 3.13 | 3.54 |
| 63     |                    |      |      | 2.71 | 3.00 | 3.29 | 3.73 |
| 70     |                    |      |      | 3.02 | 3.35 | 3.67 | 4.16 |
| 76     |                    |      |      | 3.29 | 3.65 | 4.00 | 4.53 |
| 80     |                    |      |      | 3.47 | 3.84 | 4.22 | 4.77 |
| 89     |                    |      |      |      | 4.29 | 4.70 | 5.33 |
| 90     |                    |      |      |      |      |      | 5.39 |

## WATER AND GAS PIPES (DIN 2440)

| Nominal Diameter | Outer Diameter | Wall Thickness | Black Gear With Sleeve | Galvanised Gear With Sleeve | Black With Flat End | Galvanised Flat End |
|------------------|----------------|----------------|------------------------|-----------------------------|---------------------|---------------------|
| inç              | mm             | mm             | kg/m                   | kg/m                        | kg/m                | kg/m                |
| 3/8              | 10             | 17.20          | 2.35                   | 0.86                        | 0.90                | 0.85                |
| 1/2              | 15             | 21.30          | 2.65                   | 1.23                        | 1.29                | 1.22                |
| 3/4              | 20             | 26.90          | 2.65                   | 1.59                        | 1.66                | 1.58                |
| 1                | 25             | 33.70          | 3.25                   | 2.46                        | 2.57                | 2.44                |
| 1 1/4            | 32             | 42.40          | 3.25                   | 3.17                        | 3.31                | 3.14                |
| 1 1/2            | 40             | 48.30          | 3.25                   | 3.65                        | 3.81                | 3.61                |
| 2                | 50             | 60.30          | 3.65                   | 5.17                        | 5.40                | 5.10                |
| 2 1/2            | 65             | 76.10          | 3.65                   | 6.63                        | 6.93                | 6.51                |
| 3                | 80             | 88.90          | 4.05                   | 8.64                        | 9.03                | 8.47                |
| 4                | 100            | 114.30         | 4.50                   | 12.40                       | 13.09               | 12.10               |
| 5                | 125            | 139.70         | 4.85                   | 16.70                       | 17.50               | 16.20               |
| 6                | 150            | 165.10         | 4.85                   | 19.80                       | 20.70               | 19.20               |

## WATER AND GAS PIPES (HEAVY SECTION) (DIN 2441)

| Nominal Diameter | Outer Diameter | Wall Thickness | Black Gear With Sleeve | Galvanised Gear With Sleeve | Black With Flat End | Galvanised With Flat End |
|------------------|----------------|----------------|------------------------|-----------------------------|---------------------|--------------------------|
| inç              | mm             | mm             | kg/m                   | kg/m                        | kg/m                | kg/m                     |
| 3/8              | 10             | 17.2           | 2.90                   | 1.03                        | 1.08                | 1.02                     |
| 1/2              | 15             | 21.3           | 3.25                   | 1.46                        | 1.53                | 1.45                     |
| 3/4              | 20             | 26.9           | 3.25                   | 1.91                        | 2.00                | 1.90                     |
| 1                | 25             | 33.7           | 4.05                   | 2.99                        | 3.12                | 2.97                     |
| 1 1/4            | 32             | 42.4           | 4.05                   | 3.87                        | 4.04                | 3.84                     |
| 1 1/2            | 40             | 48.3           | 4.05                   | 4.47                        | 4.67                | 4.43                     |
| 2                | 50             | 60.3           | 4.50                   | 6.24                        | 6.52                | 6.17                     |
| 2 1/2            | 65             | 76.1           | 4.50                   | 8.02                        | 8.38                | 7.90                     |
| 3                | 80             | 88.9           | 4.85                   | 10.3                        | 10.76               | 10.01                    |
| 4                | 100            | 114.3          | 5.40                   | 14.7                        | 15.36               | 14.40                    |
| 5                | 125            | 139.7          | 5.40                   | 18.3                        | 18.7                | 17.80                    |
| 6                | 150            | 165.1          | 5.40                   | 21.8                        | 22.3                | 21.20                    |



ArcelorMittal  
Distribution Solutions  
**ROZAK**

## HOT ROLLED PLATES (Tolerances EN 10029)

| Thickness<br>mm | pcs weight (kg)              |           |           |           |            |           |           |            |            |            |
|-----------------|------------------------------|-----------|-----------|-----------|------------|-----------|-----------|------------|------------|------------|
|                 | Dimensions ( Width X Length) |           |           |           |            |           |           |            |            |            |
|                 | 1200x2400                    | 1250x2500 | 1500x3000 | 1500x6000 | 1500x12000 | 2000x6000 | 2000x8000 | 2000x12000 | 2500x12000 | 3000x12000 |
| 6               | 136                          | 147       | 212       | 424       | 848        | 565       | 754       | 1130       | 1413       | 1696       |
| 8               | 181                          | 196       | 283       | 565       | 1130       | 754       | 1005      | 1507       | 1884       | 2261       |
| 10              | 226                          | 245       | 353       | 707       | 1413       | 942       | 1256      | 1884       | 2355       | 2826       |
| 12              | 271                          | 294       | 424       | 848       | 1696       | 1130      | 1507      | 2261       | 2826       | 3391       |
| 14              | 317                          | 343       | 495       | 989       | 1978       | 1319      | 1758      | 2638       | 3297       | 3956       |
| 15              | 339                          | 368       | 530       | 1060      | 2120       | 1413      | 1884      | 2826       | 3533       | 4239       |
| 16              | 362                          | 393       | 565       | 1130      | 2261       | 1507      | 2010      | 3014       | 3768       | 4522       |
| 18              | 407                          | 442       | 636       | 1272      | 2543       | 1696      | 2261      | 3391       | 4239       | 5087       |
| 20              | 452                          | 491       | 707       | 1413      | 2826       | 1884      | 2512      | 3768       | 4710       | 5652       |
| 22              | 497                          | 540       | 777       | 1554      | 3109       | 2072      | 2763      | 4145       | 5181       | 6217       |
| 25              | 565                          | 613       | 883       | 1766      | 3533       | 2355      | 3140      | 4710       | 5888       | 7065       |
| 30              | 678                          | 736       | 1060      | 2120      | 4239       | 2826      | 3768      | 5652       | 7065       | 8478       |
| 32              | 723                          | 785       | 1130      | 2261      | 4522       | 3014      | 4019      | 6029       | 7536       | 9043       |
| 35              | 791                          | 859       | 1236      | 2473      | 4946       | 3297      | 4396      | 6594       | 8243       | 9891       |
| 40              | 904                          | 981       | 1413      | 2826      | 5652       | 3768      | 5024      | 7536       | 9420       | 11304      |
| 45              | 1017                         | 1104      | 1590      | 3179      | 6359       | 4239      | 5652      | 8478       | 10598      | 12717      |
| 50              | 1130                         | 1227      | 1766      | 3533      | 7065       | 4710      | 6280      | 9420       | 11775      | 14130      |
| 55              | 1243                         | 1349      | 1943      | 3886      | 7772       | 5181      | 6908      | 10362      | 12953      |            |
| 60              | 1356                         | 1472      | 2120      | 4239      | 8478       | 5652      | 7536      | 11304      | 14130      |            |
| 70              | 1583                         | 1717      | 2473      | 4946      | 9891       | 6594      | 8792      | 13188      |            |            |
| 80              | 1809                         | 1963      | 2826      | 5652      | 11304      | 7536      | 10048     |            |            |            |
| 90              | 2035                         | 2208      | 3179      | 6359      | 12717      | 8478      | 11304     |            |            |            |
| 100             | 2261                         | 2453      | 3533      | 7065      | 14130      | 9420      | 12560     |            |            |            |
| 110             | 2487                         | 2698      | 3886      | 7772      |            | 10362     |           |            |            |            |
| 120             | 2713                         | 2944      | 4239      | 8478      |            | 11304     |           |            |            |            |
| 130             | 2939                         | 3189      | 4592      | 9185      |            | 12246     |           |            |            |            |
| 150             | 3391                         | 3680      | 5299      | 10598     |            | 14130     |           |            |            |            |
| 200             | 4522                         | 4906      | 7065      | 14130     |            |           |           |            |            |            |

Thickness : 6-200 mm  
Width : 1400-3500 mm  
Length : 2000-14000 mm  
Steel Grade: Structural, Pressure Vessels, Boiler, Ship Building

## HRC - HRS HOT ROLLED COILS & SHEETS (Toleranslar EN 10051)

| Thickness<br>mm | Unit Weight<br>kg/m <sup>2</sup> | pcs weight (kg)              |           |           |           |           |            |           |           |
|-----------------|----------------------------------|------------------------------|-----------|-----------|-----------|-----------|------------|-----------|-----------|
|                 |                                  | Dimensions ( Width X Length) |           |           |           |           |            |           |           |
|                 |                                  | 1000x2000                    | 1200x2400 | 1250x2500 | 1500x3000 | 1500x6000 | 1500x12000 | 2000x6000 | 2000x8000 |
| 1.5             | 11.78                            | 24                           | 34        | 37        | 53        | 106       | 212        | 141       | 188       |
| 2               | 15.70                            | 31                           | 45        | 49        | 71        | 141       | 283        | 188       | 251       |
| 2.5             | 19.62                            | 39                           | 57        | 61        | 88        | 177       | 353        | 236       | 314       |
| 3               | 23.55                            | 47                           | 68        | 74        | 106       | 212       | 424        | 283       | 377       |
| 4               | 31.40                            | 63                           | 90        | 98        | 141       | 283       | 565        | 377       | 502       |
| 5               | 39.25                            | 79                           | 113       | 123       | 177       | 353       | 707        | 471       | 628       |
| 6               | 47.10                            | 94                           | 136       | 147       | 212       | 424       | 848        | 565       | 754       |
| 7               | 54.95                            | 110                          | 158       | 172       | 247       | 495       | 989        | 659       | 879       |
| 8               | 62.80                            | 126                          | 181       | 196       | 283       | 565       | 1130       | 754       | 1005      |
| 9               | 70.65                            | 141                          | 203       | 221       | 318       | 636       | 1272       | 848       | 1130      |
| 10              | 78.50                            | 157                          | 226       | 245       | 353       | 707       | 1413       | 942       | 1256      |
| 11              | 86.35                            | 173                          | 249       | 270       | 389       | 777       | 1554       | 1036      | 1382      |
| 12              | 94.20                            | 188                          | 271       | 294       | 424       | 848       | 1696       | 1130      | 1507      |
| 13              | 102.05                           | 204                          | 294       | 319       | 459       | 918       | 1837       | 1225      | 1633      |
| 14              | 109.90                           | 220                          | 317       | 343       | 495       | 989       | 1978       | 1319      | 1758      |
| 15              | 117.75                           | 236                          | 339       | 368       | 530       | 1060      | 2120       | 1413      | 1884      |
| 16              | 125.60                           | 251                          | 362       | 393       | 565       | 1130      | 2261       | 1507      | 2010      |

Thickness : 1.5-16 mm  
Width : 1000-2000 mm  
Steel Grade: Structural, Pressure Vessels, Boiler, Ship Building

## COLLED ROLLED COILS & SHEETS

(Tolerances EN 10131)

| Thickness<br>mm | Unit Weight<br>kg/m <sup>2</sup> | pcs weight (kg)            |           |           |
|-----------------|----------------------------------|----------------------------|-----------|-----------|
|                 |                                  | Dimension (Width X Length) |           |           |
|                 |                                  | 1000x2000                  | 1250x2500 | 1500x3000 |
| 0.40            | 3.14                             | 6.28                       | 9.81      | 14.13     |
| 0.50            | 3.93                             | 7.85                       | 12.27     | 17.66     |
| 0.60            | 4.71                             | 9.42                       | 14.72     | 21.20     |
| 0.70            | 5.50                             | 10.99                      | 17.17     | 24.73     |
| 0.80            | 6.28                             | 12.56                      | 19.63     | 28.26     |
| 0.90            | 7.07                             | 14.13                      | 22.08     | 31.78     |
| 1.00            | 7.85                             | 15.70                      | 24.53     | 35.33     |
| 1.25            | 9.81                             | 19.62                      | 30.66     | 44.15     |
| 1.50            | 11.78                            | 23.56                      | 36.81     | 53.01     |
| 2.00            | 15.70                            | 31.40                      | 49.06     | 70.65     |
| 2.50            | 19.62                            | 39.24                      | 61.31     | 88.29     |
| 3.00            | 23.55                            | 47.10                      | 73.59     | 105.98    |

Thickness : 0.35-3.0 mm  
Width : 1000-2000 mm

## DIAMOND & TEAR DROP PLATES

| Thickness<br>mm | Dimension<br>mm | pcs weight (kg) |           |
|-----------------|-----------------|-----------------|-----------|
|                 |                 | Diamond         | Tear Drop |
| 1.5/2.5         | 1000 x 2000     | 31.55           | 27.55     |
| 1.5/2.5         | 1219 x 2400     | 46.15           | 40.30     |
| 1.5/2.5         | 1250 x 2500     | 49.30           | 43.05     |
| 2/3             | 1000 x 2000     | 39.40           | 35.40     |
| 2/3             | 1219 x 2400     | 57.63           | 51.78     |
| 2/3             | 1250 x 2500     | 61.56           | 55.31     |
| 3/4             | 1000 x 2000     | 55.10           | 51.10     |
| 3/4             | 1219 x 2400     | 80.60           | 74.75     |
| 3/4             | 1250 x 2500     | 110.83          | 104.33    |
| 4/5             | 1000 x 2000     | 70.80           | 66.80     |
| 4/5             | 1219 x 2400     | 103.57          | 97.52     |
| 4/5             | 1250 x 2500     | 110.83          | 104.38    |
| 5/6             | 1000 x 2000     | 86.50           | 82.50     |
| 5/6             | 1219 x 2400     | 126.53          | 120.68    |
| 5/6             | 1250 x 2500     | 135.16          | 128.91    |
| 6/7             | 1000 x 2000     | 102.20          | 98.20     |
| 6/7             | 1219 x 2400     | 149.50          | 143.65    |
| 6/7             | 1250 x 2500     | 159.69          | 153.44    |
| 7/8             | 1000 x 2000     | 117.90          | 113.60    |
| 7/8             | 1219 x 2400     | 172.46          | 166.61    |
| 7/8             | 1250 x 2500     | 184.22          | 177.97    |
| 8/9             | 1000 x 2000     | 133.60          | 129.60    |
| 8/9             | 1219 x 2400     | 195.43          | 189.58    |
| 8/9             | 1250 x 2500     | 208.75          | 202.50    |
| 9/10            | 1000 x 2000     | 149.30          | 145.30    |
| 9/10            | 1219 x 2400     | 218.40          | 212.54    |
| 9/10            | 1250 x 2500     | 233.28          | 227.03    |
| 10/11           | 1000 x 2000     | 165.00          | 161.00    |
| 10/11           | 1219 x 2400     | 241.36          | 235.51    |
| 10/11           | 1250 x 2500     | 257.81          | 251.56    |



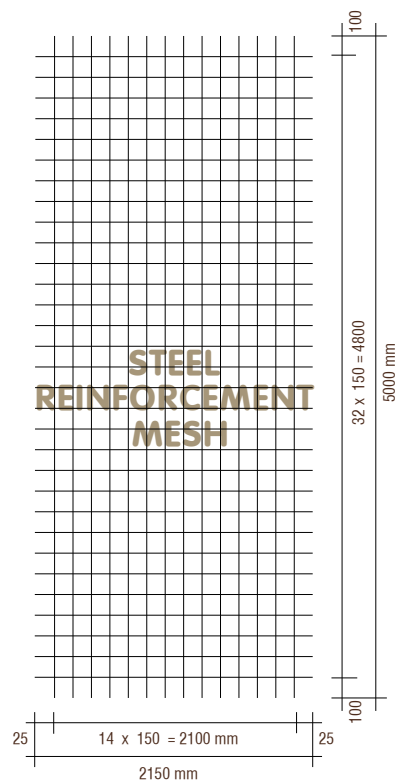
TEAR DROP PATTERN



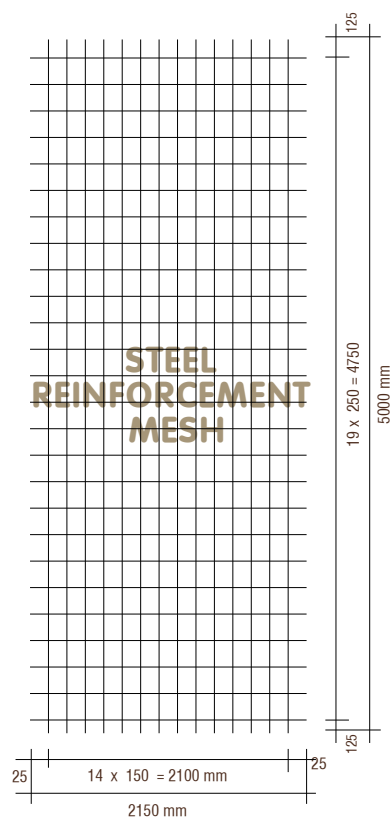
DIAMOND PATTERN

# STEEL REINFORCEMENT MESH

## SINGLE BAR Q MESH



## SINGLE BAR R MESH



## MESH LIST

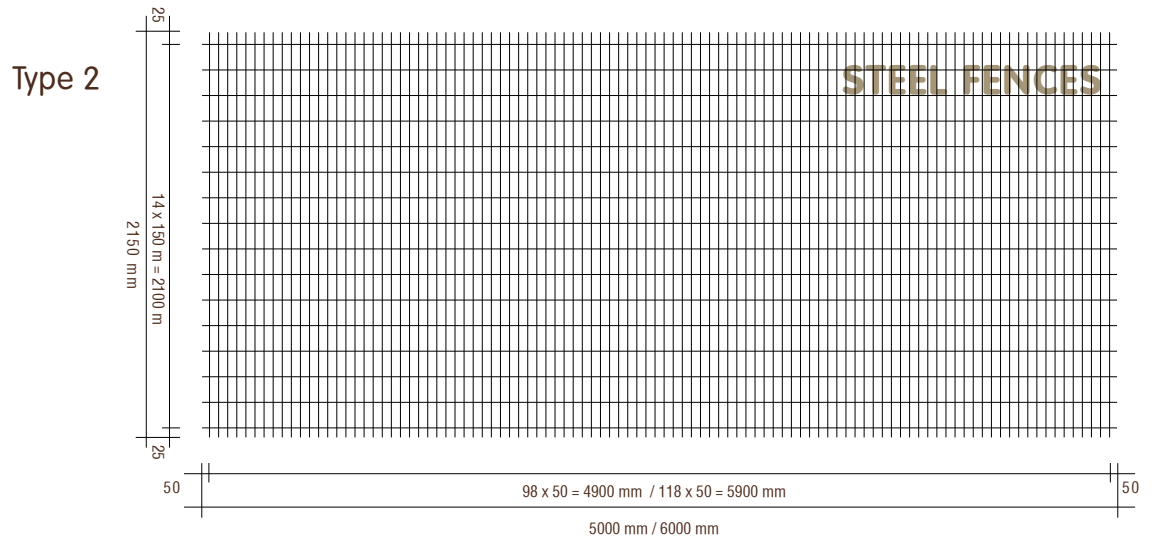
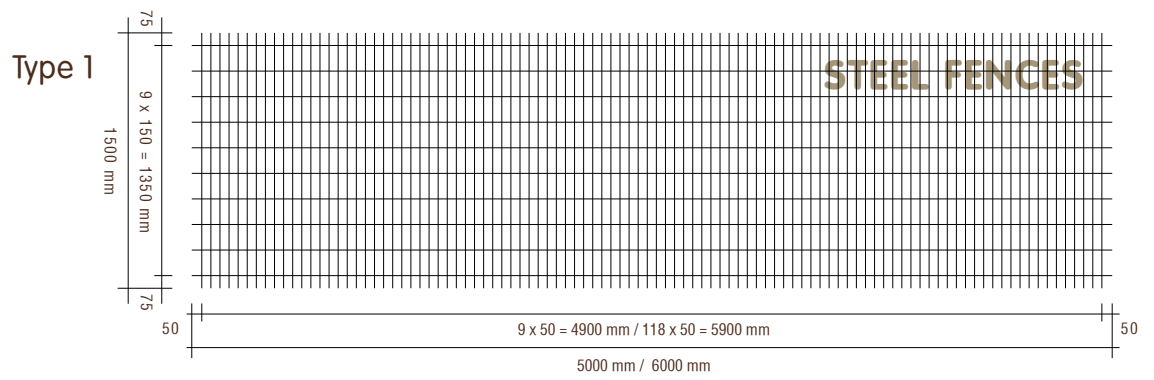
| Mesh Type | Bar ( mm ) |       |          |       | Weight |                   |
|-----------|------------|-------|----------|-------|--------|-------------------|
|           | Spacing    |       | Diameter |       | kg/pcs | kg/m <sup>2</sup> |
|           | Length     | Width | Length   | Width |        |                   |
| Q106/106  | 150        | 150   | 4.5      | 4.5   | 18.22  | 1.69              |
| Q131/131  | 150        | 150   | 5.0      | 5.0   | 22.50  | 2.09              |
| Q158/158  | 150        | 150   | 5.5      | 5.5   | 27.22  | 2.54              |
| Q188/188  | 150        | 150   | 6.0      | 6.0   | 32.39  | 3.01              |
| Q221/221  | 150        | 150   | 6.5      | 6.5   | 38.02  | 3.54              |
| Q335/188  | 150        | 150   | 8.0/6.0  | 6.0   | 43.40  | 4.04              |
| Q335/335  | 150        | 150   | 8.0      | 8.0   | 57.70  | 5.37              |
| R106      | 150        | 250   | 4.5      | 4.5   | 14.73  | 1.38              |
| R131      | 150        | 250   | 5.0      | 5.0   | 18.19  | 1.69              |
| R158      | 150        | 250   | 5.5      | 5.0   | 20.62  | 1.92              |
| R188      | 150        | 250   | 6.0      | 5.0   | 23.27  | 2.17              |
| R221      | 150        | 250   | 6.5      | 5.0   | 26.16  | 2.43              |
| R257      | 150        | 250   | 7.0      | 5.0   | 29.29  | 2.73              |
| R335      | 150        | 250   | 8.0/6.0  | 5.0   | 34.30  | 3.19              |
| R377      | 150        | 250   | 8.5/6.0  | 5.0   | 37.00  | 3.44              |
| R443      | 150        | 250   | 6.5d     | 5.5   | 41.88  | 3.89              |
| R513      | 150        | 250   | 7.0d     | 6.0   | 48.82  | 4.54              |

Available mesh sizes in stock: 2.15/5.00 m.

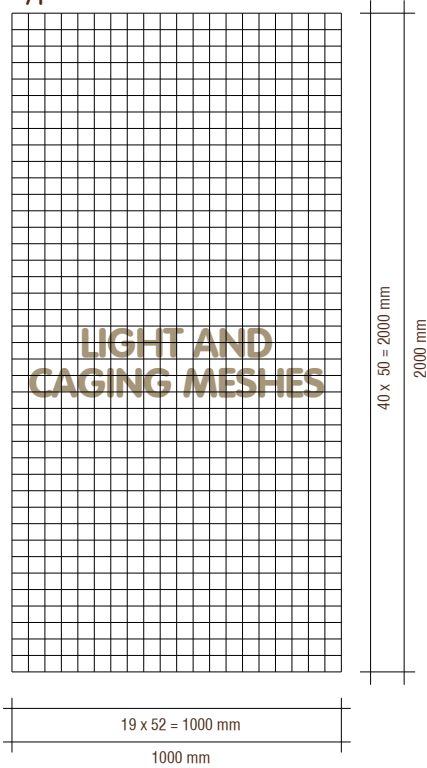
## WEIGHT TABLE

| Bar Diameter | Bar Unit Weight | Unit Weight (kg/m <sup>2</sup> ) |          |      |      |      |      |      |
|--------------|-----------------|----------------------------------|----------|------|------|------|------|------|
|              |                 | Bar Spacing (mm)                 |          |      |      |      |      |      |
|              |                 | 50 ~100d                         | 75 ~150d | 100  | 150  | 200  | 250  | 300  |
| 4.0          | 0.099           | 1.97                             | 1.32     | 0.99 | 0.66 | 0.49 | 0.39 | 0.33 |
| 4.5          | 0.125           | 2.50                             | 1.66     | 1.25 | 0.83 | 0.63 | 0.50 | 0.42 |
| 5.0          | 0.154           | 3.09                             | 2.06     | 1.54 | 1.03 | 0.77 | 0.62 | 0.51 |
| 5.5          | 0.187           | 3.73                             | 2.49     | 1.87 | 1.24 | 0.93 | 0.75 | 0.62 |
| 6.0          | 0.222           | 4.44                             | 2.96     | 2.22 | 1.48 | 1.11 | 0.89 | 0.74 |
| 6.5          | 0.260           | 5.21                             | 3.47     | 2.61 | 1.73 | 1.30 | 1.04 | 0.87 |
| 7.0          | 0.302           | 6.04                             | 4.03     | 3.02 | 2.02 | 1.51 | 1.21 | 1.00 |
| 7.5          | 0.347           | 6.94                             | 4.62     | 3.47 | 2.32 | 1.73 | 1.39 | 1.15 |
| 8.0          | 0.395           | 7.89                             | 5.26     | 3.95 | 2.63 | 1.97 | 1.58 | 1.32 |
| 8.5          | 0.445           | 8.91                             | 5.94     | 4.45 | 2.97 | 2.23 | 1.78 | 1.48 |
| 9.0          | 0.499           | 9.99                             | 6.66     | 4.99 | 3.33 | 2.50 | 1.99 | 1.66 |
| 9.5          | 0.556           | 11.13                            | 7.42     | 5.57 | 3.71 | 2.78 | 2.23 | 1.85 |
| 10.0         | 0.617           | 12.33                            | 8.22     | 6.16 | 4.11 | 3.09 | 2.46 | 2.06 |
| 10.5         | 0.680           | 13.60                            | 9.07     | 6.80 | 4.53 | 3.40 | 2.72 | 2.27 |
| 11.0         | 0.746           | 14.92                            | 9.95     | 7.46 | 4.98 | 3.73 | 2.98 | 2.49 |
| 11.5         | 0.815           | 16.30                            | 10.87    | 8.16 | 5.43 | 4.07 | 3.26 | 2.72 |
| 12.0         | 0.888           | 17.76                            | 11.84    | 8.88 | 5.92 | 4.44 | 3.55 | 2.96 |

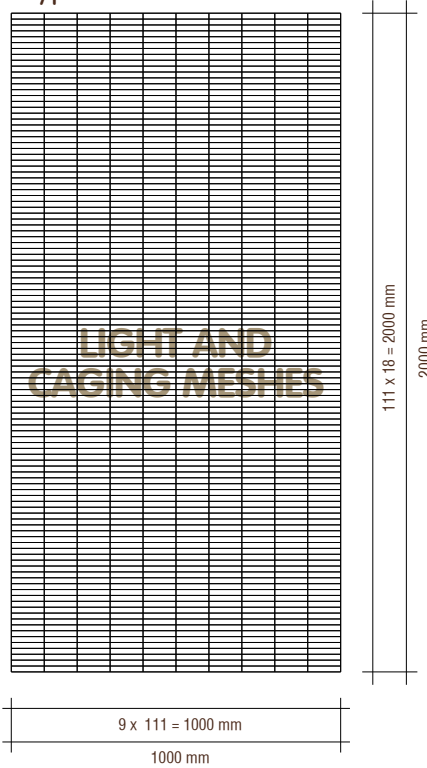
The m<sup>2</sup> area weight of the mesh is equal to the total of bar weights in both directions.



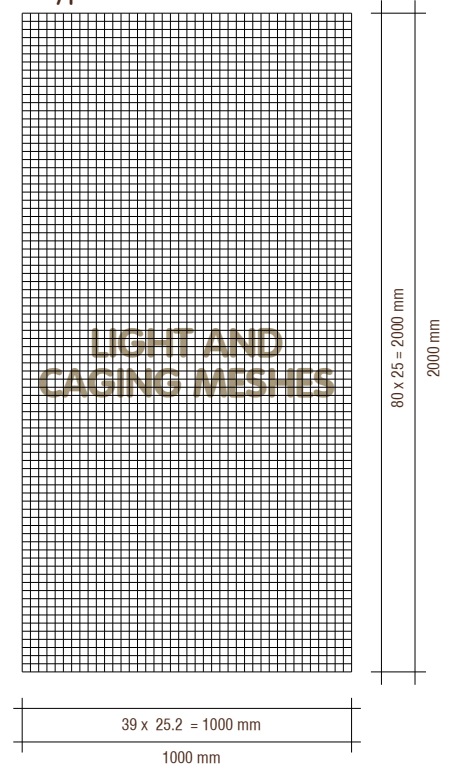
**Type 3**



**Type 4**



**Type 5**



|               | Type 1                     | Type 2                       | Type 3                                    | Type 4         | Type 5        |
|---------------|----------------------------|------------------------------|-------------------------------------------|----------------|---------------|
| Mesh Size     | 1.5 m x 5 m<br>1.5 m x 6 m | 2.15 m x 5 m<br>2.15 m x 6 m | 1 m x 2 m                                 | 1 m x 2 m      | 1 m x 2 m     |
| Mesh Spacing  | 150 mm x 50 mm             | 150 mm x 50 mm               | 50 mm x 50 mm                             | 111 mm x 18 mm | 25 mm x 25 mm |
| Wire Diameter | 5 mm x 5 mm                | 5 mm x 5 mm                  | 5 mm x 4 mm<br>4 mm x 4 mm<br>3 mm x 3 mm | 3 mm x 2.5 mm  | 3 mm x 3 mm   |

**Head Office:**

Gulsan Plaza Ruzgarlibahce Mah.  
Cumhuriyet Cad. No:22  
Kavacik - Beykoz - ISTANBUL  
Tel: +90 216 538 54 00 Fax: +90 216 537 83 00

**İkitelli:**

İkitelli Organize Sanayii Bolgesi  
Depo ve Ardiyeciler Kooperatifi İkitelli - Istanbul  
Tel: +90 212 675 10 00 (pbx) Fax: +90 212 675 10 25 - 26 - 27

**Gebze 1:**

Tavsanlı Kadiyeri Mevkii 41400 Gebze / Kocaeli  
Tel: +90 262 724 93 47 Fax: +90 262 724 93 79

**Gebze 2:**

Tavsanlı Kadiyeri Mevkii 41400 Gebze / Kocaeli  
Tel: +90 262 724 82 33 Fax: +90 262 724 82 34

**Gebze 3:**

Beylikbağı Mah. Istanbul Cad. Cer Metal 4/5/6 Nolu Depolar  
Gebze / Kocaeli  
Tel: +90 262 724 19 33 Fax: +90 262 743 44 07

**Eregli:**

Kısla Mah. Kısla Sok. Şişmanoglu Is Hani No:25 Kat:2 Eregli - ZONGULDAK  
Tel: +90 372 322 88 60 Fax: +90 372 322 88 59

e-mail: [info@rozakdemir.com](mailto:info@rozakdemir.com)

[www.rozakdemir.com](http://www.rozakdemir.com)