STEEL ENERGY EASY BUY CO.,LTD.

# POWER OF STEEL. EASY FOR ALL

# CATALOG

Comprehensive Steel Solutions:
Quality Products for Every Project.

"โซลูชันเหล็กครบวงจร: ผลิตภัณฑ์
คุณภาพเพื่อทุกโครงการ"

WWW.SEEBSTEEL.COM

# About Us

Steel Energy Easy Buy (SEEB) ก่อตั้งขึ้นจากวิสัยทัศน์ที่จะเปลี่ยนการซื้อขายเหล็กให้ง่าย โปร่งใส และทันสมัย เราเชื่อว่า “เหล็ก” คือรากฐานสำคัญของการสร้างสรรค์สิ่งใหม่ และธุรกิจเหล็กควรโปร่งใส ตรวจสอบได้ และเข้าถึงง่ายสำหรับทุกคน

ด้วยประสบการณ์ในอุตสาหกรรมเหล็กกว่า 20 ปี SEEB จึงไม่ใช่แค่ผู้จำหน่าย แต่คือพันธมิตรที่คุณวางใจได้ เราสร้างแพลตฟอร์ม Easy Buy Online ที่ช่วยให้ลูกค้าสามารถตรวจสอบราคา สต็อกสินค้า และสั่งซื้อได้ทันที ลดความซับซ้อน เพิ่มประสิทธิภาพในการทำงาน

วันนี้ SEEB พร้อมส่งมอบ พลังแห่งเหล็ก (Power of Steel) ที่เข้าถึงง่ายสำหรับทุกโครงการ ไม่ว่าคุณจะเป็นผู้รับเหมา ผู้พัฒนาโครงการ หรือธุรกิจรายย่อย

# Core Values

**คุณภาพที่เชื่อถือได้ (Reliable Quality)**
**ความรวดเร็วและตรงต่อเวลา(Prompt Delivery)**
**บริการที่เหนือกว่า (Service Excellence)**
**ความโปร่งใสและซื่อสัตย์(Integrity& Transparency)**

# Vision

**เป็นผู้นำการจัดจำหน่ายเหล็กออนไลน์ที่รวดเร็ว โปร่งใส และเข้าถึงง่ายสำหรับทุกธุรกิจ**

# Mission

**คัดสรรเหล็กคุณภาพมาตรฐานอุตสาหกรรม จัดการส่งตรง รวดเร็ว ทันเวลา พัฒนาระบบสั่งซื้อออนไลน์ ให้ลูกค้าใช้งานง่ายที่สุด เป็นพันธมิตรที่เชื่อถือได้สำหรับทุกโครงการ**

# About
# Our Products

SEEB มุ่งมั่นคัดสรรเหล็กคุณภาพสูง ครอบคลุมทุกประเภท ตั้งแต่เหล็กเส้น เหล็กรูปพรรณ เหล็กกล่อง เหล็กแผ่น ไปจนถึงเหล็กชุบกัลวาไนซ์

ผลิตภัณฑ์ของเราผ่านมาตรฐานอุตสาหกรรม(มอก.) และมาตรฐานสากล (JIS, ASTM) เหมาะสำหรับงานก่อสร้างทุกขนาด ทั้งโครงการบ้านพักอาศัย อาคารสูง โรงงานอุตสาหกรรม ไปจนถึงโครงสร้างขนาดใหญ่

เรามีการจัดแบ่งหมวดหมู่สินค้าอย่างชัดเจน พร้อมข้อมูลสเปคครบถ้วน เพื่อให้ลูกค้าเลือกใช้ได้ตรงตามความต้องการและมั่นใจได้ในความแข็งแรง ทนทาน และคุ้มค่า

SEEB offers a complete range of high–quality steel products – from rebars, structural steel, hollow sections, and steel plates, to galvanized steel solutions.

All products comply with Thai Industrial Standards (TIS) and international standards (JIS, ASTM), ensuring reliability and durability for every type of construction project, whether residential, commercial,industrial,or large–scale infrastructure.

Our catalog is carefully categorized with detailed specifications, making it easier for customers to select the right steel for their needs, with confidence in both quality and value.

## The best work from us for your business

## "ผลงานที่ดีที่สุดจากเราเพื่อธุรกิจของคุณ"

- **Why Choose SEEB?**
- **ซื้อขายง่ายดาย ผ่านระบบ Easy Buy Online**
- **มีเหล็กครบทุกประเภทสำหรับโครงการ**
- **ราคายุติธรรม โปร่งใส ตรวจสอบได้**
- **จัดส่งครอบคลุม ด้วยรถบรรทุกหลายขนาด**
- **ทีมงานมืออาชีพ พร้อมให้คำปรึกษา**

# เหล็กกล่องสี่เหลี่ยม Carbon Steel Square Pipes For General Structural Purposes

| ขนาด | ความหนา (mm) | น้ำหนัก/เส้น (กก.) | ขนาด | ความหนา (mm) | น้ำหนัก/เส้น (กก.) |
|---|---|---|---|---|---|
| **GI 1” x 1” S (23x23)** | 0.7<br>0.8<br>0.9<br>1.0<br>1.1<br>1.3<br>1.5<br>1.55<br>1.7<br>1.85 | 2.8 +/-<br>3.3 +/-<br>3.7 +/-<br>4.1 +/-<br>4.5 +/-<br>5.3 +/-<br>6.1 +/-<br>6.3 +/-<br>6.9 +/-<br>7.5 +/- | **GI 1” x 1” L (25x25)** | 07<br>0.8<br>0.9<br>1.0<br>1.1<br>1.3<br>1.5<br>1.55<br>1.7<br>1.85 | 3.0 +/-<br>3.5 +/-<br>4.0 +/-<br>4.4 +/-<br>4.8 +/-<br>5.7 +/-<br>6.6 +/-<br>6.8 +/-<br>7.5 +/-<br>8.1 +/- |
| GI 1¼” x 1¼” S (30x30) | 0.9<br>1.0<br>1.1<br>1.3<br>1.5<br>1.55<br>1.7<br>1.85 | 4.8 +/-<br>5.4 +/-<br>5.9 +/-<br>7.0 +/-<br>8.0 +/-<br>8.4 +/-<br>9.2 +/-<br>10.1 +/- | **GI 1¼” x 1 1¼” L (32x32)** | 0.9<br>1.0<br>1.1<br>1.3<br>1.5<br>1.55<br>1.7<br>1.85 | 5.1 +/-<br>5.7 +/-<br>6.2 +/-<br>7.4 +/-<br>8.5 +/-<br>8.8 +/-<br>9.6 +/-<br>10.4 +/- |
| GI 1½” x 1½” S | 0.8<br>0.9<br>1.0<br>1.1<br>1.3<br>1.5<br>1.55<br>1.77<br>1.85 | 5.1 +/-<br>5.8 +/-<br>6.4 +/-<br>7.0 +/-<br>8.3 +/-<br>9.6 +/-<br>9.9 +/-<br>10.8 +/-<br>11.8 +/- | **GI 1½” x 1½” L** | 0.8<br>0.9<br>1.0<br>1.1<br>1.3<br>1.5<br>1.55<br>1.7<br>1.85 | 5.4 +/-<br>6.0 +/-<br>6.7 +/-<br>7.4 +/-<br>8.7 +/-<br>10.1 +/-<br>10.4 +/-<br>11.4 +/-<br>12.4 +/- |

# เหล็กกล่องสี่เหลี่ยม

## Carbon Steel Square Pipes For General Structural Purposes

| ขนาด | ความหนา (mm) | น้ำหนัก/เส้น (กก.) | ขนาด | ความหนา (mm) | น้ำหนัก/เส้น (กก.) |
|---|---|---|---|---|---|
| **GI 2” x 2” S (48x48)** | 1.0<br>1.1<br>1.3<br>1.5<br>1.55<br>1.7<br>1.85 | 8.7 +/-<br>9.5 +/-<br>11.3 +/-<br>13.0 +/-<br>13.5 +/-<br>14.8 +/-<br>16.1 +/- | **GI 2” x 2” L (50x50)** | 1.0<br>1.1<br>1.3<br>1.5<br>1.55<br>1.7<br>1.85 | 9.1 +/-<br>10.1 +/-<br>11.9 +/-<br>13.7 +/-<br>14.2 +/-<br>15.6 +/-<br>17.0 +/- |
| GI 3” x 3” S (72x72) | 1.3<br>1.5<br>1.55<br>1.7<br>1.85 | 17.3 +/-<br>20.1 +/-<br>20.6 +/-<br>22.6 +/-<br>24.6 +/- | **GI 3” x 3” L (75x75)** | 1.3<br>1.5<br>1.55<br>1.7<br>1.85 | 18.0 +/-<br>20.8 +/-<br>21.5 +/-<br>23.6 +/-<br>27.7 +/ |
| **GI 3” x 3” S (98x98)** | 1.3<br>1.5<br>1.55<br>1.7<br>1.85<br>2.05 | 23.7 +/-<br>27.3 +/-<br>28.2 +/-<br>30.8 +/-<br>33.5 +/-<br>37.3 +/- | **GI 4” x 4” L (100x100)** | 1.3<br>1.5<br>1.55<br>1.7<br>1.85<br>2.05 | 24.2 +/-<br>27.9 +/-<br>28.8 +/-<br>31.6 +/-<br>34.7 +/-<br>38.1 +/- |

# เหล็กกล่องแบน

# Carbon Steel Rectangulur Pipes For General Structural Purposes

| ขนาด | ความหนา (mm) | น้ำหนัก/เส้น (กก.) | ขนาด | ความหนา (mm) | น้ำหนัก/เส้น (กก.) |
|---|---|---|---|---|---|
| GI 2” x 1” S (47x23) | 0.7<br>0.8<br>0.9<br>1.0<br>1.1<br>1.3<br>1.5<br>1.55<br>1.7<br>1.85 | 4.3 +/-<br>5.1 +/-<br>5.8 +/-<br>6.4 +/-<br>7.0 +/-<br>8.3 +/-<br>9.6 +/-<br>9.9 +/-<br>10.8 +/-<br>11.9 +/- | GI 2” x 1” L (50x25) | 0.7<br>0.8<br>0.9<br>1.0<br>1.1<br>1.3<br>1.5<br>1.55<br>1.7<br>1.85 | 4.7 +/-<br>5.3 +/-<br>6.0 +/-<br>6.7 +/-<br>7.4 +/-<br>8.7 +/-<br>10.1 +/-<br>10.4 +/-<br>11.4 +/-<br>12.4 +/- |
| GI 3” x 1 1/2” S (70x33) | 0.7<br>0.8<br>0.9<br>1.0<br>1.2<br>1.3<br>1.5<br>1.55<br>1.7<br>1.85<br>2.05 | 6.7 +/-<br>7.6 +/-<br>8.6 +/-<br>9.5 +/-<br>10.5 +/-<br>12.4 +/-<br>14.3 +/-<br>14.8 +/-<br>16.2 +/-<br>17.6 +/-<br>19.6 +/- | GI 3” x 1 1/2” L (75x38) | 0.7<br>0.8<br>0.9<br>1.0<br>1.1<br>1.3<br>1.5<br>1.55<br>1.7<br>1.85<br>2.05 | 7.2 +/-<br>8.2 +/-<br>9.2 +/-<br>10.2 +/-<br>11.2 +/-<br>13.3 +/-<br>15.4 +/-<br>15.9 +/-<br>17.4 +/-<br>19.0 +/-<br>21.0 +/- |
| GI 4” x 2” S (97x47) | 0.9<br>1.0<br>1.1<br>1.3<br>1.5<br>1.55<br>1.7<br>1.85<br>2.05 | 12.0 +/-<br>13.3 +/-<br>14.6 +/-<br>17.3 +/-<br>20.1 +/-<br>20.6 +/-<br>22.6 +/-<br>24.6 +/-<br>27.3 +/- | GI 4” x 2” L (100x50) | 0.9<br>1.0<br>1.1<br>1.3<br>1.5<br>1.55<br>1.7<br>1.85<br>2.05 | 12.5 +/-<br>14.0 +/-<br>15.2 +/-<br>18.0 +/-<br>20.8 +/-<br>21.5 +/-<br>23.6 +/-<br>25.7 +/-<br>28.5 +/- |
| GI 6” x 2” S (148x48) | 1.3<br>1.5<br>1.55<br>1.7<br>1.85<br>2.05 | 23.7 +/-<br>27.3 +/-<br>28.2 +/-<br>30.8 +/-<br>33.5 +/-<br>37.3 +/- | GI 6” x 2” L (150x50) | 1.3<br>1.5<br>1.55<br>1.7<br>1.85<br>2.05 | 24.2 +/-<br>27.9 +/-<br>28.8 +/-<br>31.6 +/-<br>34.4 +/-<br>38.1 +/- |

# ROUND STEEL BARS

SIZES AND PREPERTIES TIS STANDARDS: 20-2559
Grade SR24 with the standard length of 10M

## เหล็กเส้น

ขนาดมาตรฐาน มอก. 20-2559
เกรด: SR24 ความยาวมาตรฐาน: 10 เมตร

### NOMINAL SIZES AND UNIT WEIGHT

| Desognation | Designation Diameter (mm) | Unit Weight (Kg/m) | Cross Sectional Area (mm2) |
|---|---|---|---|
| **RB6** | 6 | 0.222 | 28.3 |
| **RB9** | 9 | 0.499 | 63.6 |
| **RB12** | 12 | 0.888 | 113.1 |
| **RB15** | 15 | 1.387 | 176.7 |
| **RB19** | 19 | 2.226 | 283.5 |
| **RB25** | 25 | 3.853 | 490.9 |

# DEFORMED STEEL BARS

SIZES AND PREPERTIES TIS STANDARDS: 24-2559 Grade SD40,SD50 with the standard length of 10M and 12M.

## เหล็กข้ออ้อย

ขนาดมาตรฐาน มอก. 24-2559
เกรด: SD40, SD50
ความยาวมาตรฐาน: 10 และ 12 เมตร

### NOMINAL SIZES AND UNIT WEIGHT

| Desognation | Designation Diameter (mm) | Unit Weight (Kg/m) | Cross Sectional Area (mm2) |
|---|---|---|---|
| **DB10** | 10 | 0.616 | 78.5 |
| **DB12** | 12 | 0.888 | 113.1 |
| **DB16** | 16 | 1.578 | 201.1 |
| **DB20** | 20 | 2.466 | 314.2 |
| **DB25** | 25 | 3.853 | 490.9 |
| **DB28** | 28 | 4.834 | 615.8 |
| **DB32** | 32 | 6.313 | 804.25 |

# LIP CHANNEL STEEL

**SIZE AND PROPERTIES IN TIS STANDARDS 1228 : 2561**

**เหล็กตัวซี**

- มาตรฐาน: มอก. 1228-2561

| Dimenions mm. | | Sectional Area | Weight | Center of Gravity | | Secondaty Moment of Area | | Radius of Gyration of Area | | Modulus of Section | | Center of Shear | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H x A x C | t | cm | Kg/m | Cx cm | Cy cm | IX ($cm^4$) | IY ($cm^4$) | IX (cm) | IY ($cm^4$) | ZX ($cm^3$) | ZY ($cm^3$) | SX ($cm^2$) | SY ($cm^2$) |
| 60 x 30 x 10 | 1.6<br>2.0<br>2.3 | 2.072<br>2.537<br>2.872 | 1.63<br>1.99<br>2.25 | 0<br>0<br>0 | 1.06<br>1.06<br>1.06 | 11.60<br>14.00<br>15.60 | 2.56<br>3.01<br>3.32 | 2.37<br>2.35<br>2.33 | 1.11<br>1.09<br>1.07 | 3.88<br>4.65<br>5.20 | 1.32<br>1.55<br>1.71 | 2.50<br>2.50<br>2.50 | 0.00<br>0.00<br>0.00 |
| 60 x 30 x 10 | 1.6<br>2.0<br>2.3 | 2.952<br>3.637<br>4.137 | 2.32<br>2.86<br>3.25 | 0<br>0<br>0 | 1.72<br>1.72<br>1.72 | 27.10<br>33.00<br>37.10 | 8.71<br>10.50<br>11.80 | 3.03<br>3.01<br>3.00 | 1.72<br>1.70<br>1.69 | 7.24<br>8.79<br>9.90 | 3.13<br>3.76<br>4.24 | 4.10<br>4.00<br>4.00 | 0.00<br>0.00<br>0.00 |
| 100 x 50 x 20 | 1.6<br>2.0<br>2.3<br>2.8<br>3.2<br>4.0<br>45 | 3.672<br>4.537<br>5.172<br>6.205<br>7.007<br>8.548<br>9.469 | 2.88<br>3.56<br>4.06<br>4.87<br>5.50<br>6.71<br>7.43 | 0<br>0<br>0<br>0<br>0<br>0<br>0 | 1.86<br>1.86<br>1.86<br>1.86<br>1.86<br>1.86<br>1.86 | 58.40<br>71.40<br>80.70<br>99.80<br>107.00<br>127.00<br>139.00 | 14.00<br>16.90<br>19.00<br>23.20<br>24.50<br>28.70<br>30.90 | 3.99<br>3.97<br>3.95<br>3.93<br>3.90<br>3.85<br>3.82 | 1.95<br>1.93<br>1.92<br>1.89<br>1.87<br>1.83<br>1.81 | 11.70<br>14.30<br>16.10<br>19.45<br>21.30<br>25.40<br>27.70 | 4.47<br>5.40<br>6.06<br>7.44<br>7.81<br>9.13<br>9.82 | 4.50<br>4.40<br>4.40<br>4.40<br>4.40<br>4.30<br>4.30 | 0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00<br>0.00 |
| 125x50x20 | 2.3<br>2.8<br>3.2<br>4.0<br>4.5 | 5.747<br>6.905<br>7.807<br>9.548<br>10.590 | 4.51<br>5.42<br>3.13<br>7.00<br>8.32 | 0<br>0<br>0<br>0<br>0 | 1.69<br>1.68<br>1.68<br>1.68<br>1.68 | 1.37.00<br>161.44<br>181.00<br>217.00<br>238.00 | 20.60<br>23.93<br>26.60<br>33.10<br>33.50 | 4.88<br>4.85<br>4.82<br>4.77<br>4.74 | 1.89<br>1.87<br>1.85<br>1.81<br>1.78 | 21.90<br>25.84<br>29.00<br>34.70<br>38.00 | 6.22<br>7.22<br>8.02<br>9.38<br>10.00 | 4.10<br>4.04<br>4.00<br>4.00<br>4.00 | 0.00<br>0.00<br>0.00<br>0.00<br>0.00 |
| 150x50x20 | 2.3<br>2.8<br>3.2<br>4.0<br>4.5 | 6.322<br>7.605<br>8.607<br>10.548<br>11.720 | 4.96<br>5.97<br>6.76<br>8.28<br>9.20 | 0<br>0<br>0<br>0<br>0 | 1.55<br>1.54<br>1.54<br>1.54<br>1.54 | 210.00<br>248.89<br>280.00<br>334.15<br>368.00 | 21..90<br>25.46<br>28.30<br>32.85<br>35.70 | 5.77<br>5.74<br>5.71<br>5.64<br>5.60 | 1.86<br>1.83<br>1.81<br>1.77<br>1.75 | 28.00<br>33.22<br>37.40<br>44.54<br>49.00 | 6.33<br>7.36<br>8.19<br>9.61<br>10.50 | 3.80<br>3.80<br>3.80<br>3.74<br>3.70 | 0.00<br>0.00<br>0.00<br>0.00<br>0.00 |
| 150x75x20 | 2.3<br>2.8<br>3.2<br>4.0<br>4.5 | 7.472<br>9.005<br>10.21<br>12.55<br>13.97 | 5.87<br>7.07<br>8.01<br>9.85<br>11.00 | 0<br>0<br>0<br>0<br>0 | 2.52<br>2.51<br>2.51<br>2.51<br>2.50 | 272.01<br>331.15<br>366.00<br>445.00<br>480.09 | 59.98<br>36.10<br>76.40<br>91.00<br>99.20 | 6.15<br>6.06<br>5.99<br>5.95<br>5.92 | 3.20<br>3.13<br>2.74<br>2.69<br>2.66 | 36.27<br>44.15<br>48.90<br>59.30<br>65.20 | 12.04<br>13.85<br>15.30<br>18.20<br>19.80 | 5.10<br>5.10<br>5.10<br>5.80<br>6.00 | 0.00<br>0.00<br>0.00<br>0.00<br>0.00 |
| 150x75x25 | 2.3<br>2.8<br>3.2<br>4.0<br>4.5 | 7.702<br>9.285<br>10.53<br>12.95<br>14.42 | 6.05<br>7.29<br>8.27<br>10.20<br>11.30 | 0<br>0<br>0<br>0<br>0 | 2.67<br>2.66<br>2.66<br>2.65<br>2.65 | 275.54<br>335.44<br>375..00<br>445.00<br>501.00 | 65.38<br>75.50<br>83.60<br>99.80<br>109.0<br>0 | 6.00<br>5.99<br>5.97<br>5.93<br>5.90 | 3.29<br>3.22<br>2.82<br>2.78<br>2.75 | 36.74<br>44.73<br>50.00<br>60.60<br>66.90 | 13.59<br>15.65<br>17.30<br>20.66<br>22.50 | 6.40<br>6.40<br>6.40<br>6.30<br>6.30 | 0.00<br>0.00<br>0.00<br>0.00<br>0.00 |
| 200x75x20 | 3.2<br>4.0<br>4.5 | 11.81<br>14.55<br>16.22 | 9.27<br>11.40<br>12.70 | 0<br>0<br>0 | 2.19<br>2.19<br>2.19 | 716.00<br>871.00<br>963.00 | 84.10<br>100.0<br>0<br>109.0<br>0 | 7.79<br>7.74<br>7.71 | 2.67<br>2.62<br>2.60 | 71.60<br>87.10<br>96.30 | 15.80<br>18.90<br>20.60 | 5.40<br>5.30<br>5.30 | 0.00<br>0.00<br>0.00 |
| 200x75x25 | 3.2<br>4.0<br>4.5 | 12.13<br>14.95<br>16.67 | 9.52<br>11.70<br>13.10 | 0<br>0<br>0 | 2.33<br>2.32<br>2.32 | 736.00<br>895.00<br>990.00 | 92.30<br>110.00<br>121.00 | 7.70<br>7.74<br>7.61 | 2.76<br>2.72<br>2.69 | 73.60<br>89.50<br>99.00 | 17.80<br>21.30<br>23.30 | 5.70<br>5.70<br>5.60 | 0.00<br>0.00<br>0.00 |
| 250x75x25 | 4.5 | 18.92 | 14.90 | 0 | 2.07 | 1690.00 | 129.00 | 9.44 | 2.62 | 135.00 | 23.80 | 5.10 | 0.00 |

# Carbon steel square pipe

## Size and Properties in TIS standards 107 - 2561"

# ท่อเหล็กรูปสี่เหลี่ยมจัตุรัส มอก.

## ขนาดและคุณสมบัติ ตามมาตรฐาน มอก. 107 - 2561

| Side Length | | Thickness | Calculate Weight | Cross Section Area | Geometrical Moment of Inertia | Modulus of Section | Radius of Gyration |
|---|---|---|---|---|---|---|---|
| DxD | | mm | Kg/m | $cm^2$ | $cm^4$ | $cm^3$ | cm |
| IN | MM | T | W | A | Ix,Iy | Zx,Zy | Ix,Iy |
| 1"x1" | 25x25 | 1.6<br>2.0<br>2.3 | 1.12<br>1.36<br>1.53 | 1.432<br>1.737<br>1.972 | 1.28<br>1.48<br>1.61 | 1.02<br>1.19<br>1.29 | 0.95<br>0.924<br>0.904 |
| 1-1/4" x 1-1/4" | 32x32 | 1.6<br>2.3<br>3.2 | 1.48<br>2.04<br>2.69 | 1.88<br>2.596<br>3.423 | 2.84<br>3.71<br>4.54 | 1.78<br>2.32<br>2.84 | 1.23<br>1.20<br>1.15 |
| 1-1/2" x 1-1/2" | 38x38 | 1.6<br>2.3<br>3.2 | 1.78<br>2.47<br>2.69 | 2.264<br>3.148<br>4.191 | 4.92<br>6.54<br>8.18 | 2.59<br>3.44<br>4.30 | 1.47<br>1.44<br>1.40 |
| 2"x2" | 50x50 | 1.6<br>2.3<br>3.2 | 2.38<br>3.34<br>4.50 | 3.032<br>4.252<br>5.727 | 11.70<br>15.90<br>20.40 | 4.68<br>6.34<br>8.16 | 1.96<br>1.93<br>1.89 |
| 3"x3" | 75X75 | 1.6<br>2.3<br>3.2<br>4.0 | 3.64<br>5.14<br>7.01<br>8.59 | 4.632<br>6.552<br>8.927<br>10.948 | 41.30<br>57.10<br>75.50<br>90.20 | 11.00<br>15.20<br>20.10<br>24.10 | 2.99<br>2.95<br>2.91<br>2.87 |
| 4"x4" | 100x100 | 2.3<br>3.2<br>4.0<br>4.5 | 6.95<br>9.52<br>11.70<br>13.10 | 8.852<br>12.13<br>14.59<br>16.67 | 140<br>187<br>226<br>249 | 27.90<br>37.50<br>45.30<br>49.90 | 3.97<br>3.93<br>3.89<br>3.87 |
| 6"x6" | 150x150 | 4.5<br>6.0 | 20.10<br>26.40 | 25.60<br>33.63 | 896<br>1150 | 120<br>153 | 5.91<br>5.84 |
| 7"x7" | 175x175 | 4.5<br>6.0 | 23.70<br>31.10 | 30.17<br>39.63 | 1450<br>1860 | 166<br>213 | 6.93<br>6.86 |
| 8"x8" | 200x200 | 6.0<br>8.0<br>9.0 | 35.80<br>46.90<br>52.30 | 45.63<br>59.79<br>66.67 | 2830<br>3620<br>3990 | 283<br>362<br>399 | 7.88<br>7.78<br>7.73 |
| 10"x10" | 250x250 | 6.0<br>8.0<br>9.0 | 45.20<br>59.50<br>66.50 | 57.63<br>75.79<br>84.67 | 5670<br>7320<br>8090 | 454<br>585<br>647 | 9.92<br>9.82<br>9.78 |
| 12"X12" | 300X300 | 6.0<br>8.0<br>9.0 | 54.70<br>80.60<br>106 | 69.63<br>102.70<br>134.50 | 9960<br>14300<br>18300 | 664<br>956<br>1220 | 12.00<br>11.80<br>11.70 |
| 14"X14" | 350X350 | 9.0<br>12.00 | 94.70<br>124 | 120.70<br>158.50 | 23200<br>29800 | 1320<br>1700 | 13.90 |

# CARBON STEEL RECTANGULAR PIPE

# ท่อเหล็กรูปสี่เหลี่ยมผืนผ้า มอก.

## SIZE AND PROPERTIES IN TIS STANDARDS 107-2561

| Side Length | | Thickness | Calculate Weight | Cross Section Area | Geometrical Moment of Inertia | | Modulus of Section | | Radius of Gyration | |
|---|---|---|---|---|---|---|---|---|---|---|
| DXB | | mm | Kg/m | $cm^2$ | $cm^4$ | | $cm^3$ | | cm | |
| in | mm | T | W | A | Ix | Iy | Zx | Zy | Ix | Iy |
| **2"x1"** | 50x25 | 1.6<br>2.3<br>3.2 | 1.75<br>2.44<br>3.24 | 2.232<br>3.102<br>4.127 | 7.02<br>9.31<br>11.6 | 2.40<br>3.10<br>3.80 | 2.81<br>3.72<br>4.65 | 1.92<br>2.48<br>3.04 | 1.77<br>1.73<br>1.68 | 1.04<br>1.00<br>0.96 |
| **3" x 1-1/2"** | 75x38 | 1.6<br>2.3<br>3.2 | 2.71<br>3.81<br>5.15 | 3.448<br>4.85<br>6.559 | 24.20<br>34.60<br>45.00 | 8.60<br>12.00<br>15.40 | 6.45<br>9.23<br>12.00 | 4.53<br>6.30<br>8.09 | 2.65<br>2.67<br>2.26 | 1.58<br>1.57<br>1.53 |
| **4"x2"** | 100x50 | 1.6<br>2.3<br>3.2<br>4.0<br>4.5 | 3.64<br>5.14<br>7.01<br>8.59<br>9.55 | 4.632<br>6.552<br>8.927<br>10.95<br>12.17 | 61.30<br>84.80<br>112<br>142<br>147 | 21.10<br>29.00<br>38.00<br>46.70<br>48.90 | 12.30<br>17.00<br>22.50<br>28.40<br>29.30 | 8.43<br>11.60<br>15.20<br>18.70<br>19.50 | 3.64<br>3.60<br>3.51<br>3.55<br>3.47 | 2.13<br>2.10<br>2.06<br>2.03<br>2.00 |
| **5"x2"** | 125x50 | 2.3<br>3.2<br>4.0<br>4.5 | 6.05<br>8.26<br>10.20<br>11.30 | 7.702<br>10.53<br>12.95<br>14.42 | 148.24<br>198<br>238<br>261 | 35.50<br>46.70<br>55.60<br>60.60 | 23.72<br>31.60<br>38.00<br>41.70 | 14.20<br>18.70<br>22.60<br>24.20 | 4.39<br>4.33<br>4.28<br>4.25 | 2.15<br>2.11<br>2.07<br>2.05 |
| **5"x3"** | 125x75 | 2.3<br>3.2<br>4.0<br>4.5 | 6.95<br>9.52<br>11.73<br>13.10 | 8.852<br>12.13<br>14.95<br>16.67 | 192<br>257<br>311<br>342 | 87.50<br>117<br>141<br>155 | 30.60<br>41.10<br>49.70<br>54.80 | 23.30<br>31.10<br>37.50<br>41.20 | 4.65<br>4.60<br>4.56<br>4.53 | 3.14<br>3.10<br>3.07<br>3.04 |
| **6"x2"** | 150x50 | 2.3<br>3.2<br>4.0<br>4.5 | 6.95<br>9.52<br>11.73<br>13.08 | 8.852<br>12.127<br>14.949<br>16.669 | 235.71<br>312.83<br>381.39<br>419.82 | 42.04<br>54.81<br>66.16<br>72.23 | 31.43<br>41.71<br>50.85<br>55.98 | 16.82<br>21.92<br>26.47<br>28.89 | 5.16<br>5.08<br>5.05<br>5.02 | 2.18<br>2.13<br>2.10<br>28.89 |
| **6"x4"** | 150x100 | 4.5<br>6.0 | 16.60<br>21.70 | 21.17<br>27.67 | 658<br>835 | 352<br>444 | 87.70<br>111 | 70.40<br>88.80 | 5.58<br>5.50 | 4.08<br>4.01 |
| **8"x4"** | 200x100 | 4.5<br>6.0 | 20.10<br>26.40 | 25.67<br>33.63 | 1330<br>1700 | 455<br>577 | 133<br>170 | 90.90<br>115 | 7.20<br>7.12 | 4.21<br>4.14 |

# CARBON STEEL ROUND PIPE

## SIZE AND PROPERTIES IN TIS STANDARDS 107-2561

## ท่อเหล็กกลม มอก.

| Nominal Dimention | Outside Deameter | Thickness | Calculate Weight | Cross Section Area | Geometrical Moment Of Inertia | Modulus of Section | Radius of Gyration |
|---|---|---|---|---|---|---|---|
| In | mm | mm | Kg/m | $cm^2$ | $cm^4$ | $cm^3$ | cm |
| DN | D | T | W | A | I | Z | I |
| 1/2" | 21.7 | 2.0<br>2.3 | 0.972<br>1.10 | 1.238<br>1.402 | 0.067<br>0.63 | 0.56<br>0.58 | 0.70<br>0.67 |
| 3/4" | 27.2 | 2.0<br>2.3 | 1.24<br>1.41 | 1.583<br>1.799 | 1.26<br>1.41 | 0.93<br>1.03 | 0.89<br>0.88 |
| 1" | 34.0 | 2.0<br>2.3 | 1.58<br>1.80 | 2.011<br>2.291 | 2.58<br>2.98 | 1.52<br>1.70 | 1.13<br>1.12 |
| 1-1/4" | 42.7 | 2.0<br>2.3<br>3.2 | 2.30<br>2.63<br>3.58 | 2.929<br>3.345<br>4.564 | 7.97<br>8.99<br>11.8 | 3.28<br>3.70<br>4.86 | 1.65<br>1.64<br>1.61 |
| 1-1/2" | 48.6 | 2.0<br>2.3<br>3.2 | 2.30<br>2.63<br>3.58 | 2.929<br>3.345<br>4.564 | 7.97<br>8.99<br>11.8 | 3.28<br>3.70<br>4.86 | 1.65<br>1.64<br>1.61 |
| 2" | 60.5 | 2.0<br>2.3<br>3.2<br>4.0 | 2.89<br>3.30<br>4.52<br>5.57 | 3.677<br>4.205<br>5.760<br>7.100 | 15.75<br>17.80<br>23.70<br>28.50 | 5.12<br>5.90<br>7.84<br>9.41 | 2.07<br>2.06<br>2.03<br>2.00 |
| 2-1/2" | 76.3 | 2.0<br>2.3<br>3.2<br>4.0 | 3.66<br>4.20<br>5.77<br>7.13 | 4.670<br>5.349<br>7.349<br>9.085 | 32.25<br>36.65<br>49.20<br>59.50 | 8.45<br>9.61<br>12.90<br>15.60 | 2.63<br>2.62<br>2.59<br>2.58 |
| 3" | 89.1 | 2.0<br>2.3<br>3.2<br>4.0 | 4.30<br>4.92<br>6.78<br>8.39 | 5.475<br>6.274<br>8.636<br>10.690 | 51.95<br>59.13<br>79.80<br>97.00 | 11.66<br>13.27<br>17.90<br>21.80 | 3.08<br>3.07<br>3.04<br>3.01 |
| 3-1/2" | 101.6 | 3.2<br>4.0<br>4.5 | 7.76<br>9.63<br>10.78 | 9.892<br>12.26<br>13.73 | 120<br>146<br>162.19 | 23.60<br>28.80<br>31.93 | 3.48<br>3.45<br>3.44 |
| 4" | 114.3 | 2.3<br>3.2<br>4.0<br>4.2<br>4.5<br>5.6<br>6.0 | 6.35<br>8.77<br>10.88<br>11.40<br>12.20<br>15.01<br>16.0 | 8.10<br>11.17<br>13.87<br>14.53<br>15.52<br>19.13<br>20.42 | 127<br>172<br>211.15<br>220.53<br>234<br>293.31<br>300.33 | 22.22<br>30.20<br>36.95<br>38.59<br>41.00<br>49.57<br>52.55 | 3.96<br>3.96<br>3.90<br>3.90<br>3.89<br>3.85<br>3.83 |
| 5" | 139.8 | 3.2<br>4.0<br>4.2<br>4.5<br>5.6<br>6.0 | 10.78<br>13.40<br>14.04<br>15.00<br>18.53<br>19.80 | 13.74<br>17.07<br>17.90<br>19.13<br>23.62<br>25.22 | 320.61<br>393.89<br>411.79<br>438<br>532.64<br>566 | 45.87<br>56.35<br>58.91<br>62.70<br>76.20<br>80.90 | 4.83<br>4.80<br>4.80<br>4.80<br>4.79<br>4.75<br>4.74 |

# CARBON STEEL ROUND PIPE

## SIZE AND PROPERTIES IN TIS STANDARDS 107-2561

## ท่อเหล็กกลม มอก.

| Nominal Dimention | Outside Deameter | Thickness | Calculate Weight | Cross Section Area | Geometrical Moment Of Inertia | Modulus of Section | Radius of Gyration |
|---|---|---|---|---|---|---|---|
| In | mm | mm | Kg/m | $cm^2$ | $cm^4$ | $cm^3$ | cm |
| DN | D | T | W | A | I | Z | I |
| 6" | 165.2 | 3.2<br>4.0<br>4.2<br>4.5<br>5.0<br>5.6<br>6.0 | 12.78<br>15.90<br>16.68<br>17.80<br>19.80<br>22.04 | 16.29<br>20.27<br>21.25<br>22.72<br>25.16<br>25.17<br>30.01 | 534.69<br>658.65<br>393.89<br>411.79<br>438<br>895.48<br>895.48<br>952 | 76.49<br>79.74<br>83.42<br>88.90<br>97.80<br>108.41<br>115 | 5.73<br>5.70<br>5.69<br>5.68<br>5.67<br>5.64<br>5.63 |
| 7" | 190.7 | 5.0<br>7.0 | 22.90<br>31.70 | 29.17<br>40.40 | 1260<br>1710 | 132<br>132 | 6.57<br>6.50 |
| 8" | 216.3 | 6.0<br>8.0 | 31.10<br>41.10 | 39.64<br>52.35 | 2190<br>2840 | 203<br>263 | 7.44<br>7.37 |

# H-BEAM

## เหล็กเอชบีม

## TIS STANDARDS 1227 -2558 GRADE SS400, SS540, SM400, SM490, SM520

| Nominal Size | weight | Sectional Dimenslon | | | | | Sectional Area | Moment of Inertia | | Radius of Gyration | | Modulus of Section | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kg/m | H | B | T1 | T2 | r | cm | Ix | Iy | Ix | Iy | Zx | Zy |
| mm | Kg/m | mm | mm | mm | mm | mm | $cm.^2$ | $cm.^4$ | $cm.^4$ | cm | cm | $cm.^3$ | $cm.^3$ |
| 100 x 100 | 17.2 | 100 | 100 | 6.0 | 8 | 10 | 21.90 | 383 | 134 | 4.2 | 2.47 | 77 | 27 |
| 125 x 125 | 23.8 | 125 | 125 | 6.5 | 9 | 10 | 30.31 | 847 | 293 | 5.3 | 3.11 | 136 | 47 |
| 150x150 | 31.5 | 150 | 150 | 7.0 | 10 | 11 | 40.14 | 1,640 | 563 | 6.4 | 3.75 | 219 | 75 |
| 175 x 175 | 40.2 | 175 | 175 | 7.5 | 11 | 12 | 51.21 | 2,880 | 984 | 7.5 | 4.38 | 330 | 112 |
| 200x200 | 49.9<br>56.2<br>65.7 | 200<br>200<br>208 | 200<br>204<br>202 | 8.0<br>12.0<br>10.0 | 12<br>12<br>16 | 13<br>13<br>13 | 63.53<br>71.53<br>83.69 | 4,720<br>4,980<br>6,530 | 1,600<br>1,700<br>2,200 | 8.6<br>8.4<br>8.8 | 5.02<br>4.89<br>5.13 | 472<br>498<br>628 | 160<br>167<br>218 |
| 250x250 | 64.4<br>66.5<br>72.4<br>82.2 | 244<br>249<br>250<br>250 | 252<br>249<br>250<br>255 | 11.0<br>8.0<br>9.0<br>14.0 | 11<br>13<br>14<br>14 | 16<br>16<br>16<br>16 | 82.06<br>84.70<br>92.18<br>104.7 | 8,790<br>9,930<br>10,800<br>11,500 | 2,940<br>3,350<br>3,650<br>3,880 | 10.3<br>10.8<br>10.8<br>10.5 | 5.98<br>6.29<br>6.29<br>6.09 | 720<br>801<br>867<br>919 | 233<br>269<br>292<br>304 |

# H-BEAM

## TIS STANDARDS 1227 -2558 GRADE SS400, SS540, SM400, SM490, SM520

# เหล็กเอชบีม

| Nominal Size | weigh t | Sectional Dimenslon | | | | | Secti onal Area | Moment of Inertia | | Radius of Gyration | | Modulus of Section | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Kg/m | H | B | T1 | T2 | r | cm | lx | ly | lx | ly | Zx | Zy |
| mm | Kg/m | mm | mm | mm | mm | mm | cm.² | cm.⁴ | cm.⁴ | cm | cm | cm.³ | cm.³ |
| 300 x 300 | 84.5<br>87.0<br>94.0<br>106.0<br>106.0 | 294<br>298<br>300<br>300<br>304 | 302<br>299<br>300<br>305<br>301 | 12.0<br>9.0<br>10.0<br>15.0<br>11.0 | 12<br>14<br>15<br>15<br>17 | 18<br>18<br>18<br>18<br>18 | 107.7<br>110.8<br>119.8<br>134.8<br>134.8 | 16,900<br>18,800<br>20,400<br>21,500<br>23,400 | 5,520<br>6,240<br>6,750<br>7,100<br>7,730 | 12.5<br>13.0<br>13.1<br>12.6<br>13.2 | 7.16<br>7.51<br>7.51<br>7.26<br>7.57 | 1,150<br>1,270<br>1,360<br>1,440<br>1,540 | 365<br>417<br>450<br>466<br>514 |
| 350x350 | 106.0<br>115.0<br>131.0<br>137.0<br>156.0 | 351<br>348<br>344<br>350<br>350 | 351<br>348<br>354<br>350<br>357 | 13.0<br>10.01<br>6.0<br>12.0<br>19.0 | 13<br>16<br>16<br>19<br>19. | 20<br>20<br>20<br>20<br>20 | 135.3<br>146.0<br>166.6<br>173.9<br>198.4 | 28,200<br>33,300<br>35,300<br>40,300<br>42,800 | 9,330<br>11,200<br>11,800<br>13,600<br>14,400 | 14.4<br>15.1<br>14.6<br>15.2<br>14.7 | 8.33<br>8.73<br>8.43<br>8.84<br>8.53 | 1,670<br>1,940<br>2,050<br>2,300<br>2,450 | 534<br>646<br>669<br>776<br>809 |
| 400x400 | 140.0<br>147.0<br>172.0<br>197.0<br>232.0 | 388<br>394<br>400<br>400<br>414 | 402<br>398<br>400<br>408<br>405 | 15.0<br>11.0<br>13.0<br>21.0<br>18.0 | 15<br>18<br>21<br>21<br>28 | 22<br>22<br>22<br>22<br>22 | 178.5<br>186.8<br>218.7<br>250.7<br>295.4 | 49,000<br>56,100<br>66,600<br>70,900<br>92,800 | 16,300<br>18,900<br>22,400<br>23,800<br>31,000 | 16.6<br>17.3<br>17.5<br>16.8<br>17.7 | 9.54<br>10.10<br>10.10<br>9.75<br>10.20 | 2,520<br>2,850<br>3,300<br>3,540<br>4,480 | 809<br>951<br>1,120<br>1,170<br>1,530 |

# I-BEAM

## TIS STANDARDS 1227 -2558 GRADE SS400, SS540, SM400, SM490, SM520

# เหล็กไอบีม

| Sectional Dimension | | | | | Section al Area | Weight | Moment of Inertia | | Radius of Gyration | | Modulus of Section | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HX B | T1 | T2 | r2 | r2 | | | lx | ly | lx | ly | zx | zy |
| | mm | mm | mm | mm | cm.² | cm.² | cm.⁴ | cm.⁴ | cm | cm | cm.³ | cm.³ |
| 150x75 | 5.5 | 9.5 | 9 | 4.5 | 21.83 | 17.1 | 819 | 134 | 54.5 | 6.12 | 109 | 15.3 |
| 200x100 | 7.0 | 10.0 | 10 | 5.0 | 33.06 | 26.0 | 2,170 | 293 | 138 | 8.11 | 217 | 27.7 |
| 200x150 | 9.0 | 16.0 | 15 | 7.5 | 64.16 | 50.4 | 4,460 | 563 | 753 | 8.34 | 446 | 100 |
| 250x125 | 7.5<br>10.0 | 12.5<br>19.0 | 12<br>21 | 6.0<br>10.5 | 48.79<br>70.73 | 38.3<br>55.5 | 5,180<br>7,310 | 1,600<br>1,700 | 337<br>538 | 10.30<br>10.20 | 414<br>585 | 53.9<br>86.0 |
| 300 x150 | 8.0<br>10.0<br>11.5 | 13.0<br>18.5<br>22.0 | 12<br>19<br>23 | 6.0<br>9.5<br>11.5 | 61.58<br>83.47<br>97.88 | 48.3<br>65.5<br>76.8 | 9,480<br>12,700<br>14,700 | 1,600<br>1,700<br>1,700 | 588<br>886<br>1,080 | 12.40<br>12.30<br>12.20 | 632<br>849<br>978 | 78.4<br>118.0<br>143.0 |

# I-BEAM

## TIS STANDARDS 1227 -2558 GRADE SS400, SS540, SM400, SM490, SM520

# เหล็กไอบีม

| Sectional Dimension | | | | | Sectional Area | Weight | Moment of Inertia | | Radius of Gyration | | Modulus of Section | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HX B | T1 | T2 | r2 | r2 | | | Ix | Iy | Ix | Iy | zx | zy |
| | mm | mm | mm | mm | cm.² | cm.² | cm.⁴ | cm.⁴ | cm | cm | cm.³ | cm.³ |
| 300 x 150 | 9.0<br>12.0 | 15.0<br>24.0 | 13<br>25 | 6.5<br>12.5 | 74.58<br>111.10 | 58.5<br>87.2 | 15,200<br>22,400 | 1,60<br>0<br>1,700 | 702<br>1,180 | 14.30<br>14.20 | 870<br>1,280 | 93.5<br>158.0 |
| 400 x 150 | 10.0<br>12.5 | 18.0<br>25.0 | 17<br>27 | 8.5<br>13.5 | 91.73<br>122.10 | 72.0<br>95.8 | 24,100<br>31,700 | 1,60<br>0<br>1,700 | 864<br>1,240 | 16.20<br>16.10 | 1,200<br>1,580 | 115.0<br>165.0 |
| 450 x175 | 11.0<br>13.0 | 20.0<br>26.0 | 19<br>27 | 9.5<br>13.5 | 116.80<br>146.10 | 91.70<br>115.0 | 39,200<br>48.800 | 1,60<br>0<br>1,700 | 1,510<br>2,020 | 18.30<br>18.30 | 1,740<br>2,170 | 173.0<br>231.0 |
| 600x190 | 13.0<br>16.0 | 25.0<br>35.0 | 25<br>38 | 12.5<br>19.0 | 169.40<br>224.50 | 133.0<br>176.0 | 98,400<br>130,000 | 1,60<br>0<br>1,700 | 2,460<br>3,540 | 24.10<br>24.10 | 3,280<br>4,330 | 259.0<br>373.0 |

# STEEL SHEET PILES

## TIS STANDARDS 1390 - 2590 GRADE SY295 OF SY390

# เหล็กชีทไฟล์

| Section | Dimensions | | | Sectional Area | Weight | | Moment of Inertia | | Section Modulus | |
|---|---|---|---|---|---|---|---|---|---|---|
| | w | h | t | Per pile | Per Pile | Per wall width | Per Pile | Per wall width | Per Pile | Per wall width |
| | mm | mm | mm | cm.² | kg/m | kg/m.² | cm.⁴ | cm.²/m | cm.³ | cm.³/m |
| | In | In | in | in.2 | lbs/ft | lbs/ft2 | In4 | cm.2/ft | in.3 | in.3/ft |
| SP-II | 400 | 100 | 10.5 | 61.18 | 48.0 | 120.0 | 1,240 | 8,748 | 15.2 | 874 |
| | 15.7 | 3.94 | 0.413 | 9.483 | 32.3 | 24.6 | 29.8 | 64 | 9.28 | 16.3 |
| SP-IIIA | 400 | 150 | 13.1 | 74.40 | 58.4 | 146.0 | 2,790 | 22,800 | 250 | 1,520 |
| | 15.7 | 5.91 | 0.516 | 11.53 | 39.2 | 29.9 | 67.0 | 167 | 15.3 | 28.3 |
| SP-III | 400 | 125 | 13.0 | 76.42 | 60.0 | 150.0 | 2,220 | 16,800 | 223 | 1,340 |
| | 15.7 | 4.92 | 0.512 | 11.85 | 40.3 | 30.7 | 53.3 | 123 | 13.6 | 24.9 |
| SP-IV | 400 | 1.70 | 15.5 | 96.99 | 76.1 | 190.0 | 4,670 | 38,600 | 362 | 2,270 |
| | 15.7 | 6.69 | 0.610 | 15.3 | 51.1 | 38.9 | 112.0 | 283 | 22.1 | 42.2 |

# ANGLE STEEL BAR

SIZES AND PROPERTIES TIS/JIS STANDARDS
TIS 1227 - 2558/JIS G3192 - 1990) Grade SS400,SS540

เหล็กฉาก

| HxB | Thickness | Weight | Radius of Follet | | Sectional Area |
|---|---|---|---|---|---|
| mm | mm | kg/m | R1 | R2 | |
| 25x25 | 3 | 1.12 | 4.0 | 2.0 | 1.427 |
| | 5 | 1.77 | 3.5 | 2.4 | 2.260 |
| 30x30 | 3 | 1.36 | 4.0 | 2.0 | 1.727 |
| | 3 | 2.18 | 5.0 | 2.4 | 2.780 |
| 40x40 | 3 | 1.83 | 4.5 | 2.0 | 2.336 |
| | 4 | 2.42 | 6.0 | 2.4 | 3.080 |
| | 5 | 2.95 | 4.5 | 3.0 | 3.755 |
| | 6 | 3.52 | 6.0 | 2.4 | 4.480 |
| 50x50 | 3 | 2.33 | 7.0 | 2.4 | 2.960 |
| | 4 | 3.06 | 6.5 | 3.0 | 3.892 |
| | 5 | 3.77 | 6.5 | 3.0 | 4.802 |
| | 6 | 4.43 | 6.5 | 4.5 | 5.644 |
| 65x65 | 5 | 5.00 | 8.5 | 3.0 | 6.367 |
| | 6 | 5.91 | 8.5 | 4.0 | 7.527 |
| | 8 | 7.66 | 8.5 | 6.0 | 9.761 |
| 75x75 | 6 | 6.85 | 8.5 | 4.0 | 8.727 |
| | 9 | 9.96 | 8.5 | 6.0 | 12.69 |
| | 12 | 13.0 | 8.5 | 6.0 | 16.56 |

| HxB | Thickness | Weight | Radius of Follet | | Sectional Area |
|---|---|---|---|---|---|
| mm | mm | kg/m | R1 | R2 | |
| 90x90 | 7 | 9.59 | 10 | 5.0 | 12.22 |
| | 10 | 13.3 | 10 | 7.0 | 17.00 |
| 100x100 | 7 | 10.7 | 10 | 5.0 | 13.62 |
| | 10 | 14.9 | 10 | 7.0 | 19.00 |
| | 12 | 17.8 | 12 | 4.8 | 22.70 |
| | 13 | 19.1 | 10 | 7.0 | 24.31 |
| 120x120 | 8 | 14.7 | 12 | 5.0 | 18.76 |
| 130x130 | 9 | 17.9 | 12 | 6.0 | 22.74 |
| | 12 | 23.4 | 12 | 8.5 | 29.76 |
| | 15 | 28.8 | 12 | 8.5 | 36.75 |
| 150x150 | 12 | 27.3 | 12 | 7.0 | 34.77 |
| | 15 | 33.6 | 14 | 10.0 | 42.74 |
| | 19 | 51.9 | 14 | 10.0 | 53.38 |
| 175x175 | 12 | 31.8 | 15 | 10 | 40.52 |
| | 15 | 39.4 | 15 | 11.0 | 50.21 |
| 200x200 | 15 | 45.3 | 17 | 11 | 57.75 |
| | 20 | 59.7 | 17 | 12.0 | 76.00 |
| | 25 | 73.6 | 17 | 12.0 | 93.70 |
| 250x250 | 25 | 93.7 | 24 | 12.0 | 119.40 |
| | 35 | 128.0 | 24 | 18.0 | 162.60 |

# CHANNEL STEEL BARS เหล็กรางน้ำ

| Standart Sectional Dimension (mm) | | | | | Weight | Sectional |
|---|---|---|---|---|---|---|
| H x B | t1 | t2 | r1 | r2 | kg/m | cm2 |
| 50 x 25 | 5.0 | 6.0 | 6 | 3.0 | 3.86 | 4.92 |
| 75x40 | 5.0 | 7.0 | 8 | 4.0 | 6.92 | 8.818 |
| 100x50 | 5.0 | 7.5 | 8 | 4.0 | 9.36 | 11.92 |
| 125x65 | 6.0 | 8.0 | 8 | 4.0 | 13.40 | 17.11 |
| 150x75 | 6.5 | 10.0 | 10 | 5.0 | 18.60 | 23.71 |
| | 9.0 | 12.5 | 15 | 7.5 | 24.00 | 30.59 |
| 180x75 | 7.0 | 10.5 | 11 | 5.5 | 21.40 | 27.20 |
| 200x80 | 7.5 | 11.0 | 12 | 6.0 | 24.60 | 31.33 |
| 200x90 | 8.0 | 13.5 | 14 | 7.0 | 30.30 | 38.65 |
| 250x90 | 9.0 | 13.0 | 14 | 7.0 | 34.60 | 44.07 |
| | 11.0 | 14.50 | 17 | 8.5 | 40.20 | 51.17 |
| 300x90 | 9.0 | 13.0 | 14 | 7.0 | 38.10 | 48.57 |
| | 10.0 | 15.5 | 19 | 9.5 | 43.80 | 55.74 |
| | 12.0 | 16.0 | 19 | 9.5 | 48.60 | 61.90 |
| 380 x 100 | 10.5 | 16.0 | 18 | 9.0 | 62.00 | 78.96 |
| | 13.0 | 16.5 | 18 | 9.0 | 62.00 | 78.96 |
| | 13.0 | 20.0 | 24 | 12.0 | 67.30 | 85.71 |

**SIZES AND PREPERTIES TIS STANDARDS**
**(1227 -2558 / JIS G3192 - 192 -1990) Grade SS400,SS540**

# HOT ROLLED STEEL SHEET AND PLATES

## SIZE AND PREPERTIES TIS STANDARDS:1479 - 2558, 528 - 2560 เหล็กแผ่นดำ

| Thickness mm | Weight/Size (kg) | | |
|---|---|---|---|
| | Width (mm) x Length (mm) | | |
| | 4"x8" | 5"x 10" | 5"x 20" |
| | (1219x2438) | (1524x3048) | (1524x6096) |
| 1.2 | 28.01 | - | - |
| 1.4 | 32.68 | - | - |
| 1.6 | 37.34 | - | - |
| 1.7 | 39.68 | - | - |
| 2.0 | 46.68 | 72.96 | - |
| 2.3 | 53.68 | 83.86 | - |
| 2.5 | 58.35 | 91.15 | 182.30 |
| 3.0 | 70.02 | 109.38 | 218.76 |
| 4.0 | 93.36 | 145.84 | 291.68 |
| 4.5 | 105.03 | 164.07 | 328.14 |
| 5.0 | 116.70 | 182.30 | 364.60 |
| 6.0 | 140.04 | 218.76 | 437.52 |
| 8.0 | 186.72 | 291.68 | 437.52 |
| 9.0 | 210.06 | 328.14 | 583.36 |
| 10.0 | 233.40 | 346.60 | 656.28 |
| 12.0 | 280.08 | 437.52 | 729.20 |
| 15.0 | 350.10 | 546.90 | 875.04 |

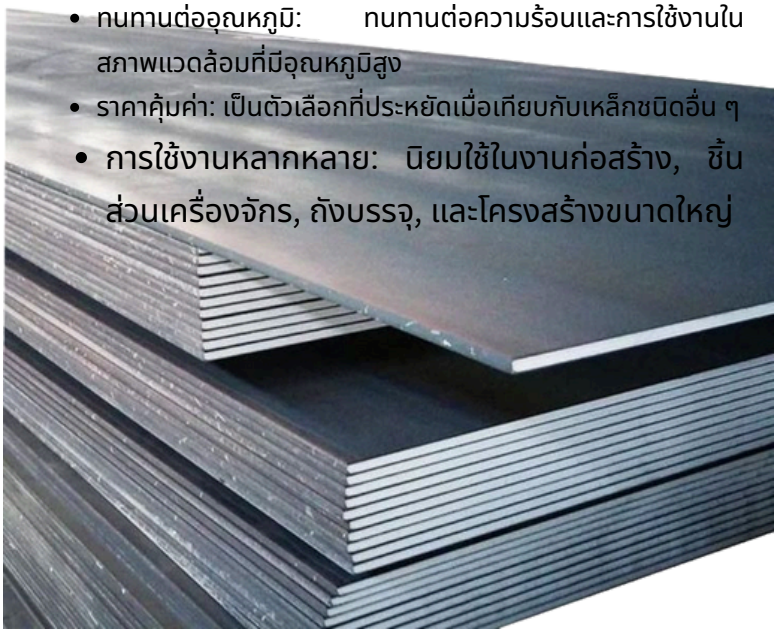
| Thickness mm | Weight/Size (kg) | | |
|---|---|---|---|
| | Width (mm) x Length (mm) | | |
| | 4"x8" | 5"x 10" | 5"x 20" |
| | (1219x2438) | (1524x3048) | (1524x6096) |
| 16.0 | 373.44 | 583.36 | 1166.72 |
| 19.0 | 443.46 | 692.74 | 1385.48 |
| 20.0 | 466.80 | 729.20 | 1458.40 |
| 25.0 | 583.50 | 911.50 | 1823.00 |

**คุณสมบัติของเหล็กแผ่นดำ**

เหล็กแผ่นดำ หรือ Hot Rolled Steel Plate (SS400) เป็นเหล็กที่ผลิตด้วยการรีดร้อนที่อุณหภูมิสูงกว่า 1,000 องศาเซลเซียส ทำให้เนื้อเหล็กมีความแข็งแรงและทนทานสูงเหมาะสำหรับงานโครงสร้างและอุตสาหกรรมที่ต้องรับน้ำหนักมาก

**จุดเด่นที่ควรรู้**

- ความแข็งแรงสูง:ทนทานต่อการรับแรงดึงและแรงอัดได้ดีเยี่ยม
- ความยืดหยุ่น: สามารถนำไปขึ้นรูปหรือดัดแปลงได้ง่าย
- ทนทานต่ออุณหภูมิ: ทนทานต่อความร้อนและการใช้งานในสภาพแวดล้อมที่มีอุณหภูมิสูง
- ราคาคุ้มค่า: เป็นตัวเลือกที่ประหยัดเมื่อเทียบกับเหล็กชนิดอื่น ๆ
- การใช้งานหลากหลาย: นิยมใช้ในงานก่อสร้าง, ชิ้นส่วนเครื่องจักร, ถังบรรจุ, และโครงสร้างขนาดใหญ่



# WIDE FLANG

## TIS STANDARDS 1227 - 2558 Grade SS400, SS490,SS540,SM400,SM490,SM520

## เหล็กไวด์แฟรงค์

| Nominal Size | Weight | Sectional Dimension | | | | | Sectional Area | Moment of Inertia | | Radius of Gyration | | Modulus of Section | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H | B | t1 | t2 | r | | Ix | Iy | Ix | Iy | Zx | Zy |
| mm | Kg/m | mm | mm | mm | mm | mm | cm2 | cm4 | cm4 | cm | cm | cm3 | cm3 |
| 100 x50 | 9.3 | 100 | 50 | 5.0 | 7 | 8 | 11.85 | 187 | 14.8 | 3.98 | 1.12 | 37.5 | 5.91 |
| 150x75 | 14.0 | 150 | 75 | 5.0 | 7 | 8 | 17.85 | 666 | 50 | 6.1 | 1.66 | 89 | 13 |
| 150x100 | 21.1 | 1.48 | 100 | 6.0 | 9 | 11 | 26.84 | 1,020 | 151 | 6.2 | 2.37 | 138 | 30 |
| 200x100 | 18.2<br>21.3 | 198<br>200 | 99<br>100 | 4.5<br>5.5 | 7<br>8 | 11<br>11 | 23.18<br>27.16 | 1580<br>1840 | 114<br>134 | 8.3<br>8.2 | 2.21<br>2.22 | 160<br>184 | 23<br>27 |
| 200x150 | 30.6 | 194 | 150 | 6.0 | 9 | 13 | 39.01 | 2,690 | 507 | 8.3 | 3.61 | 277 | 68 |
| 250x125 | 25.7<br>29.6 | 248<br>250 | 124<br>125 | 5.0<br>6.0 | 8<br>9 | 12<br>12 | 32.68<br>37.66 | 3,540<br>4050 | 255<br>294 | 10.4<br>10.4 | 2.79<br>2.79 | 285<br>324 | 41<br>41 |
| 250x175 | 44.1 | 244 | 175 | 7.0 | 11 | 16 | 56.24 | 6,6120 | 984 | 10.4 | 4.18 | 502 | 113 |
| 300x150 | 32.0<br>36.7 | 298<br>300 | 149<br>150 | 5.5<br>5.6 | 8<br>9 | 13<br>13 | 40.80<br>46.78 | 6,320<br>7,210 | 442<br>508 | 12.4<br>12.4 | 3.29<br>3.29 | 424<br>3.29 | 59<br>68 |
| 300x200 | 56.8<br>65.4 | 294<br>298 | 200<br>201 | 8.0<br>9.0 | 12<br>14 | 18<br>18 | 72.38<br>83.36 | 11,300<br>13,300 | 1,600<br>1,900 | 12.5<br>12.6 | 4.71<br>4.77 | 771<br>893 | 160<br>189 |
| 350x175 | 41.4<br>49.6<br>57.8 | 345<br>350<br>354 | 174<br>175<br>176 | 6.0<br>7.0<br>8.0 | 9<br>11<br>13 | 14<br>14<br>14 | 52<br>68<br>63.14<br>73.68 | 11,100<br>13,600<br>16,100 | 792<br>984<br>1,180 | 14.5<br>14.7<br>14.8 | 3.88<br>3.95<br>4.01 | 641<br>775<br>909 | 91<br>112<br>134 |
| 350X250 | 69.2<br>79.7 | 336<br>340 | 249<br>250 | 8.0<br>9.0 | 12<br>14 | 20<br>20 | 88.15<br>101.5 | 18,500<br>21,700 | 3,090<br>3,650 | 14.5<br>14.6 | 5.92<br>6.00 | 1,100<br>1,280 | 248<br>292 |
| 400x200 | 56.6<br>66.0<br>75.5 | 396<br>400<br>404 | 199<br>200<br>201 | 7.0<br>8.0<br>9.0 | 11<br>13<br>15 | 16<br>16<br>16 | 72.16<br>84.12<br>96.16 | 20,000<br>23,700<br>27,500 | 1,450<br>1,740<br>2,030 | 16.7<br>16.8<br>16.9 | 4.48<br>4.54<br>4.60 | 1,010<br>1,1901<br>1,360 | 145<br>174<br>202 |
| 400x300 | 94.3<br>107.0 | 386<br>390 | 299<br>300 | 9.0<br>10.0 | 14<br>16 | 22<br>16 | 120.1<br>136.0 | 33,700<br>38,700 | 6,240<br>7,210 | 16.7<br>16.9 | 7.21<br>7.28 | 1,740<br>1,980 | 418<br>481 |

# WIDE FLANG

## TIS STANDARDS 1227 - 2558 Grade SS400, SS490,SS540,SM400,SM490,SM520

## เหล็กไวด์แฟรงค์

| Nominal Size | Weight | Sectional Dimension | | | | | Sectional Area | Moment of Inertia | | Radius of Gyration | | Modulus of Section | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H | B | t1 | t2 | r | | Ix | Iy | Ix | Iy | Zx | Zy |
| mm | Kg/m | mm | mm | mm | mm | mm | cm2 | cm4 | cm4 | cm | cm | cm3 | cm3 |
| 450x200 | 66.2<br>76.0<br>88.90 | 446<br>450<br>456 | 199<br>200<br>201 | 8.0<br>9.0<br>10.0 | 12<br>14<br>17 | 18<br>18<br>18 | 84.30<br>96.76<br>113.3 | 28,700<br>33,500<br>40,400 | 1,580<br>1,870<br>2,300 | 18.5<br>18.6<br>18.9 | 4.33<br>4.40<br>4.51 | 1,290<br>1,490<br>1,770 | 159<br>187<br>230 |
| 450x300 | 106.0<br>124.0<br>145.0 | 434<br>440<br>446 | 299<br>300<br>302 | 10.0<br>11.0<br>13.0 | 15<br>18<br>21 | 24<br>24<br>24 | 135.0<br>157.4<br>184.3 | 46,800<br>56,800<br>66,400 | 6,690<br>8,110<br>9,660 | 18.1<br>18.9<br>19.0 | 7.04<br>7.18<br>7.24 | 2,160<br>2,550<br>2,980 | 448<br>541<br>639 |
| 500 x200 | 79.5<br>89.6<br>103.0 | 496<br>500<br>506 | 199<br>200<br>201 | 9.0<br>10.0<br>11.0 | 14<br>16<br>19 | 20<br>20<br>20 | 101.3<br>114.2<br>131.3 | 41,900<br>47,800<br>56,500 | 1,840<br>2,140<br>2,580 | 20.3<br>20.5<br>20.7 | 4.27<br>4.33<br>4.43 | 1,690<br>1,910<br>2,230 | 185<br>214<br>257 |
| 500x300 | 114.0<br>128.0<br>150.0 | 482<br>488<br>494 | 300<br>300<br>302 | 11.0<br>11.0<br>13.0 | 15<br>18<br>21 | 26<br>26<br>26 | 145.5<br>163.5<br>191.4 | 60,400<br>71,000<br>83,800 | 6,760<br>8,110<br>9,660 | 20.4<br>20.8<br>20.9 | 6.82<br>7.04<br>7.10 | 2,500<br>2,910<br>3,390 | 451<br>541<br>640 |
| 600X200 | 94.6<br>106.0<br>120.0<br>175.0 | 596<br>600<br>606<br>612 | 199<br>200<br>201<br>202 | 10.0<br>11.0<br>12.0<br>13.0 | 15<br>17<br>20<br>23 | 22<br>22<br>22<br>22 | 120.5<br>134.4<br>152.5<br>170.7 | 68,700<br>77,600<br>90,400<br>103,000 | 1,980<br>2,280<br>2,720<br>3,180 | 23.9<br>24.0<br>24.3<br>24.6 | 4.05<br>4.12<br>4.22<br>4.31 | 2,310<br>2,590<br>2,980<br>3,380 | 199<br>228<br>271<br>314 |
| 600x300 | 137.0<br>151.0<br>175.0 | 582<br>588<br>594 | 300<br>300<br>302 | 12.0<br>12.0<br>14.0 | 17<br>20<br>23 | 28<br>28<br>28 | 174.5<br>192.5<br>222.4 | 103,000<br>118,000<br>137,000 | 7,670<br>9,020<br>10,600 | 24.3<br>24.8<br>24.9 | 6.63<br>6.85<br>6.90 | 3,530<br>4,020<br>4,620 | 511<br>601<br>701 |
| 700x300 | 166.0<br>185.0 | 692<br>700 | 300<br>300 | 13.0<br>13.0 | 20<br>24 | 28<br>28 | 211.5<br>235.5 | 172,000<br>201,000 | 9,020<br>10,800 | 28.6<br>29.3 | 6.53<br>6.78 | 4,980<br>5,760 | 602<br>722 |
| 800x300 | 191.0<br>210.0 | 792<br>800 | 300<br>300 | 14.0<br>14.0 | 22<br>26 | 28<br>28 | 243.4<br>267.4 | 254,000<br>292,000 | 9,930<br>11,700 | 32.3<br>33.0 | 6.39<br>6.62 | 6,410<br>7,290 | 662<br>782 |
| 900x300 | 213.0<br>243.0<br>286.0 | 890<br>900<br>912 | 299<br>300<br>302 | 15.0<br>16.0<br>18.0 | 23<br>28<br>34 | 28<br>28<br>28 | 270.9<br>309.8<br>364.0 | 345,000<br>411,000<br>498,000 | 10,300<br>12,600<br>15,700 | 35.7<br>36.4<br>37.0 | 6.16<br>6.39<br>6.56 | 7,760<br>9,140<br>10,900 | 688<br>843<br>1,040 |