

Unique Steel & Hardware Sdn. Bhd.

(739471-X)

- US60 Shoring System & Components
- Scaffolding & Accessories
- Formwork & Falsework

Unique Steel & Hardware Sdn. Bhd.



Symbolic Of Quality

Introduction

With the vision to provide a good service and quality scaffolding to all of the contractors, a company named Unique Steel Enterprise had been incorporated during the year of 2003. With the prompt delivery and quality product which we delivered, we have been getting a wide and deep support from all of our valuable customers; due to business expansion, now Unique Steel Enterprise had been transform and become a private limited company named Unique Steel & Hardware Sdn. Bhd.

Over the years, we have been trying to invent and expand our product range; and now we have been venturing into the production of heavy duty shoring system besides the conventional scaffolding.

Just a decade old, we are now well positioned and been recognized as one on the leading scaffolding and shoring supplier in Malaysia. This follows by the award of the Perakuan Pematuhan Standard (PPS) from the Construction Industry Development Board of Malaysia (CIDB) which is another mile stones of recognition in term of quality for our scaffolding and accessories.

- **RELIABLE**
- **AFFORDABLE**
- **ACCEPTABLE**



US60 Shoring System - Components

US60 Triangle Frame



1.0M (H) x 1.5M (W)
1.0M (H) x 0.7M (W)

The Frames are assembled by mere fitting onto each other end by end by wedging to form one tower stage. The vertical prop is equipped with 3 stirrups, one end of the horizontal tube is provided with a wedge-clamp.

US60 Vertical Connector



Used in conjunction with jack base to facilitate the erection of Triangle Frame or Vertical Props.

US60 Vertical Props



0.3M (H), 0.5M (H),
0.75M (H), 1.0M (H),
2.0M (H)

Vertical Props are used to erect narrow rows with Triangle. They can be coupled to a tower in case of load concentrations. Also, they are used for height adjustment.

US60 Ledger



Made of 48mm diameter tube and is provided at both ends with a wedge-clamp.

0.35M
0.50M
0.70M
1.00M
1.50M
1.80M
2.00M
2.50M
3.00M

US60 Brace



Made of 38mm diameter tube and is provided at both ends with a wedge locking bolt. Its size is determined by the braced bay height (H) and length (L)

H2 x L0.7m	l=2.09m
H2 x L1.0m	l=2.19m
H2 x L1.5m	l=2.45m
H2 x L1.8m	l=2.63m
H2 x L2.0m	l=2.76m
H2 x L2.5m	l=3.13m
H2 x L3.0m	l=3.53m
H1 x L0.7m	l=1.17m
H1 x L1.0m	l=1.35m
H1 x L1.5m	l=1.73m
H1 x L1.8m	l=1.98m
H1 x L2.0m	l=2.15m
H1 x L2.5m	l=2.61m
H1 x L3.0m	l=3.08m

US60 Plan Brace



Used to ensure the squareness and to prevent deformation of tower.

US60 Shoring System - Components

US60 Jack Base



Used on ground to compensate the ground unevennesses and is adjustable.

US60 U-Head



It allow to accomodate with timber or sectional irons and is adjustable.

US60 Walking Board



Fixation by 4 pieces U-shaped hooks with locking device. Used as working platform or pedestrians access.

US60 Stair



US60 Shoring System - Projects

Building Construction



Building Construction



US60 Shoring System - Projects

Bridge Construction



Bridge Construction

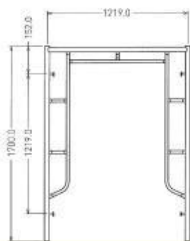


Rolling Tower Construction



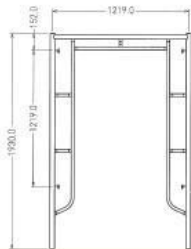
Scaffolding Components List

US 101 Vertical Frame



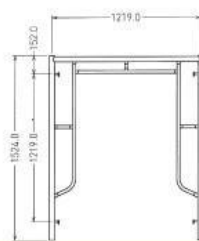
Width 1219
Height 1700

US 101 A Vertical Frame



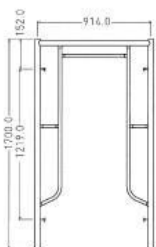
Width 1219
Height 1930

US 102 Vertical Frame



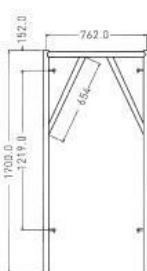
Width 1219
Height 1524

US 103 Vertical Frame



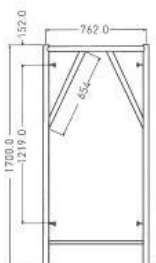
Width 914
Height 1700

US 104 Vertical Frame



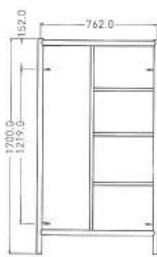
Code	Width (A)	Height (B)
US 104	762	1700
US 104 A	762	1524
US 104 B	762	1219
US 104 C	762	914
US 104 D	762	490
US 104 H	762	2000

US 105 Vertical Frame



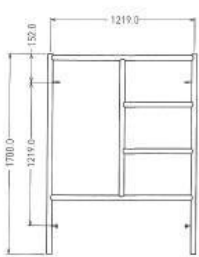
Width 762
Height 1700

US 106 Ladder Type Frame



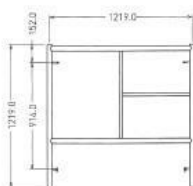
Width 762
Height 1700

US 107 Ladder Type Frame



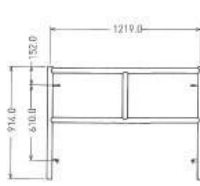
Width 1219
Height 1700

US 108 Ladder Type Frame



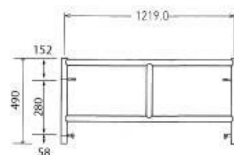
Width 1219
Height 1219

US 109 Ht. Adjusting Frame



Width 1219
Height 914

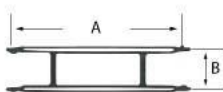
US 110 Ht. Adjusting Frame



Width 1219
Height 490

Accessories

US 201, 202, 203
Walking Frame



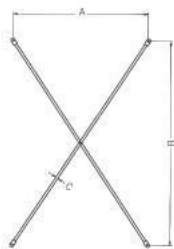
Code	Length (A)	Height (B)
US 201	1829	450
US 201	1829	745
US 201	1829	1050

US 205 Walking Board



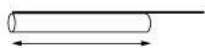
Width	Height
1829	500

US 301 Cross Brace



Code	Length (L)	Height (H)
US 301 A	1829	1219
US 301 B	1829	914
US 301 C	1829	610
US 301 D	1829	280
US 301 E	1219	1219
US 301 F	1219	610
US 301 G	1219	280
US 301 H	2100	1219

US 401 Wall Tie



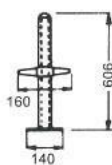
Length
400mm - 100mm

US 514 Stair



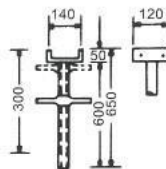
Width	Height
450	1725

US 601 Jack Base



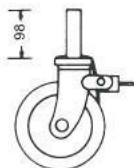
Height
606

US 602 Shoring Head



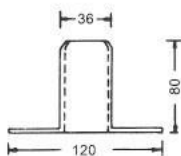
Height
606

US 603 Caster



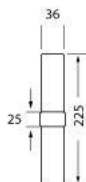
Width	Shaft L.
200	98

US 604 Base Plate



Dia	Height
36	80

US 701 Joint Pin



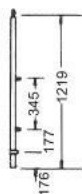
Dia	Length
36	225

US 801 Arm Lock



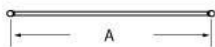
Length
560

US 901 Hand Rail Pole



Dia	Length
36	1219

US 902 Hand Rail



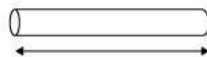
Code	Length
US 902	1829
US 902 A	1219

US 486 Swirl Clamp



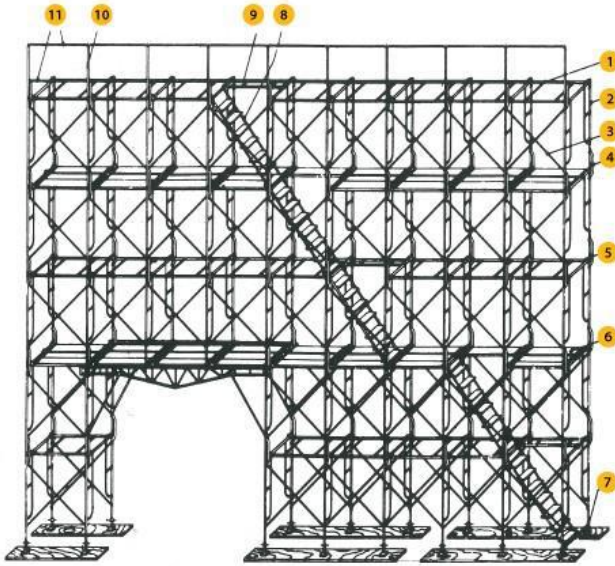
Swirl Clamp

US 48.6 GI Pipe



Code	Size	Thickness
US 48.6	48.6mm	2.5mm
US 48.6	48.3mm	4.0mm (BS 1139)

Basic of Assembling External Scaffolding



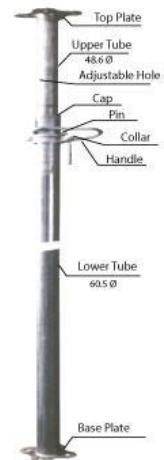
- 1 US 202 Walking Frame
- 2 US 101 Vertical Frame
- 3 US 301 Cross Brace
- 4 US 801 Arm Lock
- 5 US 701 Joint Pin
- 6 US 205 Walking Board
- 7 US 601 Jack Base
- 8 US 514 Stair
- 9 US 201 Walking Frame
- 10 US 901 Hand Rail Pole
- 11 US 902 Hand Rail

The above shows components required and erecting method for external scaffolding

Steel Props

- All steel construction - Reduces fire hazard
- A one - Man operation system - Erected in less than a minute - Easy to assemble
- Enhances the speed of construction
- Screw collar - Adjust + Lerances without wedging

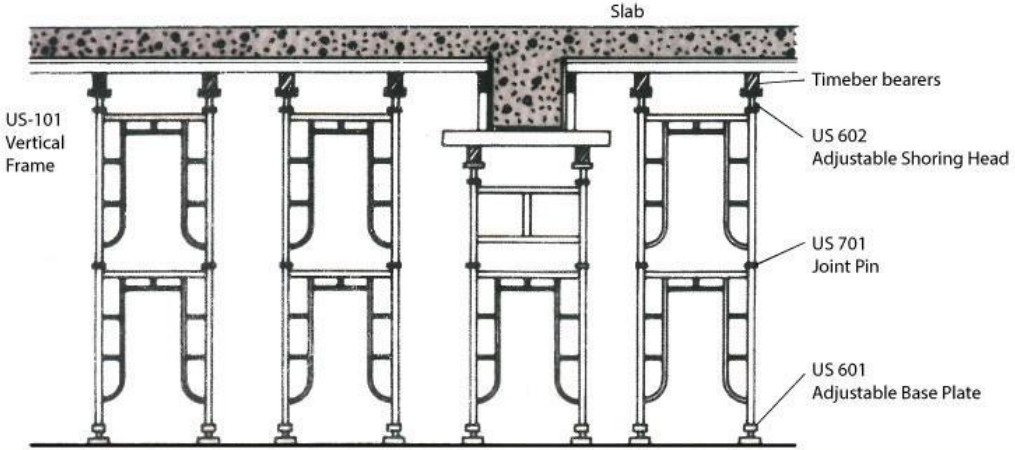
Model	US - 50	US - 65	US - 75	US - 90
Weight (kg)	11	13	14	15
Max. Length	2,030	3,200	3,500	3,960
Min. Length	1,220	1,740	2,040	2,500
Adjustable Length (mm)	800	1,320	1,320	1,320
Adjustable Length or bolt (mm)	140	140	140	140
Safety load at max length (kg)	2,200	2,200	2,200	2,200



Safety load is obtained subject to the props installed right vertically within 2 meters apart and at the minimum height.

Required number of prop = Total floor weight ÷ safety load

Scaffolding for Shoring



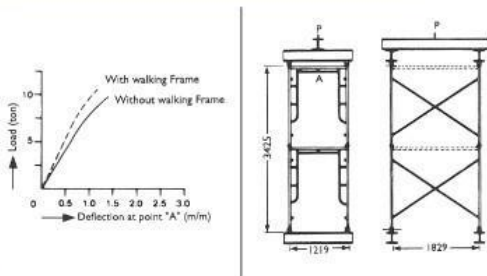
Elevation of scaffolding frames and accessories lay-out for use as shoring.

Technical Data

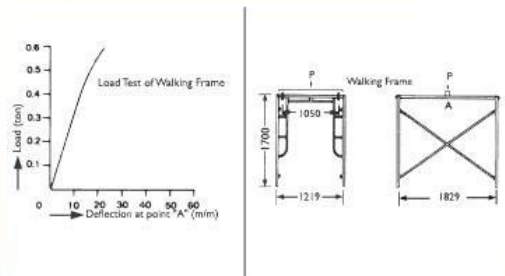
Point of Load						
Max load per frame p max	10 (t)	9.1	7.5	5	3	2.25
Allowable load	5 (t)	3.5	3	2	1.2	1

Reduction in strength depending on load point applied on frame.
NB: Square Tubing in size 100mm x 100mm for Load Point

Load Test of Frame



Load Test of Walking Frame

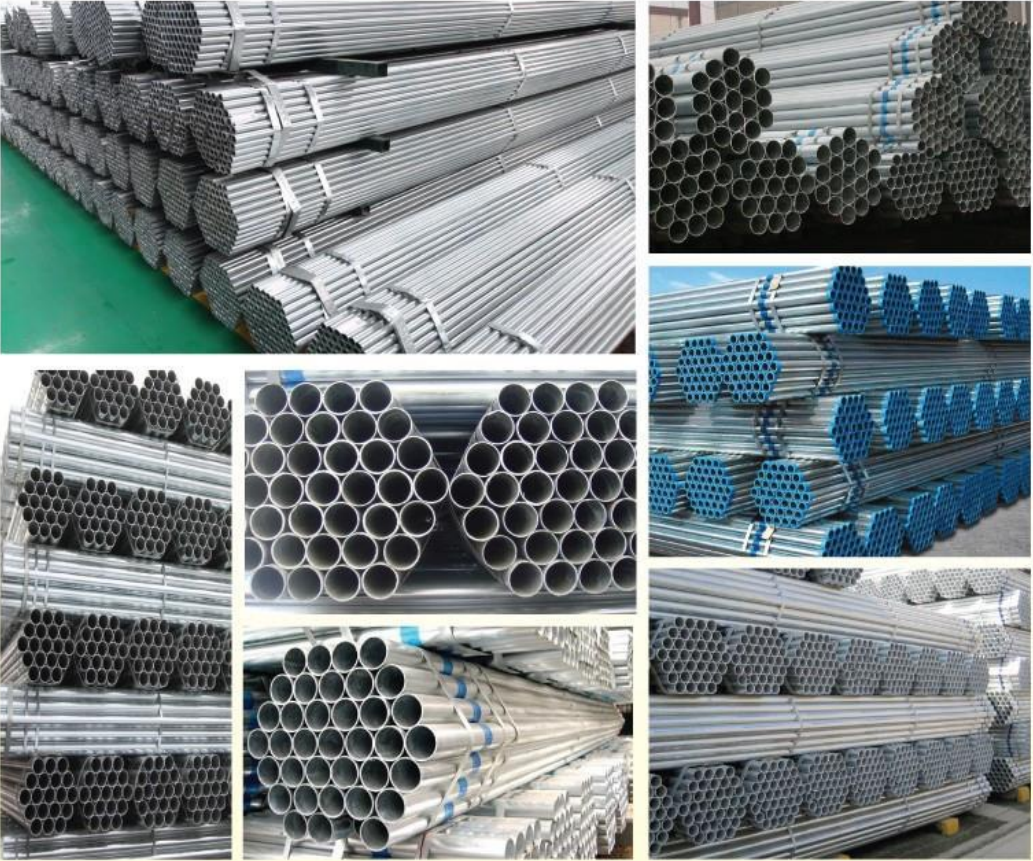


Deflection graph from result of test. Test methods (P= Load Point)

Important notes : The above results are attainable with scaffolding frame fabricated in compliance with MS 1462 : 2012-1

Tubular Scaffolding-BS1139, EN39, EN74

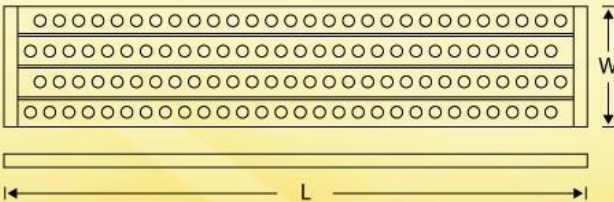
Hot Dipped Galvanized Pipe



Metal Deck

Sizes available in millimeter

Sizes available in millimeter				
Width (W)	210	240	250	
Length (L)	1500	2000	3000	4000



Tubular Scaffolding - Forged Couplers



Double Coupler



Swivel Coupler



Sleeve Coupler



Joint Pin



Beam Clamp



Putlog Coupler

Dywidag System Formwork

Dywidag form ties are suitable for all giant and small-board formwork. Regardless of the system. Their high loadbearing capacity, produced by their forged design, permits extreme loadability and large tie spacing. In addition, the long service life of DYWIDAG form ties is convincing.

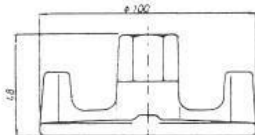
Steel Tie Road, Dywidag 15mm Ø

Quality : ST 885/ 1080, allow load 90 kN (DIN 18216)
breaking load 190 kN
d max 17mm, d min 15mm



Steel Tie Rod, 15mm Ø

Weldable, flexible, allow load 85 kN
breaking load 170 kN
d max 17mm, d min 15mm



Anchor / Tie Nut 100mm

Forged with DYWIDAG thread
Support surface 100mm
Hot-dip galvanized
Flange Nut D 15/100
flange 100mmØ, SW 26, quality : GTW 45,
allow load 90 kN (DIN 18216)



Wing Nut D 15

With two wings, forged with DYWIDAG thread
Support surface 100mm
Hot-dip galvanized
SW 26, quality : GTW 45, allow load 90 kN (DIN 18216)



Hexagonal Nut D 15

Steel quality : C 35, weldable, SW 30, allow. load
90 kN (DIN 18216) length : 30mm, 50mm, 70mm

Steel Cone

Climbling Cone D 15



Length : 144mm, SW 30, steel
quality : 9 SMnPb28k to be used for
climbing formwork, allow.
Load 90 kN (DIN 18216)
weight : 0.95 Kg

Positioning Cone D 15



Length : 80mm, steel quality : 9
SMnPb28k for climbing formwork,
allow. Load 90 kN (DIN18216)
weight : 0.31 Kg

Steel cone with check lever D 15/105* plate with extra-wide base



Length : 105mm, SW 30, steel
quality : 9 SMnPb28k with
galvanized movable plate Ø max.
80mm, concrete overlap 55mm,
allow. Load 90 kN (DIN18216)
weight : 0.67 Kg

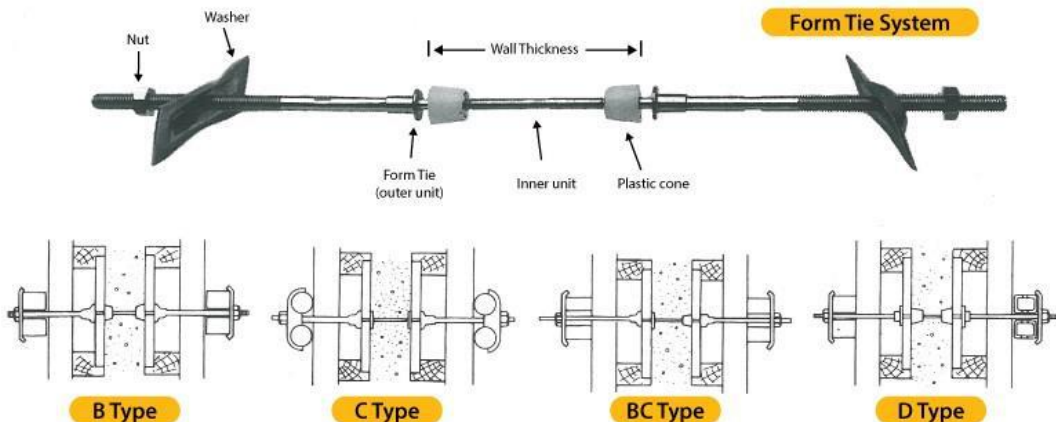
Steel cone with check lever D 15/75*Large plate



Length : 75mm, SW 24, steel
quality : C 35 with galvanized
movable plate Ø max. 63mm,
concrete overlap 40mm, allow.
Load 90 kN (DIN18216)
weight : 0.34 Kg

Form Tie Formwork System

The Form Tie System prevents breakage in the formwork, thus keeping concrete structures in good shape without discoloration. Besides ease of assembly and removal, the system saves construction coats as all parts are reusable except for the separator which is casted into the wall.



Form Tie Complete Set Requirements :

Form Tie B Type Consists of : Form Tie C 2pcs. Inner unit B 1, cone 2, washer 2, nut 2



Form Tie D Type Consists of : Form Tie D 2pcs. Inner unit D 1, cone D 2, washer 2, nut 2



Form Tie BC Type Consists of : Form Tie C 2pcs. Inner unit BC 1, cone 2, washer 2, nut 2




Form Tie C Type Consists of : Form Tie C 2pcs. Inner unit C 1, cone 2, washer 2, nut 2






Form Tie (Dimensional Diagrams)

Type	L m/m	ℓ m/m	Remark	
Form Tie C (comon to B, C and BC)	310	145	$\varnothing_1 = W_{5/16}$ $= W_{3/8}$ $\varnothing_2 = W_{1/2}$ with a nut	
	250	145		
	210	120		
	180	95		
	150	95		
Form Tie D	L m/m	ℓ ₁ m	ℓ mm	$\varnothing_2 = W_{1/2}$ with a nut
	360	120	80	
	300	120	80	
	250	120	80	


Plastic Cone

Type B	Panel	Diagrams		Remarks
		A (m/m)	B	
	Metal Form	For Metal	W 5/16	a. There are two diameter for inner units i.e. W 5/16 and W 3/8 b. A - Panel thickness B - Inner unit diameter
			W 3/8	
		Playwood Panel	12	
	16		W 3/8	
			W 5/16	
	24	W 3/8		
		W 5/16		
	W 3/8			

How to order : Please specify concrete panel thickness (A) and inner unit

Plastic Cone for Beam			
		Metal	 Axes
		12 m/m	
		16 m/m	
		24 m/m (A m/m)	


How to order : Please specify concrete panel thickness (A) and inner unit diameter (B)

Type D	
	Inner unit W 1/2 is only used.

How to order : Plastic cone is O.K

Tapered Cone	
	For the leaning panel constructure.

How to order : Please specify concrete panel thickness (A) and inner unit diameter (B) & incline.

Bedding Plug	
	It is used to seal the hole which is made because the cone is removed after the concretee has set.

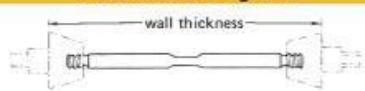
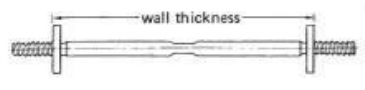
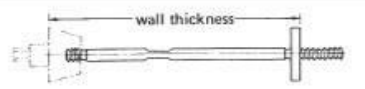
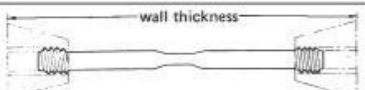
D Cone	
	D 12 x 40 mm

L Cone	
	L 50 x 9 x 12 mm

Inner Unit

Inner units of all sizes can be made and supplied upon request depending on required wall thickness.

Inner unit specification

Type	Dimensional Diagrams	Use
Inner Unit B		Both sides exposed W 5/16 W3/8
Inner Unit C		Both sides finished W 5/16 W3/8
Inner Unit BC		One side finished and other side exposed W 5/16
Inner Unit D		Both sides exposed W 1/2

Washer

Flat rib washer for wood batters



For round pipe batters



Accessories

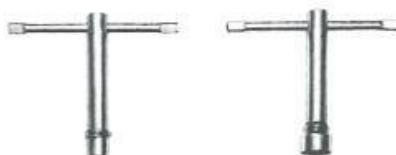
Form Tie Spanner

To be used to fasten Form Tie and Inner Unit and remove them



Box Spanner D and B

To be used to remove Cone



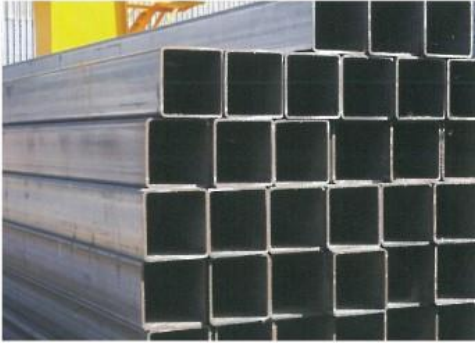
Slab Joiner
(9mm)



Rubber Ring
(9mm, 12mm)

Trading Division / Products

Square Hollow Section



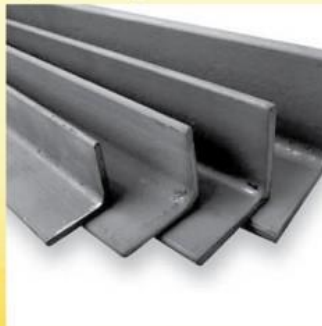
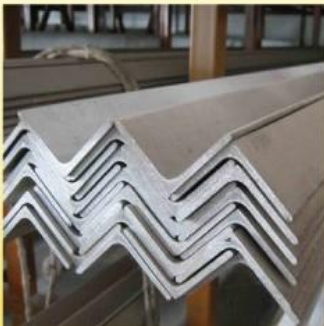
Rectangular Hollow Section



Mild Steel Plate



Mild Steel Equal/ Unequal Angel



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