



YAĞMUR®
SCAFFOLDING SYSTEMS



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FLANGED SCAFFOLDING MANUAL



TÜRK STANDARDLARI ENSTİTÜSÜ
TÜRK STANDARDLARINA UYGUNLUK BELGESİ
TURKISH STANDARDS INSTITUTION
CERTIFICATE OF CONFORMITY TO TURKISH STANDARDS

Markanın Tanımı Description of the Mark
TSE veya/ve  veya/ve TSE

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LICENCE VALID UNTIL

BELGE SAHİBİ KURULUŞUN ADI YAĞMUR İSKELE İNŞAATSANAYI TİCARET LIMITED
NAME OF THE LICENCE HOLDER ŞİRKETİ

BELGE SAHİBİ KURULUŞUN ADRESİ BARIŞ MAH. KOŞU YOLU CAD. NO:19 GEBZE KOCAELİ/TÜRKİYE
ADDRESS OF THE LICENCE HOLDER

ÜRETİM YERİ ADI YAĞMUR İSKELE İNŞAAT SANAYİ TİCARET LIMITED ŞİRKETİ
NAME OF THE MANUFACTURING PLACE

ÜRETİM YERİ ADRESİ BARIŞ MAH.KOŞUYOLU CAD.NO.19 GEBZE KOCAELİ / TÜRKİYE
ADDRESS OF THE MANUFACTURING PLACE

İPTAL EDİLEN BELGE NUMARASI (Varsa) 070999-TSE-01/01
INDICATION OF SUPERSEDED LICENCE (if any)

TESCİLLİ TİCARİ MARKASI YAĞMUR İSKELE+ŞEKİL
REGISTERED TRADE MARK

İLGİLİ TÜRK STANDARDI TS EN 12810-1 / Ön yapımlı bileşenlerden oluşan cephe iskeleleri -
RELATED TURKISH STANDARD Bölüm 1: Mamul özellikleri / 22.12.2005

BELGE KAPSAMI
SCOPE OF LICENCE

ÖN YAPIMLI BİLEŞENLERDEN OLUŞAN CEPHE İSKELELERİ

SİSTEM YÜK SINIFI:

- 1) TS EN 12810-4D-SW06/250-H1-A/B-LA, ÖN YAPIMLI BİLEŞENLERDEN OLUŞAN H TİPİ CEPHE İSKELELERİ
- 2) TS EN 12810-4D-SW06/250-H2-A/B-LA, ÖN YAPIMLI BİLEŞENLERDEN OLUŞAN FLANŞLI TIP CEPHE İSKELELERİ

PLATFORM YÜK SINIFI:

H TİPİ CEPHE İSKELESİ PLATFORMU YÜK SINIFI 4D

e-imza/ve-signed

08.03.2018

Belgelendirme Merkezi Başkanı Adına
AHMET NURSI KARTAL

TSE İSTANBUL BELGELENDİRME MÜDÜRÜ

*Bu belge, belgelendirilen ürünün, üretim yerinin Enstitümüzün belirlediği şartları karşıladığını da gösterir.

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ABOUT US

Our company, operating in the industry under the name of Yağmur Scaffolding Systems since 2007, has become the largest player in the industry in terms of manufacturing, sales and leasing of secure scaffolding systems during this period. Our company, which has adopted an innovative approach, has started to manufacture and offer flanged scaffolding systems to its esteemed customers. Having TS EN 12810 certificate for flanged scaffolding systems, our Company aims to offer these products to its customers at the most affordable prices without compromising on the quality. Our purpose is to create secure working environments for workers in flanged scaffolding systems, which are widely used in building facades, industrial facilities and shipyards.

PRODUCTION

We manufacture our products in our modern facilities, located in Gebze, Kocaeli. It is our main principle to provide the highest quality products on time and at affordable prices thanks to our high production capacity and always available stocks.

LEASING AND SELLING

We will be pleased to help you in supplying our flanged scaffolding systems, which we manufacture in our facilities, to you through sales, leasing and sell & buy back models. You can contact with our sales representatives to determine the most suitable and affordable supply model for your project.

TECHNICAL SUPPORT

Your projects are solved in the most optimal way after necessary load calculations are made by our technical team and material metrics are calculated. Scaffolding assembly plans and cross-sections are prepared in Cad environment and offered to you. Our technical team will be ready on-site and provide necessary support during the initial installation. dy on-site and provide necessary support during the initial installation.

QUALITY POLICY

- To always be the pioneer in quality.
- To increase customer and employee satisfaction by implementing continuous improvement philosophy.
 - To increase domestic and international market share by offering high quality products at affordable prices and on time to the customer.
 - To use state-of-the-art technology and reach production target with zero error in order to reduce production costs.
 - To ensure that total quality philosophy is adopted by the entire staff and continue on training activities uninterruptedly.
 - To support our suppliers in increasing their quality based on the idea that main condition of customer satisfaction is possible by providing high quality input.



1. OVERVIEW OF FLANGED SCAFFOLDING SYSTEMS

Flanged scaffoldings can be used particularly in industrial structures as well as in shipbuilding and repairing facilities (shipyards), engineering structures, power plants, aircraft building and repairing facilities, production factories, such as cement, etc., construction sites of tunnels and dams, and in any facade construction project. They provide a quite secure and practicable working environment.

Flanged scaffolding is composed of vertical brace pieces, which have eight multidirectional brace points that are called “flanges” and welded securely and solidly on vertical components thanks to its unique connection technique, and horizontal brace pieces with locking mechanisms, named steel cast dovetail. 8 pieces of horizontal or diagonal braces can be assembled to each flange of vertical braces from different directions. This system allows the horizontal braces to move 360 degrees around a pillar.

So, a practical workflow that can easily adopt to any recess and protrusion on the building’s surface is achieved. The system’s security is at the highest level thanks to horizontal brace, which are manufactured in accordance with any flange range, and toe boards. This system can be easily installed and removed by two persons. Flange can be connected by applying dovetail and pressing with wedge only with the help of a 500 gr. hammer.

It can also be used as moving scaffolding with the wheels that can be added to the bottom adjusting spindles. There is no risk of tilting and tipping of the scaffolding thanks to its strong connections.



2. STANDARD OVERVIEW

Each scaffolding area that has been created for working and transportation purposes must be arranged in a manner to provide convenient conditions for the workplace and to meet below listed requirements:

- To protect the workers from the risk of falling;
- To ensure that materials and equipment being used are securely protected;
- To protect the workers at lower levels and persons walking around the scaffolding from any damage that might be caused by objects falling from above. Ergonomic issues must also be taken into consideration when designing the scaffoldings.

A console must be created throughout the entire width in the working area and appropriate side protection must be setup in this area before use.

Connections between combined pieces must be sufficient and easily visible from outside. These connections must be easily mountable and there must be sufficient anchoring mechanism against accidental separations.

2. 1 Width Classes

The net clearance between pillars must be 600 mm and net width of stairs must not be less than 500 mm.

The width determined for each working area, including the corners, must be preserved throughout the entire length of platform. Chart 1.

Width Class	W (m)
W06	$0,6 \leq w \leq 0,9$
W09	$0,9 \leq w \leq 1,2$
W12	$1,2 \leq w \leq 1,5$
W15	$1,5 \leq w \leq 1,8$
W18	$1,8 \leq w \leq 2,1$
W21	$2,1 \leq w \leq 2,4$
W24	$2, \leq w$

2.2 Head Distance

The smallest net size of h3, the head distance between working areas, must be 1.90 m.

The requirements for head distances for h1b height between connection elements and working areas or h1a height between transverse interim connections and working areas are given in Chart 2.

Class	Net Head Distance		
	Between working areas	Between connection elements or transverse interim connection and working areas	The smallest net height at shoulder level
H1	$h3 \geq 1,90 \text{ m}$	$1,75 \text{ m} \leq h1a < 1,90 \text{ m}$ $1,75 \text{ m} \leq h1b < 1,90 \text{ m}$	$h2 \geq 1,60 \text{ m}$
H2	$h3 \geq 1,90 \text{ m}$	$h1a \geq 1,90 \text{ m}$ $h1b \geq 1,90 \text{ m}$	$h2 \geq 1,75 \text{ m}$

Chart 2 - Head distance classes

2.3 Load Classes

Six load classes to meet different working conditions and seven width classes for the working area have been defined in this standard. Service loads are given in Chart 3.

The load class for working areas depends on the purpose of utilization of the scaffolding.

Note - In exceptional cases, where the scaffolding cannot be included to a single load class or it is used under very heavy conditions, different parameters can be determined and applied after the working conditions of scaffolding are analyzed. In such cases, actual works to be performed at the scaffolding must be taken into consideration. Some of these issues that must be taken into consideration are given below:

- a) The weight of all equipment and materials to be placed on the working area;
- b) Dynamic effects arising out of the machines being used on the working area, which are powered by external power sources;
- c) Loads caused by manually operated equipment, such as handcart.

Materials placed on the scaffoldings included to load class 1 are not included to service loads given in Chart 3.

Load Class	Uniformly Distributed Load q1 kN/m2	Single load on an area of 500 mm x 500 mm F1 kN	Single load on an area of 200 mm x 200 mm F2 kN	Partial Area Load	
				q2 kN/m2	Partial Area Coefficient ϕ (1)
1	0.75 (2)	1.50	1.00	---	---
2	1.50	1.50	1.00	---	---
3	2.00	1.50	1.00	---	---
4	3.00	3.00	1.00	5.00	0.4
5	4.50	3.00	1.00	7.50	0.4
6	6.00	3.00	1.00	10.00	0.5

(1) Article 6.2.2.4
(2) Article 6.2.2.1

Chart 3 - Service loads on working area

YAĞMUR SCAFFOLDING SYSTEMS HAVE TSI CERTIFICATE IN ACCORDANCE WITH TS EN 12810-4D-SW06/250-H2-A / B-LA STANDARD.

3. GENERAL PRINCIPLES OF FLANGED SCAFFOLDING SYSTEMS

Regarding facade scaffoldings, composed of wooden and prefabricated steel and aluminum alloy components, which will be used on the facades of license requiring structures and works as well as building constructions:

- Calculations for performance and design requirements;
- Structural arrangements needed for horizontal and vertical life lines; and
- Detailed drawings of connection points are prepared by project designer.

Calculations and detailed drawings of facade working scaffoldings are delivered by the construction's owner or their legal proxies to relevant administration as a part of the static project, which would be attached to the license that is attached to application petition that will be presented to obtain building license.

3.1 Responsibilities

If Contractor requests and states that configurations with TSI certificate will be used, calculations and detailed drawings prepared by the manufacturer can be accepted as a part of static project to be included to the license, provided that affirmative opinion of the project designer is obtained. However, this shall not release the responsibility of contractor and project designer.

3.2 Requirements

- In cases, where the height of facade scaffolding is more than 13.50 m, the entire scaffolding to be constructed will be composed of steel and/or aluminum alloy components.

- The entire outer surface of the facade scaffolding installed within the building approach distance must be completely covered with sack cloth, netting, canvas, plate or any similar scaffolding cover, provided that these areas to be covered would be limited with the facades of the building looking at the road side.

4. GENERAL DESCRIPTIONS FOR INFORMATION AND DEMONSTRATION PURPOSES REGARDING DESIGN AND APPLICATION RULES OF FACADES

Scaffoldings composed of prefabricated steel and aluminum alloy components must be designed according to TS EN 12811-1 and TS EN 12810-2 standards in a manner so as to ensure that they can be used safely, they don't move accidentally and they don't collapse.

Flanged scaffolding elements must not be used in case of existence of below mentioned damages in order for overall rigidity of scaffolding system and work safety.

Maximum weights that can be supported by steel platforms must be written on boards and hung in appropriate and visible places of the scaffolding. Attention must be paid to ensure that these weights are uniformly distributed on the scaffolding and loads heavier than these weights must not be placed on the scaffoldings.

If it is required to work at night or daylight is not sufficient, appropriate and sufficient lighting must be provided and power cables and devices must be positioned so as not to cause any danger both for the scaffolding and for the workers.

It must be ensured by taking preventive measures and making necessary maintenance works that working areas of the scaffoldings do not become slippery due to natural factors, such as ice, snow and rain, and other factors, such as dirt, rust and oil.

NO WORK SHOULD BE PERFORMED ON SCAFFOLDINGS DURING RAINY AND SNOWY WEATHER. NO WORK SHOULD BE PERFORMED ON SCAFFOLDINGS WHEN THE WIND SPEED IS FASTER THAN 45 km/h.

The largest loads and working wind load must be applied perpendicular and parallel to the facade when calculating the system.

Horizontal stability of the scaffoldings must be ensured by fixing them to the adjacent building with anchorages.

Working areas must be as horizontal as possible and the slope must not be more than 20%.

Scaffoldings must be dismantled from top to the bottom.

No deformed or corroded primary, secondary and brace must be used in scaffolding systems.

Metal elements used to construct the scaffoldings must be appropriately grounded against static electricity.

If the height between the top platform surface and bottom side of the lowest plate is more than 24 m., calculations other than standard system configurations must be made.

The head distance between working areas must be minimum 190 cm. There must be passages of minimum 60 cm. width on the scaffoldings in order to be used for passing and these passages must have suitable balustrades.

On these balustrades, there must be a main balustrade, which can resist to minimum 125 kg. load from any distance and which is at least 1 m. high;

A toe board of at least 15 cm. high that is adjacent to the platform; and

Middle balustrade in a manner to ensure that the opening between the toe board and main balustrade is at least 47 cm.

Elements to be used must be inspected one by one before the installation and any element that was damaged due to aforesaid reasons or other similar reasons must be replaced to continue on the installation of scaffolding.

The entire outer surface of the facade scaffolding installed within the building approach distance must be completely covered with sack cloth, netting, canvas, plate or any similar scaffolding cover, provided that these areas to be covered would be limited with the facades of the building looking at the road side.

5. ACTIONS TO BE TAKEN IF CONNECTIONS ARE TEMPORARILY REMOVED IN FLANGED SCAFFOLDING SYSTEMS OR THE SCAFFOLDING HEIGHT IS MORE THAN 25 M.

If wall connection elements that fix the scaffolding to the structure are temporarily removed, this process must be performed by removing only 1 wall connection element at a time in order not to jeopardize overall rigidity of the scaffolding. When this process is completed, the wall connection element must be mounted again and other wall connection element must be removed. Otherwise, undesired vibrations and hazards may occur on the scaffolding.

If the scaffolding's height is more than 25 m or it is required to install the scaffolding in a manner that is different than the proposed project, authorized technical staff of the manufacturer must be contacted. The installation must be made according to the projects to be proposed by these technical staff.

6. SECURITY MEASURES TO BE TAKEN ON THE SCAFFOLDINGS

When installing a facade scaffolding that is composed of prefabricated components, vertical and horizontal braces of the supporting system must be completely installed and the system must be reinforced with sufficient number of cross-sections.

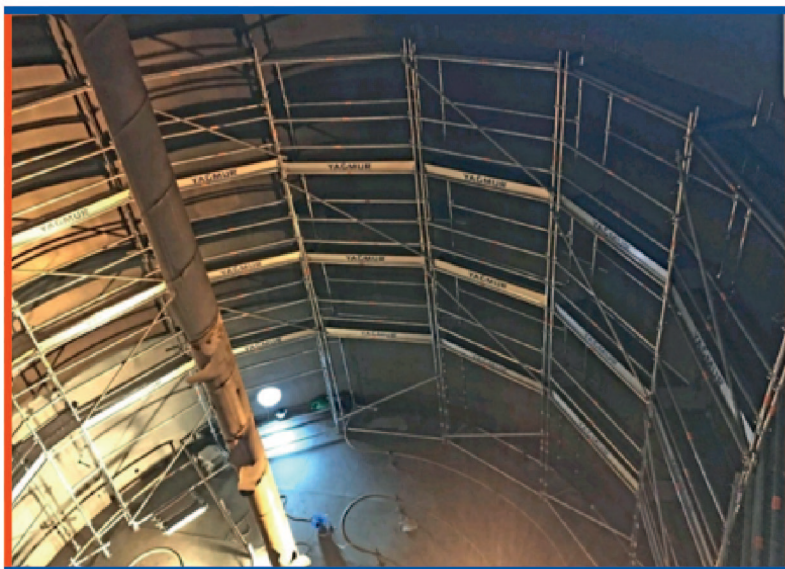
External nominal diameter of vertical and horizontal braces of supporting system, which have circular cross-sections, must be at least 48.3 millimeters and nominal thickness must be in compliance with the material type and minimum yield strength in the facade scaffoldings that are composed of prefabricated components.

Facade scaffoldings are installed as close as possible to the building and when it is not possible, measures are taken to prevent workers to fall between the building and the scaffolding.

7. DAMAGE INDICATOR OF FLANGED SCAFFOLDING ELEMENTS

Flanged scaffolding elements must not be used in case of existence of below mentioned damages in order for overall rigidity of scaffolding system and work safety. These damages are:

- Permanent deformation of vertical brace;
- Permanent deformation of horizontal and diagonal brace;
- Permanent deformation of steel deck and the ladder deck with opening cover;
- Damaging of bottom adjusting spindles, broken or cracked nuts;
- Damaging of double clamp and pinned clamp teeth;
- Damaging of wall connection elements used to fix the scaffolding to the building;
- Permanent deformation of toe boards and side toe boards;
- If any element, particularly the combination and welding points are damaged, they must never be used. Otherwise, the probability to encounter with irremediable accidents in terms of work safety. Elements to be used must be inspected one by one before the installation and any element that was damaged due to aforesaid reasons or other similar reasons must be replaced to continue on the installation of scaffolding.

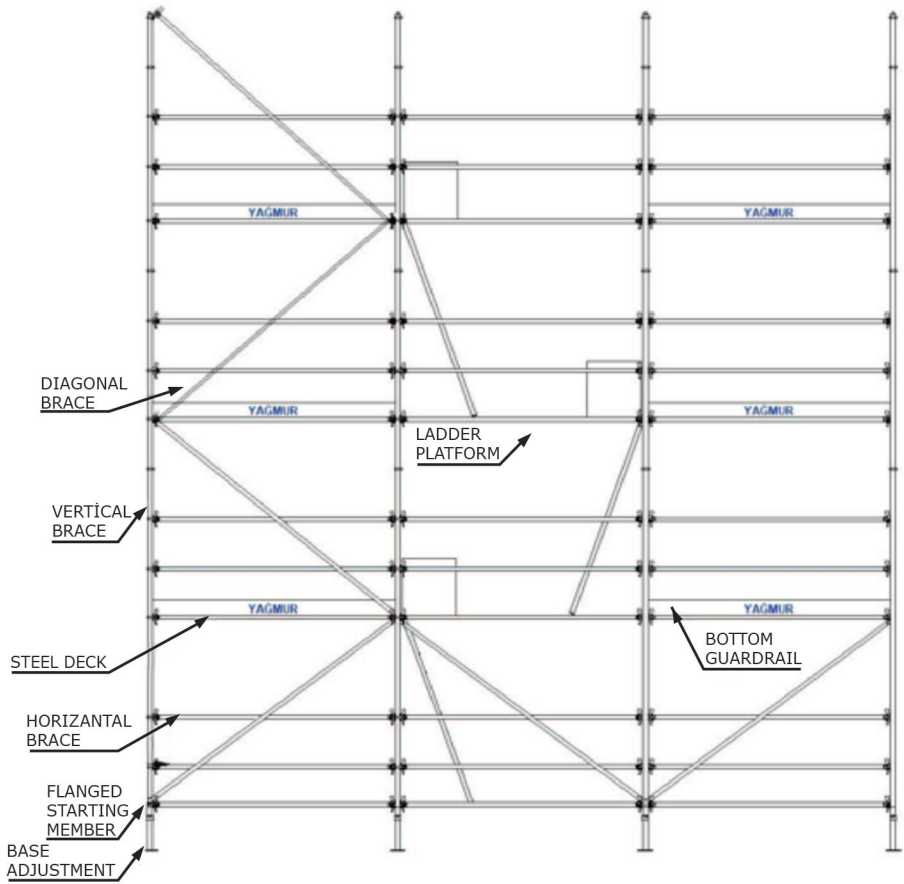


8. PART LIST OF FLANGED SCAFFOLDING SYSTEM

Components of a flanged scaffolding are as follows:

1. Vertical Brace
2. Horizontal Brace
3. Diagonal Brace
4. Steel Deck
5. Double Platform
6. Base Adjustment
7. Flanged Starting Member
8. Bottom Guardrail
9. End Bottom Guardrail
10. Wall Tie



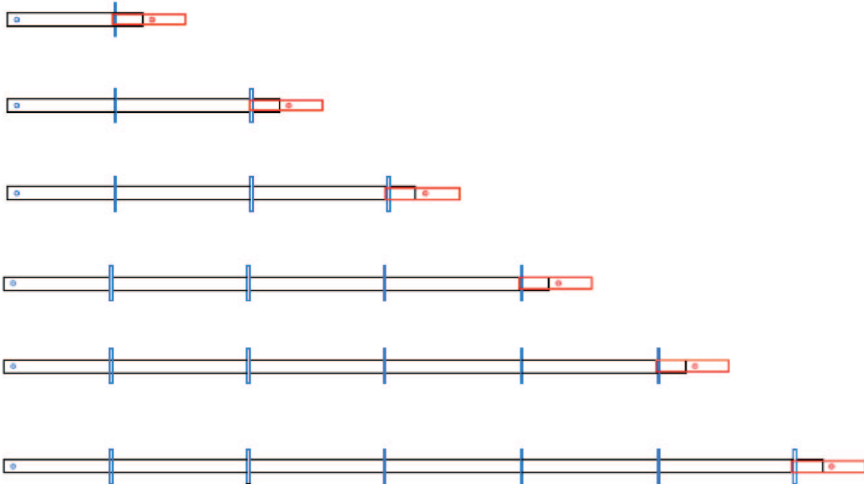


APPEARANCE



PLAN

8.1 Vertical Brace



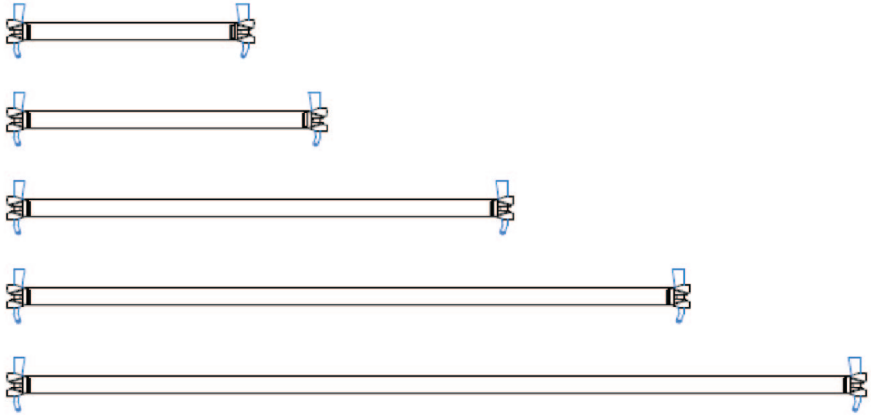
Vertical brace is made of $\text{Ø}48 \times 3$ mm TSI certified industrial pipe.

The brace that is made of $\text{Ø}38 \times 2$ mm TSI certified industrial pipe is pressed and fixed to the vertical brace.

There are 10 mm thick flanges, welded both from bottom and top, in vertical brace, which are placed in every 50 cm and allow to connect from 8 different directions. Welding is made by automatic gas metal arc welding robots.

There are sizes of 50, 100, 150, 200, 250 and 300 cm and they are coated with hot-dip galvanized coating.

8.2 Horizontal Brace



Horizontal brace is made of $\text{Ø}48 \times 2.5$ mm TSI certified industrial pipe.

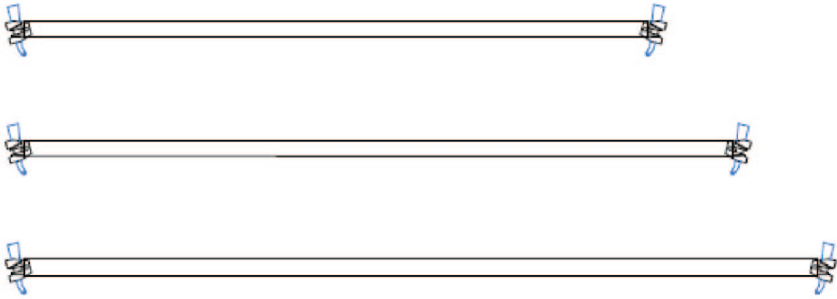
Both ends of horizontal brace is welded with forged dovetail. The dovetail has a forged wedge with 6 mm. stopper.

Welding is made by automatic gas metal arc welding robots.

There are sizes of 75, 110, 150, 200, 250 cm.

They are coated with hot-dip galvanized coating

8.3 Diagonal Brace



They are made of $\text{Ø}42 \times 2.5$ mm TSI certified industrial pipe.

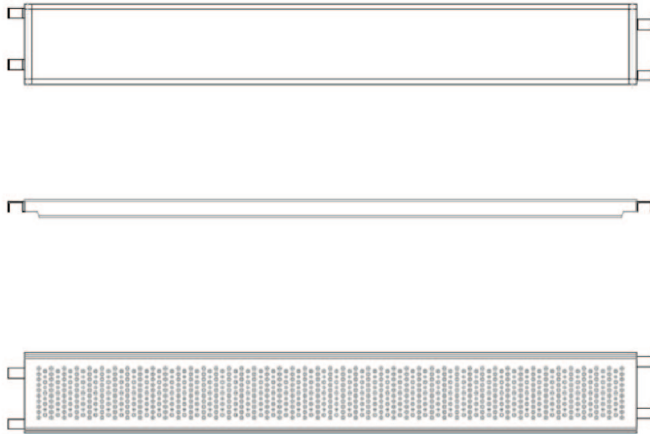
Forged dovetail is mounted on both ends of diagonal brace.

The dovetail has a forged wedge with 6 mm. stopper.

There are sizes of 250, 280, and 320 cm.

They are coated with hot-dip galvanized coating.

8.4 Steel Deck



Steel platforms are produced in automatic roll-form machine.

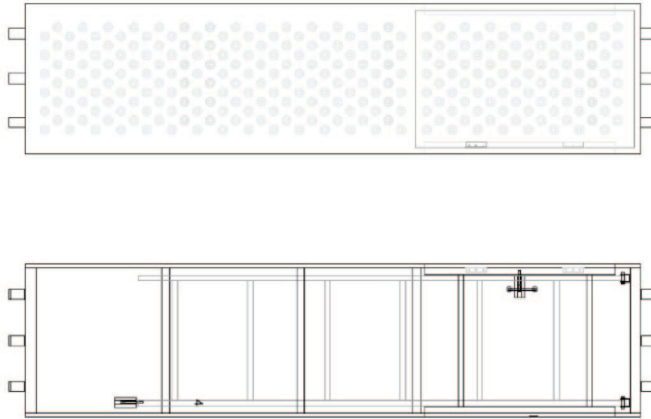
They are produced with 30 cm. width from 1.5 mm. thick sheet metal.

There is one locking apparatus on recording profiles.

There are sizes of 100, 150, 200, 250 cm.

They are coated with hot-dip galvanized coating.

8.5 Double Platform



Ladder platforms with opening cover are produced in automatic roll-form machine.

They are produced with 60 cm. width from 1.5 mm. thick sheet metal.

It is possible to open the cover to climb down the ladder or to close the cover in order to work on it without building an extra stairwell tower.

It is possible to climb up by opening the lower steps or to close and fix it.

There is one locking apparatus on recording profiles.

There is a size of 250 cm.

They are coated with hot-dip galvanized coating

8.6 Base Adjustment



Adjusting spindles are produced by opening 6 pitch threads on $\text{Ø}38 \times 4$ mm TSI certified pipe. There is a nodular cast iron nut on the spindle for adjustment purposes.

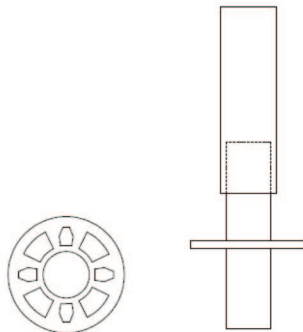
Bottom plate is made of 150x150x5 mm embossed sheet metal.

There are sizes of 50 and 100 cm.

There is a stopper on top of it to prevent it to be opened too much.

They are coated with electro galvanized coating.

8.7 Flanged Starting Member

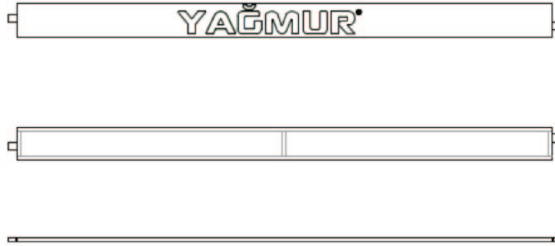


It connects vertical brace with bottom adjusting spindle.

It has a length of 25 cm.

It is coated with hot-dip galvanized coating.

8.8 Bottom Guardrail

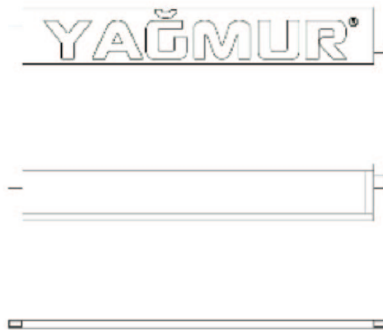


It is produced by giving a special shape to 1 mm. thick galvanized metal sheet on automatic roll-form line.

It's strength is increased with forms on 15 cm high toe boards.

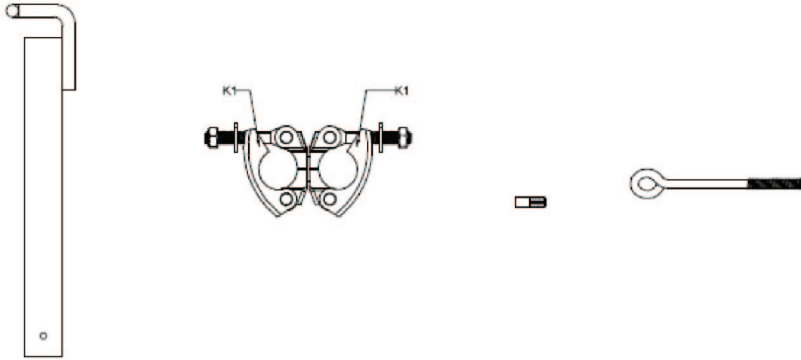
There are sizes of 100, 150, 200, and 250 cm.

8.9 End Bottom Guardrail



It's strength is increased with forms on 15 cm high end bottom guardrail.

8.10 Wall Tie



It is used to fix the scaffolding to the building's facade.

It is composed of $\text{Ø}48 \times 3.2$ mm connection pipe, a stud bolt, steel pin and double clamp.

They are coated with hot-dip galvanized coating.

9. INSTALLATION STEPS OF FLANGED SCAFFOLDING SYSTEM



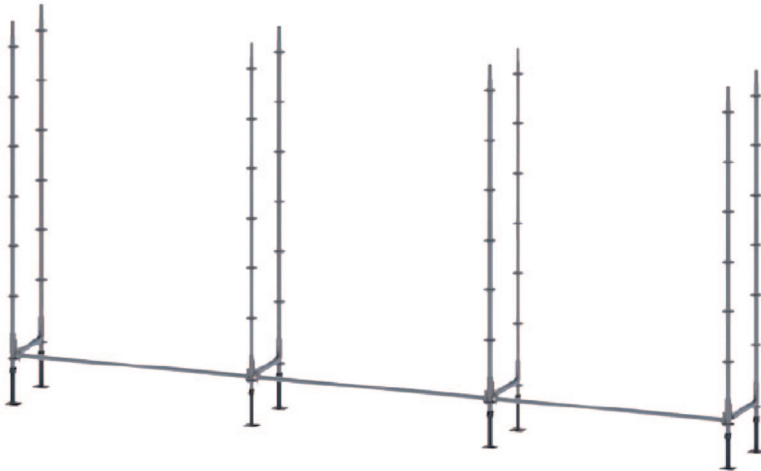
Bottom adjusting spindles are placed on the points specified in the project.



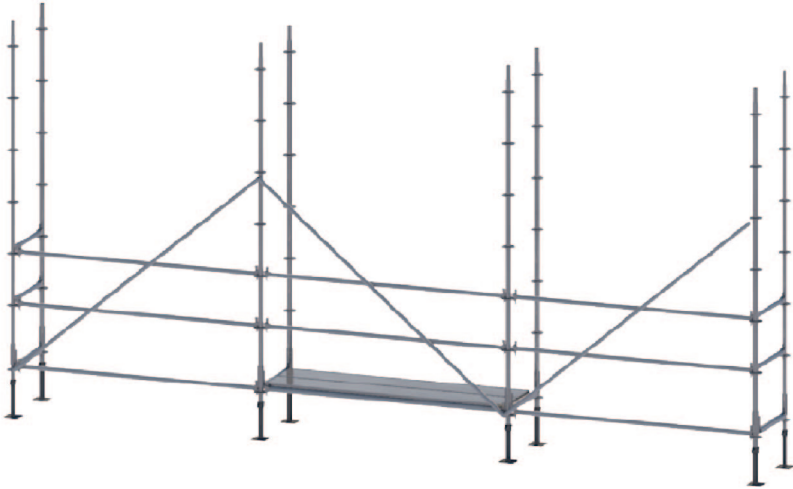
Starting feet are mounted on these bottom adjusting spindles.



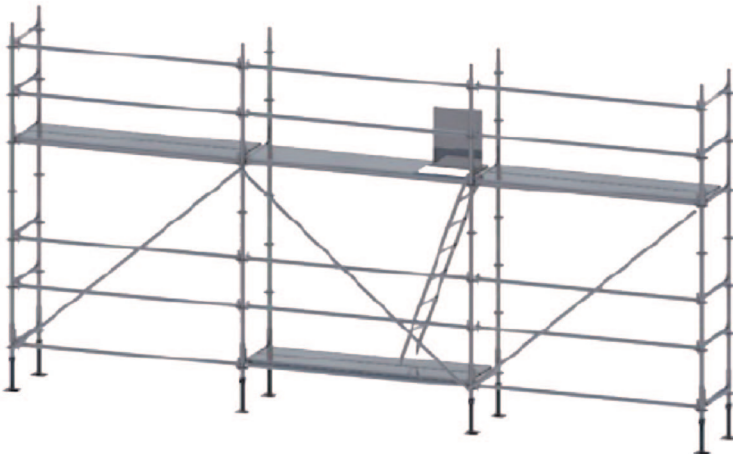
Dovetails of horizontal brace are mounted on the flanges available in vertical braces by using wedges, the scaffolding is leveled and the system is put on set-square.



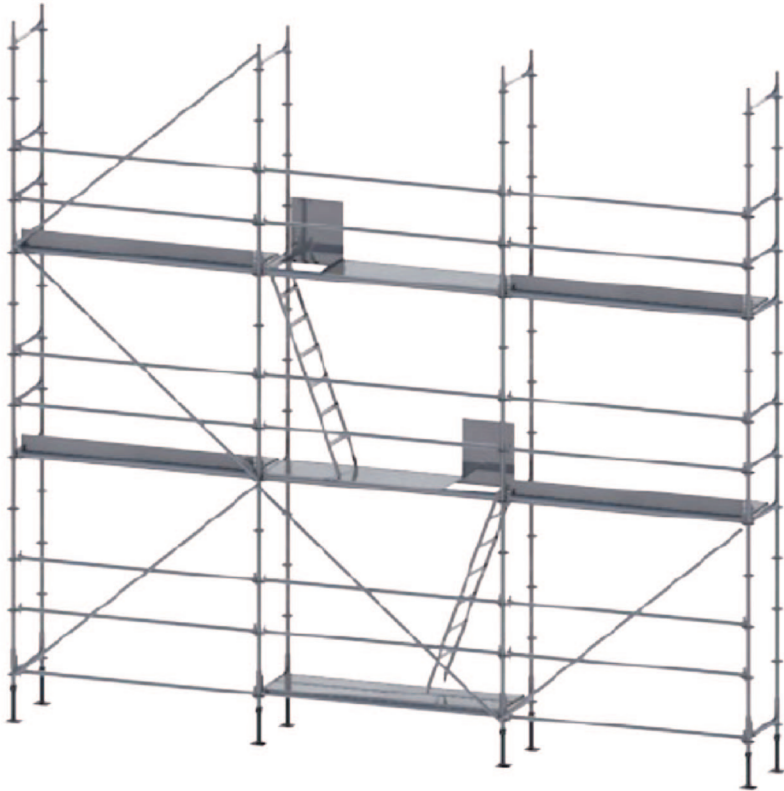
Vertical brace are mounted on starting feet.



Dovetails of diagonal brace are attached to the flanges on vertical brace by using wedges.



Steel platforms and ladder platforms with opening cover are placed on horizontal brace and locked with locking apparatus. Ladder is used to climb up.

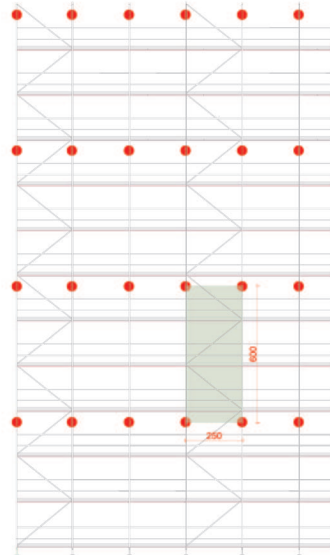


The operations in the first floor are repeated in every floor to installed the flanged scaffolding system. Toe boards are attached to the wedges of horizontal connections. Side toe boards are mounted on all starting and ending vertical braces from bottom to top, except the first row.

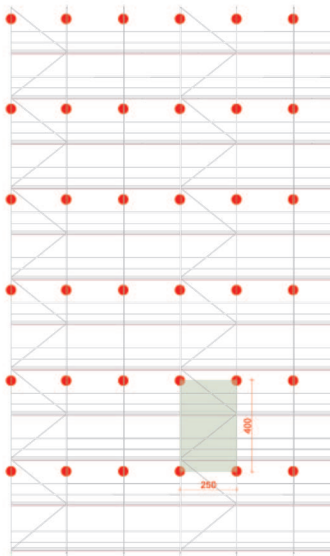
10. FIXING THE FLANGED SCAFFOLDING SYSTEM TO THE STRUCTURE

Wall Connection Set and Double Clamp are used to fix the Flanged Scaffolding System to the structure. At least 7 cm depth $\varnothing 16$

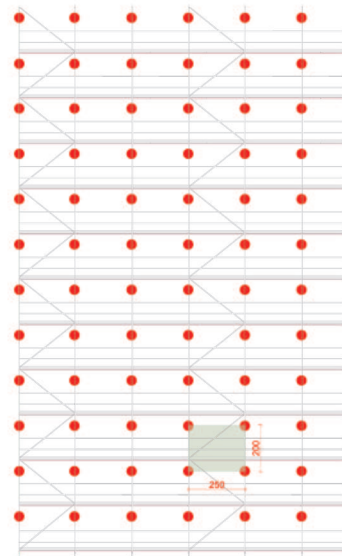
holes are drilled on concrete sections (column, beam or floor) of the structure. M12 drop-in anchor is placed in the drilled hole and eyebolt stud is mounted on the anchor. Z section of $\varnothing 48 \times 3.2$ mm pipe, welded to $\varnothing 16$ transmission shaft, one end of which was folded as Z letter, is attached to eyebolt stud and flat section is connected to vertical brace with Double Clamp.



Uncoated



Netting



Canvas

11. DISMANTLING OF FLANGED SCAFFOLDING SYSTEM

Dismantling starts by removing toe board and side toe board on the top floor. Long and short horizontal braces and diagonal braces are removed. After wall connection sets are removed, vertical braces and locking apparatus are removed too and then the workers climb down through the ladder.

Steel platforms and ladder platforms with opening cover on the upper floor are removed.

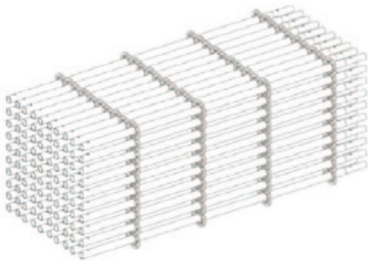
The operations are performed in the same order until the lowest floor. Dismantling is completed when starting feet and bottom adjustment spindles are removed.

Conditions to be Cared When Using the Products:

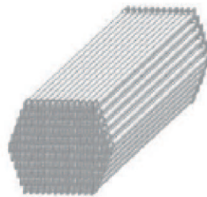
- They must not be used when the wind speed is more than 0.2 kN/m².
- They must not be used when the ice load is more than 300 N/m².
- They must not be used when the surface is slippery due to environmental and weather conditions (icing, lubrication, etc.).
- The product to be mounted must be fixed to a secure place by rope until the mounting is completed.

12. INSTRUCTIONS FOR STORAGE OF FLANGED SCAFFOLDING SYSTEM

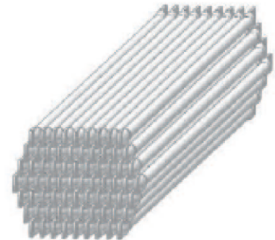
Flanged Scaffolding Elements must be stacked under the following conditions.



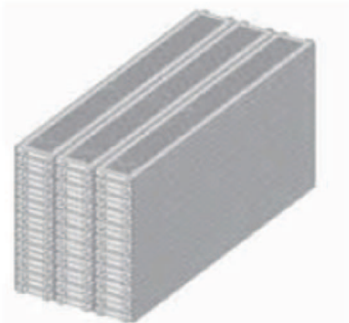
Vertical Brace: 100 Pieces



Horizontal Brace: 150 Pieces



Diagonal Brace: 75 Pieces



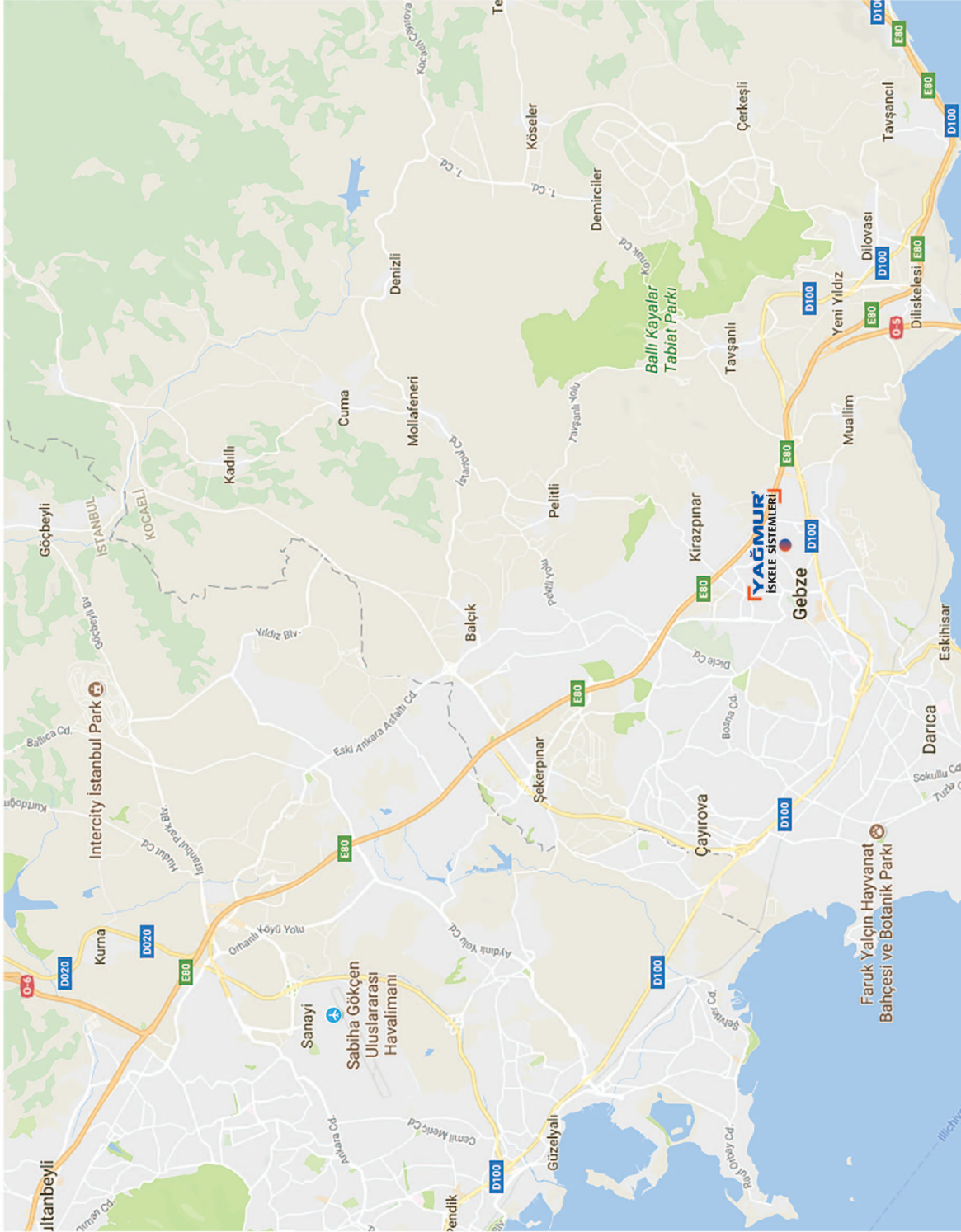
Steel Deck: 60 Pieces



Double Decks with Ladder: 15 Pieces

13. FLANGED SCAFFOLDING SYSTEM MATERIAL DETAILS

CODE	METARIAL DESIGNATION	PCS (KG)	FIGURE
GF301.048.300	VERTICAL BRACE (GALVANIZED) 300 CM.-6F	13,20	
GF301.048.250	VERTICAL BRACE (GALVANIZED) 250 CM.-5F	11,00	
GF301.048.200	VERTICAL BRACE (GALVANIZED) 200 CM.-4F	8,90	
GF301.048.150	VERTICAL BRACE (GALVANIZED) 150 CM.-3F	6,80	
GF301.048.100	VERTICAL BRACE (GALVANIZED) 100 CM.-2F	6,80	
GF301.048.050	VERTICAL BRACE (GALVANIZED) 50 CM.-1F	4,60	
GF302.048.250	HORIZONTAL BRACE (GALVANIZED) 250 CM.	8,00	
GF302.048.200	HORIZONTAL BRACE (GALVANIZED) 200 CM.	6,60	
GF302.048.150	HORIZONTAL BRACE (GALVANIZED) 150 CM.	5,20	
GF302.048.110	HORIZONTAL BRACE (GALVANIZED) 110 CM.	3,80	
GF302.048.075	HORIZONTAL BRACE (GALVANIZED) 75 CM.	3,00	
GF304.048.324	DIAGONAL BRACE (GALVANIZED) 324 CM.	9,70	
GF304.048.287	DIAGONAL BRACE (GALVANIZED) 287 CM.	8,70	
GF304.048.254	DIAGONAL BRACE (GALVANIZED) 254 CM.	7,80	
GS-262.030.250	STEEL DECK (GALVANIZED) (ROLL FORM)-K 30X250 CM.	16,80	
GS-262.030.200	STEEL DECK (GALVANIZED) (ROLL FORM)-K 30X200 CM.	13,80	
GS-262.030.150	STEEL DECK (GALVANIZED) (ROLL FORM)-K 30X150 CM.	10,80	
GS-262.030.100	STEEL DECK (GALVANIZED) (ROLL FORM)-K 30X100 CM.	7,80	
G-S142.060.250-1	DOUBLE STEEL DECK (GALVANIZED)-K 60X250 CM.	35,50	
G-S141.060.250-2	LADDER 34X220 CM.	8,00	
GF310.015.250	BOTTOM GUARDRAIL - F 250 CM.	6,00	
GF310.015.200	BOTTOM GUARDRAIL - F 200 CM.	4,90	
GF310.015.150	BOTTOM GUARDRAIL - F 150 CM.	3,80	
GF310.015.100	BOTTOM GUARDRAIL - F 100 CM.	2,70	
GF310.015.075	BOTTOM GUARDRAIL - F 75 CM.	2,00	
GF306.048.025	FLANGED STARTING MEMBER	1,55	
G-S151.015.050	BASE ADJUSTMENT (ELECTRO GALVANIZED) 50 CM.	2,80	
G-S171.048.048	DOUBLE COUPLER (SWIVEL) (Ø48-48)	1,10	
G-S181.048.040	WALL FIXING PIPE (40 CM.)	1,60	
G-S182.012.021	WALL FIXING BOLT (21,5 CM.)	0,20	
G-S183.012.005	WALL FIXING PEG (M12)	0,10	
G-S184.048.048	DOUBLE COUPLER (FIXED) (Ø48-48)	0,90	



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