Introduction
Haz Metal is located in Iskenderun, in the south of Turkey, based on an area of 17,000 m². The company provides services in the design and production of stainless steel fixing systems for facade cladding installation and a variety of products used in construction.

The company’s objective is to assist and advise its clients to choose the most suitable fixing systems for their requirements and to provide them with quality products and the supply of the required materials. Haz Metal has dedicated itself to supply customers with easy to use, secure and economic fixing systems.

This principle is shared with its sister company, Haz Marble in work experience and quality standards. Haz Marble is one of the leading installation companies with worldwide experience since 1978 of more than 5,000,000 m² internal and external natural stone installation.

Along with this principle, Haz Metal has organized a technical department to design and produce fixing systems in accordance with international standards. The innovative design and production techniques offer practical and economic solutions to solve every possible problem within the scope of fixing systems.

As a supplier of fixing systems to major projects around the world, Haz Metal has proven its quality and reliability to its clients. The company enjoys serving the sector and works hard to constantly improve and develop its services.

Mission Statement
To design and produce products that exactly meet the expectations of our clients and provide them with technical service in order to assist them with their requirements. Our objective is to propose the most secure, economic and easy to use fixing systems to satisfy our clients.

Technical Service
Haz Metal provides services in the design of fixing systems and preparation of structural calculations. This service is done in the company technical department using CAD software and SAP engineering programs. The technical department receives the necessary technical information of the project in order to design the most suitable, secure, easy to use and economic fixing systems in accordance with the project criteria.

Custom design and production is also made after receiving detailed architectural drawings of the project. Haz Metal provides the necessary documentation and structural calculation reports for submittal in order to approve the designed fixing systems.
Steel structures used for building secondary structures are also designed and produced at Haz Metal which are designed and produced according to project specifications. Standard and customized production is made to meet the special needs of clients. Products are produced from stainless steel and galvanized steel raw material. Stainless steel grade EN 1.4301 (AISI 304) & EN 1.4401 (AISI 316) and galvanized ST37 mild steel are used in production of fixing systems.

Quality Standards
Haz Metal implements DIN, BS and ASTM standards in the design and production of fixing systems. Production is strictly controlled within the tolerances of these standards. All products are designed and produced by its personnel, applying the latest production methods with modern machinery. Our quality control team, under the supervision of a mechanical engineer, is selected from long serving and experienced foremen. All products are checked during each production step and are compared with production drawings and specifications. The company is strictly bound to the concept of ISO 9001:2000 and “Total Quality Management”. The application of this management system is maintained and is a part of day-to-day operations.

Technical Know-How
With working experience since 1993, Haz Metal’s technical staff has an outstanding technical knowledge in the field of fixing systems design and production. The thorough knowledge on stainless steel provides quality and strong production of fixing systems. Cutting, drilling, bending, chamfering, tabbing, rolling, threading and especially, the welding of stainless steel, is carried out in the highest professional manner. Knowledge and experience over the design and structural calculation works enables Haz Metal to provide technical service to projects for fixing systems.

Production Capacity
With approximately 10.000 m2 area of production halls, Haz Metal is equipped with more than 100 work stations and has a monthly production capacity of more than 300 tons.

The company has its own workshop where molds and machine parts are produced. This enables fast and flexible production to supply projects of any size.
Natural Stone Fixing Systems

Haz Metal has started producing fixing systems in 1993. Haz Metal today has the technical know-how and technology to produce all types of natural stone fixing systems for ventilated stone facades. Fixing systems can accommodate all types of wall backings whether they are concrete, block work & masonry walls or steel structures. Haz Metal proposes and specially designs fixing systems according to each project’s requirements. Natural stone fixing systems are produced in stainless steel grade EN 1.4301 (AISI 304) & 1.4401 (AISI 316).

**HZ Z Anchors**

- Anchors are fixed on to load bearing walls with expansion bolts.
- Suitable for projection sizes between 60 and 260mm
- Vertical loads up to 1300 N.
- Adjustable in three dimensions
- Direct installation at horizontal and vertical joints.

**AXO Body Anchors**

- Anchors are fixed on to load bearing walls with expansion bolts.
- Suitable for projection sizes between 45 and 135 mm
- Vertical loads of up to 800 N.
- Adjustable in three dimensions
- Direct installation at horizontal and vertical joints.

**HA L Anchors**

- Anchors are fixed on to load bearing walls with expansion bolts.
- Direct installation at horizontal only.

**HSD Mortar Anchors**

- Anchors are fixed on to concrete and masonry walls with mortar.
- Suitable for projection sizes between 35 and 75 mm
- Loads up to 600 N.
- Adjustable in three dimensions
- Direct installation at horizontal and vertical joints.

**HDM Heavy Duty Mortar Anchors**

- Anchors are fixed on to concrete and masonry walls with mortar.
- Suitable for projection sizes up to 240 mm and loads up to 1200 N.
**HMP Sub Channel System**

- **HMPA**
- **HMPB**
- **HMPC**
- **HMPL**
- **HCSP1**
- **HCSP2**
- **HCSP3**
- **HCSP4**
- **HCRS1**
- **HCRS2**
- **HCRS3**
- **HCRS4**

- Anchors are fixed on to channels with set screws.
- Suitable for large projection sizes and for non-load bearing walls where expansion bolts cannot be used.
- Fully adjustable.
- Low drilling points allow quick and easy installation.
- Indirect installation at horizontal and vertical joints.

**HPC Periscope Anchors**

- **HPC1**
- **HPC2**
- **HPC3**
- **HPC4**

- For installing small sized reveal, soffit and column slabs on to supported facade slabs.
- Assembly can be made in the work shop enabling easy installation on site.

**HAZ Accessories**

- **HAA** Adjustable arm
- **HAA-B** Adjustable arm w.pin
- **HAA-C** Adjustable arm w.plate
- **HFP** Flanged pin
- **HSP** Straight pin
- **HTP** Traced pin
- **HCP** Capped pin
- **HUP** U shaped pin
- **HPT** Plastic tube
- **HSW** Serrated washer
- **HPW** Plain washer
- **HMLN** Lock nut
- **DIN933** Set screw
- **DIN934** Nut
- **DIN125** Round washer

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Masonry Fixing Systems

The production of various types of masonry support systems are available in Haz Metal. Special parts can be produced according to project requirements. Materials used are stainless steel and galvanized mild steel.

Pipe clamps & accessories

Expansion bolts
Fixing systems for the installation of high load natural stone or reconstructed stones are available in a variety of types and size ranges.

A system proposal will be made according to the technical requirements of the project.

The use of these fixing systems is common for high load coping and corniche stones.

Load bearing and restraint anchors are used to install the slabs on to various types of wall backings using a variety of expansion bolts.

Fixing systems with aluminium under constructions are available for the installation of natural stone, ceramics and fibre cement panels.

Two systems are used for installation. One is with a pin system to install panel thicknesses of 20 mm or greater. Second is for installing panels with thicknesses below 20 mm.

Three dimensional adjustability is enabled and fast installation is possible due to the light weight of aluminium and the ease of cutting and drilling on site.
Framing Systems

Channels are designed to provide framing systems for the installation of secondary elements and components. The use of this system provides secure and fast connections achieving economic and easy to use installation. Many advantages are offered by using framing systems which can be used for various applications. Channels and accessories are available in stainless steel grade EN 1.4301 (AISI 304) & EN 1.4401 (AISI 316) galvanized ST37 mild steel.
Cast-in Channels & Accessories

Cast in channels are cold rolled channels with studs which are integrated into concrete walls to enable installation of secondary structures without the use of drilling on site. Channels are placed in the form work prior to concrete casting. Strip filler insert in the channels avoid concrete to penetrating in to the inner lips of the channels. After the concrete is dried, the strip filler is easily removed and the corresponding T head bolts and lock nuts are used for fixing to the channels. A variety of advantages are offered with the use of this system. Cast in channels are available in stainless steel grade EN 1.4301 (AISI 304) & EN 1.4401 (AISI 316) and electro & hot dip galvanized ST37 steel.

HMPR Cast-in channels

Advantages:
- No drilling on site
- Safe near edges on concrete.
- Adjustable and flexible
- Safe and secure fixing.
- Quick and easy fixing.
- Applicable for all types of installations.

HMPR Cast-in channels with studs and accessories for strong connections in to concrete.

HMPR-28/15  HMPB-38/17  HMPR-40/25  HMPR-49/30  HMPR-54/33
Cast-in channels for tension and shear loads:

HMPS-41/21
Toothed Cast-in channel for tension, shear and longitudinal loads:

HPTR
Cast-in channel for roof sheets:

HWT Wall Ties

HWT1  HWT2  HWT3  HWT4  HWT5

HBT  T head bolts & HMLN Lock nuts and accessories

HTB-B  HTB-D  HTB-C  HMLN-B  HMLN-D  HMLN  HLW2  HTBC  HRSL
HZ02 Z Anchor fixing system:

- Fixing to concrete with expansion bolts. 20-50 mm stone thicknesses are applicable.
- Projection sizes up to 135mm.
- Recommended loads up to 800 N.
- Installation at horizontal and vertical joints.

AX04 Body Anchor fixing system:

- Fixing to concrete with expansion bolts.
- Projection sizes up to 260 mm.
- Recommended loads up to 1300 N.
- Optimum static performance.
- Economic when installing at high projection.

HA L Anchor Fixing system:

- Fixing to concrete with expansion bolts. Minimum 20 mm and larger stone sizes are applicable.
- Various types to fit a range of loads and projection sizes.
- Installation at horizontal joints only.
- Limited adjustability is available.

HSD Mortar Anchor fixing system:

- Fixing to masonry with mortar.
- Various types to fit a range of loads and projection sizes.
- Installation at horizontal and vertical joints.
- Three dimensional adjustability.
Application Examples
Natural Stone Fixing Systems - Indirect Installation

HMPA-HC2 sub channel fixing system:
• High load bearing and adjustable sub channel system.
• Fast and easy fixing of stone slabs.
• Minimum projection size is 90 mm and maximum is 260 mm.
• Ideal for heavy loads and large projection sizes.
• Anchors are fixed to channels with hex bolts and hex nuts.

HMPB-HC1 sub channel fixing system:
• Easy to assemble sub channel system.
• Easy to install with uncomplicated elements.
• Minimum projection size is 110 mm and maximum is 200 mm.
• Ideal for restoration of facades.
• Anchors are fixed to channels with hex bolts and hex nuts.

ATS sub channel fixing system:
• Adjustable and easy to use sub channel system.
• Fast and easy fixing of stone slabs.
• Minimum projection size is 160 mm and maximum projection size is 360 mm.
• Ideal for varying projection sizes and slab dimensions.
• Anchors are fixed to toothed channels with lock nuts and hex bolts.

HMPC-HC1H sub channel system:
• Adjustable sub channel system with horizontal channels.
• Quick adjustability at horizontal axis.
• Minimum projection size is 150 mm and maximum is 240 mm.
• Ideal for staggered patterned facades.
• Anchors are fixed to channels with lock nuts and hex bolts.
HMPR Cast in channels with studs and corresponding T head bolts are used for strong and secure connections in concrete without the use of drilling. Suitable for connections of any type of secondary structures. Loads up to 22,000 N are applicable.

Advantages:
- No drilling on site.
- No noise and vibration of power tools.
- Safe near edges on concrete.
- Adjustable and flexible.
- Safe and secure fixing.
- Quick and easy fixing.
- Applicable for all types of sub structure installation.

Application Examples

- Installation of precast concrete panels.
- Connection of concrete beams.
- Installation of pipe systems on walls.
- Installation of pipe systems on ceilings.
- Installation of glazing curtain walls.
- Installation of natural stone panels.
- Installation of masonry walls.
- Installation of stone cornices.
- Connection of upper steel beam.
- Connection of lower steel beam.
- Installation of base for steel construction.
- Connection of precast concrete
HMP Framing systems with channels and various accessories are used to build steel construction for the installation of various types of structures. Efficient modular support structures are built quickly and easily. Flexible and low-cost application is achieved.

**Advantages:**
- Fast and Secure fixing.
- No time consuming by welding and hole setting.
- No use of welding and drilling equipment.
- Adjustable and non-slip point fixing.
- Cost effective and flexible.
- Quick and easy fixing.

**Application Examples**

- Installation of infrastructure utilities.
- Installation of electrical cables.
- Installation of lighting systems.
- Assembly made on to steel beams.
- Assembly made on to concrete floors.
- Assembly made on to cast in channels.
- Assembly made on to steel beams.
- Assembly made on to steel column.
- Assembly made on to steel box channels.
## References

<table>
<thead>
<tr>
<th>Project: Conference Palace Hotel - Abu Dhabi</th>
<th>Project: Sabanci University - Istanbul</th>
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<tbody>
<tr>
<td>Contractor: Turner Construction</td>
<td>Contractor: Koray Construction</td>
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<td>Installation Area: 160,000 m²</td>
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<th>Project: Is Bank Towers - Istanbul</th>
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<td>Contractor: Baytur Construction</td>
<td>Contractor: Tepe Construction</td>
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<td>Installation Area: 62,500 m²</td>
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References

Project: Demir Bank  
Location: Istanbul

Project: Yapi Kredi  
Location: Istanbul

Project: Zorlu Holding  
Location: Istanbul

Project: Istek Vakfi  
Location: Istanbul

Project: Tekfen Tower  
Location: Istanbul

Project: Garanti Bank  
Location: Istanbul

Project: American Embassy  
Location: Istanbul

Project: American Embassy  
Location: Kingston

Project: American Embassy  
Location: Astana

Project: American Embassy  
Location: Yerevan

Project: Usadba center  
Location: Moscow

Project: Tax office  
Location: Moscow

Project: Lazurnaya  
Location: Sochi

Project: Gasprom  
Location: Moscow

Project: Riverside Hotel  
Location: Moscow

Project: Ritz Carlton Hotel  
Location: Moscow

Project: Hilton Hotel  
Location: Jeddah

Project: Kingdom Trade  
Location: Riyadh

Project: Medinah  
Location: Jeddah

Project: Four Seasons Hotel  
Location: Cairo

Project: The Fund  
Location: Abu Dhabi

Project: Mauritius  
Location: Mauritius
The Haz Metal factory is located in Iskenderun at the southern part of Turkey. Production is made using the latest technological methods with ISO 9001 quality control. Total quality management systems are established at every stage of day to day operations.

Since 1993, the factory has increased production capacity to meet the expanding project demand globally. Haz Metal has taken the necessary steps to ensure high quality production with acceptable lead times.

This has been done by establishing state of the art production lines with modern machinery at Haz Metal. The factory is equipped with machines capable of processing any type of cold working production methods on stainless steel.

Haz Metal has its own workshop to produce molds and dies required for the production of custom designed fixing systems.

Haz Metal has the production capacity to supply major projects of any size with high quality fixing systems.
Always at the forefront of fixing technology, HAZ METAL has earned a reputation as the leaders in fixing systems innovation and is regarded as the one to follow. HAZ METAL fixing systems of today become the standard of tomorrow.

HAZ METAL combines the very latest international technology with its own research and development team to establish a technical excellence within the industry.

HAZ METAL readily embraces the responsibility of a major producer and share its expertise with problem solving solutions.