



NOOR GULF

GENERAL CONTRACTING COMPANY

+966 55 749 1690

Prince Turki Road, Jawharat Al Malqa

Email: info@noor-gulf.com

website: www.noor-gulf.com

Kingdom of Saudi Arabia





ABOUT NOOR GULF

Noor Gulf General Contracting Company was established to utilize the broader knowledge and experience of its engineers, with expertise in fixing of natural stone, granites and marbles in particular and who have been in the Construction industry for over a decade.

WE CAN HELP YOU WITH THE FOLLOWING SERVICES



WALL CLADDING



KITCHEN & VANITY TOP



STEP & RISER



FLOORING



ART WORK

OUR OBJECTIVE

To prosper on cost-effective growth, in search of attractive opportunities and we continue to innovate to be the market choice when it comes to supplying of quality Materials and Quality Workmanship. Our industry of supply and installation of Natural stone (a product of Nature) we ensure to offer the utmost service of building valuable relationship treating Customers and supply as long term partners with honesty and respect.

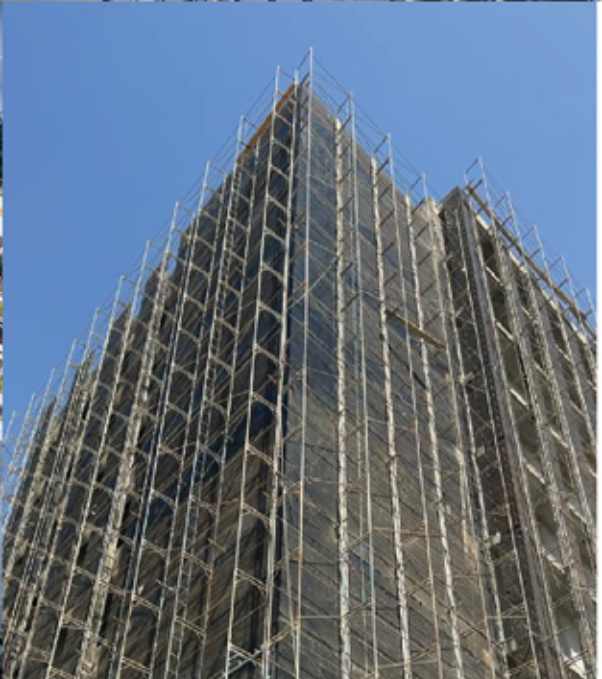


OUR WORK

We have qualified engineers visiting the project sites regularly, coordinating with the foreman to ensure that works are done appropriately in accordance of the approved shop drawing and to ensure that the quality of works are being maintained. We have team of skilled masons many from India, Pakistan and Afganistan who have expertise in fixing of Stones, Marbles & Grannites.

Supply, Installation & Decoration of Natural Stone and Marble

SAUDI | JORDANIAN | PALESTINIAN | SYRIAN | CHINESE





Different Type of Natural Stones



LIMESTONE

Limestone is a common type of carbonate sedimentary rock. It is composed mostly of the mineral calcite and aragonite, which are different crystal forms of calcium carbonate. Limestone forms when these minerals precipitate out of water containing dissolved calcium.

MOCA CREAM

This is a representative sample of natural product, doesn't guarantee to match fully with the final.

Origin: Portugal



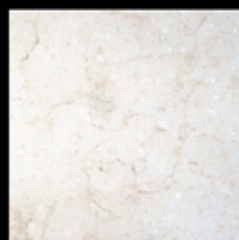
LIME BEIGE

This is a representative sample of natural product, doesn't guarantee to match fully with the final.

Origin: Portugal

Limestone is specimen of quality architectural expression. This sedimentary rock is very commonly used in construction, especially in Europe and North America. It is long-lasting and its ability to withstand, even in exposure to adverse wather conditions, make it dependable architectural resource. Limestone has been used in some of the world's formost

STONE



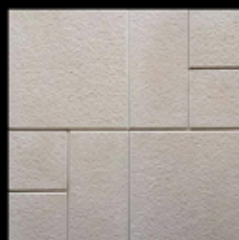
SYRIAN STONE



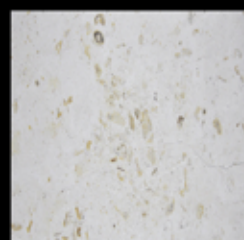
PALESTINIAN STONE



JORDANIAN STONE



PAKISTANI STONE



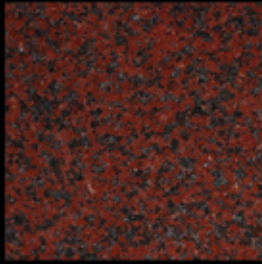
SAUDI STONE



SIERRA GRIS

GRANITE

Granite is a common, coarse-grained, hard igneous rock consisting chiefly of quartz, orthoclase or microcline and mica. Granite has been used as a building material since ancient times. It is one of the oldest and most durable building products available, and will far outlast the building in which it is installed.



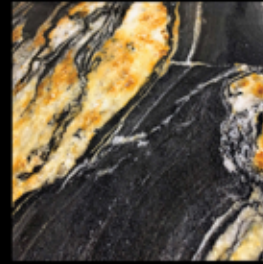
AFRICA GRANITE



BRAZIL GRANITE



INDIAN GRANITE



ITALIA GRANITE



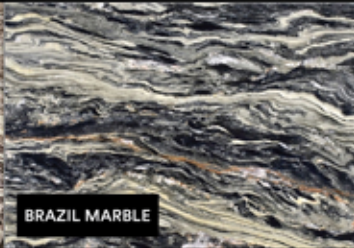
SPAIN GRANITE

Marble, Granular Limestone or Dolomite (I.E., Rock Composed of Calcium-Magnesium Carbonate) That has been recrystallized under the influence of heat, Pressure and Aqueous solutions. Commercially it includes all decorative calcium-rich rocks that can be polished, as well as certain serpentines (Verd Antiques)

MARBLE



CHINESE MARBLE



BRAZIL MARBLE



AUSTRALIAN MARBLE



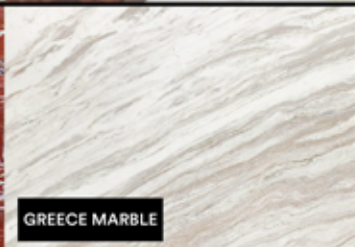
AFRICAN MARBLE



EGYPT MARBLE



FRANCE MARBLE



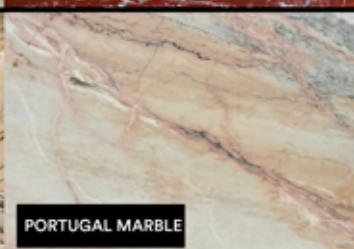
GREECE MARBLE



INDIAN MARBLE



ITALIAN MARBLE



PORTUGAL MARBLE



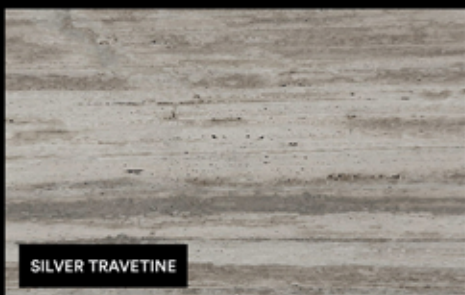
SPAIN MARBLE



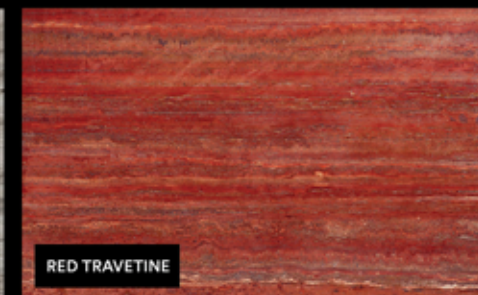
TURKEY MARBLE

TRAVERTINE

Travertine is from of terrestrial limestone deposited around mineral springs, Especially hot springs. Travertine of ten has fibrous or concentric appearance & exists in white, Tan, Cream-colored and even rusty varieties.



SILVER TRAVERTINE



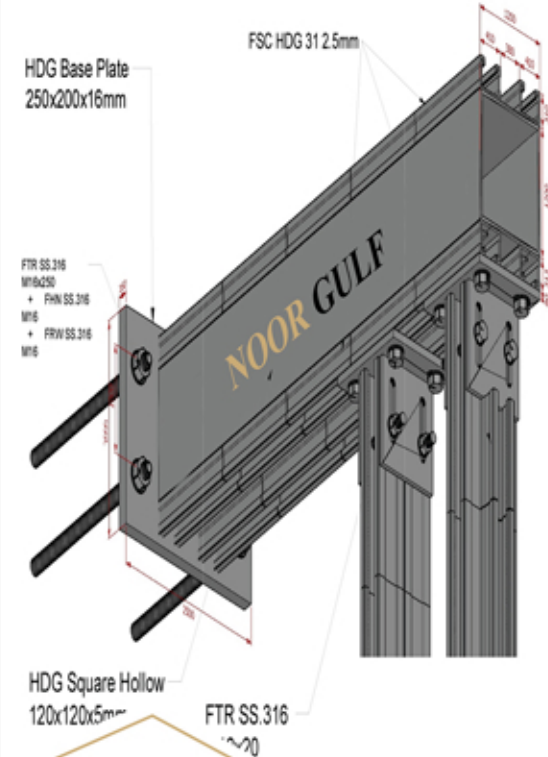
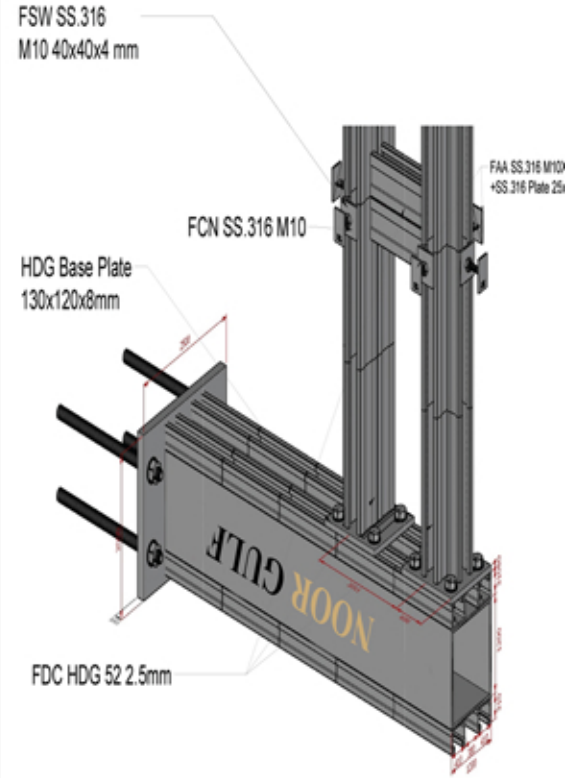
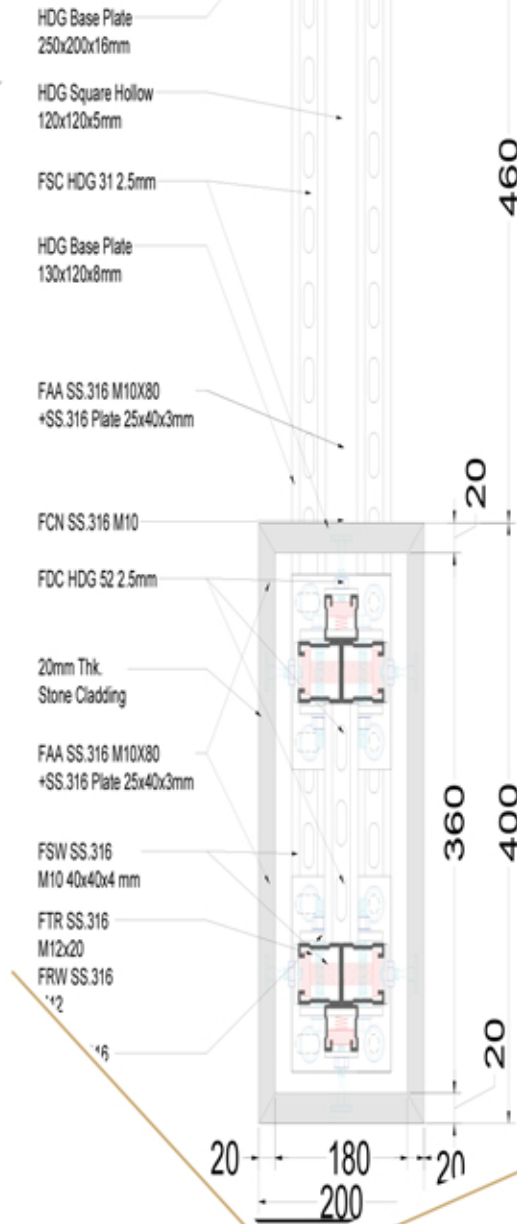
RED TRAVERTINE



BEIGE TRAVERTINE



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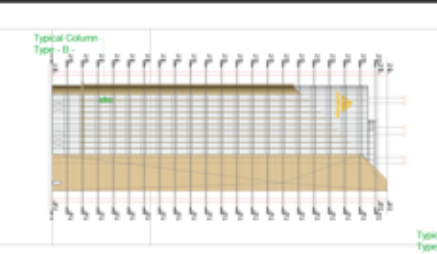
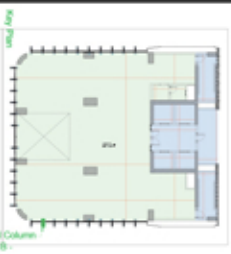
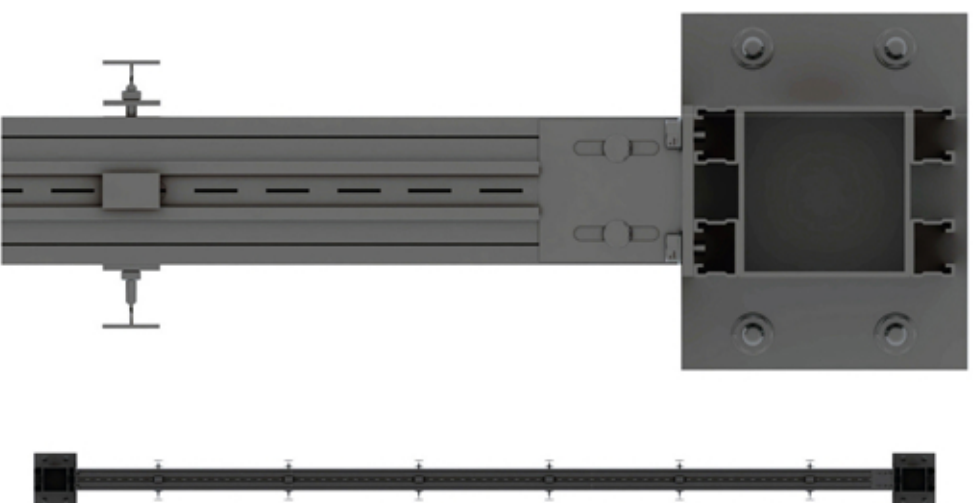
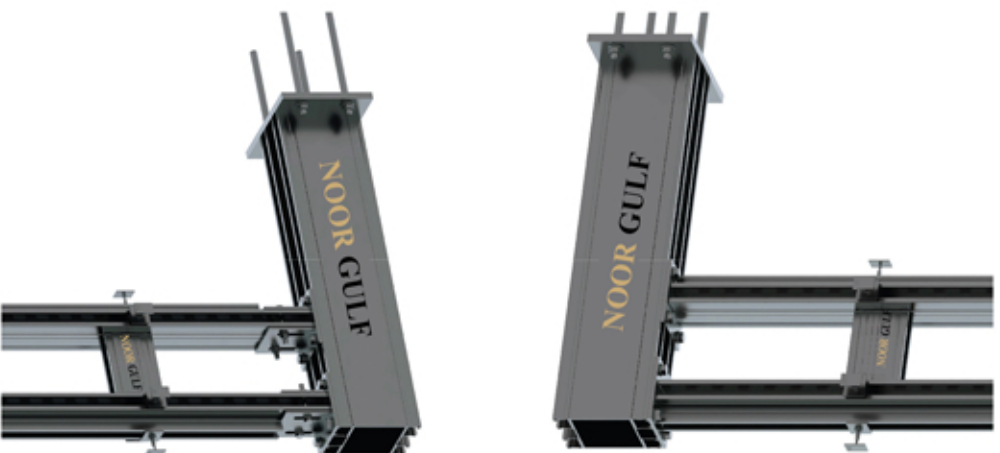
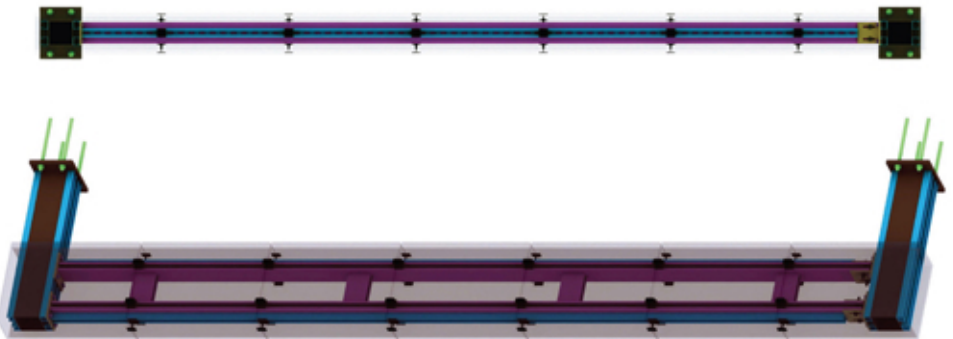
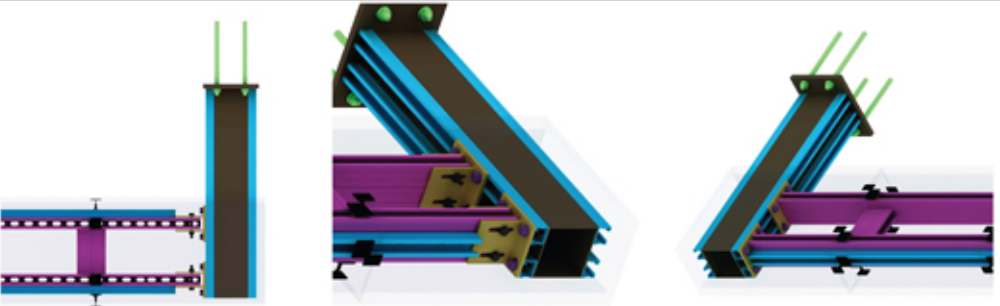
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NATURAL STONE

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website: www.noor-gulf.com



Column Type - B - 3D View

 <p>Ebdat 04</p>	<p>CLIENT</p>
<p>PROJECT</p>	<p>NOOR GULF</p>
<p>DRAWING DESCRIPTION</p>	<p>FIXON STONE SUPPORT SYSTEM</p>
<p>DATE</p>	<p>2023</p>
<p>SCALE</p>	<p>1:1</p>
<p>DRAWING NO.</p>	<p>FSR-COLUMN - 003</p>



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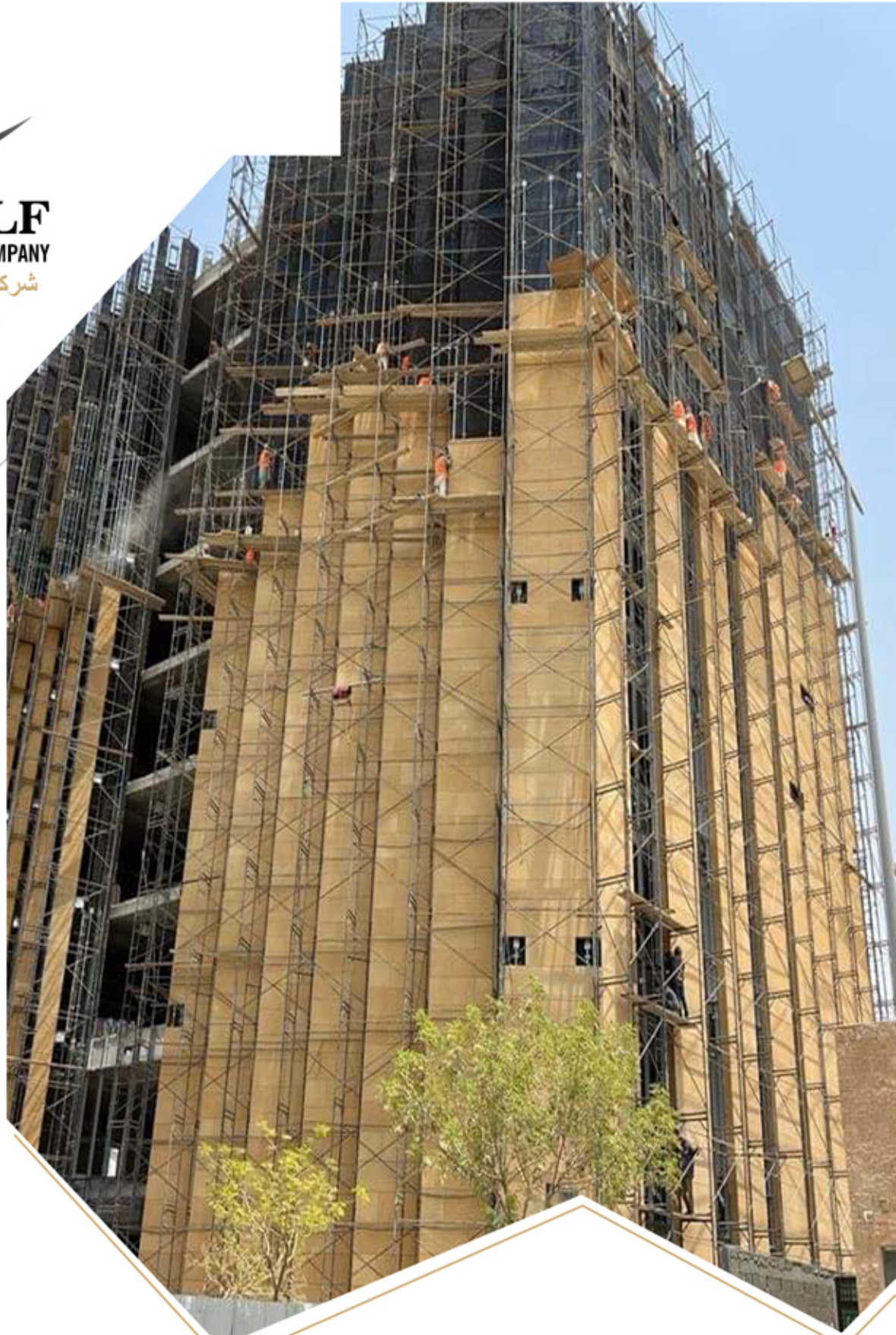
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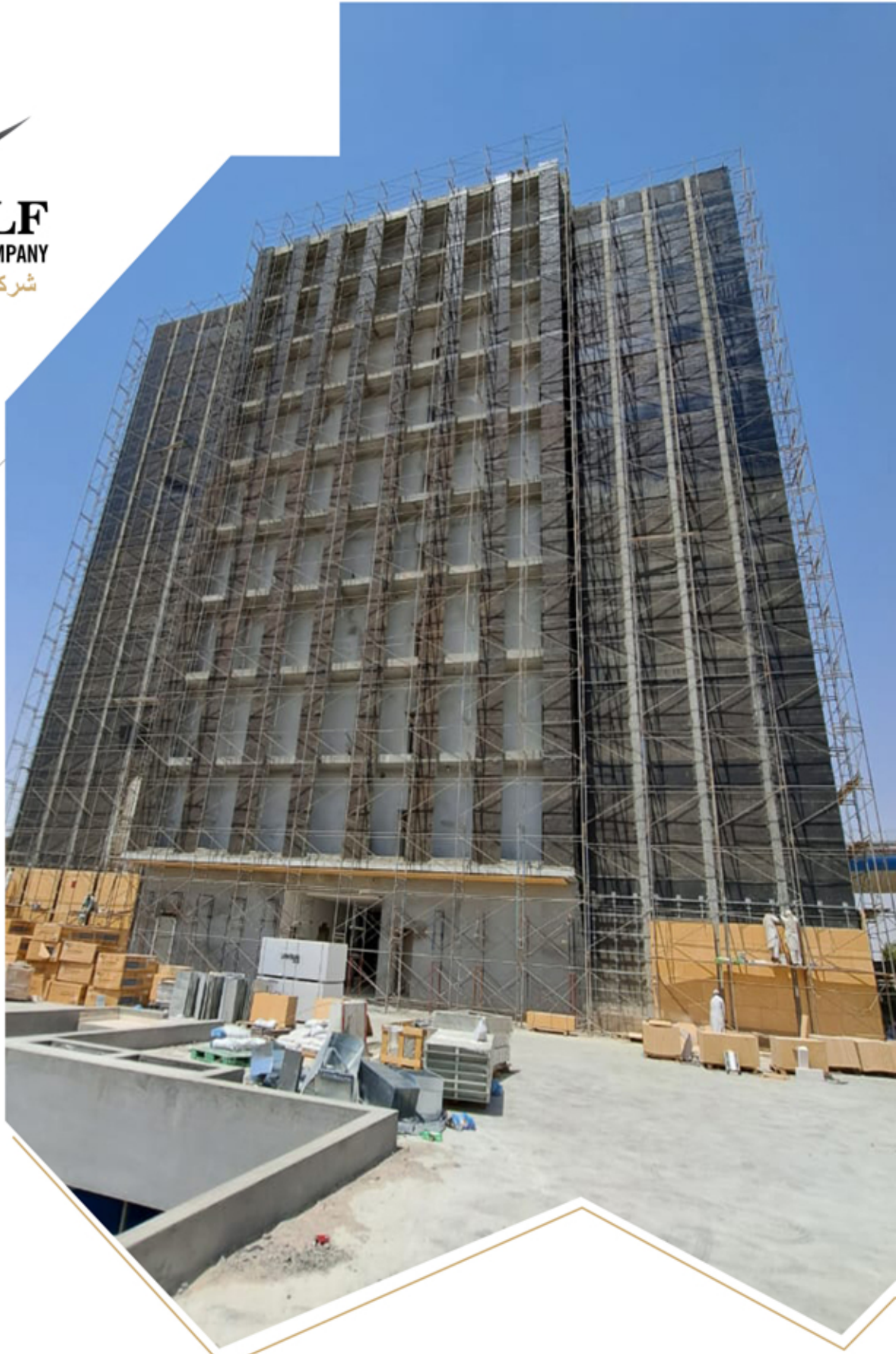
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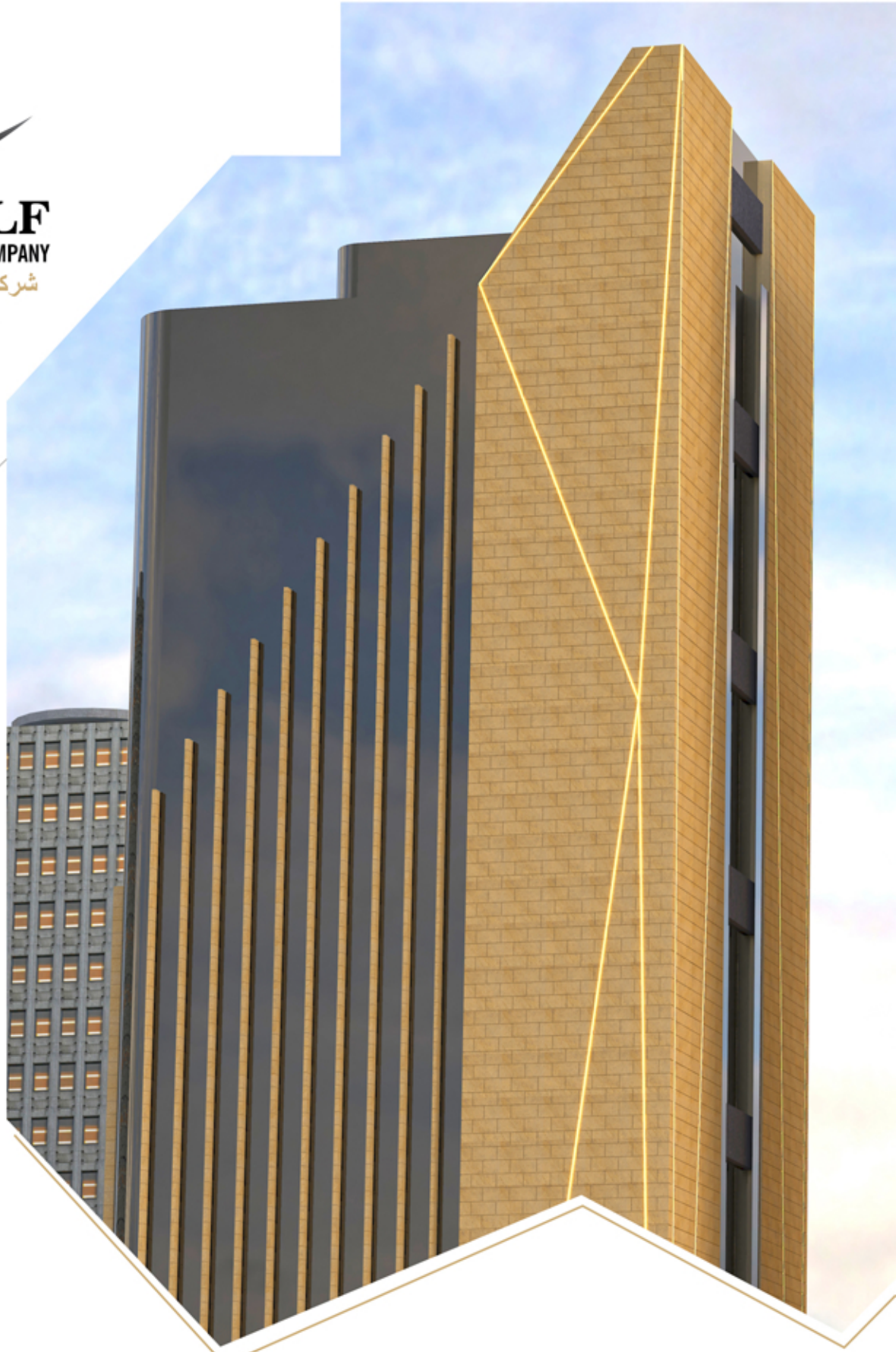
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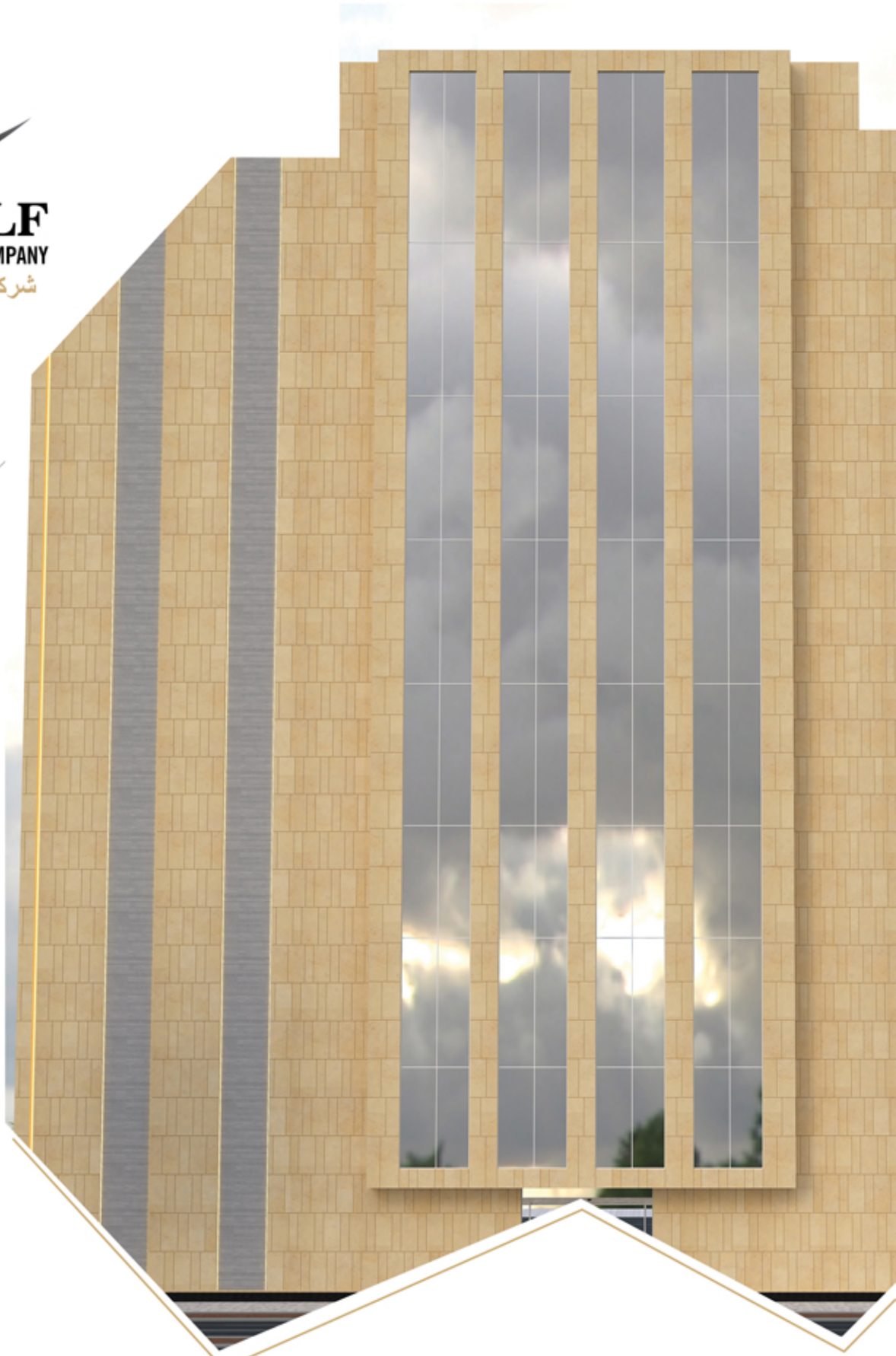
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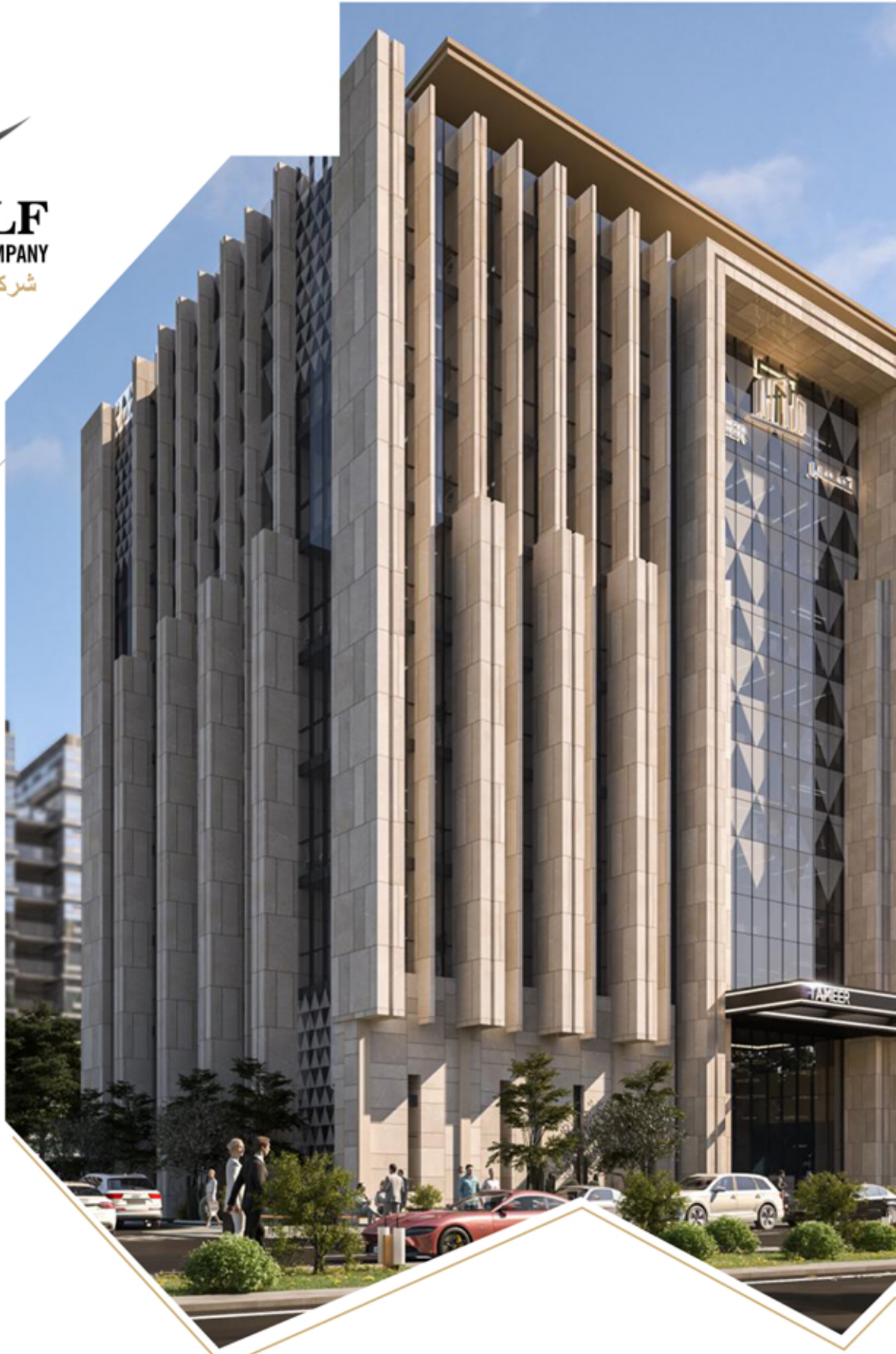
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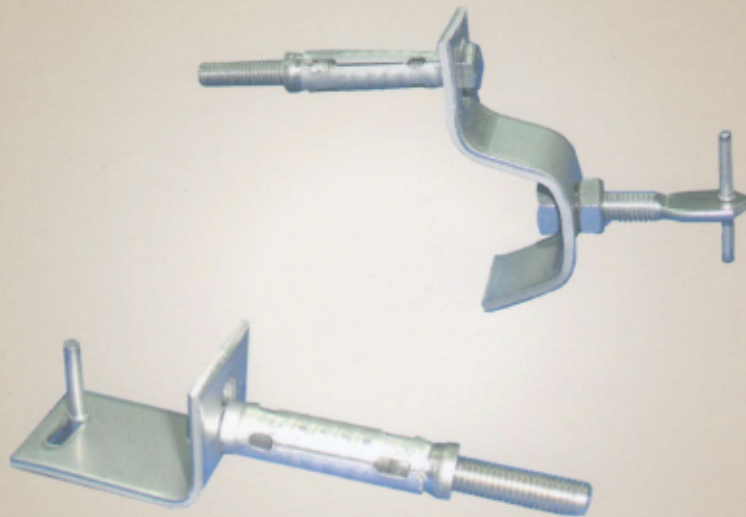
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EXPANDED METAL MANUFACTURING CO.



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CLADDING FIXING SYSTEM

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NOOR GULF provides a full system of mechanical cladding fixing with all needed support. Starting from the design concept, the necessary load requirements, down to the manufacturing of the high quality components and followed up by a good after sales service.

MATERIALS USED:

SPECIFICATIONS

BS EN 10088-2 – Stainless Steels. Grade 304 and 316

LEED INFORMATION

LEED Clause	LEED Requirement	EXMET Compliance
MR Credits 2.1 and 2.2	Construction Waste Management. Divert construction and demolition debris from disposal in landfills and incinerators	NOOR GULF products are made of steel associated wastes generated should be included in the construction waste management plan on each of the project.
MR Credits 4.1 and 4.2	Recycled Content. Increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.	NOOR GULF products are made of steel and as widely known, 88% to 100% of steel used in the construction a recycled into new steel products at the end of their useful life.
MR Credits 5.1 and 5.2	Regional Materials. Increase demand for building materials and products that have been extracted, harvested or recovered, as well as manufactured, within 800 km of the project site.	NOOR GULF manufacturing plant is located in Qatar and Oman and most of our raw material suppliers are in close proximity to our location.

DESIGN PRINCIPLES

1 - METHOD OF DESIGN IS LRFD (Load and Resistance Factor Design)

Design Codes:

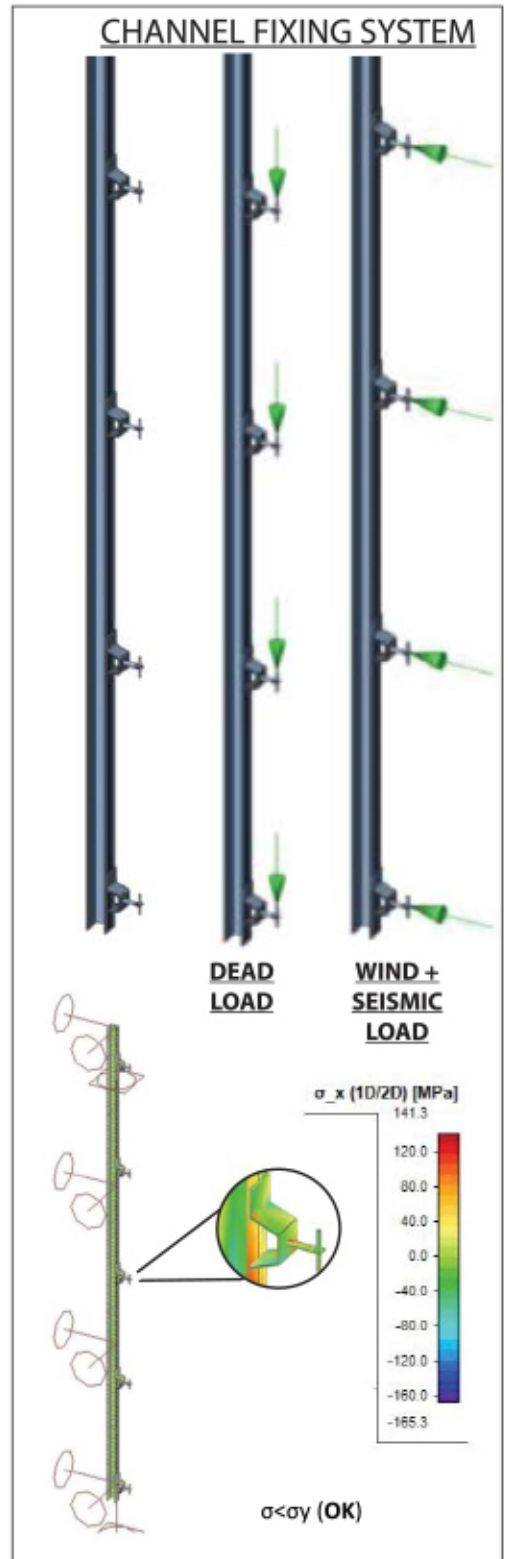
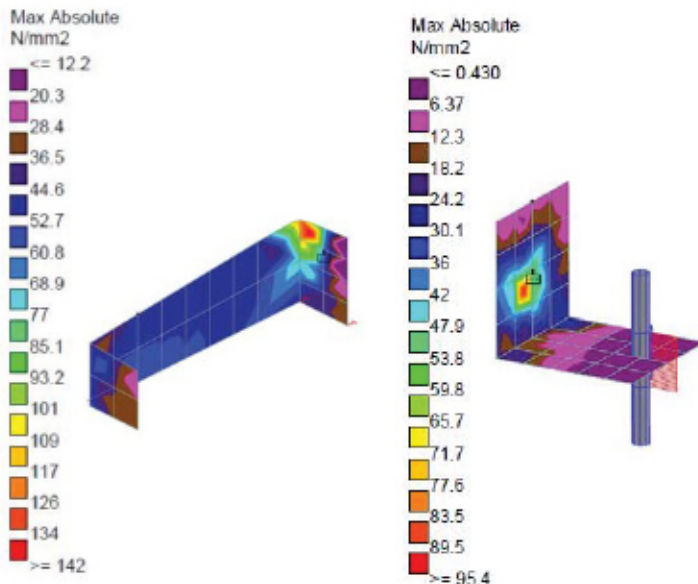
- AISC-360-10 : Actions on Structures
- ASCE 7-10 : Minimum Design Loads for Buildings
- AISI S 200-07 : North American Specification for design of Cold Form Structural Steel Members
- QCS 2014 : Qatar Construction Specification
- BS 6399 : Loading for Buildings
- IBC 2006 : International Building Code

Analysis of Loads

- Dead Load : Weight of Stone / Marble.
- Wind Load : For wind speed as per QCS 2014, in accordance to ASCE 7-10 or BS 6399.
- Seismic Load : In Accordance to ASCE 7-10 or UBC 1997.
- Thermal loads : For Thermal Expansion of Stone.

Design Steps:

- 1 - Designing Section by considering combination of loads for Limit State of Flexure, Shear & Tension.
- 2 - Comparing the stresses with allowable strength of sections based on the yield stress of materials.
- 3 - Checking for Limit state of Serviceability, Governed by Deflection criteria.



• Detailed Calculation report for Specific case of cladding fixing can be provided upon request.

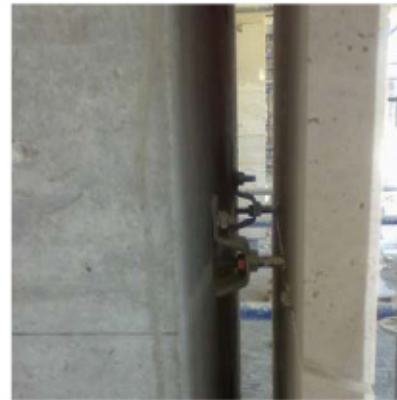
II - FIXING DETAILS

1. Types of Load:

- a. Dead Load - refers to the load of the cladding itself
- b. Variable Load - refers to live load, wind, seismic loads and thermal expansions

2. Fixing Systems:

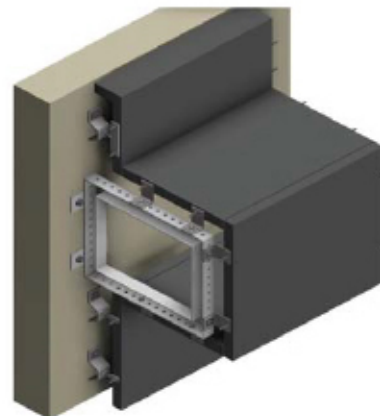
a.) Load-bearing Fixing



b.) Restraining Fixing



c.) Indirect Fixing (Frames and Channels)



III - SYSTEM COMPONENTS

I. Brackets (Stainless Steel Plates / Coils)

MECHANICAL TEST REQUIREMENTS					
Designation Standard	Grade	Alloying Elements	Minimum 0.2% Proof Stress	Ultimate Tensile Strength	Elongation after Fracture
			R _p – 0.2	R _m	%
ASTM A 240M	SS316 / SS 316L	Molybdenum – Chromium-Nickel Austenitic Stainless Steels	170 (L) 205	485 (L) 515	40
	SS 304 / SS 304L	Basic Chromium – Nickel Austenitic Stainless Steel			
BS EN 10088-2	1.4301 (304)	Basic Chromium – Nickel Austenitic Stainless Steel	210	520 – 720	45
	1.4404 (316L)	Molybdenum – Chromium-Nickel Austenitic Stainless Steel	220	520 – 670	40

NOTE: For design calculation, R_p and R_m values will be taken from the Mill Test Certificate divided by 1.2 (As per SCI P-291, published by the Steel Construction Institute, UK)

II. Fasteners

Mechanical Test Requirements				
Stainless Steel Grade	Bolts, Pins			Nuts
	Property Class	Minimum 0.2% Proof Stress	Ultimate Tensile Strength	Ultimate Tensile Strength
		R _p	R _m	R _m
A2 (SS304) & A4 (SS316)	50	210	500	500
	70	450	700	700

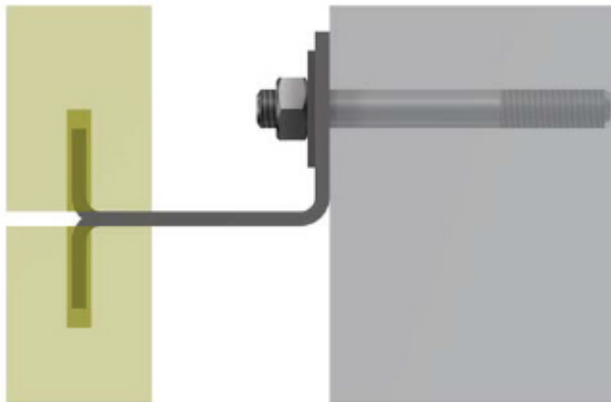
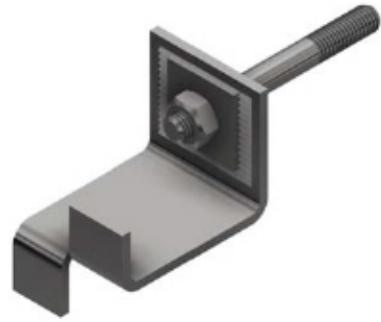
NOTE: For design calculation, R_p and R_m values will be taken from the Mill Test Certificates issued by suppliers for coils and plates. (As per SCI P-291, published by the Steel Construction Institute, UK)

DIRECT FIXING: ANGLE BRACKET (L-BRACKET)

NOOR GULF



Item Code - FLR

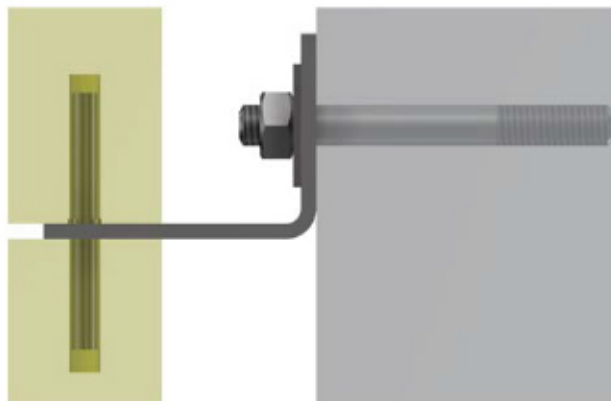


- Used generally for cavities less than 50mm
- Limited adjustability
- Easy installation, economical

NOOR GULF



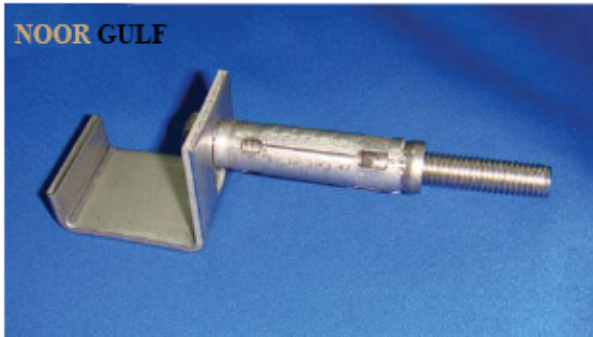
Item Code - FLP



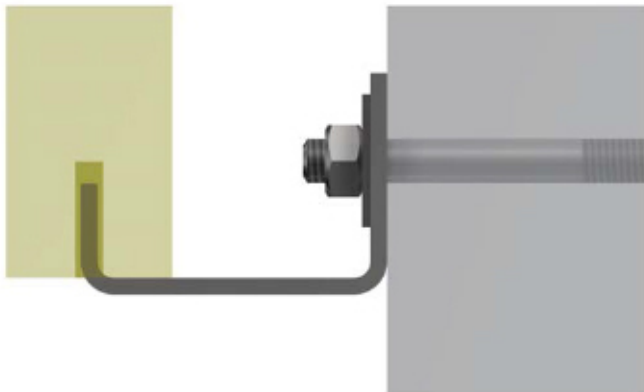
- Used generally for cavities less than 50mm
- Limited adjustability
- Easy installation, economical

DIRECT FIXING: ANGLE BRACKET (L-BRACKET)

NOOR GULF



Item Code - FLU

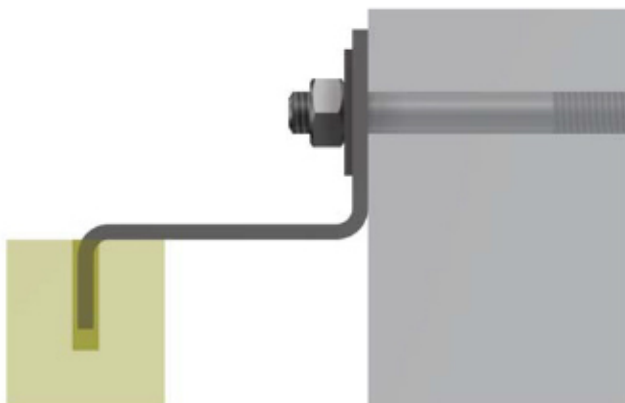


- Used generally for cavities less than 50mm
- Limited adjustability
- Easy installation, economical

NOOR GULF



Item Code - FLD

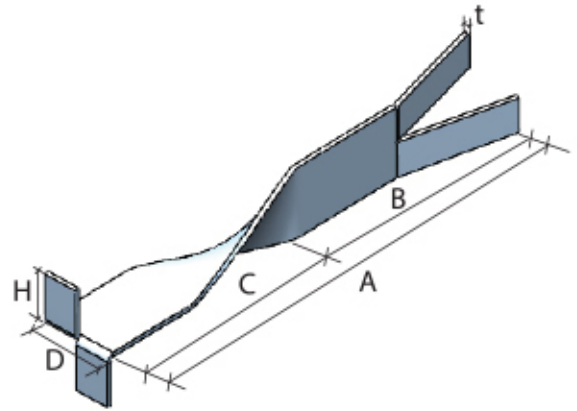


- Used generally for cavities less than 50mm
- Limited adjustability
- Easy installation, economical

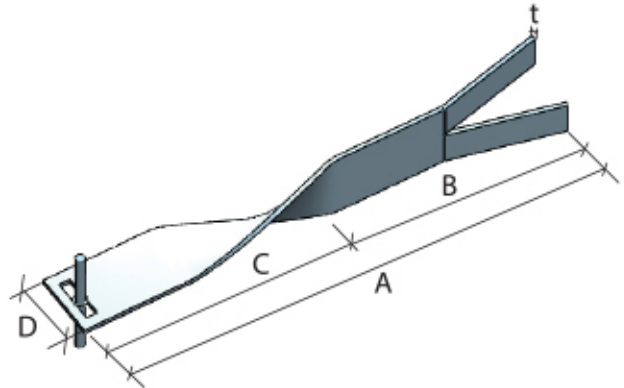
DIRECT FIXING: FISH TAIL BRACKETS



Item Code - FFTR



Item Code - FFTP



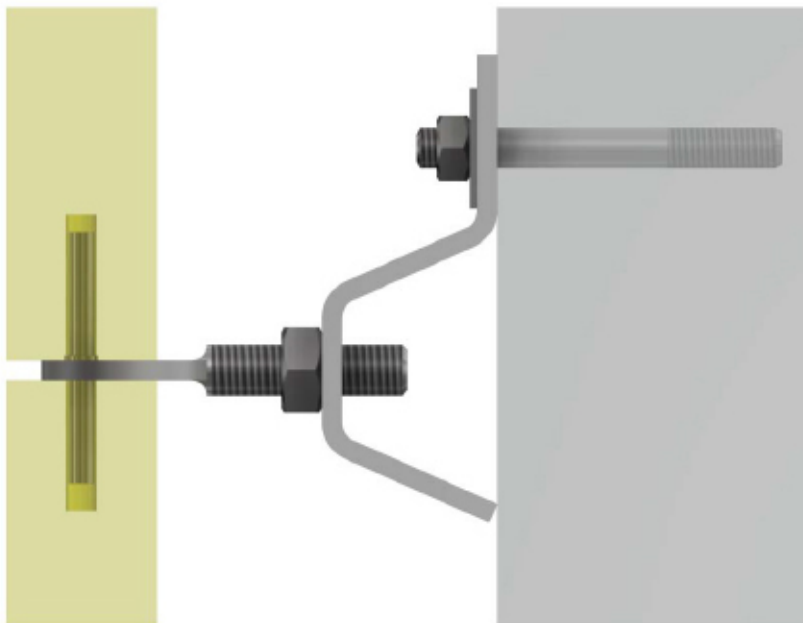
Item Code	A mm	B mm	C mm	t mm	Maximum Load (N)
FFTR / FFTP - 201	130	90	40	2	62
FFTR / FFTP - 202	140	90	50	2	46.5
FFTR / FFTP - 203	150	90	60	2	37.0
FFTR / FFTP - 301	130	90	40	3	175
FFTR / FFTP - 302	140	90	50	3	131
FFTR / FFTP - 303	150	90	60	3	105

DIRECT FIXING: Z - BRACKET (VERTICAL JOINT)

NOOR GULF



- Used generally for cavities up to 100mm
- Easy installation, economical
- Adjustability up to ± 25 mm

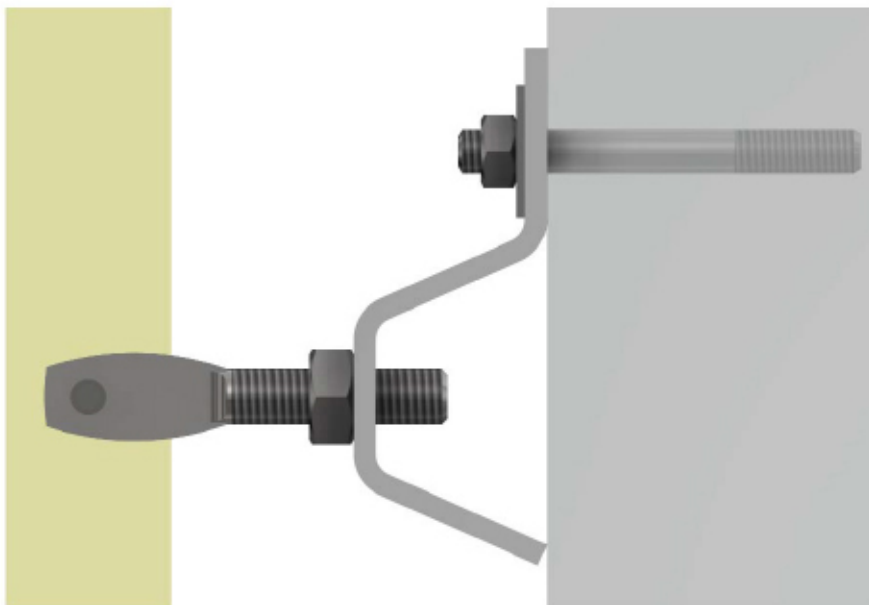
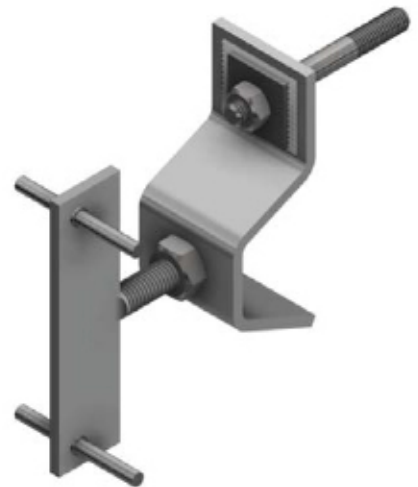


DIRECT FIXING: Z - BRACKET (HORIZONTAL JOINT)

NOOR GULF



- Used generally for cavities up to 100mm
- Easy installation, economical
- Adjustability up to ± 25 mm



DIRECT FIXING: OTHER TYPES

Angle Bracket with Plate (Single - Fixing)

* used for longer spacing distance from the wall

Adjustability up to $\pm 15\text{mm}$



C- Bracket

* Heavy duty bracket used in bigger cavity distance from the wall or heavy cladding.

* Loads are submitted based on full design.

Adjustability up to $\pm 25\text{mm}$



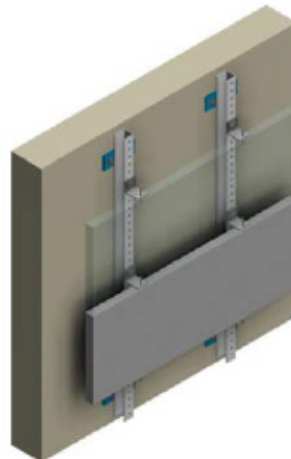
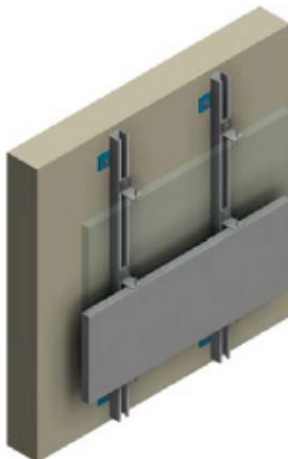
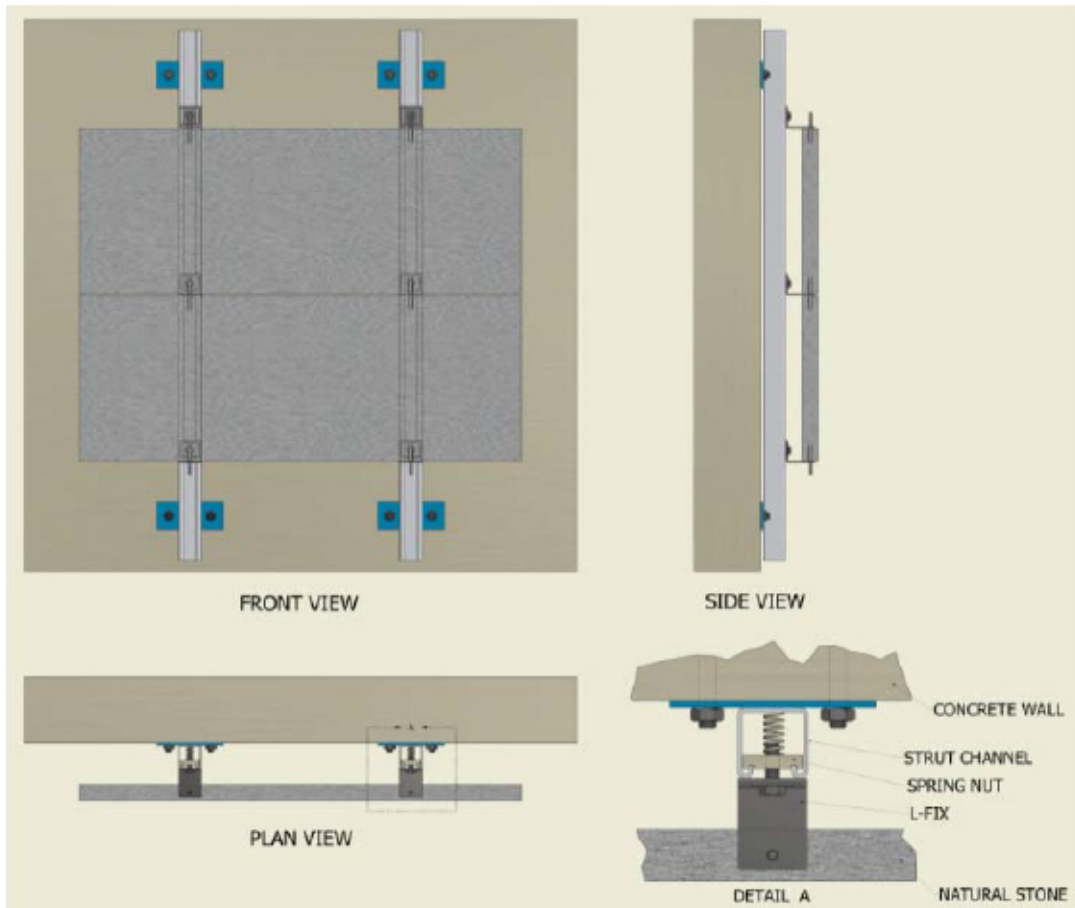
Corner Bracket, used to fix small pieces of stones on corners.

INDIRECT FIXING

In some areas the cladding is to be attached to the walls by means of framing systems or channels. EXMET provides a complete solutions for your special requirements case by case.

Channel Fixing

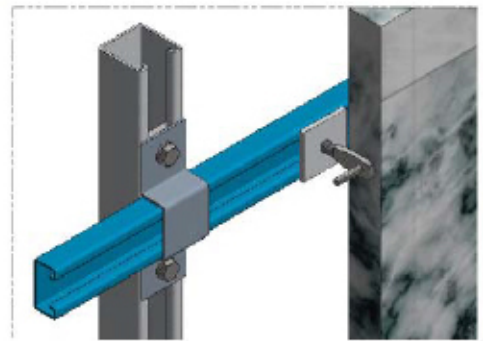
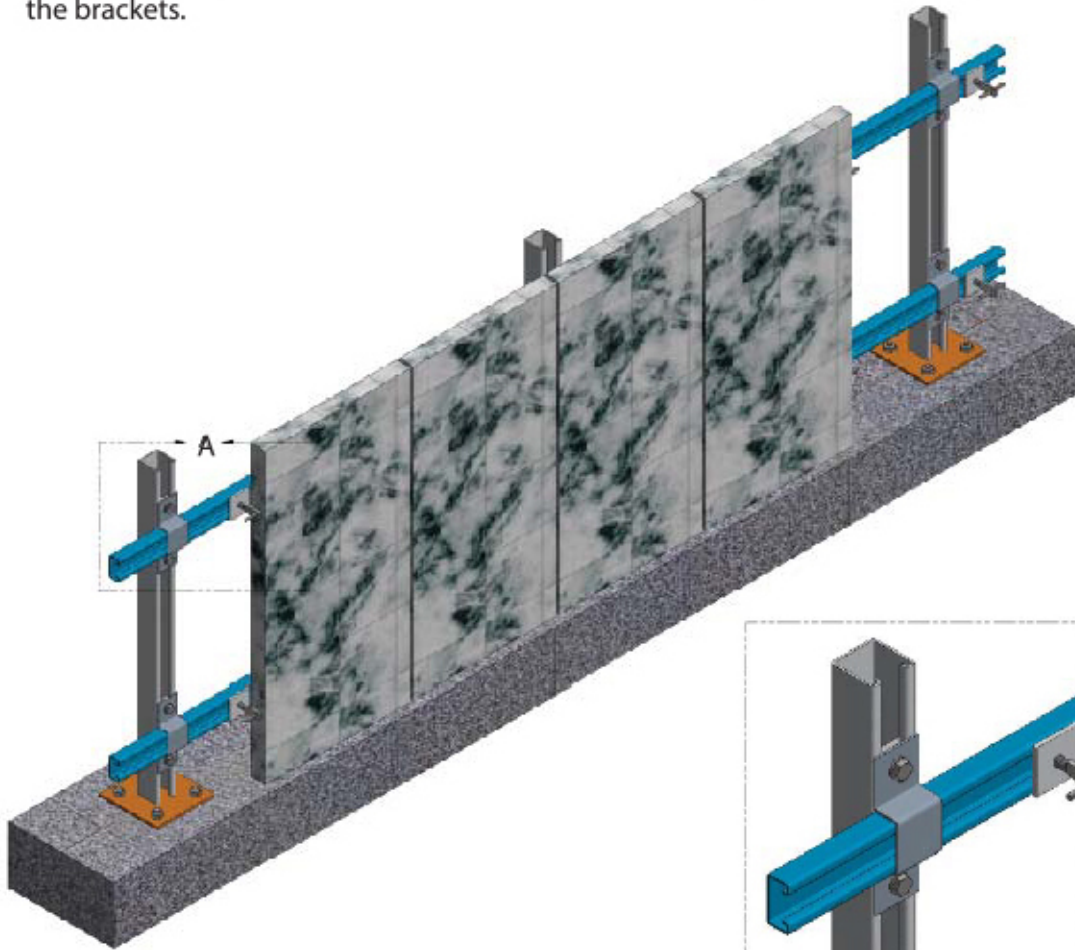
EXMET provides channels to be fixed on the walls, the brackets will be carried by the channel. Channels will have several punched holes for flexible fixing at any location.



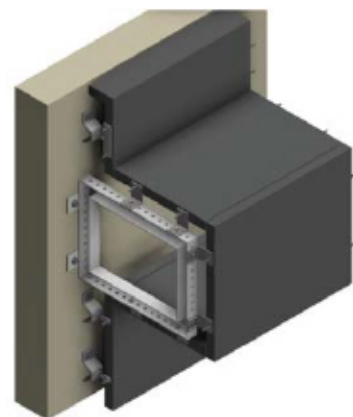
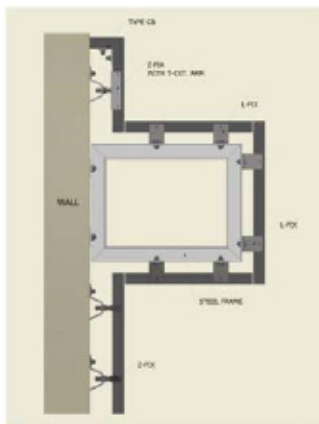
INDIRECT FIXING

Fixing on Framing System

For bigger cavity widths or at corners and canopies we can provide a framing system to carry the brackets.



DETAIL A



ANCHOR BOLTS



Through Bolt

Suitability:

Ideal for non-cracked concrete

Material:

Stainless Steel Grade 304 and Grade 316
(as per Engineer's instructions)

Description

Composed of Tapered Bolt, Expansion Clip and Hexagonal Nut.

When the hexagonal nut is tightened, the tapered bolt is then pushed into the expansion clip causing it to expand and anchor itself on the wall thus it will not fall off or twist in the hole.



Sleeve / Shield Anchor

Suitability:

Ideal for cracked and non-cracked concrete, bricks, block, stone

Material:

Stainless Steel Grade 304 and Grade 316
(as per Engineer's instructions)

Description

Pre-assembled anchors for quick and easy installation. The half-moon shaped recesses stamped in the sleeve contracts in length when it is tightened thus permitting the item to be attached firmly to the concrete.

Pull Out Capacity of Anchor Bolts

Dia Of Bolt	Base Material	Type of Bolt	Pull Out capacity
			kN
M8	Solid Block Wall	Sleeve Anchor	3.50
	Concrete	Through Bolt	4.10
M10	Solid Block Wall	Sleeve Anchor	4.50
	Concrete	Through Bolt	6.50

Note:

The Ultimate Pull-out figures shown above are only indicative values, pull-out test has to be done as per site condition.