PREMIUM SERVICES

for owners, sellers and buyers

waagner biro
steel and glass
emirates contracting LLC

KNOW YOUR INVESTMENT

Yas Island Marina Hotel, photo by Trevor Palin

KEEP IT RUNNING

Louvre Abu Dhabi, ©Mohamed Somji

AS GOOD AS NEW

Yas Island Sun Tower

UPGRADE TO A LANDMARK

Adnec Tower/Capital Gate, photo by Trevor Palin

The “great grandfather” of all modern steel and glass constructions around the world is the 28 metres high „Palmenhouse“, a large greenhouse for exotic palm trees in the garden of Vienna’s Schönbrunn Palace. Commissioned by Emperor Franz Josef I, erected by Waagner Biro in 1881/82.

// EXPERTISE IS THE KEY TO SUCCESS SINCE 1881

Erected by one of the predecessors of Waagner Biro (Ig. Gridl) in 1881/82, the "Palmenhaus" in Schönbrunn Palace garden, is one of the most exciting ancient steel-glass buildings around the world.

The great grandfather of all modern steel and glass buildings suffered massive damages during World War II. In 1948 it was poorly renovated. About 55 tons of window putty were used to install the 45.000 double panes of glass. Already known corrosion damage could not be treated.

From 1986 until 1990 the complete steel structure of the 25 metres high, 111 meters long and 29 metres wide ancient building was renovated by Waagner Biro. The scale-like glazing had to be reconstructed using old riveting technique and modern technologies in order to comply with the criteria of monument protection.

In 1991 Waagner Biro won the **European Steel Design Award** for the outstanding efforts on renovating the "Palmenhaus".

The new "Palmenhaus" was re-opened in 1990 and is again one of the most famous attractions for tourists from around the world.

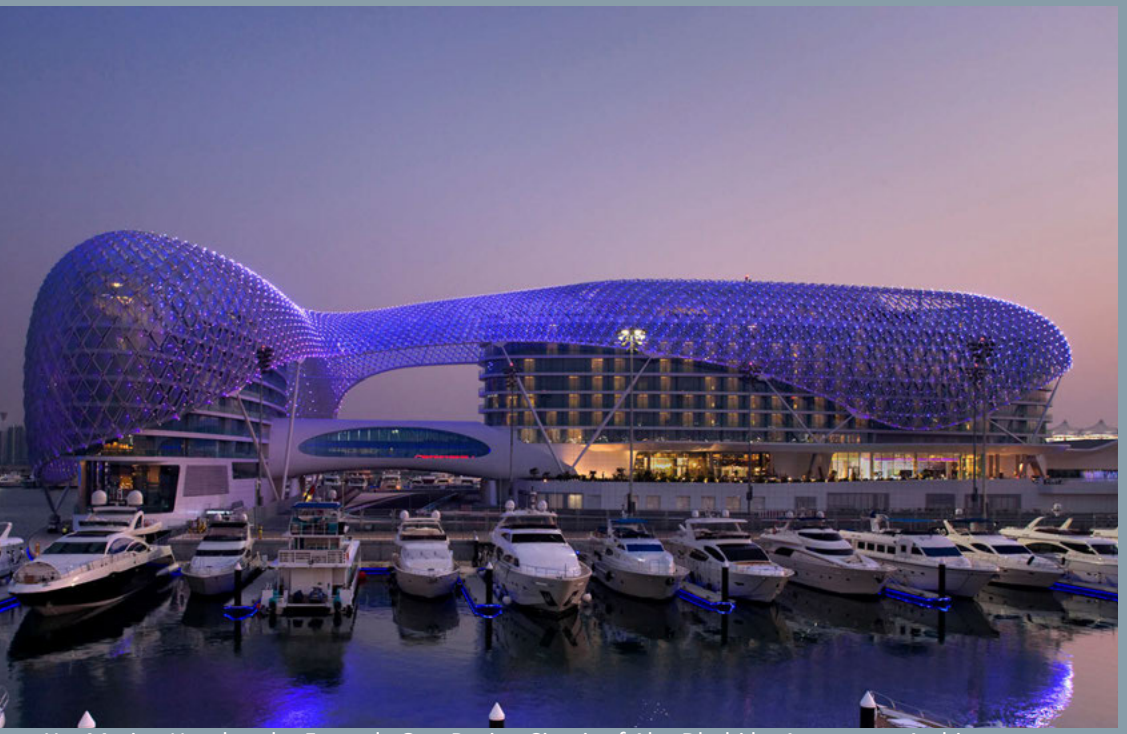
MAINTENANCE SERVICES BY WAAGNER BIRO STEEL AND GLASS EMIRATES

The maintenance and infrastructure management services that Waagner Biro steel and glass Emirates Contracting LLC provides is expansive and wide-ranging. Whether simple or complicated structures: We produce a complete checklist of preventative, corrective and annual maintenance requirements.

Queen Elizabeth II Great Court of the British Museum in London by Lord Norman Foster + Partners. Photo by Trevor Palin

Reichstag Dome by architect Lord Norman Foster + Partners in Berlin. Photo by Felix Löchner

Roofing of the Cour Visconti, Musée du Louvre, Paris by architect Rudy Ricciotti and design icon Mario Bellini. Photo by Trevor Palin



Yas Marina Hotel at the Formula One Racing Circuit of Abu Dhabi by Asymptote Architecture. Photo by Trevor Palin

Award-winning Baku Business Aviation Terminal which was the first of many buildings at Baku Airport to come. Concept by Arup with involvement of Woods Bagot. Photo by Trevor Palin

// CREATING VALUES FOR ASSETS AROUND THE WORLD

waagner biro
steel and glass
emirates contracting LLC

We build our clients' visions by finding simple and effective ways to make them happen. Our mastery of steel engineering are showcased and awarded around the world: From the Queen Elizabeth II Great Court at the centre of the British Museum in London to the Reichstag Dome in Berlin to the Cour Visconti at the Louvre Paris as well as to the Yas Marina Hotel at the Formula One Racing Circuit of Abu Dhabi to several awarded buildings at Baku Airport in Azerbaijan and many more.

BRITISH MUSEUM, LONDON

Over the past 150 years eight architects have tried their hand on this hallowed building until the most spectacular transformation was undertaken by Foster + Partners with the support of Waagner Biro in 2000: A vaulted roof to cover the museum's courtyard, which was not accessible to the public in the past.
3.300 triangular glass panels form one of the largest covered courtyards in Europe, which can be admired by the museum's over 6 million visitors a year.

REICHSTAG, BERLIN

The dome on the Reichstag is a technical masterpiece and an architectural landmark designed by Foster + Partners. The brief was to create a symbol of democracy and freedom in this historically significant structure. An idea which runs through the entire building. The steel and glass structure allows viewers to look directly into the chamber of the German Bundestag. The passage of natural light highlights the transparency of government and its openness to its citizens.

COUR VISCONTI, MUSÉE DU LOUVRE, PARIS

Surrounded by the neoclassical Parisian courtyard façades, the Cour Visconti houses the museums Department of Islamic Art, along with over 18.000 works of art, many of which are so delicate they require shading from direct sunlight. The 'flying carpet' was designed by french architect Rudy Ricciotti and italian design icon Mario Belliniand and built by Waagner Biro steel and glass. It is comprised of 8.000 tubular steel sections supporting tessellated glazed triangles sandwiched between golden shading aluminium panels, covering over 1.700 m^2 and creating a soft floating veil which compliments the historic façades.

1967: Al Maqta Fort and Bridge linked Abu Dhabi to the mainland and the other emirates. Photo by Sa7er90, License CC BY-SA 4.0, https://creativecommons.org/licenses/by-sa/4.0/deed.en

2004: The Mall of the Emirates. World's Leading New Shopping Mall at the World Travel Awards 2005. Photo by Peter Gronemann, License: CC BY 2.0, https://creativecommons.org/licenses/by/2.0/deed.en

2006: Festival City. Photo by Trevor Palin.

2009: Adnec Tower/Capital Gate, Abu Dhabi is the world's furthest leaning building, according to the Guinness Book of World Records. ©Hyatt

2017: Louvre Abu Dhabi, designed by Ateliers Jean Nouvel, constructed by Waagner Biro steel and glass was awarded the European Steel Design Award in 2017. ©Mohamed Somji

// SHAPING THE FUTURE OF THE EMIRATES SINCE 1967

waagner biro
steel and glass
emirates contracting LLC

In 1967 Waagner Biro was commissioned to build the Al Maqta Bridge that linked Abu Dhabi to the mainland and the other Emirates for the first time.

MALL OF THE EMIRATES, DUBAI

With over 350 shops and more than 2.4 million square feet of prime retail and leisure space, the Mall of the Emirates is one of the biggest Malls in the Middle East.
The mall combines contemporary design with traditional Arabic architecture with every section having a distinctive style and a unique atmosphere. The interior is a myriad of arcades, which culminate in a spectacular galleria at the heart of the development, marked with an impressive domed skylight.

FESTIVAL CITY, DUBAI

Festival City is a creek side "city within a city" and true master-planned waterfront community comprising a unique mix of entertainment, dining, shopping, sport and leisure facilities, automotive dealerships, hotels, a marina, residential and office components.

CAPITAL GATE, ABU DHABI

Our commitment to achieve the extraordinary in the Emirates finds its expression in the Capital Gate in Abu Dhabi. It is regarded as an architectural landmark, a milestone of engineering for the Middle East. The tower is also in the Guinness Book of World Records. Because of its skewed structure, it apparently mocks gravity and is recognised as the most leaning tower in the world.

LOUVRE, ABU DHABI

The dome, designed by Ateliers Jean Nouvel and constructed by Waagner Biro steel and glass, is 180 meters in diameter. The open dome construction is a steel construction the size of five soccer fields. The entire dome is supported at only four points, which adds to its floating appearance but also the technical and engineering challenge.
The top and bottom layers of the dome are covered with four levels each of criss-crossing, differently sized aluminium profiles, each forming lattice structures with arabesque patterns. By twisting and shifting the patterns, the clear geometry dissolves and transforms the construction into a seemingly chaotic tangle, resembling rays of light.

Adnec Tower/Capital Gate, Abu Dhabi: Our team of specialist rope access technicians in cleaning action

// MAINTENANCE SERVICE OFFERS

waagner biro
steel and glass
emirates contracting LLC

Waagner Biro steel and glass Emirates Contracting LLC's services provide comprehensive facilities management services designed to meet the distinct and diverse needs of each client and individual project.
We offer our services both for properties that we have built ourselves and for projects in which we have not been involved. We work together with local companies, and for critical issues we draw on the expertise of our team in Vienna.

PROFESSIONAL ADVICE FOR CLIENTS

Whether simple or complicated structures: We produce a complete checklist of preventative, corrective and annual maintenance requirements and supply annual reports for all maintenance contracts. Each client receives our expert-suggestions on how to maintain projects effectively in the best condition possible.
Therefore we rely on advising, drafting and implementing operation and maintenance manuals, based on our extensive knowledge and experience, and we provide commercial proposals accordingly. Moreover we use state-of-the-art IT-solutions like Building Information Modeling (BIM) and Computerized Maintenance Management System (CMMS).

Our maintenance services cover all parts of the steel structure and façade:

- *Inspection:* a detailed condition survey resulting in a report covering all identified deficiencies and proposed remedies to keep the object in good condition
- *Maintenance:* supplying correct spare parts for all façade components
- *Repairs and upgrades:* corrective maintenance, refurbishments and modifications, rebuild and extend existing steel and glass façade components, and upgrades like photovoltaic- and LED-installations

Burj Khalifa: Façade climbers inspecting silicon joints

Adnec Tower/Capital Gate: Water leakage test

Locating the source of a water leak with a endoscope camera

Louvre Abu Dhabi: Inspecting the paint for corrosion for preventative maintenance-recommendations

Musée du Louvre, Paris: Inspection and maintenance. Photo by Trevor Palin

// INSPECTION
KNOW YOUR INVESTMENT

waagner biro
steel and glass
emirates contracting LLC

A thorough and competent inspection of buildings with a steel- and glass-façade is the key for owners, buyers and sellers to a worthwhile investment and a reasonable price. For this you need companies like Waagner Biro steel and glass Emirates Contracting LLC that can rely on expert-know-how and experience across all areas of glass- and steel-engineering and -construction.

Moreover our inspections consist of a detailed condition survey as the starting point for maintenance recommendations and offers. The maintenance and infrastructure management services we offer to owners, sellers and buyers is extensive and wide-ranging. Whether simple or complicated structures: We produce a complete checklist of preventative, corrective and annual maintenance requirements.

DETECTING AND REPAIRING IN TIME SAVES MONEY

A program of multiple relatively small repairs and activities is essential to keep the structure in good condition, preserve a homogenous look and is economically and sustainably smart.

With a specific inspection we identify...

- imminent safety concerns
- leakages (water, air, etc.)
- heat losses and cold bridges
- the need for lubrication & greasing of moveable parts according to quality plan
- enhancements for ease of use and performance
- specification for required replacements
- design faults or deficiencies
- assist with any warranty or insurance claim for any building element

Sun Tower, Yas Marina Formula One Racing Circuit, Abu Dhabi: Façade cleaning works

Adnec Tower/Capital Gate: Inspection and preventative maintenance

Adnec Tower/Capital Gate: water tightness inspection

Adnec Tower/Capital Gate: façade cleaning works

// MAINTENANCE
KEEP IT RUNNING

waagner biro
steel and glass
emirates contracting LLC

It is like with cars: Postponed or not detected necessary repairs can become costly, it is smart to avoid the large expenses of major refurbishment or replacement. In the end smart repairs avoid loosing value before selling.

Thus we promote the concept of a **"Preventive Maintenance Culture"** to prevent the deterioration or failure of facilities through continuous and systematic inspection and detection.

A professional programme of preventative maintenance can extend the service life of steel structures, façade elements like glass panes, sealings, etc. thus ensuring the maximum value is realised from the initial capital investment.

A well-maintained building looks better, is more sustainable and brings an image advantage that employees, business partners and visitors communicate to the outside world.

Our maintenance services start with a thorough inspection by our experts and result in expert recommendations.

Our preventative maintenance-service covers:

- a complete checklist of preventative, corrective and annual maintenance requirements-quality plan
- professional glass cleaning by special trained façade climbers
- scheduled visual inspection of glass panes, membranes, joints, sealing, supporting steel structure
- functional test of all movable façade components: windows, doors, sun shades, louvres and motors
- specific inspections for leakages of water, heat losses and cold bridges, lubrication & greasing of moveable parts according to quality plan
- inspection of safety components
- identification of defects and trouble-shooting
- support during warranty period and performing repair of deficiencies
- annual reporting.
- advise and implement the appropriate operation & maintenance manual for steel or façade elements

Yas Marina Bridge: Traffic management

Yas Marina Bridge: Replacing aluminum panels

Yas Racetrack Shams Tower: Final application of corrosion protection of existing structure

Yas Marina Bridge: Replacing glass panes

// REPAIR
AS GOOD AS NEW

If inspection and preventative maintenance have not been thorough in the past or a defect occurrs, our professionals can fix it with knowledge and experience that pays off in the long run – economically and aesthetically.

Corrective maintenance is, widely speaking, the repair of damaged and defective facilities identified during inspection or accident repair works, like the replacement of damaged glass panes, the repair and application of corrosion protection or intumescent coating, the repair of damaged access doors, ventilation units, sun shades and steel structures.

We identify, isolate and rectify faults to ensure the safe operation of machinery, plant and buildings.

STAFF TRAINING AND SAFETY MEASURES

Our staff is employed on a regular basis and the fluctuation is low. We invest to achieve the quality for our clients demands only qualified and experienced staff can ensure.

That kind of staff can not be found on the labour market, it needs special training, time and know-how.

Our corrective maintenance-service covers:

- performing small repairs identified during visual and specific inspections
- fix problems within the steel structures, façades and roofs
- maintenance/replacement of bearings
- replacement of fixed components: glass panes, sealings, joints
- replacement of moving parts like windows, doors, drives, motors, etc.
- corrosion-repair of paint, application of fire coat system
- check of fixations, movements
- advise and implement the appropriate operation & maintenance manual for the steel or façade element
- provide specialist inspection and cleaning services on annual, bi-annual, quarterly, monthly cycles as advised

Adnec Tower/Capital Gate: Installing LED-strips by façade climbers trained for highest occupational safety.

Sun Tower, Yas Marina Formula One Racing Circuit: Glass replacement, LED-installation

Sun Tower, Yas Marina Formula One Racing Circuit: Replacing aluminum panels

// UPGRADE
UPGRADE TO A LANDMARK

waagner biro
steel and glass
emirates contracting LLC

We know steel and glass buildings and the weak points of them inside out. Our experience lets us identify potential to enhance and improve, instead of just fixing a problem. We not only offer ideas for repairing, but also for modernising and upgrading.

TRANSFORM, MODERNISE AND UPGRADE

If you want to transform and modernise your building into an eye-catcher or a landmark, you can rely upon us. If you want to upgrade the façade with photovoltaics and LED installations it is wise to rely on our personnel who know how to handle a steel and glass façade without incurring follow-up costs.

We inspect buildings and façades for you to determine whether they comply with fire protection regulations, check components, suggest improvements and implement sustainable concepts agreed with the owners.

Upgrading, refurbishment and modification:

- advising on enhancements and new features with the technical support of the engineering office in Vienna
- installation of steel- and glass-structures
- better performing glass and insulated panel
- installation of LED-lights
- installation of photovoltaics
- installation of membrane/shading
- application of appropriate corrosion protection & intumescent coatings to steel structures
- improving poor workmanship & design by others
- improving fire protection to meet modern requirements

Sowwah Square Investment - LLC
الصوة سكوير للإستثمار ذ.م.م

THE GALLERIA
AT SOWWAH SQUARE

14 June 2012

Mr. Thomas Henriksen
Director Research & Development
Steel and Glass Division
Waagner-Biro Stahlblau AG
Leonard-Bernstein-Strasse 10
1220 Vienna
Austria

Subject: Great Room Roof Structure
The Galleria at Sowwah Square

Dear Thomas,

I take pleasure in writing this letter to thank your organization for a job well done for the fantastic roof structure for The Galleria at Sowwah Square, our high-end destination mall on Al Maryah Island, Abu Dhabi, UAE. The spirit of cooperation has been extremely beneficial for all parties engaged in this unique structure, and your team's attention to detail and fine workmanship are evident in the finished product. We truly appreciate the commitment your group has shown to meeting deadlines and milestones because this roof structure was such a key aspect for completion of the building's shell.

We especially extend our thanks to Mr. Christian Fassl for his attentiveness to project management of your works and to Mr. Walter Unger for his tireless construction oversight of the various elements of the structure. These gentlemen have demonstrated qualities that clearly mark them as hard-working administrators and supervisors for assembling such an extraordinary structure.

All of the Waagner-Biro personnel have demonstrated hands-on involvement and accountability for design management of the intricate structure, constructibility improvements and aesthetic excellence. In the course of the works, your team has garnered the trust, respect and admiration of the stakeholder representatives. All of your personnel have demonstrated the responsibility, resourcefulness and collaborative spirit which are essential to any project's progress.

The personnel within your company have exhibited an eagerness and professional talent to propose solutions for complex technical issues, to expeditiously overcome various challenges in design, fabrication and installation, and to become more focused on our goals for delivering the finished asset on time.

It has been my pleasure to be associated with Waagner-Biro, and hope to find our paths may cross again on another interesting venture.

Yours faithfully,

Andrew Tonner
Gulf Related, Senior Vice President
SSI Employer's Representative

ALDAR

Date: 12 November 2009

Waagner Biro Stahlbau AG,
1220 Vienna, Stadlauer Strabe 54
Austria
Tel No.: +43 0 1 288 44549
Fax No.: +43 0 1 288 447846

Attention: **Mr. Johann Sischka**
Senior Vice President

Project: **Yas Island Development, Abu Dhabi, UAE**

Subject: ***Formula 1 Race – Yas Marina Circuit***

Dear Mr. Sischka,

On behalf of Aldar I would like to express our sincere congratulations and gratitude for the outstanding contribution you and your colleagues made to deliver the Formula One weekend. The manner in which you contributed to this extraordinary one of a kind event never seen before in Abu Dhabi is a credit to your professionalism.

Thanks to you and your well-trained teams, all visitors and spectators could fully enjoy the Grand Prix weekend, be it at the race itself or at the related events held both on Yas Island and at the Corniche, which were there for the whole world to see. We can all be proud of your commitment to making this important weekend a resounding success.

We at Aldar look forward to the strengthening of this constructive working relationship into the future as we add further residential and leisure developments to the Abu Dhabi community.

Please pass on our thanks and congratulations to all your staff for their much appreciated assistance before and during the event.

Yours sincerely,

Ahmed Ali Al Sayegh
Chairman - Aldar Properties PJSC

// LETTERS OF RECOMENDATION

ADNEC
شركة أبوظبي الوطنية للمعارض
Abu Dhabi National Exhibitions Company

Reference: ADNEC/VD00/L-0006/21
Date: 24 June 2021

To Whom It May Concern

Dear Sirs,

Subject: **Commendation for Waagner Biro Emirates Contracting LLC.**

We are pleased to provide this letter of commendation for Waagner Biro Emirates.

Over the last 5+ years, WBE have successfully completed multiple projects for us (**ADNEC**) including Replacement of Grandstand Cables on the Grandstand Building, Rectification works on the Marina Pedestrian Bridge, Shading structures, Corrosion works, Concourse Glass replacement and Rectification on Cladding Façade, Installation of Led Lights, Water Proofing and Maintenance of the ADNEC building as well as other services and maintenance works.

WBE are highly professional with care and attention to details, they are excellent at a technical and management level. Their time management is exceptional as it helps us to reach our goals.
Special mention is made of Mr. Walter Unger who represents Waagner Biro Emirates. His technical abilities are exceptional and he always understands ADNEC's requirements with clarity and focus.

Walter Unger and his team, both in the field and main office, have delivered their works diligently and professionally. They have always responded quickly, especially to jobs that require urgent action, but they do this without compromise to quality or workmanship.

ADNEC thanks Waagner Biro for their continued excellent service now and in the future.

Yours faithfully,

Ahmed Rashed Al Mansoori
Director – Engineering Services
For and on behalf of
ADNEC

BIRDAIR

eingegangen
- 8. Feb. 20
zugewiesen an: ....

2 February 2001

To Whom It May Concern:

Reference: **Recommendation of Messrs. Waagner-Biró**

Gentlemen:

This letter is written to offer our high recommendation of Messrs. Waagner-Biró to you.

In April, 2000, Birdair completed its contract with Kuwait Foundation for the Advancement of Sciences (KFAS) for the design, fabrication, supply and installation six types of highly specialized tensile structures. Under subcontract to Birdair, Waagner-Biró was responsible for design and supply by all steel (approximately 195 tons), cable and glass/skylight elements. Additionally, with Birdair's technical assistance, Waagner-Biró installed all components. Waagner-Biró's subcontract exceeded US$ 1,500,000.

Throughout the two-year process of design, supply and installation, Waagner-Biró performed its work in a thoroughly professional, timely and efficient manner. Even though Birdair is located in Buffalo, Waagner-Biró in Vienna and the jobsite in Kuwait, coordination of the work was excellent. Waagner-Biró performed its scope of work in accordance with all contractual terms and conditions and in complete compliance with all technical documents. There were no disputes between Birdair and Waagner-Biró.

We hope that our recommendation will be useful in your evaluation of Waagner-Biró. If further discussion is desired, please contact the undersigned at your convenience.

Very truly yours,

Craig Tull,
Senior Project Manager

CT/js

Contact us for a property-quick-check and an individual offer!

00971 4 584 6765
@ service@waagner-biro-steelglass.com
www.wb-sg.com

waagner biro
steel and glass
emirates contracting LLC

a member of the Zeman Group

Zeman
Competence in Steel

About this brochure: Media owner, publisher and editor: Waagner Biro steel and glass Emirates Contracting LLC, 13th Floor, Tameem House, Barsha Heights, Dubai, UAE, T: 00971 4 584 6765, service@waagner-biro-steelglass.com, www.wb-sg.com; editorial and graphics: Christian Kukla, Zeman & Co GmbH, 6 Clemens-Holzmeister-Straße, Vienna 1100, Austria;

© Waagner Biro steel and glass Emirates Contracting LLC, all Rights reserved;

Vienna, Austria, 2021