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BRONZE



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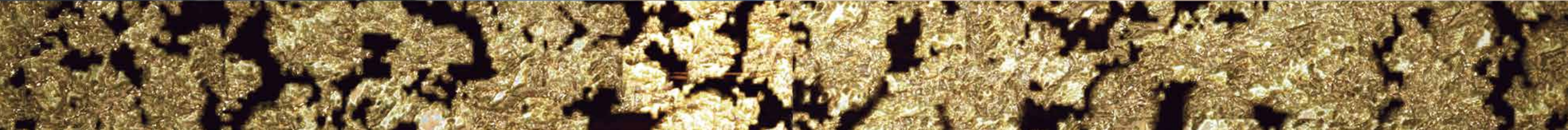


ARCHITECTONIC BRONZE
Pyramid



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1. PYRAMID

1.1 WHY A PYRAMID?

There is no monument in the world that has exerted greater fascination over men of all time than the Egyptian pyramids. These pharaonic skyscrapers of desert, where geometry becomes mountains, have always been involved in legends and mysteries. Pyramids are buildings that nobody knows exactly how were built but with a vocation of eternity.

TIMELESSNESS

Pyramid, as an evocative figure of eternity, has subsequently been used in architecture along history to convey emotions, to move human heart and transport it out of time. Hence, the Pyramid situates the man within the Universe as a minuscule entity, and at the same time, makes him feel like a God who contemplates his timeless work. Therefore, this shape makes us feel something unique, something immeasurable, permanent in humans since its inception and projected into the future as a symbol of purity and divinity.

PRESENT

Architectonic Bronze Enterprise proposes to join the strength and emotion of pyramid with the excellence, beauty and quality of our material, Architectonic Bronze. We achieve this join through a building that will become a monument, a large-scale sculptural element coated with the unique texture and brightness of Architectonic Bronze.

The Pyramid shall become a landmark and a powerful attractor of people and emotions.



1.2 DESIGN, EXCLUSIVITY AND FUNCTIONALITY

DESIGN

The special alloy of Architectonic Bronze makes possible a successful joining of sculpture and architecture to create a completely new design concept.

ARCHITECTONIC BRONZE, along with researchers from the UNIVERSITY OF ALMERIA and FERRER ARCHITECTS, have designed PYRAMID, an aesthetically surprising mega-sculpture.

EXCLUSIVITY

Majesty, innovation, functionality and luxury for a unique element in the world.

ARCHITECTONIC BRONZE guarantees PYRAMID's uniqueness in the world by contract.

FUNCTIONALITY

Functionally, its impressive interior space is ideal for the location of the most diverse activities. As a hotel, it could easily become the most luxurious one in the world, which would make it an irresistible invitation for elite tourism.

Due to its worldwide originality and uniqueness, this Mega-Monument could become:

- A global business headquarters.
- A must-see monument for elite tourism.
- A performance that promotes sustained economic development in the area and job creation, both during construction and subsequent management.

Furthermore, *PYRAMID*:

- Allows the location of architectonic spaces with flexibility of use such as a Hotel, a Corporate Building, a Business Centre, Exhibition and Convention Centre, a Mall, etc.
- Maximizes not only the corporate image of the owner company, but also it contributes to internationalize the city and country where it is located.

The special characteristics of *Architectonic Bronze* and the type of structure proposed for this Mega-Building reduce reasonably the cost, so that the investment involved in its construction can be amortized over a reasonable period of time.



1.3 DESCRIPTION AND FEATURES

PYRAMID's proportions are similar to those in the Great Pyramid of Giza but in a different size. *PYRAMID*'s height is 65m and each base side is 100m long. This mega-building includes 11 floors, with a 10,000 m² ground floor.

Regarding the appearance, the movement of *Architectonic Bronze* envelope is what confers *PYRAMID*'s global uniqueness. Indeed, this possibility of movement makes possible this building to become **unique in the world changing instantaneously its appearance at owner's will.**

PYRAMID's exterior image can be modified, making possible to transform its facades, instantly, and in a real-time fully interactive way. The opening or closing of the facade elements can be powered by means of an automated system connected to the movable panels of the *Architectonic Bronze* facade, and controlled from the main instrument panel. Thus, this system makes possible to control the image of the building in an infinite number of possibilities, and even fully customize the facades with some specific images or shapes determined by the company or the customer.

PYRAMID's appearance transformation depending on lightning conditions is one of its most significant features. In this sense, during the day the sun's reflection on its facade transforms it into an exceptional "mirage" at night, while the night vision makes it even more attractive due to multiple lighting possibilities.



The foundation and structure are those of a building of these characteristics. Further, when constructed, its dimensions will make **PYRAMID** visible from a large distance and, by design, it will really appear a pharaonic sculpture monument to the observer.

Finally, it must be highlighted that the *Architectonic Bronze* used for **PYRAMID** is recycled, entailing in this way respect for the environment.



1.4 TECHNICAL DOCUMENTATION

PYRAMID is a building and, for its construction, the development of the corresponding CONSTRUCTION PROJECT is essential, apart from the fulfilment of other legal requirements.

The fabricated and supplied bronze by ARCHITECTONIC BRONZE for the construction of PYRAMID will be determined on an Envelope's Construction Project for the building. This project will be elaborated by the architecture studio FERRER ARCHITECTS and must contain the documents showed in page 7.



. ARCHITECTONIC BRONZE ENVELOPE'S CONSTRUCTION PROJECT FOR THE BUILDING. "PYRAMID"

GENERAL DATA:

Stage: Basic and Execution

Project Title: Envelope on Architectonic Bronze Building "PYRAMID"

Location:

Building use:

Envelope surface:

Statistics

I. REPORT

1. Descriptive report
 - 1.1 Architectonic Bronze provision.
 - 1.2 Order data and Agents involved
 - 1.3 Details of the envelope and justification
 - 1.4 Background and starting conditions
 - 1.5 Justification of the solution
 - 1.6 Compliance with applicable regulations
 - 1.7 Budget

2. Constructive Memory

- 2.1 System envelope
- 2.2 Structural system envelope
- 2.4 Environmental conditioning system

3. Compliance with the CTE

SI DB 3.1. Basic safety requirements in case of fire

- SI 1. Internal Propagation
- SI 2. External Propagation
- SI 3. Evacuation
- SI 4. Facilities fire protection
- SI 5. Firemen intervention

3.2 DB SU. Basic safety requirements of use

- SU 1. Security against the risk of falls
- SU 2. Safety against the risk of impact or entrapment
- SU 3. Security against the risk of imprisonment
- SU 4. Safety against the risk caused by inadequate lighting
- SU 5. Security against risk situations caused by high occupation
- SU 6. Security against the risk of drowning
- SU 7. Security against the risk caused by moving vehicles
- SU 8. Security against the risk related to the action of lightning

HS DB 3.3. Basic health requirements

- HS 1. Protection against moisture
- HS 2. Collection and disposal of waste
- HS 3. Indoor Air Quality
- HS 4. Water supply
- HS 5. Waste water

3.4 Basic requirements for protection against noise (NBE CA-88)
Acoustic Research Evaluation Room.

3.5 Waste Management Study Construction and Demolition

4. List of technical regulations applicable in the projects and in the execution of works

II. ANNEX

ANNEX I. Bioclimatic strategies and energy efficiency

ANNEX II. Lighting proposal

ANNEX III. Audiovisual proposal

ANNEX III. Structure of envelope

III. GRAPHIC DOCUMENTATION

IV. CONDITIONS

V. MEASURES

VI. BUDGET

VII. HEALTH AND SAFETY STUDY

1.5 MANUFACTURING, SHIPPING, INSTALLATION AND ASSEMBLY

ARCHITECTONIC BRONZE MANUFACTURING

From the specifications of *Architectonic Bronze's* envelope Construction Project, the Architectonic Bronze enterprise in collaboration with the University of Almería manufactures the bronze pieces needed. These pieces, previously supervised and accepted, will be sent to the customers conveniently packed in wooden boxes prepared for transport by means of standardized containers.

In order to facilitate transportation and placement at the point of destination, the bronze is manufactured in polygonal pieces of variable dimensions and shapes, depending on the singularities of each project and providing the necessary anchorage system.

ARCHITECTONIC BRONZE SHIPPING

Architectonic Bronze pieces will be shipped by a prestigious international logistics enterprise.

ARCHITECTONIC BRONZE INSTALLATION AND ASSEMBLY

The installation and assembly will be carried out under supervision by the Construction Management in accordance with the specifications of the construction project elaborated by FERRER ARCHITECTS.

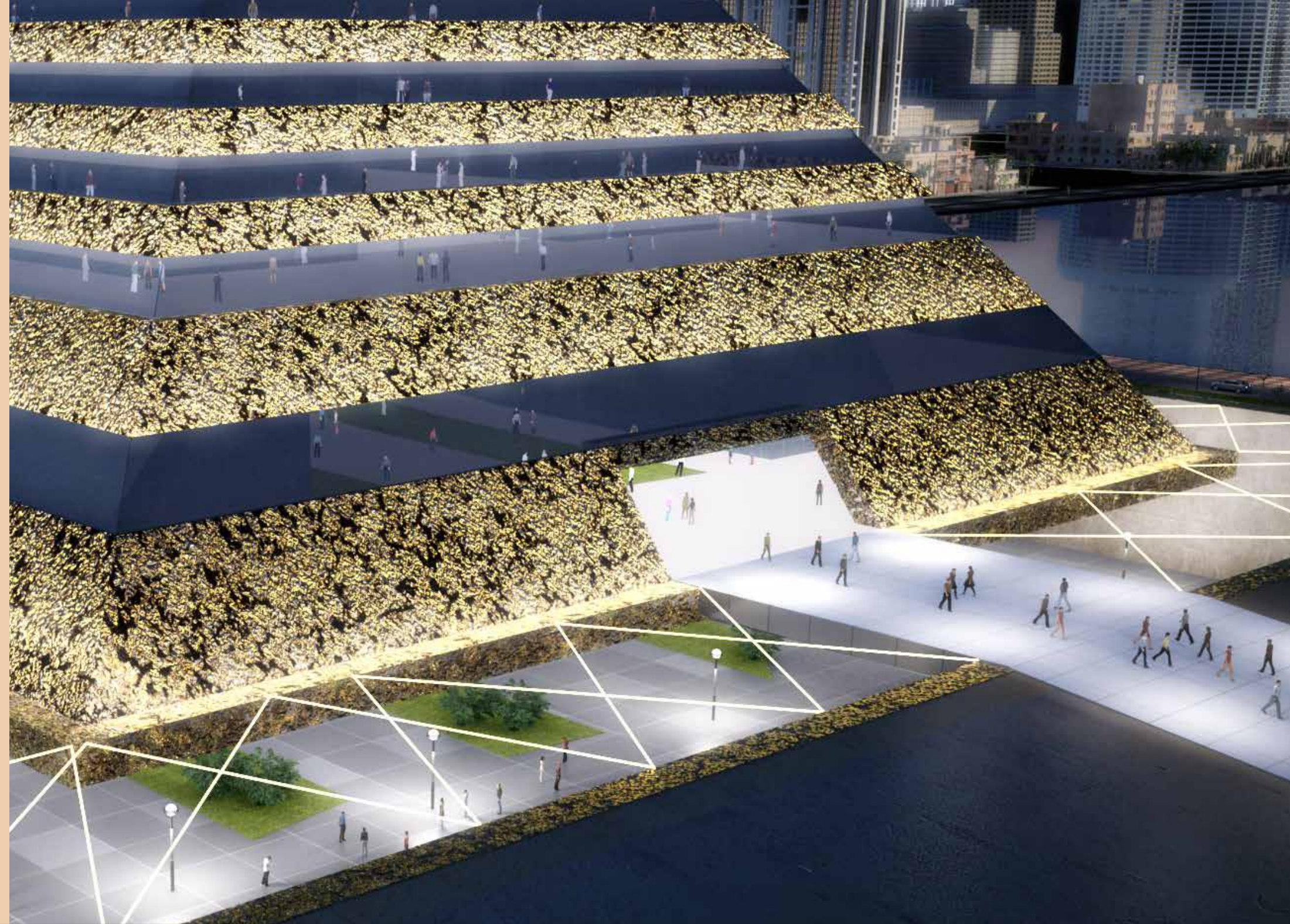


2. ARCHITECTONIC BRONZE: HISTORY, MISSION AND CHARACTERISTICS

Bronze has been a crucial material throughout History. Its use is rooted in Prehistory, to the point of naming a particular period of time, such as the Bronze Age. This material is very appreciated in sculpture for its ductility and versatility and its properties and results are very well considered after those of gold and silver. Additionally, bronze provides a remarkable variety of finish with an indisputable high aesthetic quality. Following different fusion procedures, bronze has been used as artistic material since the classical period of ancient Greece, and some of the most renowned works of art have been made with bronze, achieving a sublime link between both the sculptural and the architectonic field.

It is no coincidence that in Almería, enclave of the greatest Bronze civilization in Europe (Argaric culture in II and III millennium B.C.), a new interpretation of bronze has emerged from a group of researchers and artists at the University of Almería with which Ferrer Architects is working hard for its development since its inception.

Architectonic Bronze is a new way to tackle the creation of architectonic spaces, where technology and art come together to achieve an innovative, singular and, above all, sublime result. In addition to the general characteristics of bronze such as beauty, durability, strength, elegance and solidity, *Architectonic Bronze* allows to create innovative architectonic spaces thanks to the creative component.





Apart from the technical potential of *Architectonic Bronze* and its incomparable aesthetic effects, the value added provided by its historical and artistic heritage must be considered. In this sense, Architectonic Bronze implies a complete revision, opening new possibilities for preparation, presentation and implementation, and taking advantage of all its artistic wealth. It enables the creation of versatile architectonic spaces, unique and unrepeatable motifs and compositions, with rich golden finishes, which provide unparalleled brightness and light warmth. In this context, Architectonic Bronze rummages into the rich effects of the past, of Byzantine, Islamic, Moorish, Renaissance and Baroque inspiration to reinvent spaces and provide a renewed and exclusive artistic mark.

ARCHITECTONIC BRONZE ENTERPRISE, in collaboration with FERRER ARCHITECTS, develops innovative solutions for architectonic spaces that are capable of combining the bronze values with the needs to be fulfilled by the building. Thereby, Architectonic Bronze achieves the combination of the emotional with the material, the spiritual with the earthly.

Architectonic Bronze can be part of the building structure and thus contributing to provide the quality and warmth necessary to the architectonic space. There are paradigmatic examples of bronze application as a structural element in the history of architecture: two bronze pillars were found on porch of the Temple of Jerusalem at the period of King Salomón. Furthermore, the Germany Pavilion of Mies Van der Rohe of the Universal Exhibition of 1929 in Barcelona, and more recently, the renovation of Meridien Hotel by Neri and Hu, or the ceiling of the hall by Rafael Moneo in the Prado Museum. In all these cases, the use of bronze provided a symbolic component associated with its specific design. This concept is what Architectonic Bronze wants to strengthen with its innovative proposal: transcending the pure material aspect and becoming a new way of making architecture.





CHARACTERISTICS

Architectonic Bronze's innovation consists in bronze surface of high artistic value, which has the ability to adopt multiple forms and shapes.

Indeed, the delicate exquisiteness of bronze lightness and brightness (in fact it is the most important metal used in the metallurgy art, which also achieves suitable properties of hardness, malleability and resistance to atmospheric agents) along with the visual movement of its surface, gives the *Architectonic Bronze* artistic quality.

In addition, the versatility of its shape makes it ideal for the design of innovative architectonic spaces. The average holes along its surface are variable: according to the design may vary between 5 ÷ 15%.

Architectonic Bronze surface is made of solid bronze, therefore, its corrosion resistance and durability is unmatched. Any shape can be recreated depending on the design: polyhedral (tridimensional), flat, curved, corrugated...

Base Material

The raw material of our product is solid bronze, an alloy of copper and aluminum (Cu-Al) from recycled, contributing to the maintenance of the environment and sustainable development.



SPECIFICATIONS

GENERAL PROPERTIES

UNITS

Density	kg / dm ³	7.4 ÷ 7.8
Break stress	MPa	512 ÷ 760
Yield strength	MPa	270 ÷ 300
Brinell hardnessw	HB-10-3000-30	160 ÷ 190
Elastic modulus	GPa	104 ÷ 128
Effort torque	kg / mm ²	300 ÷ 370

PHYSICAL PROPERTIES

UNITS

Specific heat	j / g • K	0.418
Thermal Expansion	10 ⁻⁶ • K	17 ÷ 19
Thermal Conductivity	W / (m • K)	60
Electrical Conductivity	m / (Ohm • mm ²)	4.6

MAINTENANCE

Architectonic Bronze does not need maintenance or other protective element after placement.

3. KEYWORDS

Architecture Interiorism
Art Luxury Exclusivity
Innovation Sustainability
Durability I+D+i
Distinction Integrated Solutions
Propellers Interiorism Projects
Bronze Uses Recycled Material
Singularity Sculptural Architecture



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