



BROMBAL
FINISHES

Discover freedom to create.



BROMBAL

DISCOVER FREEDOM TO CREATE

The world's
first luxury
thermally broken
metal windows & doors





METALS

Material is important.
Material is what everything is made of.
Some materials have a story that has just begun, other
materials have a story that started with this world...
Brombal proposes its windows & doors
in four different materials:
stainless steel, cor-ten steel, galvanized steel and brass.

STAINLESS STEEL

Clean. Solid. Precise.



Photographer: Steven Paul Whitsitt

THE MATERIAL

The physical features of stainless steel allow for small sections, with subsequent lower visual impact and increased indoor brightness. Its durability guarantees an unlimited life and minimal maintenance. The inalterability of the surface through the years makes stainless steel the ideal solution for difficult environments. Through the years stainless steel has undergone continuous technical improvements, thus universally becoming famous for its inalterability and high durability. For the production of their profiles, Brombal uses AISI 316L stainless steel. AISI 316L stainless steel is particularly suitable for marine environments, it is provided in scotch-brite and polished finishes.

TRANSFORMATION PROCESS

The billet used for stainless steel is produced by forging the steel to the required gauge, then rolling it into large coils. The material then undergoes a finishing process to obtain a scotch-brite or polished surface. The coil is then rolled into the desired shape while a protective film is applied to protect the finish.

ADVANTAGES

- Thermally broken.
- Available in 316L marine grade.
- Excellent corrosion resistance is ideal for oceanfront or industrial applications.
- Structural stability & extreme durability.
- Modern and traditional designs.
- Made from 100% recycled materials.

FINISHES

Scotch-Brite stainless steel:
AISI 316L , 1,200 grit abrasives
are rubbed over the surface
to obtain a sleek smooth finish.

Polished stainless steel:
AISI 316L , high powered
buffers are used to create
a polish like finish.

Textured
Blackened Stainless Steel:
the profile is glass blasted
then dipped in an acid treatment
to create a dark effect.

Painted
We offer 15 special liquid finishes
from the Distinctive Metals
Collection, and countless RAL colors
and a variety of finishes as our
standard selection. Our painted
finishes can easily match any of
your design needs.

SCOTCH-BRITE
STAINLESS STEEL

metals

POLISHED
STAINLESS STEEL

TEXTURED
BLACKENED STAINLESS STEEL

metals

COR-TEN

Rustic. Refined. Elegant.



Photographer: Audrey Hall

THE MATERIAL

The corrosion resistance & tensile strength properties of weathering CorTen steel result in extreme durability for frames. This makes it possible to realize oversized windows and doors with excellent sustainable properties. CorTen steel is a high-resistance, self-passivating alloy containing copper, chrome, and phosphorus. Characterized by a high resistance to corrosion and to tensile yield; these alloys are self-protective through the formation of a superficial coating that prevents the progressive extending of the corrosion process. Brombal, through its technology, innovation, and dedication, was the first to use this material for windows and doors, producing profiles with unique features particularly appreciated in the architectural world.

TRANSFORMATION PROCESS

The large rolls of CorTen steel are cut to the required width and rolled to the specific profile section. Upon exposure to air, the patina process begins which creates a protective layer of rust over the surface. Left untreated, the rust will create an ever-changing appearance. A surface wax treatment can be applied which will provide a temporary protective barrier against the elements on the surface.

ADVANTAGES

- Thermally broken.
- Durable and resistant to environmental elements.
- Perfect choice for highly corrosive environments.
- Unique finish not replicated by any other material.
- Modern and traditional designs.
- Made from 100% recycled materials.

FINISH

CorTen steel has a unique, distinctive appearance. The intense richness of its finish bestows a warm, natural, yet at the same time extremely elegant look. Its attractive appearance is a result of an oxidation process which forms a protective patina. A hand applied beeswax treatment can be administered to achieve a more refined look.

COR-TEN
STEEL

metals



GALVANIZED STEEL

Expressive. Imaginative. Creative.



Photographer: Paul Dyer

THE MATERIAL

Brombal uses a specific steel alloy, the FeP02 with a GZ200 hot zinc coating (equivalent to 200 gr/sqm on both sides) that can protect the profile from oxidation both on the inside and outside face. The subsequent finishing process, called skin-passing, allows paint finishes to adhere better. Paint coatings are available in a wide range of colors, such as gloss, semi-gloss, matte finishing, or semi-polished. The technical-physical features of the steel allow the realization of profiles with small sections and subsequent lower visual impact for increased indoor brightness. Another important feature of galvanized steel is the thermal conductivity 4 times lower than aluminum alloys.

TRANSFORMATION PROCESS

Large coils of steel are first treated with a hot dipped galvanizing process utilizing the Sendzimir system; this coating of zinc on both sides ensures ultimate protection against corrosive agents. The resulting product is then sent through a series of rollers to produce specific shapes used for our profiles while maintaining the galvanized coating. Zinc primer and metalized coatings are applied during the coatings process, to ensure continued protection of the surface.

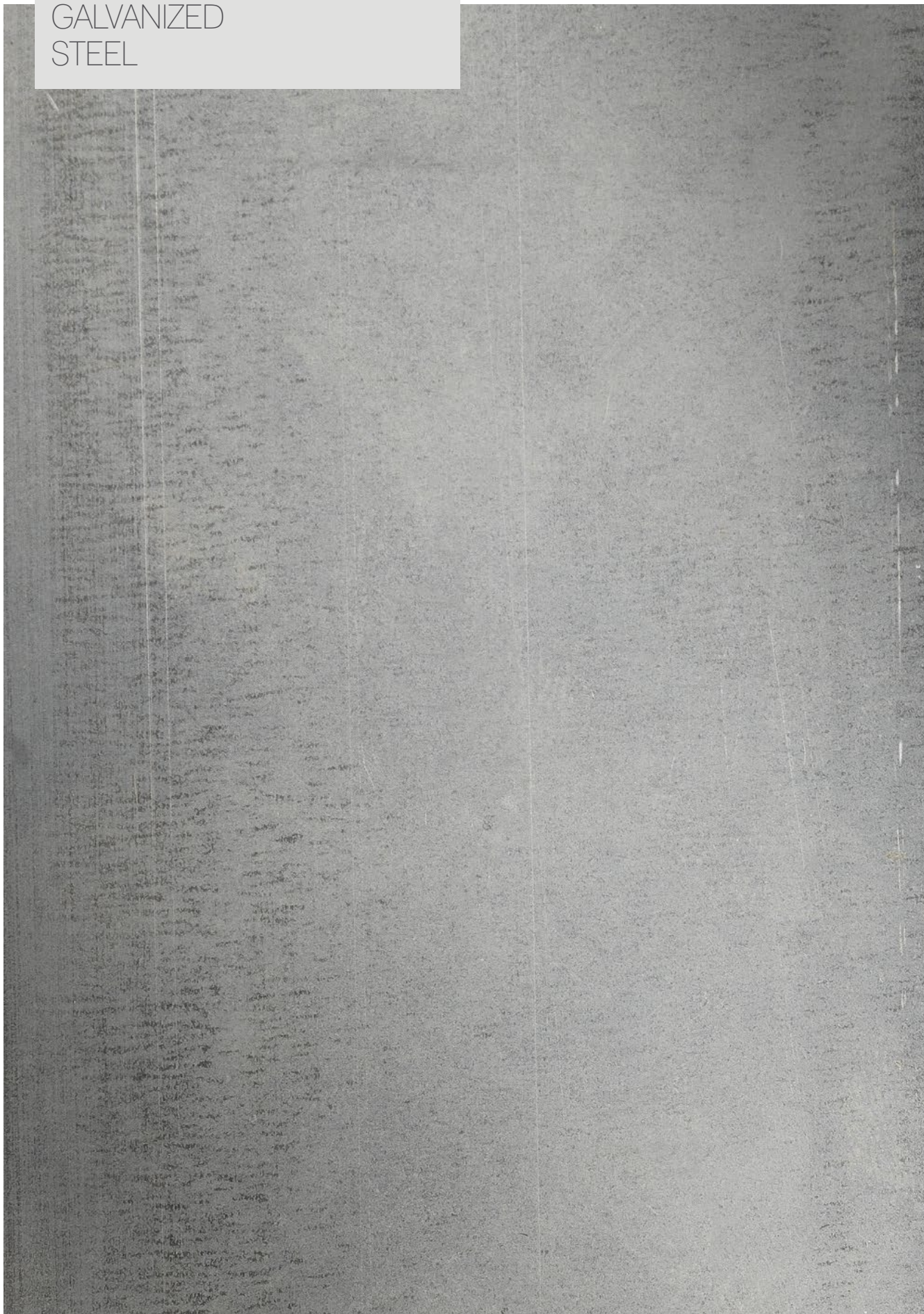
ADVANTAGES

- Thermally broken.
- High structural characteristics for large unobstructed openings.
- 3 times stronger than aluminum.
- 4 times less conductive than aluminum.
- Reduced coefficient of expansion.
- Narrow sightlines.
- Modern and traditional designs.
- Made from 100% recycled materials.

FINISH

After transforming rolls of steel to fabricated frames, we offer 15 special liquid finishes from the Distinctive Metals Collection, and countless RAL colors and a variety of finishes as our standard selection. Our painted finishes can easily match any of your design needs.

GALVANIZED STEEL



BRASS

Warm. Inviting. Alluring.



Photographer: Jeff Roberts

THE MATERIAL

The prestige of brass comes from its look and high resistance to corrosion making it the ideal material for exquisite architecture. Brombal uses OT67 alloy in which a high percentage of copper (67%) determines its high resistance to corrosion, while the remaining percentage of zinc (33%) improves its mechanical properties such as hardness and tensile strength. A characteristic feature of this alloy is to naturally oxidize when in contact with air while maintaining its physical features; in turn obtaining that particular antique bronze finish that makes it ideal for prestigious refurbishments of historical buildings and for new high-end buildings - with a look that joins elegance and tradition. Marine environments bring out verdigris highlights as seen in other copper rich architectural elements. The self-protection generated by the natural oxidation process makes the final product ideal for difficult and marine environments, or when maximum sustainability is required.

TRANSFORMATION PROCESS

After the coil stock is cut and rolled into frame sections, it undergoes a heat treatment. This prevents the sections from potential cracking as it relieves the stress applied during the rolling process. The resulting product is the highest quality brass available in the fenestration industry. Brombal offers 2 choices for assembly of the frame corners: welded or mechanically fastened. The special alloy used in welding has properties which provide greater strength and a slight difference in patina is noticeable in corners which further highlights the handcrafted authenticity of Brombal's artisanship.

ADVANTAGES

- Thermally broken.
- High quality materials resulting in the most natural looking patina.
- Easily replicates historical bronze for a perfect restoration.
- Ideal for areas where landmark approval is required.
- Great resistance to the elements (air, wind, & water).
- Available with matching bronze hardware.
- No maintenance required.
- Suitable for all architectural designs.
- Made from 100% recycled materials.

FINISHES

Light Burnished Brass:
an acid treatment is applied to create a light bronze effect.

Dark Burnished Brass:
an acid treatment is applied to create a dark bronze effect.

Custom Burnish Options:
hand applied and available upon request.
A hand applied beeswax coating is provided as a temporary protective barrier against the elements (can be reapplied as desired).

BURNISHING PLANT

metals

metals



At Brombal no details are left to chance. Burnishing metal to a specific patina requires a craftsman's touch. This is why we have invested in a new state of the art burnishing plant. Our burnishing plant guarantees us the flexibility to offer unique living finishes that enhance the metal's natural beauty.



LIGHT BURNISHED
BRASS



DARK BURNISHED
BRASS

metals



Photographer: Paolo Belvedere



PAINTING

Michelangelo created masterpieces through the use of vibrant colors which have endured the test of time. At Brombal, we allow the client to choose from a vast array of color palettes and when combined with state of the art application technology, we extend the Italian tradition of lasting quality for your fenestration masterpiece!



LIQUID PAINTING



Liquid spray painting is a painting technique where a device sprays a coating (paint, ink, varnish) through the air onto a surface. The most common types employ compressed gas, usually air, to atomize and direct the paint particles. Spray guns can be either automated or hand-held and have interchangeable heads to allow for different spray patterns. Brombal liquid spray painting takes place in a spray booth that is pressure-controlled in a closed environment. This method was developed for use in automobile industry where perfection and durability are required. The spray booth prevents dust from coming in contact with the window and door frames and ensures the ideal working conditions (temperature, air flow, and humidity), the environment is equipped with ventilation consisting of mechanical fans driven by electric motors and optional burners to heat the air to speed paint drying process. Toxic solvents and paint particles are treated through a filtered exhaust system to insure air pollution.

NEW PAINTING PLANT

Brombal's new painting plant represents our company's philosophy of freedom to create and quest for perfection. This plant is composed of a Sanding and Metalization chamber, Pressurized Painting chamber, and three ovens with varied temperatures. The greatest addition in the new painting plant is our state-of-the-art paint robot: a high-performance, latest generation system that increases consistency of the painting and finish quality. To minimize paint loss and to ensure homogeneous distribution of color, the painting robot has a 3D scanner system, capable of making precise acquisition of positions, dimensions, and forms of workpieces - automatically generating accurate spraying trajectories. Our constant research in innovation & quality has made Brombal the company that it is today, with our advanced robotic painting system being the latest addition to our capabilities.

RAL & TEXTURE PAINTING

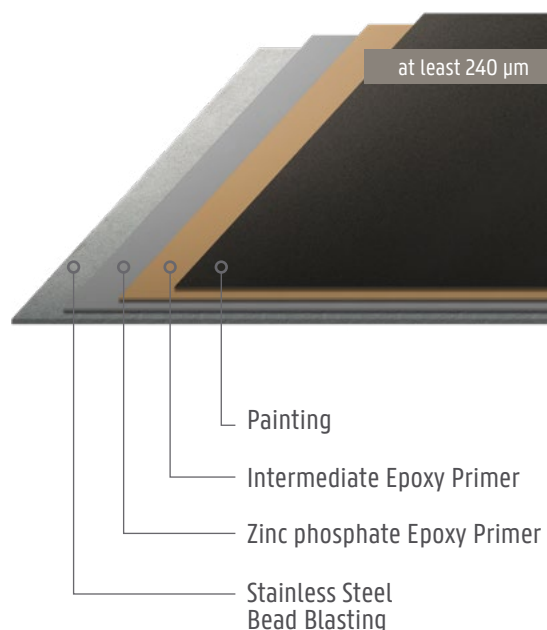
C4HIGH STANDARD PAINTINGS

Thickness: at least 240 µm (micrometer)

All the RAL & Texture Standard painting processes have four initial steps which guarantee very high adhesion between the base metal and the paint.

PAINT PROCESS:

1. Blasting all profile surfaces with micro stainless steel beads (or other accessories that require painting).
Results of process:
 - Surface becomes rough, allowing primer and paint to grip better to the steel;
 - Cleaning dirt and contaminants from the steel surface.
2. Application of zinc phosphate Epoxy Primer:
Results of process:
 - Prevents rust and corrosion.
3. Application of intermediate Epoxy Primer:
Results of process:
 - Prepares the surface making a strong bond for the finish coat.
4. The frames and accessories are then painted which vary between finishes in coating thickness.
Results of process:
 - Durable long-lasting protective coatings;
 - Flexibility in color choice with smooth or textured surface.



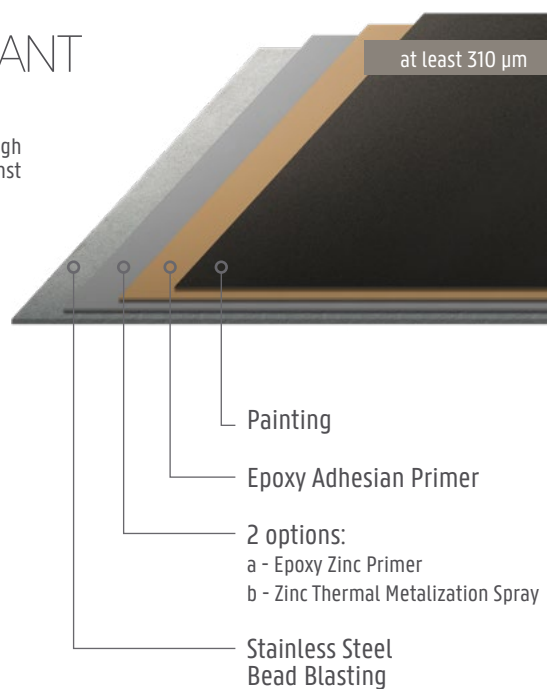
C5M COATING COASTAL AND POLLUTION RESISTANT

Thickness: at least 310 µm (micrometer)

All the C5M RAL & Texture paintings have four initial steps which guarantee a very high adhesion between the base metal and the paint providing a very high resistance against marine environment and/or very polluted areas.

PAINT PROCESS:

1. Blasting all profile surfaces with micro stainless steel beads (or other accessories that require painting).
Results of process:
 - Surface becomes rough, allowing primer and paint to grip better to the steel;
 - Cleaning dirt and contaminants from the steel surface.
2. Application of zinc basecoat:
a - Zinc Epoxy Primer, or;
b - Zinc Thermal Metalization Spray
Results of process:
 - Prevents rust and corrosion.
3. Application of Epoxy Adhesion Primer.
Results of process:
 - Seals the zinc coating;
 - Prepares the surface making a strong bond for the finish coat.
4. The frames and accessories are then painted which vary between finishes in coating thickness.
Results of process:
 - Durable long-lasting protective coatings;
 - Flexibility in color choice with smooth or textured surface.



Note: Stainless Steel does not require zinc coating described in step 2.

DISTINCTIVE METALS COLLECTION PAINTING

C4HIGH STANDARD PAINTINGS

Thickness: at least 240 µm (micrometer)

Distinctive Metals Collection standard painting has between four to seven steps, depending on the finish selected, guaranteeing very high adhesion between the base metal and the paint.

PAINT PROCESS:

1. Blasting all profile surfaces with micro stainless steel beads (or other accessories that require painting).

Results of process:

- Surface becomes rough, allowing primer and paint to grip better to the steel;
- Cleaning dirt and contaminants from the steel surface.

2. Application of zinc phosphate Epoxy Primer:

Results of process:

- Prevents rust and corrosion.

3. Application of intermediate Epoxy Primer:

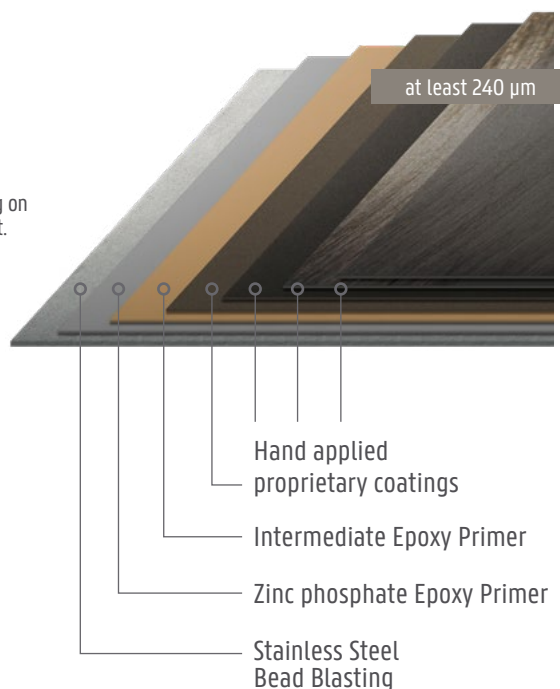
Results of process:

- Prepares the surface making a strong bond for the finish coat.

4. The frames and accessories are then painted which vary between finishes in coating thickness.

Results of process:

- Durable long-lasting protective coatings;
- Flexibility in color choice with smooth or textured surface.



C5M COATING COASTAL AND POLLUTION RESISTANT

Thickness: at least 310 µm (micrometer)

Distinctive Metals Collection CSM painting has between four to seven steps, depending on the finish selected; this guarantees very high adhesion between the support (galvanized steel) and the paint & ensures very high resistance performance of the finishes in marine and/or polluted areas.

PAINT PROCESS:

1. Blasting all profile surfaces with micro stainless steel beads (or other accessories that require painting).

Results of process:

- Surface becomes rough, allowing primer and paint to grip better to the steel;
- Cleaning dirt and contaminants from the steel surface.

2. Application of zinc basecoat:

- a - Zinc Epoxy Primer, or;
- b - Zinc Thermal Metalization Spray

Results of process:

- Prevents rust and corrosion.

3. Application of Epoxy Adhesion Primer.

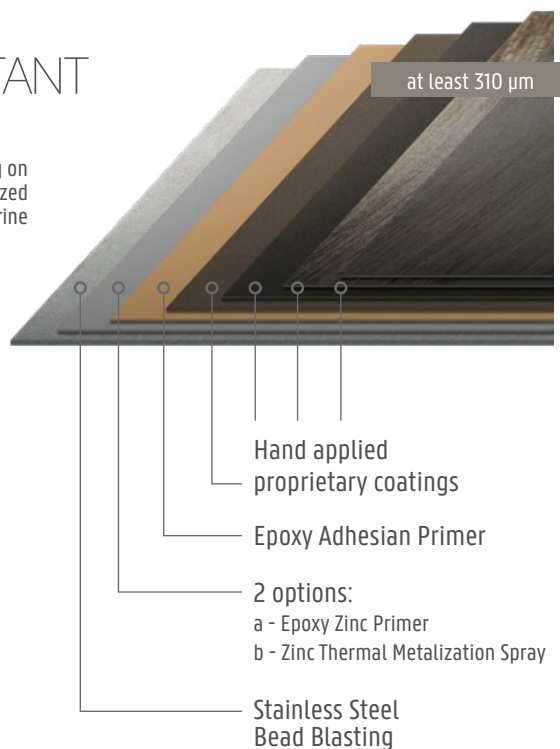
Results of process:

- Seals the zinc coating;
- Prepares the surface making a strong bond for the finish coat.

4. The frames and accessories are then painted which vary between finishes in coating thickness.

Results of process:

- Durable long-lasting protective coatings;
- Flexibility in color choice with smooth or textured surface.



Note: Stainless Steel does not require zinc coating described in step 2.

DISTINCTIVE METALS COLLECTION

The Distinctive Metals Collection paintings are premium and more complex than standard liquid paintings (see "Liquid Paintings" section for process description). Contrary to normal liquid painting with uniform color and a smooth surface, special paintings may have varied shades of color, a textured surface, and aesthetic effects that can imitate other materials such as copper, bronze, iron, concrete, etc.

Distinctive Metals Collection finishes are obtained through a complex process which results from the combination of two or more of the following treatments:

- Application of different liquid paint layers on top of each other;
- Mechanical treatments of the surface (rubbing, sanding, etc);
- Chemical treatment of the surface.

Some of these processes are done by hand by expert artisans using simple tools, while others are obtained through high-tech machines. Each special painting is the result of a long-studied process which has led to unique exquisite finishes. Distinctive Metals Collection finishes are available both in Standard or CSM for badly polluted areas and/or coastal environments.

Brombal "Distinctive Metals Collection" is a hand applied specialty finish. Variation in color and pattern can differ from one unit to another while maintaining an overall tonality as approved in the sample. Please ask your Brombal representative should you have any questions or concerns.

ETCHED LEAD



ONIX STEEL



painting

distinctive metals collection

WEATHERED BRONZE



RUSTIC BRONZE

painting

distinctive metals collection



WORN STEEL



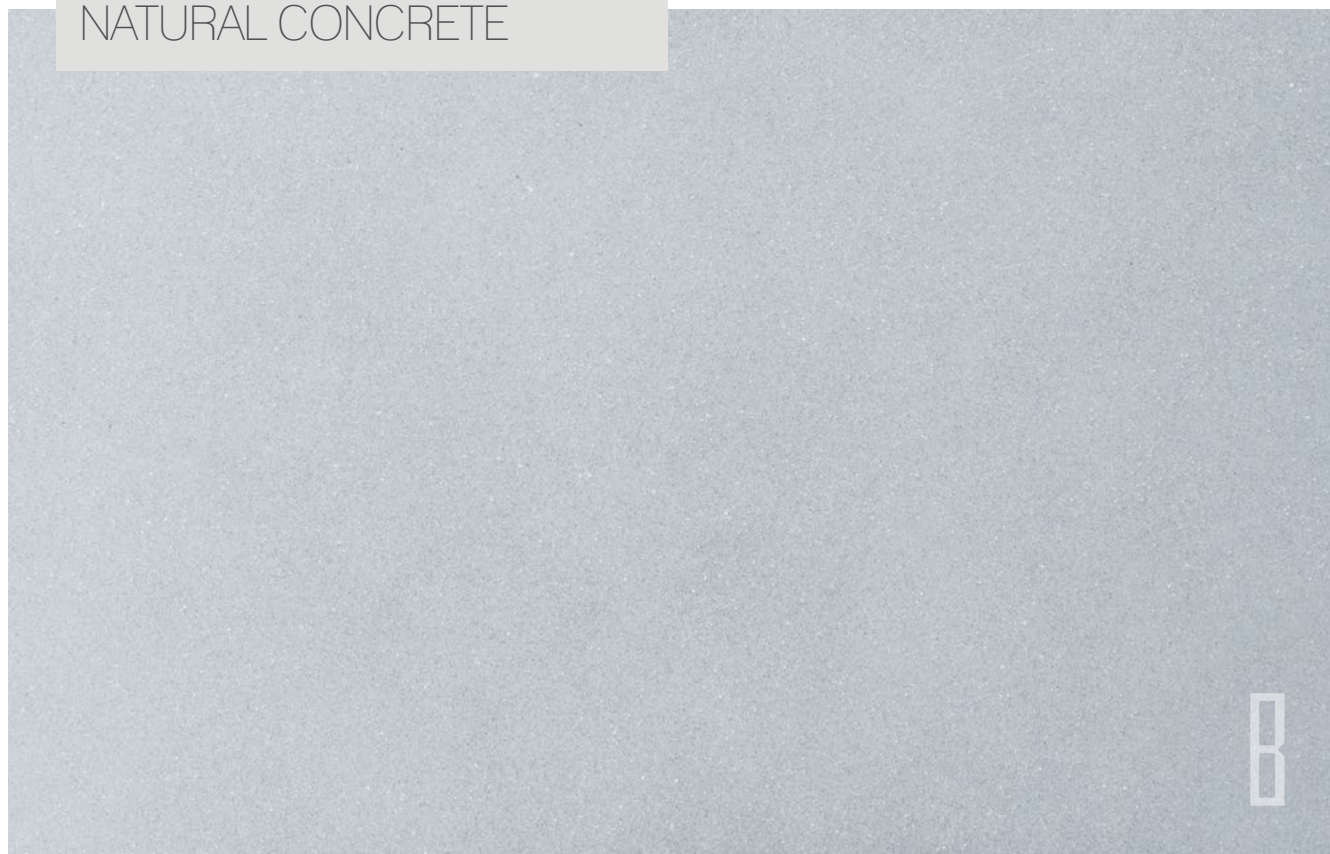
FADED STEEL



painting

distinctive metals collection

NATURAL CONCRETE



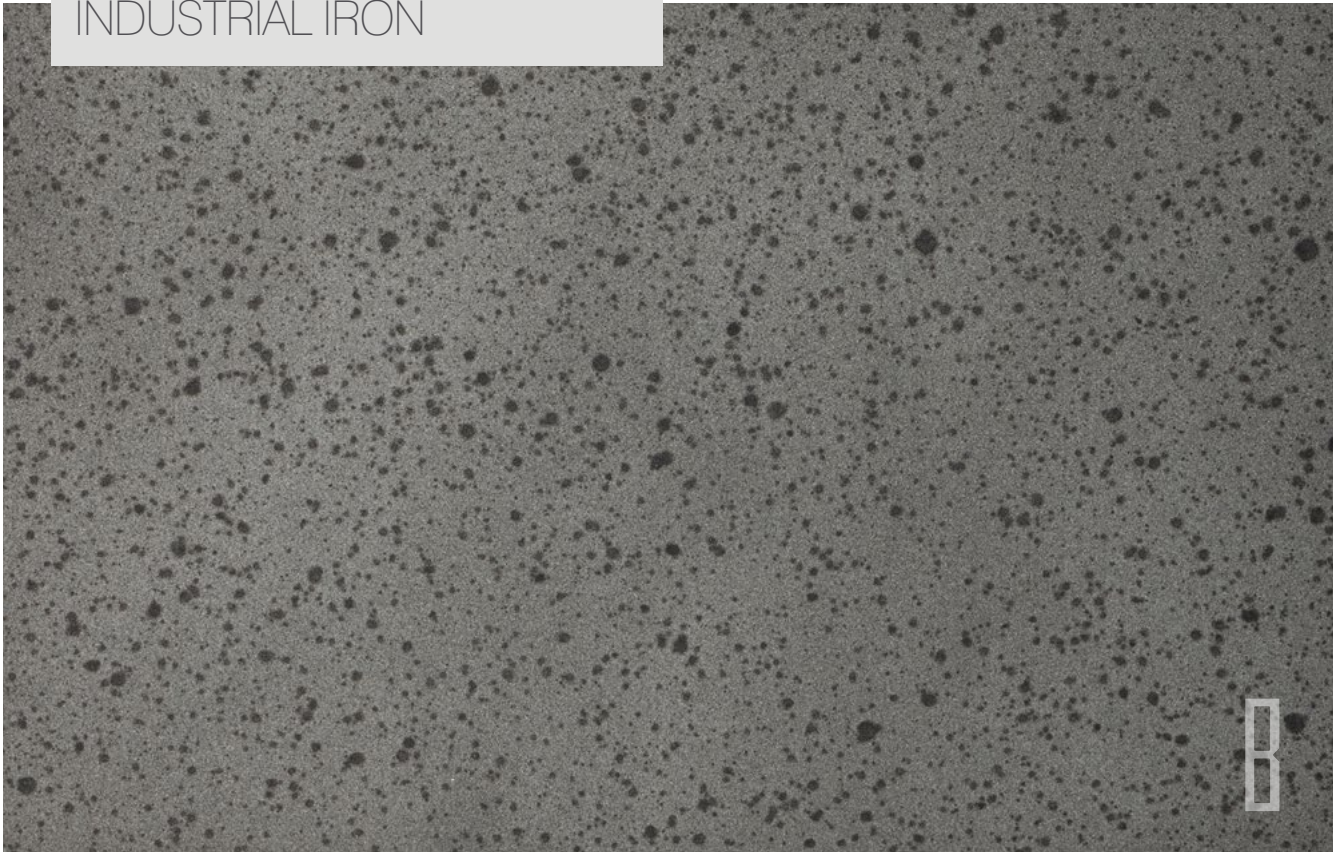
CARBON STEEL



CHARCOAL BRONZE



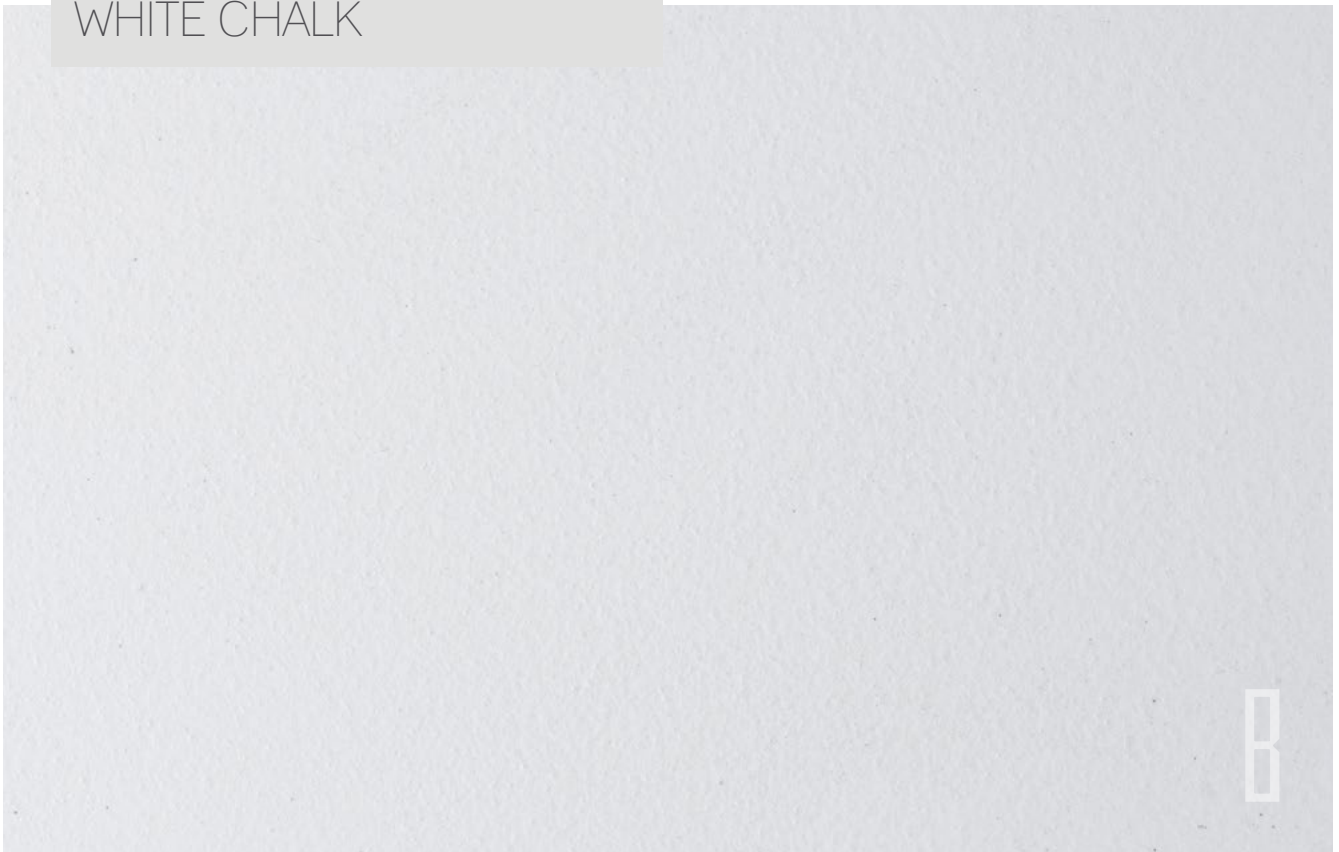
INDUSTRIAL IRON



painting

distinctive metals collection

WHITE CHALK



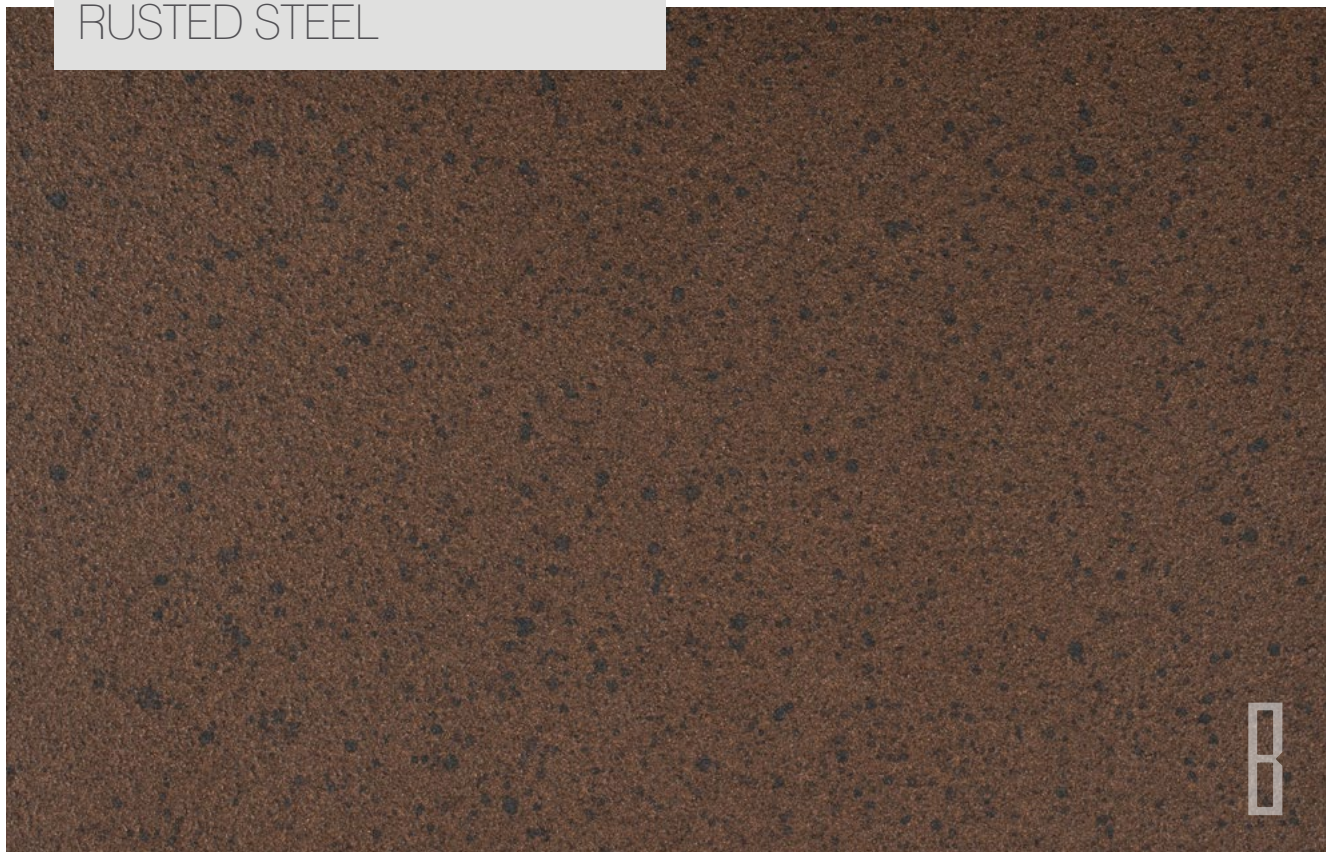
HISTORIC COPPER



RAW STEEL



RUSTED STEEL



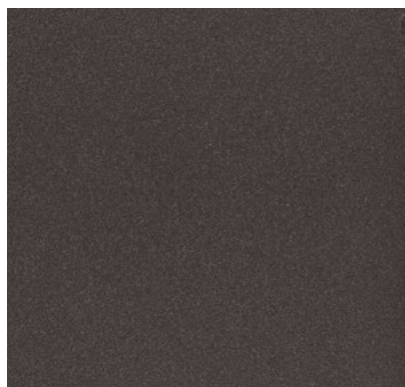
painting

distinctive metals collection

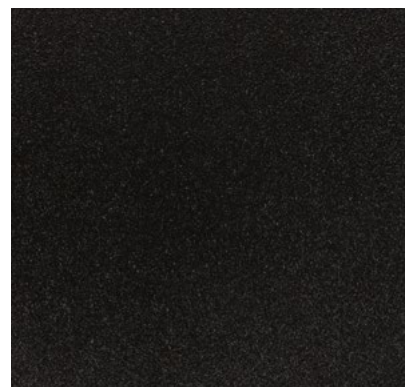
GUN METAL



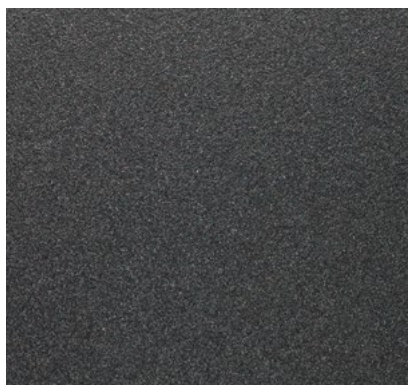
TEXTURE



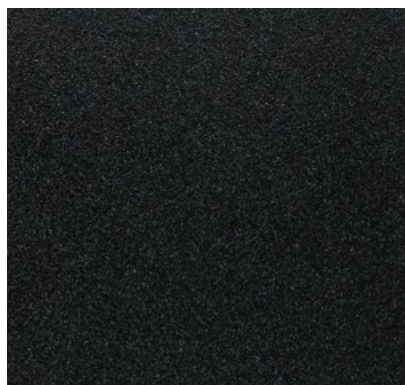
8019 RAGGRINZANTE



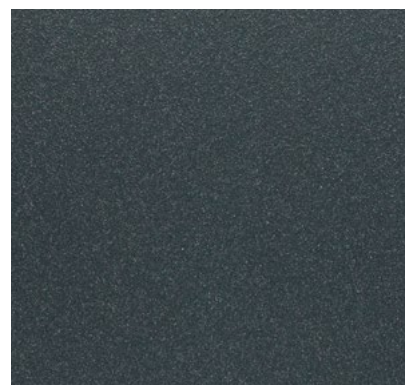
8022 RAGGRINZANTE



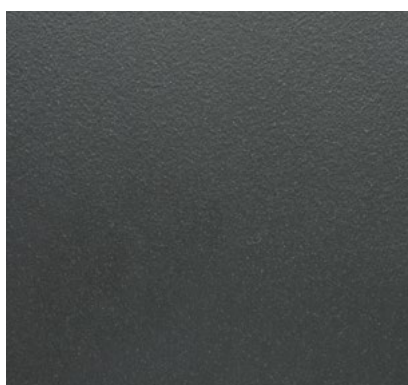
NERO BASSANO



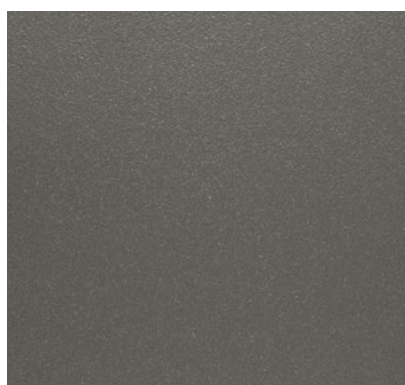
NERO TREVISO



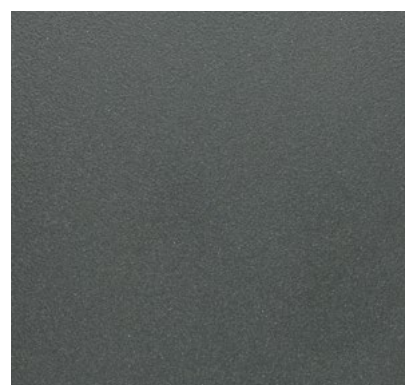
NERO ANTRACITE VP



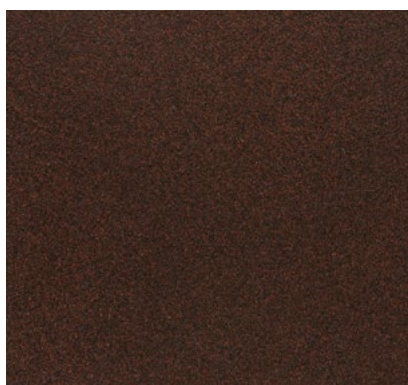
GRIGIO BOND



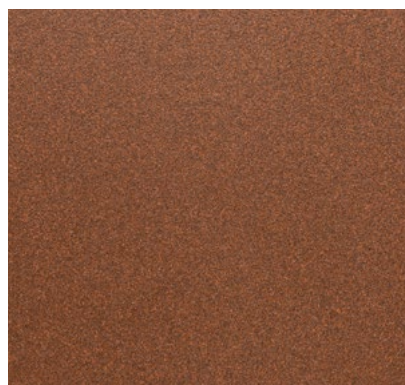
GRIGIO TREVISO



GRIGIO GRAFITE



MARRONE OSSIDO

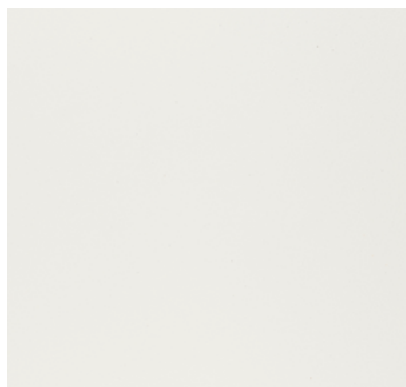


MARRONE VERONA

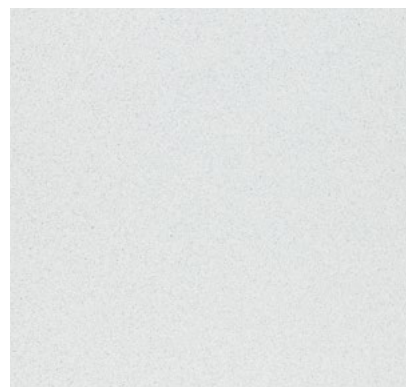


BRONZO SABLÈ

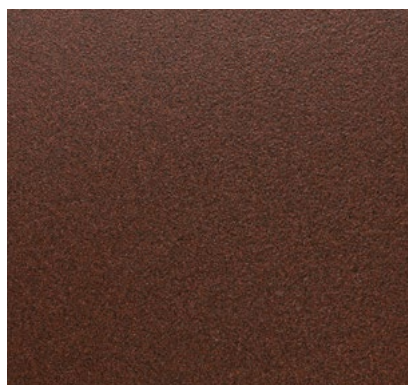
TEXTURE



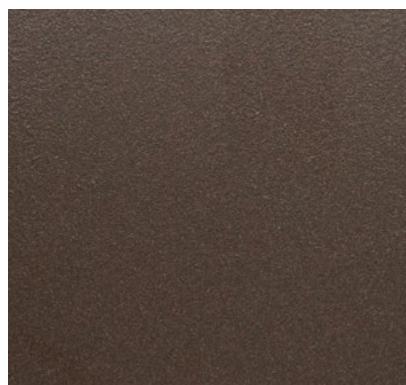
BIANCO CORTINA



BIANCO MARMO ANTICO



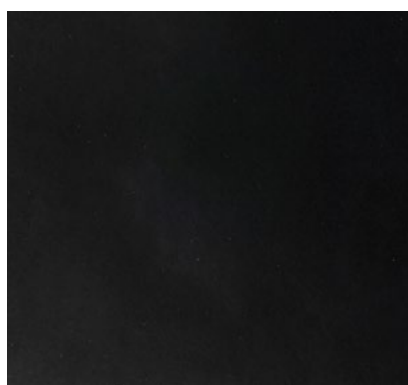
MARRONE DOLOMITI



BRONZE TEXTURE



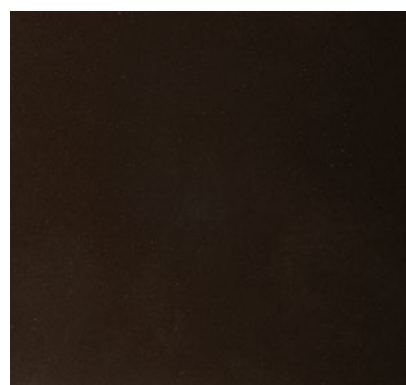
STARLIGHT SABLÈ



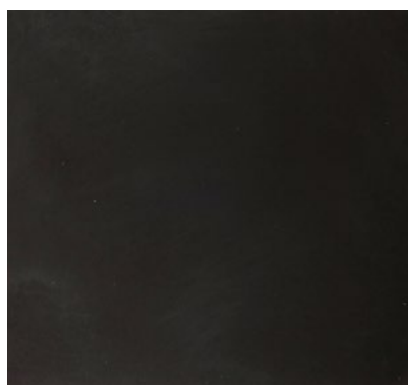
9005 MATT



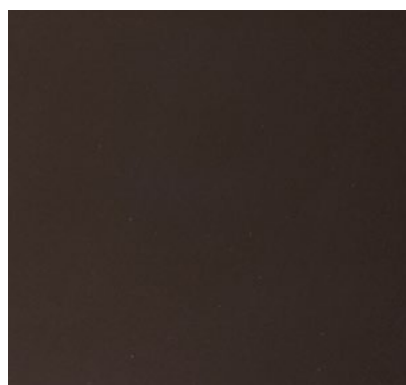
7022 MATT



8022 MATT



9004 MATT



8019 MATT



8028 MATT

RAL COLOR FINISHES

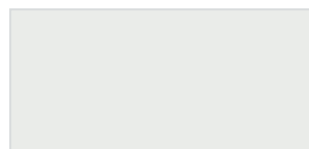
Available in all RAL colors.
The color renderings are only indicative.



RAL 9016



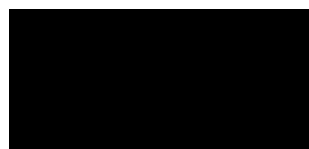
RAL 9018



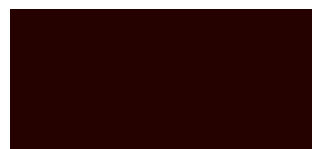
RAL 9002



RAL 9004



RAL 9005



RAL 8022



RAL 8028



RAL 8007



RAL 8008



RAL 8000



RAL 7043



RAL 7031



RAL 7033



RAL 7034



RAL 7024



RAL 7015



RAL 7026



RAL 7009



RAL 7006



RAL 7002



RAL 7003



RAL 7005

RAL COLOR FINISHES

Available in all RAL colors.
The color renderings are only indicative.

painting

ral color finishes



RAL 6034



RAL 6033



RAL 6026



RAL 6028



RAL 6020



RAL 6011



RAL 6012



RAL 6009



RAL 8019



RAL 5019



RAL 5014



RAL 5024



RAL 5008



RAL 5011



RAL 5004



RAL 5000



RAL 8004



RAL 3031



RAL 3011



RAL 8025



RAL 3004



RAL 3005



RAL 3007



RAL 3009



RAL 8015



RAL 1001



RAL 1002



RAL 1011

FINISHES CASE





GALVANIZED STEEL FEATURES

3. GALVANIZED STEEL LIQUID PAINTED LIMITED PRODUCT WARRANTY

Brombal warrants that the galvanized steel windows and related trim will be free from manufacturing defects, as more specifically set forth below.

a. FINISH:

- i. Standard finish (Available for project located over 3 miles from the coast)
 - Textured finish
 - Any other paint finish will be liquid
- ii. Coastal finish (Required for any project less than 3 miles from the coast)

b. FINISH WARRANTY

- i. Is warranted to be free from defects in materials and workmanship under normal conditions of use, ordinary wear and tear excepted, for a period of ten (10) years from the date of substantial completion (shipping date from the factory). If during the warranty period Brombal determines, in its sole discretion, that any material or individual system/frame requires excessive maintenance or repair, such material or individual system/frame shall be repaired by Brombal at no cost to Buyer. If replacement of frames is necessary, installation or labor for the replacement of frames is not included as well as any other related cost.
- ii. The limited warranty set forth in the preceding paragraph b(i) is limited to defects arising from rusting of the window frame, chalking or other coating failure under ordinary use. This limited warranty shall not cover any rusting, chalking, coating damage and/or other damage caused by misuse, damage, negligence, lack of maintenance or any other act or omission by Buyer or any third party.
- iii. The coating color may slightly change shades of color in the long period due to weather conditions such as direct exposure to sunshine or continuous water dripping. The warranty will not cover these slight color variations.

Coastal liquid paint finish is required within 3 miles of the coastline in order for warranty to be valid.

c. FRAMES (EXCLUDING THE FINISH):

Frames are warranted to be free from defects in materials and workmanship under normal conditions of use, ordinary wear and tear excepted, for a period of fifteen (15) years from the date of substantial completion (shipping date from the factory). If during the warranty period Brombal determines, in its sole discretion, that any material or system requires excessive maintenance or repair, such material or system shall be replaced or repaired by Brombal at no cost to Buyer. If replacement of frames is necessary, installation or labor for the repair is not included as well as any other cost. This limited express warranty does not extend to accessories, glass, and hardware. The warranty set forth in this Section shall not be valid for any goods located in coastal climates (i.e., any area within 3 miles of the coastline) and badly polluted/industrial areas, if the coastal paint finish is not applied.

d. HARDWARE:

Hardware and any mechanical accessories provided by Brombal are warranted to be free from defects in materials and workmanship under normal conditions of use, ordinary wear and tear excepted, for two (2) years from date of delivery excluding shipping or mishandling damage caused by others, improper use, incorrect installation or circumstances beyond Brombal's control. If during the warranty period Brombal determines, in its sole discretion, that any hardware requires excessive maintenance or repair, such hardware shall be replaced by Brombal at no cost to Buyer. Installation or labor for the repair is not included as well as any other related costs.

GALVANIZED STEEL FEATURES

e. EXCLUSION OF WARRANTY:

This limited express warranty is fully conditional upon Buyer strictly adhering to the maintenance requirements attached hereto (the "maintenance requirements").

Failure to comply with such maintenance requirements will result in all warranties being null and void. Brombal reserves the right to determine, in its sole discretion, whether or not Buyer has adhered to the maintenance requirements and may, but shall not be required to have a technician inspect the products in connection with such determination. Brombal's determination shall be final and binding.

f. MISCELLANEOUS:

- i. Brombal can provide performance evaluations on standard product sizes/types. It is the responsibility of the Client to communicate any product performance requirements which are in excess to Brombal's standard performance. Brombal will determine if it can warranty non-standard size/type units. If Brombal cannot provide or meet the requested performance then a note on the shop drawings will indicate the unit in question is not warrantied.
- ii. This limited warranty does not extend to any defects, failures, losses or damages due to misuse or improper use or operation, including but not limited to any operation beyond rated capacity, use of the goods not in compliance with service manuals and instructions, labels or warnings, or due to or use of the goods by untrained or unqualified persons; substitution of parts or other alteration or modification carried out without Brombal's prior written consent; repairs carried out by Buyer or third parties which in Brombal's judgment adversely affect the goods; erosion; corrosion; accident; abuse; neglect; normal wear and tear; negligence (other than Brombal's); or faulty or improper installation, or lack of maintaining the product. This limited warranty also does not apply to defects or issues arising from material or product provided or modified by the Buyer. To the extent that Buyer or its agents have supplied specifications, information, representation of operating conditions or other data to Brombal or its distributor in the selection or design of the goods and the preparation of the quotation, and in the event that actual operating conditions or other conditions differ from those represented by Buyer, any warranties or other provisions contained herein which are affected by such conditions shall be null and void.
- iii. Any claim by Buyer for breach of the manufacturer's limited warranty must be made in writing and sent to Brombal within the warranty periods specified above. The writing shall contain sufficient detail to permit identification of the defect. If not made within said warranty periods, such claim shall be conclusively deemed to have been waived.
- iv. Upon receiving Buyer's notice of defect, Brombal shall, at its option, repair or replace the goods (or parts thereof). Buyer shall also be responsible for the cost of travel for any Brombal personnel required at the Buyer's premises. The cost of service for any work not covered under this limited warranty shall be as agreed in writing by Buyer and Brombal. Failure by Buyer to give such written notice of defect within the applicable time period shall be deemed an absolute and unconditional waiver of Buyer's claim for such defects. Goods repaired or replaced during the warranty period shall be covered only by the foregoing warranty for the remainder of the original warranty period. The original warranty period shall not be extended. Notwithstanding the provisions contained in the preceding sentences of this paragraph, Buyer shall be deemed to have accepted the goods and absolutely and unconditionally waived their rights to claim for any defects: if the goods are otherwise used or altered in any way.
- v. Warranty services will be provided by the Client who contracted with Brombal. It is the responsibility of the Client to facilitate ordering the replacement parts and provide assistance in the field to make the necessary repairs.
- vi. Attached are the Maintenance Requirements.

We make no other express or implied representation or warranty of any kind regarding the product.

In particular we assume no responsibility for improper usage, failure of the product due to faulty installation or building construction or design, improper handling or failure to follow instructions regarding the product or not protecting the product prior to or during installation/construction.

GALVANIZED STEEL FEATURES

4. MAINTENANCE REQUIREMENTS

a. INSTALLATION AND HANDLING

Upon receiving the frames, compliance with the points listed below are essential during handling of the frames (transportation from the crate to its placement location, temporary protection while handling the frames for installation) responsibility prior to the installation, up to the final inspection and acceptance.

These requirements may be summed up as follows:

- avoid leaving the frames crated/packaged for a long time in a closed and damp environment;
 - avoid all direct contact of the material with seawater or with materials or any type of acidic solution that could generate a galvanic reaction;
 - avoid all direct contact with mortar or plaster/gypsum: if these materials contact the surface of the frame the affected surface must be washed immediately with water to remove these contaminants;
 - avoid application of any adhesive material that could cause damage (labels, temporary protection, tape, etc) on the pre-treated surfaces;
 - avoid all direct contact of pre-treated surfaces with other materials (wooden- boards, cement, etc);
 - all packaging material must be removed from the surface of the frames if they are left in the sun;
 - frames must be protected from dust and debris once they are removed from the crates, during construction, through completion of the project.
- From the goods off-loading until the final inspection and acceptance, the goods are the responsibility of Brombal's Client.

b. MAINTENANCE OF FRAME SURFACES

Never use aggressive detergents or steel wool for cleaning, only mild liquids: in any case it is inadvisable to leave too much liquid on the surface of the section since it could promote further oxidation and damage. Non-alkaline detergent and warm water may be safely applied using a soft clean cloth or sponge or nothing harsher than a soft bristle brush or non-abrasive nylon pad. If there is any doubt test the cleaning on an unobtrusive area of the surface. This cleaner should be in the same concentration and be applied in the manner intended for the job. It should not remain in place so that it dries, after which the area should be inspected for stains or for softening or dissolution of the finish.

c. FREQUENCY OF CLEANING

Regardless of the material the frames are built in, the accumulation of atmospheric grime makes it necessary to clean the surface regularly to maintain its appearance.

For galvanized liquid painted frames, which are located in relatively clean rural locations, it is required that cleaning be carried out at least twice per year (once every 6 months) or more frequently depending upon the possibility of contaminants which would cause damage to the finish frames for coastal environments.

Within 3 miles of the coast, cleaning should occur as often as needed (but no less than 6 times per year) to prevent salt deposit or any corrosive build-up that could damage frames/finish or hardware. Each environment is different, so frequency will vary.

Providing the required frequency is maintained it should never be necessary to use strong or harsh cleaners, which are more aggressive than non-alkaline detergents. If stronger cleaners are applied, be sure to remove any residue and rinse with clear water, then wipe dry immediately. If cleaning is carried out less frequently than required, the surface cannot be restored with the occasional use of more aggressive cleaners. Such cleaners could damage the finish, the metal, the glazing and sealing systems and even the glass: therefore, such practices should be avoided. Contact a Brombal representative before applying any cleaners stronger than non-alkaline detergent. The periodical cleaning must be done by a qualified company and the receipts must be preserved and show frames, hardware, and glass where cleaned properly. Maintaining frames and hardware in coastal environments must begin after the units have been installed (during construction).

5. SEALANTS

Silicone Sealants generally have a life expectancy in excess of 25 years provided they are applied in accordance with sealant manufacturer's instructions. They are maintenance free and should not be painted. An inspection of visible sealant joints should be made after two years and thereafter every five years. Should a seal deteriorate or suffer a lack of adhesion, it should be cut out and replaced with fresh application.

COR-TEN STEEL FEATURES

3. WINDOW AND DOOR FRAME PARTS

a. THE MATERIAL

The sections are obtained from high-tensile and self-passivating Cor-Ten Steel strips that are cold rolled to a thickness of 1.5 mm. The technical name given to this material, in accordance with UNI EN 10149, is Fe510X, which identifies a material having the following specifications:

Chemical Composition:

C		max 0.12 %
Si	min 0.25 %	max 0.75 %
Mn	min 0.20 %	max 0.50 %
P	min 0.07 %	max 0.15 %
Cu	min 0.25 %	max 0.55%
Cr	min 0.30 %	max 1.25 %
Ni		max 0.65 %



Physical properties:

Ultimate tensile strength: min 420 N/mm - max 490 N/mm

Dimensional characteristics: 0.1 mm on thickness

b. FINISHING PROCESS

After forming, and on request, the sections or finished products are put into special oxidizing baths to accelerate formation of the protective patina. Upon reaching the required surface color, the products then undergo passivation to stabilize the material, followed by application of beeswax to seal and protect the finish. This cycle pre-oxidizes the Cor-Ten steel, but does not guarantee that the protective patina is fully stabilized, since this depends solely on the harshness of the environment in which the finished product is installed. It is therefore necessary to take suitable precautions to avoid run-off onto surfaces near the finished product (see Paragraph 3, section 2).

The Cor-Ten, being a natural material, over time can have different colors and variations in tones even within 1 ft².

c. FITTINGS

The metal fittings for Cor-Ten steel frames have been appropriately designed to prevent a galvanic cell forming between dissimilar metals, with consequent corrosion of the less noble material on the galvanic scale. Direct contact between Cor-Ten Steel and zama (Zn+Al+Mg alloy) in particular must be avoided, since it could lead to spots of possible corrosion of the actual fitting. That is why the metal fittings and accessories used to assemble the frames must be in stainless steel, brass or galvanized steel/painted aluminum so that they are electrically isolated. The gaskets and seals are made from highly flexible vulcanized rubber mixes (EPDM), which guarantee longlasting qualities in terms of dimensions and flexibility, even when subject to deterioration due to aging and thermal shock.

4. COR-TEN LIMITED PRODUCT WARRANTY

Brombal warrants that the Cor-Ten windows and related trim will be free from manufacturing defects.

a. FINISH WARRANTY

Brombal provides no warranty for the finish of its Cor-Ten frames. Because of the natural characteristics of Cor-Ten, it will naturally oxidize to a dark reddish-brown patina with exposure to the environment and will have variations in the finish color and tones. A light application of beeswax may be applied to help slow the oxidation process if desired. Please note that Cor-Ten Steel can have run off which can cause staining of surrounding surfaces. For this reason, especially on coastal climates (i.e., any area within 3 miles of the coastline), it is highly recommended to create a drainage system below the frames in order to control any unwanted effects from oxidation.

COR-TEN STEEL FEATURES

b. FRAMES (EXCLUDING THE FINISH):

Frames are warranted to be free from defects in materials and workmanship under normal conditions of use, ordinary wear and tear excepted, for a period of fifteen (15) years from the date of substantial completion (shipping date from the factory). If during the warranty period Brombal determines, in its sole discretion, that any material or system requires excessive maintenance or repair, such material or system shall be replaced or repaired by Brombal at no cost to Buyer. If replacement of frames is necessary, installation or labor for the repair is not included as well as any other cost. This limited express warranty does not extend to accessories, glass, and hardware.

c. HARDWARE:

Hardware and any mechanical accessories provided by Brombal are warranted to be free from defects in materials and workmanship under normal conditions of use, ordinary wear and tear excepted, for two (2) years from date of delivery excluding shipping or mishandling damage caused by others, improper use, incorrect installation or circumstances beyond Brombal's control. If during the warranty period Brombal determines, in its sole discretion, that any hardware requires excessive maintenance or repair, such hardware shall be replaced by Brombal at no cost to Buyer. Installation or labor for the repair is not included as well as any other related costs.

d. EXCLUSION OF WARRANTY:

This limited express warranty is fully conditional upon Buyer strictly adhering to the maintenance requirements attached hereto (the "maintenance requirements").

Failure to comply with such maintenance requirements will result in all warranties being null and void. Brombal reserves the right to determine, in its sole discretion, whether or not Buyer has adhered to the maintenance requirements and may, but shall not be required to, have a technician inspect the products in connection with such determination. Brombal's determination shall be final and binding.

e. MISCELLANEOUS:

- i. Brombal can provide performance evaluations on standard product sizes/types. It is the responsibility of the Client to communicate any product performance requirements which are in excess to Brombal's standard performance. Brombal will determine if they can warranty non-standard size/type units. If Brombal cannot provide or meet the requested performance then a note on the shop drawings will indicate the unit in question is not warrantied.
- ii. This limited warranty does not extend to any defects, failures, losses or damages due to misuse or improper use or operation, including but not limited to any operation beyond rated capacity, use of the goods not in compliance with service manuals and instructions, labels or warnings, or due to or use of the goods by untrained or unqualified persons; substitution of parts or other alteration or modification carried out without Brombal's prior written consent; repairs carried out by Buyer or third parties which in Brombal's judgment adversely affect the goods; erosion; corrosion; accident; abuse; neglect; normal wear and tear; negligence (other than Brombal's); or faulty or improper installation, or lack of maintaining the product. This limited warranty also does not apply to defects or issue arising from material or product provided or modified by the Buyer. To the extent that Buyer or its agents have supplied specifications, information, representation of operating conditions or other data to Brombal or its distributor in the selection or design of the goods and the preparation of the quotation, and in the event that actual operating conditions or other conditions differ from those represented by Buyer, any warranties or other provisions contained herein which are affected by such conditions shall be null and void.
- iii. Any claim by Buyer for breach of the manufacturer's limited warranty must be made in writing and sent to Brombal within the warranty periods specified above. The writing shall contain sufficient detail to permit identification of the defect. If not made within said warranty periods, such claim shall be conclusively deemed to have been waived.
- iv. Upon receiving Buyer's notice of defect, Brombal shall, at its option, repair or replace the goods (or parts thereof). Buyer shall also be responsible for the cost of travel for any Brombal personnel required at the Buyer's premises. The cost of service for any work not covered under this limited warranty shall be as agreed in writing by Buyer and Brombal. Failure by Buyer to give such written notice of defect within the applicable time period shall be deemed an absolute and unconditional waiver of Buyer's claim for such defects. Goods repaired or replaced during the warranty period shall be covered only by the foregoing warranty for the remainder of the original warranty period.

COR-TEN STEEL FEATURES

The original warranty period shall not be extended. Notwithstanding the provisions contained in the preceding sentences of this paragraph, Buyer shall be deemed to have accepted the goods and absolutely and unconditionally waived their rights to claim for any defects: if the goods are otherwise used or altered in any way.

- v. Warranty services will be provided by the Client who contracted with Brombal. It is the responsibility of the Client to facilitate ordering the replacement parts and provide assistance in the field to make the necessary repairs.
- vi. Attached are the Maintenance Requirements.

We make no other express or implied representation or warranty of any kind regarding the product.

In particular we assume no responsibility for improper usage, failure of the product due to faulty installation or building construction or design, improper handling or failure to follow instructions regarding the product or not protecting the product prior to or during installation/construction.

5. MAINTENANCE REQUIREMENTS

a. INSTALLATION AND HANDLING

Upon receiving the frames, compliance with the points listed below are essential during handling of the frames (transportation from the crate to its placement location, temporary protection while handling the frames for installation) responsibility prior to the installation, up to the final inspection and acceptance.

These requirements may be summed up as follows:

- avoid leaving the frames crated/packaged for a long time in a closed and damp environment;
 - avoid all direct contact of the material with seawater or with materials or any type of acidic solution that could generate a galvanic reaction;
 - avoid all direct contact with mortar or plaster/gypsum: if these materials contact the surface of the frame the affected surface must be washed immediately with water to remove these contaminants;
 - avoid application of any adhesive material that could cause damage (labels, temporary protection, tape, etc) on the pre-treated surfaces;
 - avoid all direct contact of pre-treated surfaces with other materials (wooden- boards, cement, etc);
 - all packaging material must be removed from the surface of the frames if they are left in the sun;
 - frames must be protected from dust and debris once they are removed from the crates, during construction, through completion of the project.
- From the goods off-loading until the final inspection and acceptance, the goods are the responsibility of Brombal's Client.

b. MAINTENANCE OF FRAME SURFACES

The considerable resistance of Cor-Ten Steel to environmental corrosive agents means that the frames have a practically unlimited life and require little maintenance: all that is needed is periodic cleaning with a soft cloth soaked in water and the application of a layer of natural beeswax (contact a Brombal representative) for Cor-Ten Steel. Under no circumstances use acid solutions, which could ruin the surface of the section. The use of common detergents may also result in the removal of the protective patina which can result in oxidation. Never use detergents or steel wool for cleaning; in any case it is inadvisable to leave too much liquid on the surface of the section since it could promote further oxidation to the detriment of the protective action.

c. FREQUENCY OF CLEANING

Atmospheric grime makes it necessary to clean the surface as needed to maintain a desired appearance.

For Cor-Ten frames located in relatively clean rural locations, it is recommended that beeswax be applied once per year. If the location is within 3 miles from the coastline or the location is badly polluted (for example it is close to industrial areas), cleaning and beeswax coating should be carried out 4 times per year (once every 3 months).

Provided the required cleaning frequency is maintained, it should never be necessary to use strong or harsh cleaners which are more aggressive than non-alkaline detergents. Stronger cleaners could damage the finish, the metal, the glazing and sealing systems and even the glass; therefore, such practices should be avoided. Contact a Brombal representative before applying any cleaners stronger than non-alkaline detergent.

STAINLESS STEEL FEATURES

3. WINDOW AND DOOR FRAME PARTS

a. THE MATERIAL

Chemical Composition:

C	0.03%
Si	1.00%
Mn	2.00%
Pmax	0.04%
S	0.03%
N	0.11%
Cr	16.5 - 18.5%
Ni	8.0 – 10.5 %



Physical properties:

Ultimate tensile strength: AISI 316L

Min. 530 N/mm – Max 680 N/mm

b. FITTINGS

The metal accessories used for Stainless Steel windows and doors are designed carefully to avoid the phenomenon of “galvanic reaction” between dissimilar metals, which may cause corrosion of the less noble metal. All the accessories required are stainless steel. Plastic accessory components are adequate for use. The excellent corrosion resistance given by stainless steel alloy allows the use of standard accessories without deterioration concerns. The screws must be stainless steel; the use of nickel-plated/galvanized steel screws is not acceptable as they will corrode over time.

4. STAINLESS STEEL LIMITED PRODUCT WARRANTY

Brombal warrants that the Stainless Steel windows and related trim will be free from manufacturing defects.

a. Finish

- i. Raw material
 - Scotch Brite, Polished, and Mirror (if required) are not warranted because they are raw exposed finishes.
- ii. Paint coating finish
 - Is warranted to be free from defects in materials and workmanship under normal conditions of use, ordinary wear and tear excepted, for a period of fifteen (15) years from the date of substantial completion (shipping date from the factory). If during the warranty period Brombal determines, in its sole discretion, that any material or individual system/frame requires excessive maintenance or repair, such material or individual system/frame shall be repaired by Brombal at no cost to Buyer. If replacement of frames is necessary, installation or labor for the replacement of frames is not included as well as any other related cost.
 - The coating color may slightly change shades of color in the long period due to weather conditions such as direct exposure to sunshine or continuous water dripping. The warranty will not cover these slight color variations.
- iii. Burnished stainless steel finish
 - Burnished stainless steel is applied by a chemical process altering the surface composition of the metal. Color retention and consistency will vary because it is an unprotected artisan application and depending upon the environment, changes to the patina will occur. This is outside of Brombal's control and no warranty is offered.

STAINLESS STEEL FEATURES

b. FRAMES (EXCLUDING THE FINISH):

Frames are warranted to be free from defects in materials and workmanship under normal conditions of use, ordinary wear and tear excepted, for a period of fifteen (15) years from the date of substantial completion (shipping date from the factory). If during the warranty period Brombal determines, in its sole discretion, that any material or system requires excessive maintenance or repair, such material or system shall be replaced or repaired by Brombal at no cost to Buyer. If replacement of frames is necessary, installation or labor for the repair is not included as well as any other cost. This limited express warranty does not extend to accessories, glass, and hardware.

c. HARDWARE:

Hardware and any mechanical accessories provided by Brombal are warranted to be free from defects in materials and workmanship under normal conditions of use, ordinary wear and tear excepted, for two (2) years from date of delivery excluding shipping or mishandling damage caused by others, improper use, incorrect installation or circumstances beyond Brombal's control. If during the warranty period Brombal determines, in its sole discretion, that any hardware requires excessive maintenance or repair, such hardware shall be replaced by Brombal at no cost to Buyer. Installation or labor for the repair is not included as well as any other related costs.

d. EXCLUSION OF WARRANTY:

This limited express warranty is fully conditional upon Buyer strictly adhering to the maintenance requirements attached here to (the "maintenance requirements").

Failure to comply with such maintenance requirements will result in all warranties being null and void. Brombal reserves the right to determine, in its sole discretion, whether or not Buyer has adhered to the maintenance requirements and may, but shall not be required to, have a technician inspect the products in connection with such determination. Brombal's determination shall be final and binding.

e. MISCELLANEOUS:

- i. Brombal can provide performance evaluations on standard product sizes/types. It is the responsibility of the Client to communicate any product performance requirements which are in excess to Brombal's standard performance. Brombal will determine if they can warranty non-standard size/type units. If Brombal cannot provide or meet the requested performance then a note on the shop drawings will indicate the unit in question is not warrantied.
- ii. This limited warranty does not extend to any defects, failures, losses or damages due to misuse or improper use or operation, including but not limited to any operation beyond rated capacity, use of the goods not in compliance with service manuals and instructions, labels or warnings, or due to or use of the goods by untrained or unqualified persons; substitution of parts or other alteration or modification carried out without Brombal's prior written consent; repairs carried out by Buyer or third parties which in Brombal's judgment adversely affect the goods; erosion; corrosion; accident; abuse; neglect; normal wear and tear; negligence (other than Brombal's); or faulty or improper installation, or lack of maintaining the product. This limited warranty also does not apply to defects or issues arising from material or product provided or modified by the Buyer. To the extent that Buyer or its agents have supplied specifications, information, representation of operating conditions or other data to Brombal or its distributor in the selection or design of the goods and the preparation of the quotation, and in the event that actual operating conditions or other conditions differ from those represented by Buyer, any warranties or other provisions contained herein which are affected by such conditions shall be null and void.
- iii. Any claim by Buyer for breach of the manufacturer's limited warranty must be made in writing and sent to Brombal within the warranty periods specified above. The writing shall contain sufficient detail to permit identification of the defect. If not made within said warranty periods, such claim shall be conclusively deemed to have been waived.
- iv. Upon receiving Buyer's notice of defect, Brombal shall, at its option, repair or replace the goods (or parts thereof). Buyer shall be responsible for the cost of travel for any Brombal personnel required at the Buyer's premises. The cost of service for any work not covered under this limited warranty shall be as agreed in writing by Buyer and Brombal. Failure by Buyer to give such written notice of defect within the applicable time period shall be deemed an absolute and unconditional waiver of Buyer's claim for such defects.

STAINLESS STEEL FEATURES

Goods repaired or replaced during the warranty period shall be covered only by the foregoing warranty for the remainder of the original warranty period. The original warranty period shall not be extended. Notwithstanding the provisions contained in the preceding sentences of this paragraph, Buyer shall be deemed to have accepted the goods and absolutely and unconditionally waived their rights to claim for any defects: if the goods are otherwise used or altered in any way.

- v. Warranty services will be provided by the Client who contracted with Brombal. It is the responsibility of the Client to facilitate ordering the replacement parts and provide assistance in the field to make the necessary repairs.
- vi. Attached are the Maintenance Requirements.

We make no other express or implied representation or warranty of any kind regarding the product.

In particular we assume no responsibility for improper usage, failure of the product due to faulty installation or building construction or design, improper handling or failure to follow instructions regarding the product or not protecting the product prior to or during installation/construction.

5. MAINTENANCE REQUIREMENTS

a. INSTALLATION AND HANDLING

Upon receiving the frames, compliance with the points listed below are essential during handling of the frames (transportation from the crate to its placement location, temporary protection while handling the frames for installation) responsibility prior to the installation, up to the final inspection and acceptance.

These requirements may be summed up as follows:

- avoid leaving the frames crated/packaged for a long time in a closed and damp environment;
- avoid all direct contact of the material with seawater or with materials or any type of acidic solution that could generate a galvanic reaction;
- avoid all direct contact with mortar or plaster/gypsum: if these materials contact the surface of the frame the affected surface must be washed immediately with water to remove these contaminants;
- avoid application of any adhesive material that could cause damage (labels, temporary protection, tape, etc) on the pre-treated surfaces;
- avoid all direct contact of pre-treated surfaces with other materials (wooden- boards, cement, etc);
- all packaging material must be removed from the surface of the frames if they are left in the sun;
- frames must be protected from dust and debris once they are removed from the crates, during construction, through completion of the project.

From the goods off-loading until the final inspection and acceptance, the goods are the responsibility of Brombal' s Client.

b. MAINTENANCE OF FRAME SURFACES

Thanks to the high resistance of the alloy Stainless Steel to the environmental corrosive agents, Stainless Steel windows and doors are require very little maintenance unless near the coast. To clean the profile, use the stainless steel cleaning kit provided by Brombal (additional kits can be purchase by contacting your Brombal representative). The kits consist of a three-part cleaning process using prepackaged cleaning pads. The first pad (Tecnodisox) used to remove dirt and surface contaminants, the second pad (Tecnoneutral) rinses the frame, the third pad (Tecnopass) reapplies the passivation. We recommend avoiding any other solutions (detergents or steel wool), which might ruin the surface of the profile.

c. FREQUENCY OF CLEANING

Regardless of the material the frames are built in, the accumulation of atmospheric grime makes it necessary to clean the surface regularly to maintain its appearance.

For Stainless Steel AISI 316L frames, which are located in relatively clean rural locations, it is required that cleaning be carried out at least twice per year (once every 6 months) or more frequently depending upon the possibility of contaminants which would cause damage to the finish and frames.

For Stainless Steel AISI 316L frames located within 3 miles from the coastline or if the location is badly polluted (for example it is close to industrial areas), cleaning should occur as often as needed (but no less than 6 times per year) to prevent salt deposit or any corrosive build-up that could damage frames/finish or hardware. Each environment is different, so frequency will vary.

Contact a Brombal representative before applying any cleaners stronger than non-alkaline detergent.

BRASS FEATURES

4. BURNISHED BRASS LIMITED PRODUCT WARRANTY

Brombal warrants that the Brass windows and related trim will be free from manufacturing defects, as more specifically set forth below.

a. FINISH

Brombal provides no warranty for the finish of its Burnished Brass frames. Because of the natural characteristics of brass, it will naturally oxidize to a dark brown color with exposure to the environment and may have a variation in the patina that can change over time or be inconsistent from one frame section to the other. Custom finishes may react differently to various environments and the patina can change. A light application of beeswax may be applied to help slow the oxidation process if desired.

The chemical phenomenon known as "dezincification" (copper deposit and loss of zinc) may occur in the presence of sodium chloride (marine areas) and create a Verderame patina (green color).

b. FRAMES (EXCLUDING THE FINISH):

Frames are warranted to be free from defects in materials and workmanship under normal conditions of use, ordinary wear and tear excepted, for a period of fifteen (15) years from the date of substantial completion (shipping date from the factory). If during the warranty period Brombal determines, in its sole discretion, that any material or system requires excessive maintenance or repair, such material or system shall be replaced or repaired by Brombal at no cost to Buyer. If replacement of frames is necessary, installation or labor for the repair is not included as well as any other cost. This limited express warranty does not extend to accessories, glass, and hardware.

c. HARDWARE:

Hardware and any mechanical accessories provided by Brombal are warranted to be free from defects in materials and workmanship under normal conditions of use, ordinary wear and tear excepted, for two (2) years from date of delivery excluding shipping or mishandling damage caused by others, improper use, incorrect installation or circumstances beyond Brombal's control. If during the warranty period Brombal determines, in its sole discretion, that any hardware requires excessive maintenance or repair, such hardware shall be replaced by Brombal at no cost to Buyer. Installation or labor for the repair is not included as well as any other related costs.

d. EXCLUSION OF WARRANTY:

This limited express warranty is fully conditional upon Buyer strictly adhering to the maintenance requirements attached hereto (the "maintenance requirements").

Failure to comply with such maintenance requirements will result in all warranties being null and void. Brombal reserves the right to determine, in its sole discretion, whether or not Buyer has adhered to the maintenance requirements and may, but shall not be required to, have a technician inspect the products in connection with such determination. Brombal's determination shall be final and binding.

e. MISCELLANEOUS:

- i. Brombal can provide performance evaluations on standard product sizes/types. It is the responsibility of the Client to communicate any product performance requirements which are in excess to Brombal's standard performance. Brombal will determine if they can warranty non-standard size/type units. If Brombal cannot provide or meet the requested performance then a note on the shop drawings will indicate the unit in question is not warrantied.
- ii. This limited warranty does not extend to any defects, failures, losses or damages due to misuse or improper use or operation, including but not limited to any operation beyond rated capacity, use of the goods not in compliance with service manuals and instructions, labels or warnings, or due to or use of the goods by untrained or unqualified persons; substitution of parts or other alteration or modification carried out without Brombal's prior written consent; repairs carried out by Buyer or third parties which in Brombal's judgment adversely affect the goods; erosion; corrosion; accident; abuse; neglect; normal wear and tear; negligence (other than Brombal's); or faulty or improper installation, or lack of maintaining the product. This limited warranty also does not apply to defects or issues arising from material or product provided or modified by the Buyer. To the extent that Buyer or its agents have supplied specifications, information, representation of operating conditions or other data to Brombal or its distributor in the selection or design of the goods and the preparation of the quotation, and in the event that actual operating conditions or other conditions differ from those represented by Buyer, any warranties or other provisions contained herein which are affected by such conditions shall be null and void.

BRASS FEATURES

- iii. Any claim by Buyer for breach of the manufacturer's limited warranty must be made in writing and sent to Brombal within the warranty periods specified above. The writing shall contain sufficient detail to permit identification of the defect. If not made within said warranty periods, such claim shall be conclusively deemed to have been waived.
- iv. Upon receiving Buyer's notice of defect, Brombal shall, at its option, repair or replace the goods (or parts thereof). Buyer shall also be responsible for the cost of travel for any Brombal personnel required at the Buyer's premises. The cost of service for any work not covered under this limited warranty shall be as agreed in writing by Buyer and Brombal. Failure by Buyer to give such written notice of defect within the applicable time period shall be deemed an absolute and unconditional waiver of Buyer's claim for such defects. Goods repaired or replaced during the warranty period shall be covered only by the foregoing warranty for the remainder of the original warranty period. The original warranty period shall not be extended. Notwithstanding the provisions contained in the preceding sentences of this paragraph, Buyer shall be deemed to have accepted the goods and absolutely and unconditionally waived their rights to claim for any defects: if the goods are otherwise used or altered in any way.
- v. Warranty services will be provided by the Client who contracted with Brombal. It is the responsibility of the Client to facilitate ordering the replacement parts and provide assistance in the field to make the necessary repairs.
- vi. Attached are the Maintenance Requirements.

We make no other express or implied representation or warranty of any kind regarding the product.

In particular we assume no responsibility for improper usage, failure of the product due to faulty installation or building construction or design, improper handling or failure to follow instructions regarding the product or not protecting the product prior to or during installation/construction.

5. MAINTENANCE REQUIREMENTS

a. INSTALLATION AND HANDLING

Upon receiving the frames, compliance with the points listed below are essential during handling of the frames (transportation from the crate to its placement location, temporary protection while handling the frames for installation) responsibility prior to the installation, up to the final inspection and acceptance. These requirements may be summed up as follows:

- avoid leaving the frames crated/packaged for a long time in a closed and damp environment;
- avoid all direct contact of the material with seawater or with materials or any type of acidic solution that could generate a galvanic reaction;
- avoid all direct contact with mortar or plaster/gypsum: if these materials contact the surface of the frame the affected surface must be washed immediately with water to remove these contaminants;
- avoid application of any adhesive material that could cause damage (labels, temporary protection, tape, etc) on the pre-treated surfaces;
- avoid all direct contact of pre-treated surfaces with other materials (wooden- boards, cement, etc);
- all packaging material must be removed from the surface of the frames if they are left in the sun;
- frames must be protected from dust and debris once they are removed from the crates, during construction, through completion of the project.
- When handling the frames, gloves should be used so that oil from your fingers does not leave marks on the surface.

From the goods off-loading until the final inspection and acceptance, the goods are the responsibility of Brombal' s Client.

b. MAINTENANCE OF FRAME SURFACES

Thanks to the high resistance of the alloy OT67 in all environments, burnished brass windows and doors require very little maintenance.

In any case, never use detergents or steel wool for cleaning, only mild liquids: it is inadvisable to leave too much liquid on the surface of the section since it could promote further oxidation. The cleaning should be carried out with a cotton towel using a mild solution of water and mild detergent (pH between 5 and 8) followed by a thorough rinsing with clean water and drying. Some solvents, alkaline or acid, can degrade the coatings. Before using any type of chemical make sure it is suitable for the finishing in question. We recommend avoiding the use of any acidic solutions, which might ruin the surface/patina of the profile. Also, the use of common detergents may remove the patina. An application of factory-approved oil and beeswax may be applied to the surface if desired.

BRASS FEATURES

c. FREQUENCY OF CLEANING

Regardless of the material the frames are built in, the accumulation of atmospheric grime makes it necessary to clean the surface regularly to maintain its appearance. For brass frames located in relatively clean rural locations, it is suggested that cleaning be carried out once per year. If the location is within 3 miles from the coastline or the location is badly polluted (for example it is close to industrial areas), cleaning should be carried out as often as the Client desires considering the effect the environment has on the oxidation/patina. We recommend cleaning once every 3 months.

Provided the required frequency is maintained, it should never be necessary to use strong or harsh cleaners which are more aggressive than non-alkaline detergents. If stronger cleaners are applied be sure to remove any residue and rinse with clear water, then wipe dry immediately. If cleaning is carried out less frequently than required, the surface cannot be restored with the occasional use of more aggressive cleaners. Such cleaners could damage the finish, the metal, the glazing and sealing systems and even the glass: therefore, such practices should be avoided. Contact a Brombal representative before applying any cleaners stronger than non-alkaline detergent.

6. SEALANTS

Silicone Sealants generally have a life expectancy in excess of 25 years provided they are applied in accordance with sealant manufacturer's instructions. They are maintenance free and should not be painted. An inspection of visible sealant joints should be made after two years and thereafter every five years. Should a seal deteriorate or suffer a lack of adhesion, it should be cut out and replaced with fresh application.

7. MAINTENANCE OF FITTINGS

Internal mechanisms should be cleaned with a solution of non-alkaline detergent and warm water. This can be conveniently done at the same time and frequency as the cleaning of the frames and glass. To maintain operating efficiency, a year after installation and thereafter annually, lubricate all moving parts of hinges, locking mechanisms, restricting arms and safety catches with WD40 or similar lubricant, unless there is an obvious requirement for friction when adjustment, as required, should be made in lieu of lubrication. Also check fitting attachment screws for tightness and adjust as necessary.

Weather-strips should be periodically inspected for integrity and replaced as necessary; they should never be painted.

8. REPAIRS TO SURFACE

Brass, Stainless Steel and Cor-Ten are natural materials with peculiar finishes; minor scratches or slight damage to touch up is very difficult. Please contact us to see if touch up is possible on these products. Stainless Steel is a natural material and touch up is not possible.

9. REPLACEMENTS

For replacements of damaged or broken fittings and weather-strips, write to the address below:

Brombal srl - Via Vallà, 24 - 31030 Altivole (TV) Italy - info@brombal.it

FOR ALL MATERIALS: STEEL WOOL, STRONG ACIDS & ALKALIS AND ABRASIVE CLEANERS SHOULD NEVER BE USED



Discover freedom to create.

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