BORNA SANAAT

FIRE DOORS
STEEL DOORS

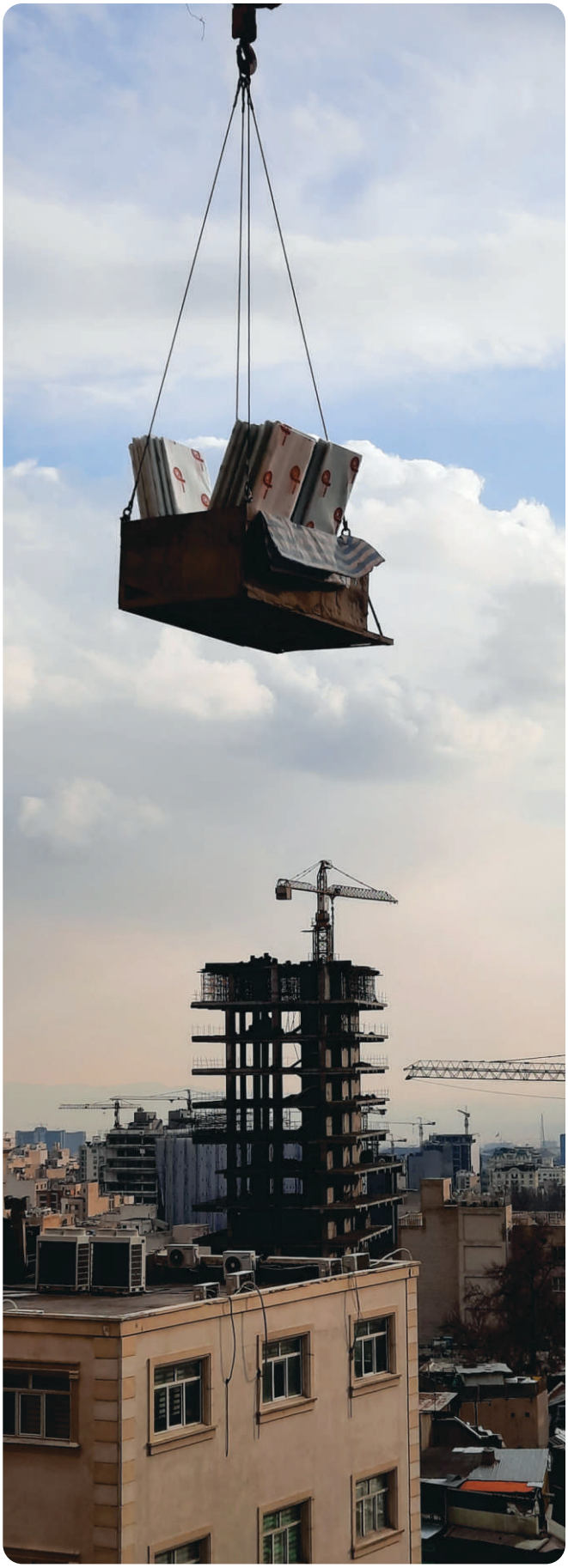
www.bornasanatco.ir

Introduction

Borna is one of the leading producers of fire-rated doors, hospital doors and interior doors in Iran. The company's most distinguishing features are familiarity with the standards and optimal quality-price offers as well as analyzing the clients' needs and their projects in order to offer the most suitable products. Regarding the hospital and interior doors, the most distinguishing feature is that they are environmentally-friendly since no part of the door is made of wood and yet the doors are much more effective and sustainable compared to wooden or plywood. Over the years, Borna has gained concrete experiences in construction and it can generously provide the clients with these experiences in order to help them make the best decisions for the appropriate kind of doors, materials and accessories.

Production takes place in the factory in which the R&D department is located next to the production line which has resulted in an intimate and effective cooperation between the most experienced engineers in R&D team and the production team.

From its beginnings in 2007, over the years the company has turned into a major key industrial player with 70 employees. The main impetus for evolution comes from the innovative use of polyurethane as the filling material for hospital and interior doors resulting in much lighter doors that can be used instead of wooden doors. This use of polyurethane as the filling material between the two galvanized sheets has made these doors sound-proof, waterproof, cold and heat resistant, and resistant to extreme weathers.



- The production is currently divided into fire-rated, hospital and interior doors. Doors are made to order for even the smallest quantities, satisfying the most demanding clients thanks to the wide variety of colors, accessories and windows available.

Fire-rated Doors:

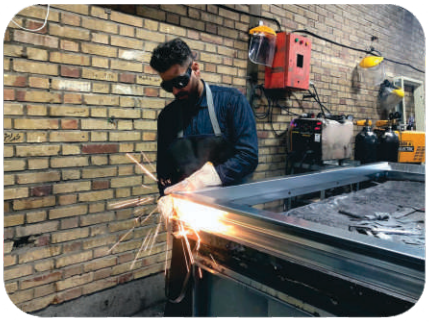
- Based on European standards, Borna fire-rated doors can resist 1200 centigrade degrees for 120 minutes. Borna fire-rated doors are certified by BHRC standard (Iran Building & Housing Research Center) and the sizes can be customized to the clients' needs. Also, the company has received the EFECTIS in 2019.

Metal Doors (hospital and interior doors):

- Hospital doors and interior doors are also produced with galvanized sheets and this innovative way of production makes this door sustainable in different weather conditions, especially in humid places. Therefore, applying metal doors for hospitals and building interiors helps stopping deforestation.

Server Doors:

- The structure of these doors are the same as fire-rated doors, yet more sustainable and stronger. Also, access control and smart locks can be installed on such doors.

Commitment to quality and innovation

It is a source of great pride for the company that Borna products are currently expanding their reach across all regions of the country. This is due to the company's innovations in the field of manufacturing building doors. Some of the company's key innovations include:

- Utilization of electro-galvanized sheets in all door components.
- A unique internal structure design that both reduces the door's weight and prevents the internal fire-resistant insulation from collapsing or spillage.
- The use of two ball bearing hinges with a load capacity of 250kg.
- The design of the company's exclusive spring hinge, serving as a replacement for the door closer.
- An internal structure specifically engineered to prevent deformation under critical conditions, such as fire.
- Production of hospital door leaves with the maximum possible width: 125cm.
- Design and production of a simultaneous closing coordinator for double leaf doors for the first time in Iran..

Borna is honored not only for a great range of domestic sales in Iran, but also for international sales in Middle East and Europe. Some of the biggest projects are as follows:

- Ophthalmology Hospital in Erbil, Iraq
- Shohadaye Tajrish Hospital in Tehran, Iran
- Emam Khomeini Hospital in Shahriyar, Iran
- Kowsar Heart Hospital in Shiraz, Iran
- Megahospital, Bandar Abbas, Iran
- Valiasr Hospital in Arak, Iran
- Farshchian Hospita, Hamedan, Iran
- YaZahra Hospital, Dezful
- Jadrie Project in Baghdad, Iraq
- Dejle Center, Baghdad, Iraq

Certification

- Paying attention to fire regulations is of primary concern for the company. Therefore, Borna is honored to be certified by EFECTIS for the fire-rated doors in 2019. This certification proves that Borna fire-rated doors can resist 1200 degrees of temperature for at least 120 minutes.
- Also, Borna has received BHRC from the Ministry of Housing and Urban Development in Iran.

Fire-rated Doors

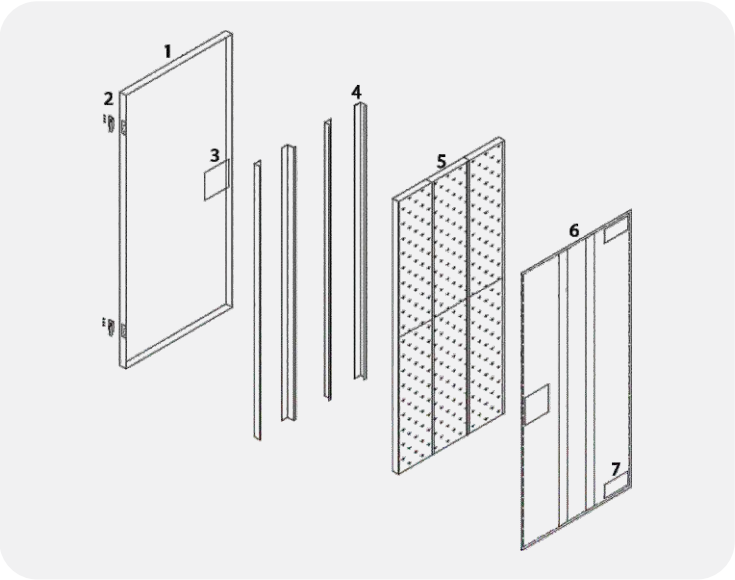
- Features
- Optional customization
- Server Room Door
- Electrical Room Door

Guaranteed Quality

- Fully galvanized door, even the interior parts
- Made of Sendzimir processed hot-galvanized sheets
- Corrosion resistance
- Painted with epoxy-polyester thermoset powders in 230 degrees Celsius oven
- Paint thickness of 70-micron plus
- Corrosion resistance demonstrated by 400-hour salt-spray test
- Resistant to severe climate changes from +70 to -20 Celsius and 90% humidity
- Cream skin anti-scratch (1013)
- Customizable with a great selection of RAL colors

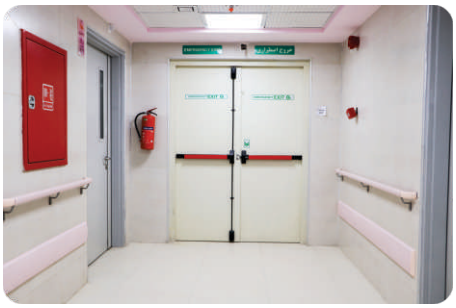
Internal Structure of Fire-Rated Door

1. Face sheet (electro-galvanized steel)
2. Three-piece ball bearing hinges
3. Handle reinforcement plate
4. Internal door reinforcement components
5. Fire-resistant insulation: Rockwool, 120 density
6. Back sheet (electro-galvanized steel)
7. Door closer reinforcement plate



Standards

- Fire testing in accordance with EFECTIS for a minimum of two-hour resistance to 1200 degrees.
- Careful selection of materials and manufacturing methods.
- Products delivered with the documentation required by current regulations.



Door leaf

- Made of Sendzimir processed hot-galvanized 0.9mm sheet
- Internally reinforced with hot-galvanized steel profiles
- Filling material: Rockwool with the density of 120
- 45 or 55 mm thickness, depending on fire rating
- Rockwool insulation done with a specific structure, helping it remain lifetime stable within the door and avoiding the pillage of Rockwool within the door

Doorframe

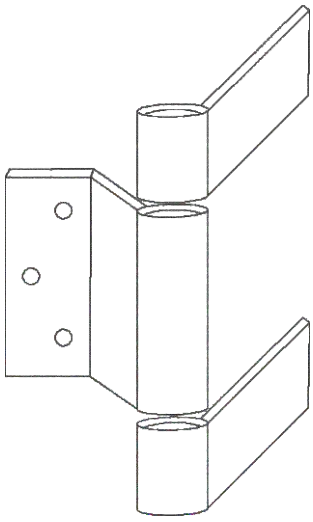
- Made of Sendzimir processed hot-galvanized 1.5mm sheet
- Fire sealing strips in three lines of the frame
- 4 safety bolts in each vertical side of the frame
- very smooth bottom frame, without any sharp angle, reducing tripping hazards and making it easier for wheelchairs
- Reversible hinges

Fire sealing strips

- 1.5mm thickness
- 15mm width
- Self-adhesive
- Mounted on vertical doorframe profile and the central horizontal profile above

Hinges

- 2 three-wing hinges for each leaf
- bearing up to 250 kg load, 10,000 cycles durability
- one hinge with self-closing spring that can be used instead of door closing



Packaging

- Single door wrapped with its frame into three-layer bubble plastic

weight and thickness

Weight (including the frame)	Thickness
20 kg/m^2	45
23 kg/m^2	55

Optional Customization

- Non-fire glass
- In case of clients' requirements, a fire-rated glass can be mounted on the fire doors, too.
- The size of the glass is standard, 300*400 mm.

Single Leaf

Single leaf with the frame (L.H)	Single leaf (L.H)	Code
90*210	80*204	01
100*210	90*204	02
110*210	100*204	03
120*210	110*204	04

Double Leaf

Double leaf with the frame (L.H)	Double leaf (L.H)	Code
120*210	70+40*204	05
120*210	80+30*204	06
130*210	65+55*204	07
130*210	80+40*204	08
140*210	70+60*204	09
140*210	90+40*204	10
150*210	75+65*204	11
160*210	80+70*204	12
170*210	90+70*204	13
180*210	90+80*204	14
190*210	100+80*204	15
200*210	100+90*204	16

Server Room Door

- Frame made of 1.5mm electro-galvanized sheet.
- Equipped with a fire-resistant intumescent strip.
- Door leaf mad of 0.9mm electro galvanized sheet with special reinforcement components for securing hardware.
- Internal reinforcement structures for door strength, preventing the internal fire-resistant from spillage.
- Internal fire-resistant insulation made of Rockwool with a density of 120.
- Painted with epoxy-polyester thermoset powders in 230 degrees Celsius oven.
- Hardware including two adjustable hinges.
- Equipped with a fire sealing strip on three sides of the door.
- Ability to install various types of electric locks, connection to access control systems and smart locks.


Server Room Door

- This type of door incorporates all the specifications of fire-rated and server doors, and also includes the option for installing an air ventilation grille. .


Hospital Doors

- Introduction
- Features
- Ward Room Door
- Operating Room Door
- Clean Room Door
- X-ray Room Door

Introduction

- Hospitals are required to comply with the highest health standards. Therefore, the materials used in hospital construction must adhere to these standards and be resistant to the penetration and growth of any kind of bacteria or microbes. Borna doors are manufactured in compliance with these standards.

Hospital Doors Specifications:

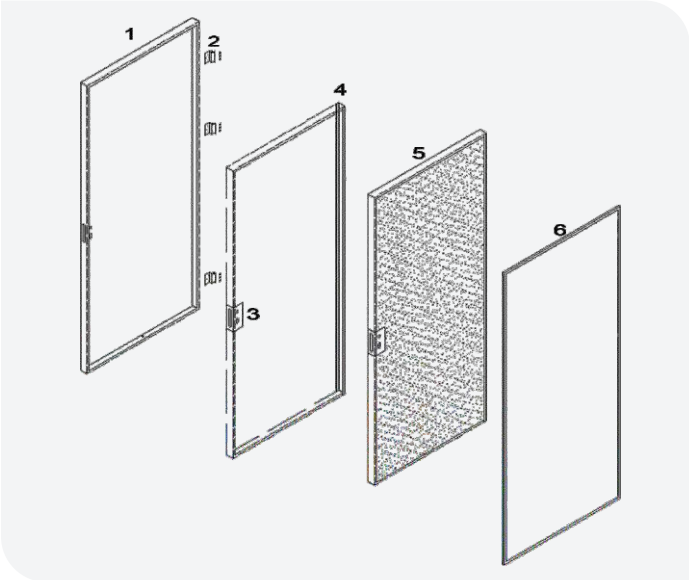
- Hospital doors are subject to high traffic of people and impacts from wheelchairs and stretchers. Therefore, Borna electro-galvanized doors are not only impact-resistant but can also be manufactured with a stainless steel sheet in the middle upon the client's request.
- Some wooden or PVC doors are not washable, but electro-galvanized hospital doors are washable with antibacterial detergents and 100-degree steam.
- The door's smooth and polished surface, without the smallest gap or seam, prevents the growth of any bacteria or microbes.
- They are non-flammable, and are insulated against sound and heat.
- A bumper strip is placed on three sides of the frame, resulting in very soft and silent door opening and closing, which provides comfort for patients and medical staff.
- The surface of these hospital doors is finished with an antibacterial coating that prevents bacterial growth.

Features

- Fully galvanized door, even the interior parts
- Made of Sendzimir processed hot-galvanized sheets
- Corrosion resistance
- Painted with epoxy-polyester thermoset powders in 230 degrees Celsius oven
- Paint thickness of 70-micron plus
- Corrosion resistance demonstrated by 400-hour salt-spray test
- Non-flammable and Resistant to 90% humidity
- Customizable with a great selection of RAL colors

Internal Structure of Hospital Door

1. Face sheet (electro-galvanized steel)
2. Three hinges
3. Handle reinforcement plate
4. Hinge reinforcement component
5. Fire-resistant Insulation: Polyurethane
6. Back sheet (electro-galvanized steel)



Door leaf

- Made of Sendzimir processed hot-galvanized 0.7mm sheet
- Internally reinforced with hot-galvanized steel profiles in the hinge part
- Filling material: polyurethane
- 30, 40 or 47 mm thickness, depending on usage
- Polyurethane insulation done with a specific structure, helping it remain lifetime stable within the door

Doorframe

- Made of Sendzimir processed hot-galvanized 1.5mm sheet
- Sealed door bumper in three lines of the frame, making the door closing soundless

Bumper sealing strips

- 2mm thickness
- 14mm width
- 5mm hollow D-shape strips
- Mounted on three sides of the fame, on the edge of it

Hinges

- 3 two-wing hinges for each leaf, two above and one bottom
- bearing up to 120 kg load, 10,000 cycles durability

Packaging

- Single door wrapped with its frame into three-layer bubble plastic

Optional Accessories

- Nearly all kinds of handles can be mounted on these doors and the color, the material and the type of handles can be selected by the clients. However, in case of using these doors for special buildings like hospitals, schools, etc., Borna will willingly share its years of experience in the industry to choose the best possible handles for the doors.

Door weight and thickness

Thickness	Weight (excluding the frame)
30	12 kg/m^2
40	13 kg/m^2
47	14 kg/m^2

Ward Room Door

- One of Borna Sanat's innovations in producing hospital ward doors is the manufacture of single-leaf doors with a large width. The single-leaf door with a width of 125 cm prevents wheelchairs or beds from hitting the sides, allowing medical staff to move these items with patients without losing time. Hospital ward doors can be custom-ordered in various sizes, diverse colors, and with hardware specified by the clients.






Operating Room Door or Swing Door

- Due to the high importance of observing sanitary principles, operating room doors are designed to open in both directions. The use of double-acting hinges allows the operating room door to open and close easily with minimal pressure. Furthermore, due to the importance of maintaining hygiene in the operating room, the doors feature an antibacterial color coating.

Clean Room Door

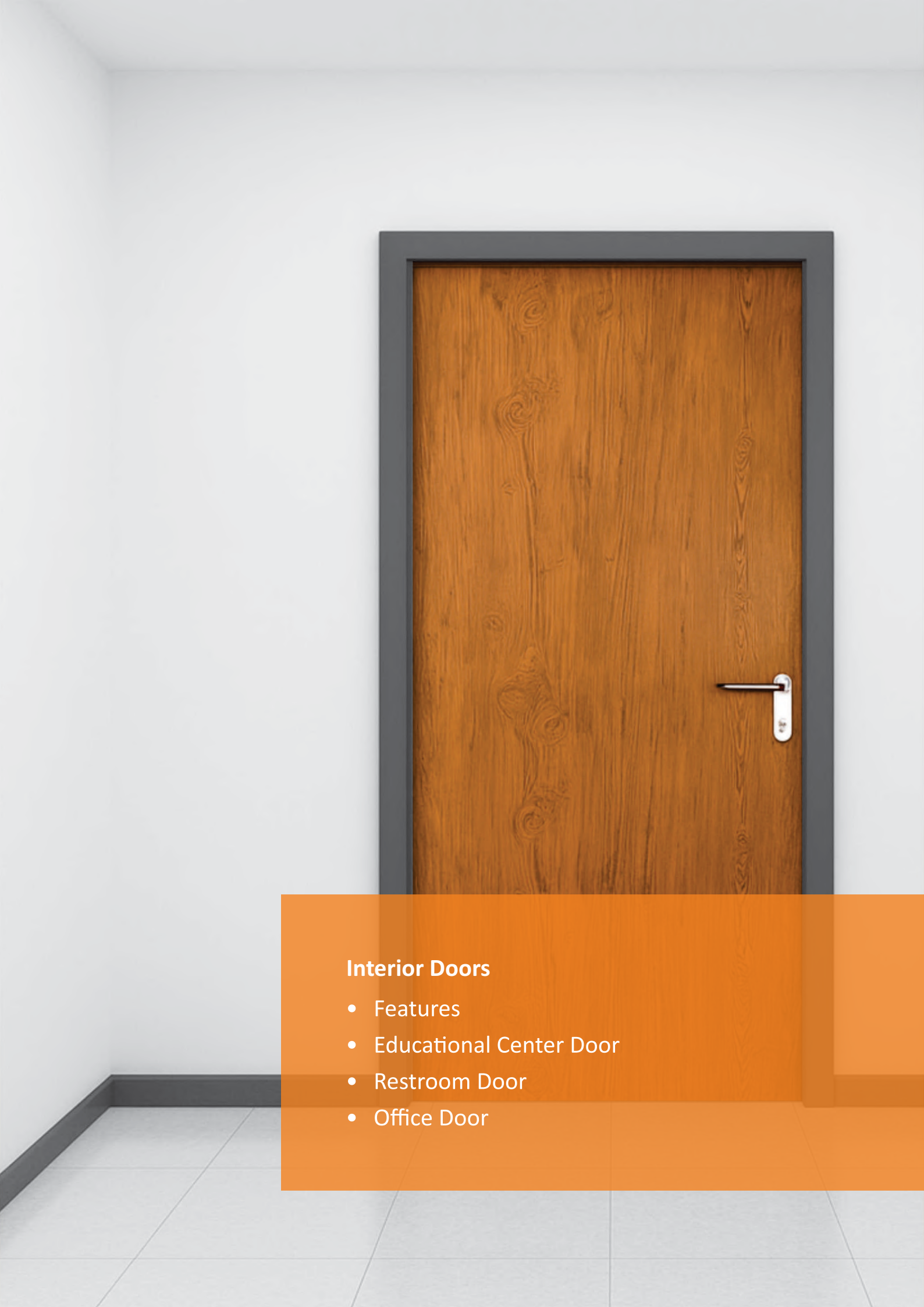
- Clean room doors are designed for fully sterile environments and are utilized in hospitals, pharmaceutical industries, laboratories, and food production centers. This type of door must possess specific features regarding dimensions, sealing type, and the surface finish. The door perimeter uses silicone seals, and the door glass is double-gazed. Furthermore, the door surface is constructed from 304 or 316 stainless steel sheet. The handle for this door type is also antibacterial and touch-activated

X-ray Doors

- Lead-lined doors are specialized for spaces where X-ray or photographic equipment is used. The structure of this door type must be designed to block radiation. Furthermore, the thickness of the lead used varies depending on radiation type. In the traditional method, lead sheets are added to wooden doors. However, the advantage of electro-galvanized lead-lined doors over traditional wooden ones is the single, integrated insulation within the door structure. In electro-galvanized doors, the lead insulation is placed as a single sheet between the two door panels. This structure gives the electro-galvanized door superior strength. Therefore, this door has significant weight. Borna Sanat has developed a suitable line of production, including heavy-duty ball bearing hinges, to handle this type of door's weight and ensure easy opening and closing.

Optional Customization: Vision Panel

- Vision panels are integrated into some hospital doors using a unique Borna design. This specific vision panel placement makes the product highly favored by engineers and specialists.
- The frame of the glass is flush with the door surface. In fact, the glass frame is cut into the door, resulting in a smooth, seamless surface without any protrusion or sharp edges.



Interior Doors

- Features
- Educational Center Door
- Restroom Door
- Office Door

Guaranteed Quality

- Fully galvanized door, even the interior parts
- Made of Sendzimir processed hot-galvanized sheets
- Corrosion resistance
- Painted with epoxy-polyester thermoset powders in 230 degrees Celsius oven
- Paint thickness of 70-micron plus
- Corrosion resistance demonstrated by 400-hour salt-spray test
- Non-flammable and Resistant to 90% humidity
- Customizable with a great selection of RAL colors

Door leaf

- Made of Sendzimir processed hot-galvanized 0.7mm sheet
- Internally reinforced with hot-galvanized steel profiles in the hinge part
- Filling material: polyurethane
- 30, 40 or 47 mm thickness, depending on usage
- Polyurethane insulation done with a specific structure, helping it remain lifetime stable within the door

Door frame

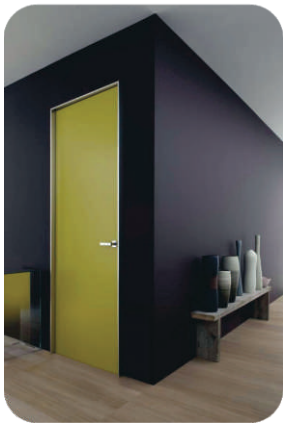
- Made of Sendzimir processed hot-galvanized 1.5mm sheet
- Sealed door bumper in three lines of the frame, making the door closing soundless

Bumper sealing strips

- 2mm thickness
- 14mm width
- 5mm hollow D-shape strips
- Mounted on three sides of the fame, on the edge of it

Hinges

- 3 two-wing hinges for each leaf, two above and one bottom
- bearing up to 120 kg load, 10,000 cycles durability



Packaging

- Single door wrapped with its frame into three-layer bubble plastic

Optional Accessories

- Nearly all kinds of handles can be mounted on these doors and the color, the material and the type of handles can be selected by the clients. However, in case of using these doors for special buildings like hospitals, schools, etc., Borna will willingly share its years of experience in the industry to choose the best possible handles for the doors.

Door weight and thickness

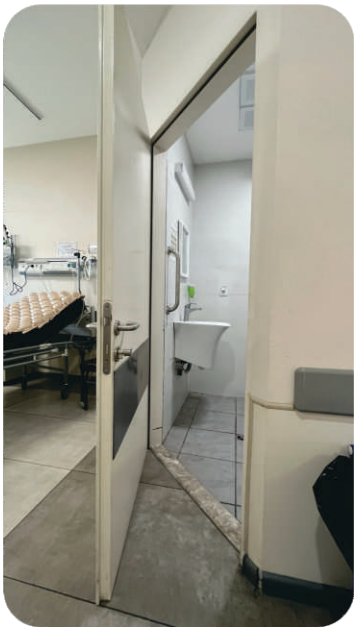
Thickness	Weight (excluding the frame)
30	12 kg/m^2
40	13 kg/m^2
47	14 kg/m^2

Educational Center Doors

- Doors in educational centers are exposed to frequent traffic and are consequently highly vulnerable to impact. Therefore, having high structural resistance in this type of door is essential. Additionally, maintaining security in these centers is important, especially under specific conditions, such as fire. For this reason, non-combustible materials must be used in the production of educational center doors. Electro-galvanized doors offer a suitable alternative to wooden doors, as they are non-combustible and impact-resistant. Another advantage of electro-galvanized doors is their low maintenance cost. Due to the fact that the lifespan of this type of door is equal to the lifespan of the building, and they are washable and can be repainted. In fact, due to the high resistance of this door type, there is no need to replace it due to issues like breakage or chipping.

Service/Utility Room Door

- Electro-galvanized doors are the most suitable choice for utility/service room doors due to their resistance to moisture and their ability to be washed with any cleaning agent. The surface of this type of door in these locations must be smooth, seamless, and free from breakage. Any non-smoothness or defect on the surface of this door type causes the accumulation of contamination and microbes. All these features make Borna electro-galvanized doors a suitable and cost-effective replacement for wooden service room doors.



Office Doors

- Office center doors can be produced in various colors and decorative designs. By choosing the electro-galvanized doors, you can experience an unprecedented variety of natural wood colors along with the durability and strength of the electro-galvanized sheet. By replacing wooden doors with Borna's electro-galvanized doors, in addition to environmental preservation, the door gains the capability to be insulated against sound and heat, thereby providing peace and security for the office staff.

Optional Customization: Vision Panel

- Vision panels are integrated into some hospital doors using a unique Borna design. This specific vision panel placement makes the product highly favored by engineers and specialists.
- The frame of the glass is flush with the door surface. In fact, the glass frame is cut into the door, resulting in a smooth, seamless surface witho`ut any protrusion or sharp edges.

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