

# HOLLOW METAL DOORS & FRAMES



شركة الكحيمي للصناعات المعدنية المحدودة  
Al Kuhaimi Metal Industries Ltd.

Al Kuhaimi Metal Industries Hollow Metal Door and Frame products have earned an enviable reputation with architects, engineers and construction trade professionals all over the region. Thanks to their durability, long lasting, security, design freedom, and aesthetic appeal. We manufacture different types of metal doors; all are produced in Plant-1 in the 1st Industrial city, Dammam.

- Fire Rated Steel Doors and Frames
- Embossed Steel Doors
- Stainless Steel Doors
- Airtight Doors
- Acoustical Doors
- Lead Lined Doors
- Closures for Maintenance
- Roof Hatches
- Toilet Partitions
- Metal Louvers
- Custom Made Steel Shelves
- Key Cabinet
- Door Frames



حازت منتجات شركة الكحيمي من الأبواب المعدنية المفرغة على ثقة المعماريين والمهندسين والمهنيين العاملين في قطاع البناء على امتداد منطقة الشرق الأوسط . ويعود الفضل في ذلك إلى قدرتها العالية على التحمل بالإضافة إلى أنها تدوم طويلاً وتوفر للمستخدم متطلباته الأمنية. كذلك فهي ذات طبيعة مرنة تتناسب مع الحالات المختلفة لتصميم البناء بالإضافة لمظهرها المعماري الجميل. ويتم في المصنع الأول في المدينة الصناعية الأولى بالدمام تصنيع أنواع متعددة من هذه المنتجات مثل:

- الأبواب الحديدية المفرغة المقاومة للحريق
- الأبواب الحديدية المزينة بأشكال نافرة
- الأبواب الحديدية المفرغة المقاومة للصدأ (ستانلس)
- الأبواب المانعة لتسرب الهواء
- الأبواب العازلة للصوت
- الأبواب المانعة لتسرب الأشعة
- أبواب فتحات الصيانة
- أبواب فتحات الأسقف
- حوائط فاصلة للحمامات
- أبواب مع فتحات التهوية
- أرفف معدنية بتفاصيل خاصة
- خزائن مفاتيح
- حلوق الأبواب

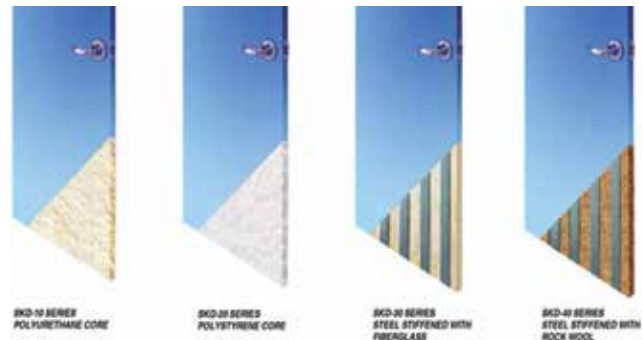
### DOOR TYPES

Al Kuhaimi's doors are available with a wide range of glass light and louver preparations. For fire rating limitations, please refer to the "Product Range Certifications" pages 11 to 15.



### INSULATION TYPES

- Polyurethane core
- Polystyrene core
- Steel stiffened with fiberglass
- Steel stiffened with rockwool
- Honeycomb Core



## PU-SERIES

### Polyurethane Core

### STANDARD STEEL DOORS & FRAMES

#### ABOUT THE PRODUCT

The PU-Series flush doors are designed to be used where intense protection from freezing cold is a priority. The foam-in-place polyurethane core provides total surface support and an exceptionally flat surface, high impact resistance and outstanding thermal resistance.

It provides a high level of compression and shear strength, which is further enhanced by bonding with facing materials. It offers the lowest "U" value and the highest R-Factor (a measure of insulating performance / thermal resistance, and measure of ability to retard heat flow) of all the cores.

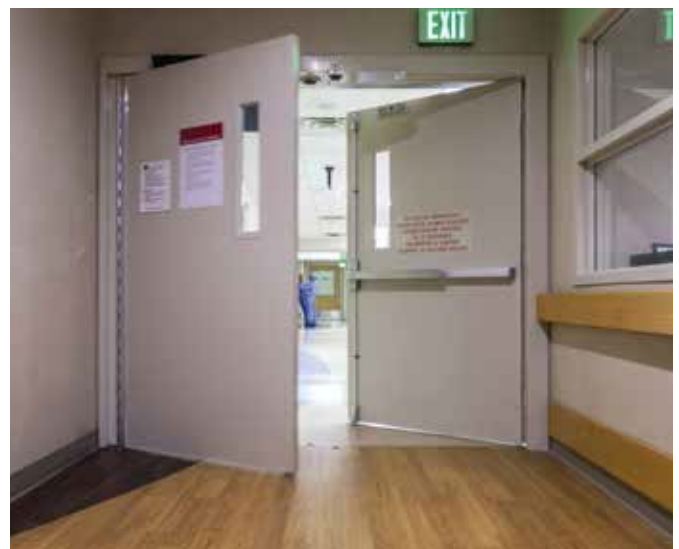
#### FEATURES

##### CORE:

- Foam-In-Place polyurethane thermal insulation core, having a thickness of 43 mm and a nominal density of 35-42 Kg/m<sup>3</sup> (DIN 53420).
- Thermal Conductance (43 mm):  $U = 0.08 \text{ Btu/hr.ft}^2 \cdot \text{°F}$  (0.456  $\text{w/m}^2\text{k}$ ) (ASTM C177).
- Thermal Resistance: R-Factor = 12.45  $\text{hr.ft}^2 \cdot \text{°F} / \text{btu}$  (2.193  $\text{m}^2\text{k/w}$ ) (ASTM C518-63T).
- Polyurethane is a thermo-setting material, which when subjected to heat, merely slowly chars without melting or producing flaming droplets (BRUFMA/ID/2/2001).

As described by HMMA / NAAMM-USA (National Association of Architectural Metal Manufacturers-United States of America):

"Urethane core doors possess superior insulating properties (R- factor of 11.1) and are suitable for exterior openings in cold climates".



# PU-SERIES

## Polyurethane Core

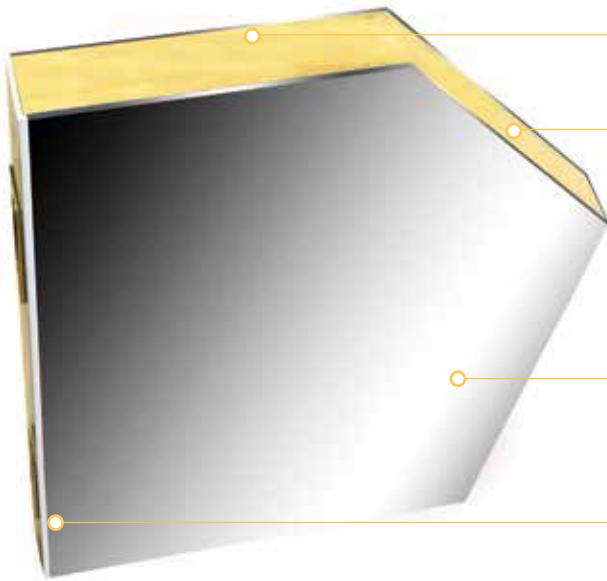
### STANDARD STEEL DOORS & FRAMES

#### OPTIONS:

- Seamless design.
- Beveled or flush welded glass beads.
- Polyurethane or epoxy RAL paint finish (factory applied).
- Non-handed reversible design.
- Vision panels, louver kits, transoms and sidelights.

#### SPECIFICATIONS OF COMPLIANCE

- Construction of the PU doors meets the requirements of ANSI A250.8 (SDI 100) and ANSI 151.1.
- Fire Rating: Up to 3 hrs for single leaf and up to 1 1/2 hrs for double leaf swing doors, listed and labeled by Intertek-Warnock Hersey according to UL 10C, UL 10B, UBC 7-2-1994/1997, NFPA 252-1995, ASTM E152-81a, CAN4-1980 and ISO 3008.
- Level "A" grade in accordance with ANSI A 250.4 test procedures.



1.5 mm Thick inverted Top Channel

Injected Polyurethane insulation

Bottom Door skin interlocked to Top skin

Mechanical Interlocking detail

#### LEAF CONSTRUCTION:

(NB: Colors shown for illustrative purposes)

- 45 mm (1 3/4") thick full flush construction fabricated from 1.2 mm (GA 18), 1.5 mm (GA 16) or 2.0 mm (GA 14) thick steel sheets (commercial quality cold rolled steel / ASTM A1008 or galvanized steel / ASTM A653)
- 1.5 mm (GA 16) thick steel top and bottom channels welded to both face sheets for lasting integrity.
- Mechanically interlocked, hemmed vertical edge seams for added strength and rigidity.

- Hardware reinforcing in accordance to ANSI, SDI, NFPA standards requirements.
- 5.0 mm steel hinge reinforcement.
- Factory applied epoxy prime base coat.

# VS-SERIES

## Vertically Stiffened

### ABOUT THE PRODUCT

The VS-Series flush doors are designed to meet the international requirements for extra heavy duty to maximum duty full flush doors. Vertically Stiffened doors are designed for high frequency and severe traffic openings used for exterior or interior applications, where rigidity is of high importance.

### FEATURES

#### CORE:

- Spaces between stiffeners are filled with Fiberglass to the full height of the door.
- Standard infill thickness 41-42mm of nominal density 24-48 Kg/m<sup>3</sup>.
- Thermal Conductance (50 mm):  $U = 0.536-0.60 \text{ w/m}^2\text{k}$  (0.09-0.10 Btu/hr.ft<sup>2</sup>.°F. (ASTM C177).
- Thermal Resistance: R-Factor = 8.11 hr.ft<sup>2</sup>.°F/Btu. (1.42 m<sup>2</sup>k/w) (ASTM C518-63T).
- Combustibility: None / IMO Resolution-ASTM E 136-82, BS 476 Part 4, ISO R1182.

#### OPTIONS:

- Seamless design.
- Rock wool core infill.
- Beveled or flush welded glass beads.
- Polyurethane or epoxy RAL paint finish (factory applied).
- Non-handed reversible design.
- Vision panels, louver kits, transoms and sidelights

### SPECIFICATIONS OF COMPLIANCE

- Construction of the VS doors meets the requirements of ANSI A250.8 (SDI 100) and ANSI 151.1.
- Fire Rating: Up to 3 hrs for single leaf and double leaf swing doors, listed and labeled by Intertek-Warnock Hersey according to UL 10C, UL 10B, UBC 7-2-1994/1997, NFPA 252-1995, ASTM E152-81a, CAN4-1980, ISO 3008, BS EN 1634-1 and BS 476 Part 20.
- Level "A" grade in accordance with ANSI A 250.4 test procedures.

As described by HMMA / NAAMM – USA (National Association of Architectural Metal Manufacturers- United States of America):

*"Steel Stiffened core doors feature steel ribs in the interior of the door and are ideal for high traffic situations where durability and security are important".*

