AMBICO™

SPECIALIZED DOORS · FRAMES · WINDOWS

65 YEARS OF EXCELLENCE IN MANUFACTURING SPECIALIZED DOORS, FRAMES & WINDOWS

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AMBICO'S BRIEF HISTORY

- Established in 1955
- Family Owned
- Jack Shinder, President, second generation son of Co-founder
- Judah Silverman, Vice-President, second generation Son-In-Law of Co-founder
- Steve Peterman, Director of Sales and Marketing
- Originated as a hollow metal door manufacturer
- Over 65 years, has evolved into a world class, industry leading manufacturer of specialized doors, frames and windows; those that meet performance standard and those that are made using decorative metals
- Our independent sales reps are amongst the best in the industry, each with years of experience.

Jack Shinder

Judah Silverman

Steve Peterman

AMBICO is a unique manufacturer in the industry because:

- We are an Independent Manufacturer, located in Canada with in-house engineering and manufacturing

- AMBICO sells through local Distributors and utilizes the industry's most experienced network of Independent Sales Representatives. We also support licensees internationally making our products under license in the global marketplace

- High quality and competitive quotes are available in a timely manner, often within 48 hours

- Quote request should be directed to specialized@Ambico.com

- From the request for quote to receipt of an order, submittals, lead times, manufacturing and shipping, AMBICO remains in close contact with our distributors through written confirmations throughout the entire process

Continued …

AMBICO is a unique manufacturer in the industry because (cont'd):

- AMBICO does not charge for shop drawing submittals
- AMBICO includes freight cost in USA quotes and provides staggered shipments of frames and doors to meet project schedules
- AMBICO quotes on an FOB Factory basis when projects are in Canada
- Research & Development is a key component of AMBICO's strength in the marketplace; our in-house engineering staff responds to the most and unique opening challenges be that engineering or decorative in nature
- AMBICO's performance rated products are tested at leading, independent, North American laboratories

AMBICO'S PRODUCTS

- Acoustic Steel & Wood Assemblies
- Blast & Pressure Resistant Steel Assemblies
- Brass & Bronze Clad Doors and Frames
- Bullet Resistant Steel & Wood Assemblies
- Flood Resistant Assemblies
- Lead Lined Steel & Wood Doors and Frames

- Oversized Steel Doors and Frames
- Radio Frequency Steel Assemblies
- Recessed Panel Steel Doors
- Security Wood & Steel Frame Assemblies
- Stainless Steel Doors & Frames
- Tornado Resistant Steel & Wood Assemblies

Acoustic Steel Door & Frame Assemblies

- AMBICO acoustic steel door and frame assemblies combine outstanding sound transmission loss with the appearance of standard hollow metal products. Our doors are provided complete with acoustic steel frames, perimeter and bottom seals, threshold and astragal pairs that are all tested in accordance with ASTM E-90 and E-413 standards
- All testing of acoustic door and frame assemblies is done by independent laboratories to ensure all products comply with the most up-to-date standards
- Fire labeled products have been tested in accordance with NFPA-80 and are certified by Underwriters Laboratories and Warnock Hersey International. Fire labeled products can be supplied in singles or in pairs
- Lightweight panel engineering combined with level swing seal systems provide outstanding acoustic performance with easy operation; correctly installed openings can comply with ADA (ANSI 117.1)
- Acoustic steel doors are 1¾" thick and are available from STC 33 to STC 53. They are also available in greater thicknesses from STC 54 to STC 59. Engineered solutions are available for higher ratings
- Acoustic steel door and frame assemblies have been designed to accept readily available heavy weight builders hardware and specialty hardware
- Acoustic steel doors are available with acoustic glazing that is factory pre-installed
- AMBICO offers an unparalleled 5 year warranty
- Stock acoustic steel doors and frames are ready for immediate shipment. AMBICO also offers other available quick ship time frames

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- Acoustic steel doors and frames can be used for noise reduction in concert halls, machine rooms, testing facilities, office buildings, schools, confidential meeting rooms (SCIF) and interrogation rooms
- LEED & VOC compliant

For details, see performance chart on reverse

c UL us LISTED Intertek LEED

Acoustic Wood Door & Frame Assemblies

- Acoustic wood door and steel frame assemblies provide the broadest range of Sound Transmission Class (STC) ratings in the industry, tested in accordance with ASTM E-90 & E-413
- Acoustic wood door and steel frame assemblies are available in STC ratings up to & including STC 56. Doors are only 1¾" thick through STC 50. Wood frames are available up to STC 45
- Face veneers are available in virtually every species, cut & grade. Wood doors are available with custom stain match or clear coat finishes. Stiles & rails are hardwood & vertical edges match face veneer. Plastic laminate face veneers are also available with hardwood edges
- Fire rated STC wood door & frame assemblies are available up to 90 minutes
- Doors are available with factory glazed vision lites. Sidelites & transoms are supplied with glass for glazing by others
- Stock wood door & steel frame assemblies are ready for immediate shipment. Exceptional lead times are offered with AMBICO's Quick Ship Program
- Doors can be FSC® & LEED compliant

For details, see performance chart on reverse

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FSC LISTED Intertek LEED

BLAST RESISTANT DOORS & FRAMES *for* US MILITARY PROJECTS

- The *DoD Minimum Antiterrorism Standards for Buildings* is designed to protect DoD personnel from terrorist attacks. Whether retrofitting an existing building or building a new one there are minimum blast pressure requirements that all door assemblies must meet. The specific requirements depend on building location, type, and occupancy. The October 1, 2013 version of UFC 4-010-01 makes it clear that unless a door failure in response to the applied blast load does not pose a risk to occupants (i.e. the door is intercepted by a suitably strong wall before entering an occupied area) all doors must be evaluated for blast resistance at the applicable charge weights & standoff distances

- AMBICO has an extensive blast resistant door & frame product line that was developed specifically for UFC 4-010-01 projects. AMBICO teamed up with the University of Ottawa's Hazard Mitigation and Disaster Management Research Centre to conduct an extensive research & development project involving over 55 shock tube tests, as per ASTM F-2927, of various blast door products in various configurations and sizes. Additional static pressure testing, as per ASTM F-2247, and finite element analyses were performed to develop software to verify blast door & frame performance for any charge weight, standoff, and level of protection scenario
- Where project requirements take us beyond the scope of the product line developed with the University of Ottawa's Hazard Mitigation and Disaster Management Research Centre, AMBICO's engineering department has years of experience performing blast door & frame analysis for almost any imaginable charge weight, standoff, level of protection, and door & frame configuration

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- Whether proven via testing or analysis, AMBICO evaluates and selects blast doors & frames based on project specific requirements; this ensures that the end user benefits from lightweight and cost-effective blast doors & frames that use conventional hardware

BLAST RESISTANT DOORS & FRAMES *for* INDUSTRIAL PROJECTS

- The petrochemical industry invests heavily in designing process plants to minimize the likelihood of accidental explosions. Although the probability of an accidental explosion is very low all buildings located within the range of accidental explosions are designed to be blast resistant. Other common industrial applications are flammable and/or pressurized materials storage and handling, paint booths, and ETO sterilization for medical and pharmaceutical products

- AMBICO has worked with industry leaders BakerRisk and ABS Consulting to conduct a variety of open arena and shock tube tests on AMBICO blast resistant door & frame assemblies. In addition, AMBICO has conducted many static pressure tests at our factory, all witnessed, validated, and reported on by Intertek Testing Services
- Where project requirements are outside the scope of tests that AMBICO has conducted, our engineering department has years of experience performing blast door & frame analysis for almost any imaginable blast load response, and door & frame configuration
- Whether proven via testing or analysis AMBICO evaluates and selects blast doors & frames based on project specific requirements; this ensures that the end user benefits from lightweight and cost-effective blast doors & frames that use conventional hardware where possible. When specialty multi-point hardware is required AMBICO chooses to supply this hardware factory-installed. This adds value by ensuring proper installation of a critical structural component

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- Fire ratings are increasingly being specified on blast resistant exterior openings for petrochemical projects; AMBICO offers up to 5′ x 10′ singles and 10′ x 10′ pairs with a fire rating of up to 3 hrs
- For further details on our industry leading product and service, please communicate with us at your earliest opportunity

Bullet Resistant Steel Door & Frame Assemblies

- AMBICO bullet resistant steel door and frame assemblies are secure from ballistic attack, yet they have the appearance of standard hollow metal doors, making them perfect for important facilities such as government buildings, army bases, banks, bomb shelters and security barriers

- Bullet resistant steel door and frame assemblies are subject to the criteria established in the document *UL 752 Standard for Safety for Bullet-resisting Equipment*. The UL 752 document is a standardized set of requirements associated with creating bullet resistant components such as doors, barriers and glass shielding

- AMBICO's complete range of bullet resistant door and frame assemblies is available with factory installed bullet resistant glazing. The bullet resistant capacity of the glass must be complementary to that of the assembly

- Ten distinct levels of bullet resistance are established within the UL 752 document, ranging from a small .38 mm handgun (Level 1) through to a .50 caliber, high powered, military assault rifle (Level 10). When selecting an AMBICO bullet resistant steel door and frame assembly, do so with reference to the anticipated threat

- Units have been designed to accept readily available heavy weight builders hardware from levels 1 through 8. For levels 9 and 10 or where necessary, hinges capable of carrying heavy door weights are factory supplied

- Paired openings are available and supplied with either an overlapping astragal or full jamb depth, bullet resistant mullion to split the doors. For fire rated openings a mullion must be used

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For details, see performance chart on reverse

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Bullet Resistant Wood Door & Steel Frame Assemblies

- AMBICO bullet resistant wood door and steel frame assemblies are secure from ballistic attack, yet they have the appearance of standard commercial wood doors, making them perfect for important facilities such as government buildings, army bases, banks, bomb shelters and security barriers
- Cross banded face veneers for bullet resistant wood doors are available with a diverse selection of paint grade or stain grade options to match your aesthetic requirements. Matching hardwood is provided at door stiles. All bullet resistant doors are available in 1¾" to 2¼" thick and are provided with steel frames
- Bullet resistant wood door and steel frame assemblies are subject to the criteria established in the document *UL 752 Standard for Safety for Bullet-resisting Equipment*. The UL 752 document is a standardized set of requirements associated with creating bullet resistant components such as doors, barriers and glass shielding
- Our complete range of bullet resistant wood door and steel frame assemblies are available with factory installed bullet resistant glazing. The bullet resistant capacity of the glass must be complementary to that of the door and frame
- Bullet resistant wood door and steel frame assemblies are subject to the criteria established in the document UL 752. AMBICO offers resistance levels ranging from a small .38 handgun (Level 1) through to a 7.62 high-powered military assault rifle (Level 8). When selecting an AMBICO bullet resistant wood door and steel frame assembly do so with reference to the anticipated threat
- Units have been designed to accept readily available heavy weight builders hardware
- Paired openings are available and supplied with either an overlapping astragal or full jamb depth, bullet resistant mullion to split the doors

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For details, see performance chart on reverse

DECORATIVE DOORS

Bronze Clad Doors & Frame

Recessed Panel Steel

Brass Clad Doors & Frame

Mirror Stainless Steel

Stainless Steel

STAINLESS STEEL

- Product are available in a range of stainless alloys including #304 and #316
- Available in a variety of finishes: Satin Finish (#4); Mirror Finish (#8); and Mill Finish (#2B) as well as colored and textured finishes
- A complete range of fire rated and non-fire rated products are readily available, making use of a wide variety of stainless steels
- Fire labeled products have been tested in accordance with NFPA-80 standards and are certified by Underwriters Laboratories
- Stainless Steel frames and doors are available through our quick-ship program and made to order products are available in all alloys, finishes and many configurations to meet the designs of most discerning architects

THANK YOU

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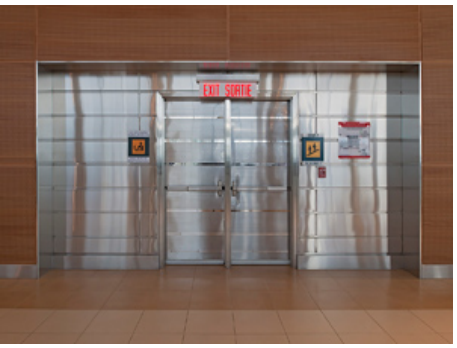

Detailed technical information about the products discussed in the presentation can be found on Slide 16 through Slide 19 below

APPENDIX

Acoustic Steel Door & Frame Assemblies

STC	FIRE RATING	DOOR THICKNESS	MAXIMUM GLASS AREA	WEIGHT LBS/SQ.FT	HARDWARE		FRAME SEAL	BOTTOM SEAL	THRESHOLD	NOTES	TEST REPORT	TRANSMISSION LOSS dB/FREQUENCY Hz																	
					HINGES	LATCH						100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
39-46	45, 90, 180	1.75"	1584 sq.in	7.9	HW BUTT	CYL/ MORT	RN/BULB	SWEEP/ DROP	FLAT	1, 2, 3, 4, 5	RAL TL96-51	26	30	37	40	42	44	44	43	41	41	44	47	49	49	50	49	48	49
47-51	45, 90, 180	1.75"	1584 sq.in	9.5	HW BUTT	CYL/ MORT	BRONZE/ BULB	SWEEP/ DROP	FLAT	1, 2, 3, 4, 5	RAL TL96-42	31	33	39	42	43	46	47	48	49	50	52	52	53	54	54	52	51	52
52	45, 90, 180	1.75"	300 sq.in	15	HW BUTT	CYL/ MORT	BRONZE/ BULB	SWEEP/ DROP	FLAT	1, 2, 5	RAL TL96-54	36	38	43	43	44	45	47	48	49	52	53	54	55	55	56	54	55	57
53	45, 90, 180	1.75"	300 sq.in	15.5	CAM LIFT	CYL/ MORT	BRONZE/ DBL BULB	SWEEP	FLAT	1, 2, 5, 7	RAL TL97-66	35	40	42	40	45	46	49	50	50	51	53	54	56	57	59	58	60	61
54-55	45, 90, 180	2.75"	CONSULT FACTORY	19.1	CAM LIFT	CYL/ MORT	BRONZE/ TRIPLE RN /BULB	SWEEP	FLAT/ DBL STEP	2, 5	NRC A1-007542-4	41	44	47	47	45	47	50	51	50	53	56	57	60	62	63	64	65	65
56	45, 90, 180	2.75"	CONSULT FACTORY	19.1	CAM LIFT	CYL/ MORT	BRONZE/ TRIPLE RN /BULB	SWEEP	FLAT/ DBL STEP	2, 6	NRC A1-007542-3	38	43	45	47	46	46	52	53	53	55	59	59	60	60	60	60	60	61
56-59	NF	1.75" + 1" PANEL	CONSULT FACTORY	22.5	CAM LIFT	CYL/ MORT	FOAM RUBBER/ DBL BULB	SWEEP	FLAT	2, 5, 7	WEAL TL05-374	35	42	49	50	53	55	53	55	56	58	60	60	61	61	62	62	63	64

1. BUTT HINGES ARE STANDARD. CAM LIFT, CONTINUOUS HINGE AND PIVOT PREP OPTIONS ARE AVAILABLE.
2. CYLINDRICAL, RIM, OR MORTISE LOCK/EXIT DEVICE STANDARD. SURFACE VERTICAL ROD, CDX-09 AND LKM7000 OPTIONS ARE AVAILABLE. CONSULT FACTORY.
3. CONCEALED VERTICAL ROD (TOP ROD ONLY) AVAILABLE. CONSULT FACTORY.
4. MAXIMUM GLASS AREA IS 1296 SQ.IN. WHEN FIRE RATED.
5. AVAILABLE IN SINGLES OR PAIRS.
6. AVAILABLE IN SINGLES ONLY.
7. SPECIAL BACKSET OR TRIM SIZE MAY APPLY.

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- STC Steel Windows to STC 56

Acoustic Wood Door & Frame Assemblies

STC	FIRE RATING	DOOR THICKNESS	MAXIMUM GLASS AREA	WEIGHT LBS/SQ.FT	HARDWARE		FRAME SEAL	BOTTOM SEAL	THRESHOLD	NOTES	TEST REPORT	TRANSMISSION LOSS dB/FREQUENCY Hz																	
					HINGES	LATCH						100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
40-51	45, 90	2.25"	SEE NOTE 4	10.5-14.9	HW BUTT	CYL/ MORT	BRONZE/ BULB	SWEEP	STEPPED	2, 3, 4, 5	WEAL TL06-154	23	27	38	42	43	48	49	50	52	52	51	52	53	53	53	52	55	57
40-45	NF	1.75"	1584 sq.in	5.5	HW BUTT	CYL/ MORT	RIN/BULB	SWEEP	FLAT	1, 2, 3, 5	WEAL TL10-658	20	22	36	35	37	42	43	45	46	47	48	50	50	49	48	45	42	42
46	NF	1.75"	1584 sq.in	6.7	HW BUTT	CYL/ MORT	RIN/BULB	SWEEP	FLAT	1, 2, 3, 5, 6	RAL TL01-187	20	31	36	40	42	43	44	44	45	45	47	47	50	51	51	51	51	49
47-49	NF	1.75"	1584 sq.in	7.6	HW BUTT	CYL/ MORT	BRONZE/ BULB	SWEEP	FLAT	1, 2, 3, 5, 6	RAL TL01-186	22	33	37	39	42	44	45	45	46	47	49	49	51	51	51	52	51	49
50	NF	1.75"	1584 sq.in	10.3	HW BUTT	CYL/ MORT	BRONZE/ DBL BULB	SWEEP	FLAT	1, 2, 3, 5, 6	RAL TL99-55	24	31	38	40	42	44	46	46	48	50	51	50	52	52	54	53	51	52
51	NF	2.25"	1584 sq.in	12.7	HW BUTT	CYL/ MORT	BRONZE/ DBL BULB	SWEEP	FLAT	1, 2, 3, 5	WEAL TL06-151	36	39	41	45	45	45	47	47	49	49	50	51	52	53	54	54	55	57
54-55	NF	2.75"	300 sq.in	19.1	CAM LIFT	CYL/ MORT	BRONZE/ FIN/ BULB	SWEEP	FLAT	2, 5	NRC TLA-18-132	39	44	43	46	47	48	51	51	52	54	55	57	59	59	58	59	59	60
56	NF	3.125"	300 sq.in	23.3	CAM LIFT	CYL/ MORT	FOAM RUBBER/ DBL BULB	SWEEP	FLAT	2, 5	NRC TLA-18-130	36	43	45	47	49	49	50	50	54	56	57	57	58	60	62	62	63	64

1. BUTT HINGES ARE STANDARD. CAM LIFT, CONTINUOUS HINGE AND PIVOT PREP OPTIONS ARE AVAILABLE.
2. CYLINDRICAL, RIM, OR MORTISE LOCK/EXIT DEVICE STANDARD. SURFACE VERTICAL ROD, CDX-09 AND LKM7000 OPTIONS ARE AVAILABLE. CONSULT FACTORY.
3. CONCEALED VERTICAL ROD (TOP ROD ONLY) AVAILABLE. CONSULT FACTORY.
4. MAXIMUM GLASS AREA UP TO STC 42 IS 1296 SQ.IN. MAXIMUM GLASS AREA FROM STC 43-51 IS 576 SQ.IN.
5. AVAILABLE IN SINGLES OR PAIRS.
6. LARGER AREA OF GLASS CAN INCREASE DOOR THICKNESS. CONSULT FACTORY.

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- STC Steel Windows to STC 59

Bullet Resistant Steel Door & Frame Assemblies

UL 752 Test Performance Standards

RATING	AMMUNITION	WEIGHT (Grams)	FEET per SECOND	NUMBER of SHOTS
Level 1	9mm Full Metal Copper Jacket with Lead Core	8	1175	3
Level 2	.357 Magnum Jacketed Lead Soft Point	10.2	1250	3
Level 3	.44 Magnum Lead Semi-Wadcutter Gas Checked	15.6	1350	3
Level 4	.30 caliber Rifle Lead Core Soft Point	11.7	2540	1
Level 5	7.62 mm Rifle Lead Core Full Metal Copper Jacket, Military Ball	9.7	2750	1
Level 6	9mm Full metal Copper Jacket with Lead Core	8	1400	5
Level 7	5.56mm Rifle Lead Core Full Metal Copper Jacket with Lead Core	3.56	3080	5
Level 8	7.62 mm Rifle Lead Core Full Metal Copper Jacket, Military Ball	9.7	2750	5
Level 9	Armor Piercing .30 Caliber Rifle Steel Core Lead Point Filler Full Metal Jacket	10.8	2715	1
Level 10	.50 Caliber Rifle Lead Core Full Metal Copper Jacket, Military Ball	45.9	2810	1

Fire Rated

DOOR THICK-NESS	DOOR WEIGHT (lb/ft²)	VISION LITE OPTIONS	FIRE RATING (Minutes)
1¾"	7	NL and HL	180
1¾"	10	NL and HL	180
1¾"	10	Consult factory	180
2"	16	Not available	-
2"	21	Not available	-
1¾"	16	Not available	-
2"	21	Not available	-
2"	21	Not available	-
2¼"	26	Not available	-
2¼"	32	Not available	-

Non-Fire Rated

DOOR THICK-NESS	DOOR WEIGHT (lb/ft²)	VISION LITE OPTIONS
1¾"	7	NL, HL and FL
1¾"	10	NL, HL and FL
1¾"	10	NL, HL and FL
2¼"	16	NL, HL and FL
2¼"	18	NL, HL and FL
2¼"	16	NL, HL and FL
2¼"	21	NL, HL and FL
2¼"	18	NL, HL and FL
2¼"	26	Consult factory
2¼"	32	Consult factory

NOTES

Bullet resistant glazing options can be: Narrow lite (NL), Half lite (HL) or Full lite (FL)

Doors with glass options can be factory installed by AMBICO

Astragal or mullion will be included at all doors with paired openings

Mullion is required to be used at fire rated paired openings

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Bullet Resistant Wood Door & Steel Frame Assemblies

UL 752 Test Performance Standards

RATING	AMMUNITION	WEIGHT (Grams)	FEET per SECOND	NUMBER of SHOTS
Level 1	9mm Full Metal Copper Jacket with Lead Core	8	1175	3
Level 2	.357 Magnum Jacketed Lead Soft Point	10.2	1250	3
Level 3	.44 Magnum Lead Semi-Wadcutter Gas Checked	15.6	1350	3
Level 4	.30 caliber Rifle Lead Core Soft Point	11.7	2540	1
Level 5	7.62 mm Rifle Lead Core Full Metal Copper Jacket, Military Ball	9.7	2750	1
Level 6	9mm Full metal Copper Jacket with Lead Core	8	1400	5
Level 7	5.56mm Rifle Lead Core Full Metal Copper Jacket with Lead Core	3.56	3080	5
Level 8	7.62 mm Rifle Lead Core Full Metal Copper Jacket, Military Ball	9.7	2750	5

Doors

DOOR THICKNESS	DOOR WEIGHT (lb/ft²)	VISION LITE OPTIONS
1¾"	7	NL, HL and FL
1¾"	10	NL, HL and FL
1¾"	10	NL, HL and FL
2¼"	16	NL, HL and FL
2¼"	18	NL, HL and FL
2¼"	16	NL, HL and FL
2¼"	21	NL, HL and FL
2¼"	18	NL, HL and FL

NOTES

Bullet resistant glazing options can be:
Narrow lite (NL), Half lite (HL) or Full lite (FL)

Doors with glass options can be factory installed by AMBICO

Matching hardwood is used for the vertical edges

All veneers are cross-banded to an MDF backer

Fire ratings are not available for wood doors; see bullet resistant steel doors for fire rated doors

Astragal or mullion will be included at all doors with paired openings

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