



 **Ceco Door**

ASSA ABLOY

Architectural Guide

Doors & Frames

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Ceco Door is the world's leading manufacturer of steel doors and frames for commercial, industrial, and institutional construction.

Ceco Doors' Mission:

“To be the leading producer and marketer of commercial door products for building construction worldwide, sustaining a competitive advantage through service, product and process superiority, a total quality commitment, and a strong customer focus.”

Our mission statement reflects our long-term commitment to the construction industry's Owners, Developers, Architects, Contractors, and our Distributor partners.

Ceco's annual capital investment commitment means products that are manufactured utilizing modern computerized processing and manufacturing technology and advanced digital equipment.

Our coast to coast network of strategically located Service Centers is designed to bring steel doors and frames closer to the market. These modern, fully equipped facilities, connected electronically via our wide area computer network (WAN), offer the largest and most responsive delivery system in the industry. All facilities are licensed by Underwriters Laboratories (UL) and Warnock Hersey (WH) for the conversion and labeling of fire doors, frames and windows.

Marketing Philosophy: Ceco Door markets its products to the construction industry exclusively through qualified, reputable, blueprint distribution. More than 500 authorized distributors in 15 countries worldwide, equipped with local inventories and conversion facilities, are capable of furnishing complete bid packages including commercial and architectural grade wood doors, and commercial grade architectural hardware. This marketing strength provides you with unequalled service and delivery coordination.



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in door opening solutions

Eco-Friendly

Recycled Steel Doors and Frames

Even Old Cars Get a New Lease on Life!



Ceco Opens the Door to a Cleaner Environment

Ceco steel doors and frames are made from recycled steel, much of which comes from old cars. We give scrap metal new life as high quality doors and frames. In fact, we can produce 20 doors with the steel scrapped from one car!

Not only does recycling steel clean up the environment, it helps keep our natural resources from being quickly depleted.

Examples of the Ceco commitment to sustainable building construction and improving energy efficiency include:

Total Recycled Content

- Steel doors and frames: up to 63.5%
- Packaging material: 100%

Note: See details on next page for applicable LEED credits

Energy Efficiency

- In one year, Ceco recycled steel usage conserves 226 billion BTUs and the energy to power 7,500 homes
- Ceco thermal break frames incorporate insulating material for maximum heat retention in cold conditions



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Ceco uses environmentally-sound practices in the manufacturing and shipping of our hollow metal doors and frames. Let us help as you strive to design "Green" buildings that are safe, secure and aesthetically-pleasing.

Learn more at www.cecodoor.com.

Eco-Friendly

Recycled Steel Doors and Frames

U.S. Green Building Council (USGBC) LEED Rating Statement

“The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED

promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and

indoor environmental quality.” Based on review of current LEED rating systems for applicability to architectural hollow metal doors and frames, Ceco Door states the following.

Applicable LEED Programs and Credits

Materials and Resources: Recycled Content

Program	Checklist	Credit	Requirement
LEED-NC LEED-CS LEED-S LEED-CI	Materials and Resources	Recycled Content MR 4.1	Use materials with recycled content such that the sum of the post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% of the total values of the material in the project
LEED-NC LEED-CS LEED-S LEED-CI	Materials and Resources	Recycled Content MR 4.2	Use materials with recycled content such that the sum of the post-consumer recycled content plus one-half of the pre-consumer content constitutes an additional 10% beyond MR Credit 4.1 (total of 20% based on cost) of the total values of the material in the project

Ceco Door Cold Rolled Product	Post-consumer Recycled Content *	Pre-consumer Recycled Content *	Total LEED Recycled Content Percentage
Frames	59	9	63.5
Medallion, Armorshield, Fuego, ThruLite, RestrictDor Doors	59	9	63.5
Regent/Omega, Legion/UltraDor, Imperial/Versadoor Doors	57.2	8.7	61.5

Ceco Door Galvannealed Product	Post-consumer Recycled Content *	Pre-consumer Recycled Content *	Total LEED Recycled Content Percentage
Frames	23.6	6.6	26.9
Medallion, Armorshield, Fuego, ThruLite, RestrictDor Doors	23.6	6.6	26.9
Regent/Omega, Legion/UltraDor, Imperial/Versadoor Doors	22.9	6.4	26.1

*Recycled content defined in accordance with industry standards

Post-consumer material is defined as waste material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose.

Post-industrial (pre-consumer) recycled content refers to scraps that are left over during industrial or manufacturing processes, which are subsequently recycled and reused.

Materials and Resources: Regional Materials

Program	Checklist	Credit	Requirement
LEED-CI	Materials and Resources	Regional Materials MR 5.1	Use a minimum of 20% of the combined value of construction and Division 12 (Furniture) materials and products that are manufactured* regionally within a radius of 500 miles. <i>*Manufactured refers to the final assembly of components</i>

All Ceco Door products are manufactured in Milan, TN with the exception of the following:

Ceco Door Product - Medallion, ThruLite, Armorshield, Fuego, RestrictDor Doors Manufacturing/Final Assembly Location – Mexico

Indoor Environmental Quality: Low Emitting Materials

Ceco Door Products	Volatile Organic Compounds
All	No measurable latent VOC emissions exist in product at the time of installation.



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Product Selection Guide

CHOOSING THE CORRECT DOOR

Door selection is based on FREQUENCY OF USE and IMPACT PROBABILITY. High traffic areas and openings subject to abuse require doors of heavy-duty construction. Openings in the category of MODERATE to LOW frequency and impact do not generally require heavy-duty doors.

FREQUENCY OF USE is classified as HIGH, MODERATE or LOW depending on the location in the building and the number of times per day the door will be used. Most building entrances are HIGH frequency openings, as are toilet rooms in schools and office buildings. MODERATE frequency doors are those

found in apartment entrance units and school classrooms. Doors that normally remain in the open or closed position are considered LOW frequency. On a normal project, the majority of doors are of MODERATE to LOW frequency use, and doors designed for these applications should be used. Using doors of heavy-duty construction in all openings results in unnecessary cost; however, selecting doors based primarily on their low initial cost may result in abnormal maintenance and replacements.

IMPACT PROBABILITY is also classified as HIGH, MODERATE or LOW. Doors

subject to high impact are usually the same doors that receive high frequency use. However, some doors, such as rear delivery entrances and service doors, may be subject to HIGH impact even though they are of MODERATE to LOW frequency. MODERATE impact openings are found in nursing homes, hospital patient rooms or school classrooms. LOW impact doors are those in closets, private offices, hotel communicating doors and other such openings.

DOOR LEVEL refers to ANSI/SDI A250.8 recommendation criteria.

MODEL	TYPE	GAUGE	DEC	MM
LEVEL 1 - LIGHT COMMERCIAL				
1	Flush	20	0.032	0.8
2	Seamless	20	0.032	0.8
LEVEL 2 - HEAVY-DUTY COMMERCIAL				
1	Flush	18	0.042	1.0
2	Seamless	18	0.042	1.0
LEVEL 3 - EXTRA HEAVY-DUTY COMMERCIAL				
1	Flush	16	0.053	1.3
2	Seamless	16	0.053	1.3
3	Stile & Rail	16	0.053	1.3
LEVEL 4 - MAXIMUM DUTY COMMERCIAL				
1	Flush	14	0.067	1.7
2	Seamless	14	0.067	1.7
2	Seamless	12	0.093	2.3
COMMERCIAL SECURITY PRODUCTS				
2	Seamless	14	0.067	1.7
2	Seamless	12	0.093	2.3



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BUILDING TYPE AND OPENING LOCATION	FREQUENCY OF USE	IMPACT PROBABILITY	DOOR LEVEL				DOOR THICKNESS	SPECIAL CONDITIONS
			1	2	3	4		
OFFICES - PROFESSIONAL BUILDINGS								
Entrance	High	High			■	■	1-3/4"	Two-way vision
Individual Office	Low	Low	■				1-3/4"	Privacy & acoustics
Toilet Rooms	High	High		■			1-3/4"	
Stairwells	Moderate	Moderate		■	■		1-3/4"	Two-way vision & fire label
Equipment Rooms	Moderate	Moderate		■	■	■	1-3/4"	
Boiler Room	Moderate	Moderate		■	■	■	1-3/4"	Fire label
Storm Shelters	Low	Low			■	■	1-3/4"	Impact threat (Tornados)
SCHOOLS - UNIVERSITIES - LIBRARIES								
Entrance and Exits	High	High			■	■	1-3/4"	Two-way vision
Classrooms	Moderate	Moderate		■			1-3/4"	Two-way vision & acoustics
Toilet Rooms	High	High		■	■	■	1-3/4"	
Gymnasiums	Moderate	High		■	■	■	1-3/4"	Impact & two-way vision
Cafeteria	Moderate	Moderate to High		■	■	■	1-3/4"	Two-way vision
Stairwells	High	High		■	■	■	1-3/4"	Two-way vision & fire label
Storm Shelters	Low	High			■	■	1-3/4"	Impact threat (Tornados)
Safe Rooms	Low	High				■	1-3/4" / 2"	Aggression
HOSPITALS - NURSING HOMES - CONVALESCENT HOMES								
Entrance	High	High			■	■	1-3/4"	Two-way vision
Patient Rooms	Moderate	Moderate		■			1-3/4"	Privacy & acoustics
Stairwells	Moderate	Moderate		■	■		1-3/4"	Two-way vision & fire label
Operating Rooms	High	High		■	■		1-3/4"	Sanitation
Examination Rooms	High	High			■	■	1-3/4"	Sanitation
Recreation Rooms	Moderate	Moderate		■			1-3/4"	Acoustics
Kitchen	Moderate	Moderate		■	■	■	1-3/4"	Two-way vision
Cafeteria	High	High			■	■	1-3/4"	Two-way vision
Storm Shelters	Low	Low			■	■	1-3/4"	Impact threat (Tornados)
APARTMENTS - DORMITORIES - CONDOMINIUMS								
Building Entrance	High	High			■	■	1-3/4"	Two-way vision
Room Entrance	Moderate	Moderate	■	■			1-3/4"	Privacy & acoustics
Bedrooms	Low	Low	■				1-3/4"	
Bathrooms	Low	Low	■				1-3/4"	
Closets	Low	Low	■				1-3/4"	
Stairwells	Moderate	High		■			1-3/4"	Two way vision & fire label
Storm Shelters	Low	High			■	■	1-3/4"	Impact threat (Tornados)
HOTELS - MOTELS - TOURIST CABINS								
Building Entrance	High	Moderate	■	■			1-3/4"	Two-way vision
Room Entrance	Moderate	Moderate	■				1-3/4"	Privacy, acoustics, insulation
Bathrooms	Low	Low	■				1-3/4"	
Closets	Low	Moderate	■				1-3/4"	
Stairwells	Moderate	High		■			1-3/4"	Two-way vision & fire label
Storage & Utility	Moderate	High		■	■		1-3/4"	
Offices	Low	Low	■				1-3/4"	Privacy
COMMUNITY SHELTERS - TORNADO SHELTERS								
Entrance & Exits	High	High			■	■	1-3/4"	Impact threat (Tornados)
Toilet Rooms	High	High		■	■	■	1-3/4"	
Storage & Utility	Moderate	High		■	■		1-3/4"	

Regent™ / Omega™

Honeycomb Core

Features

- 1-3/4" (44.4mm) general purpose full flush design, rated for light to extra heavy-duty use
- Kraft Honeycomb core provides structural strength and exceptional flatness
- Full-coat internal contact adhesive for permanent pressure bond and rust prevention
- Mechanically interlocked, hemmed vertical edge seams (as shown) or center edge seam for added strength and rigidity
- Inverted end channels welded to both face sheets
- 7 gauge (4.2mm) steel hinge reinforcement
- Rust inhibitive prime paint base coat meets ANSI A250.10

Available Options

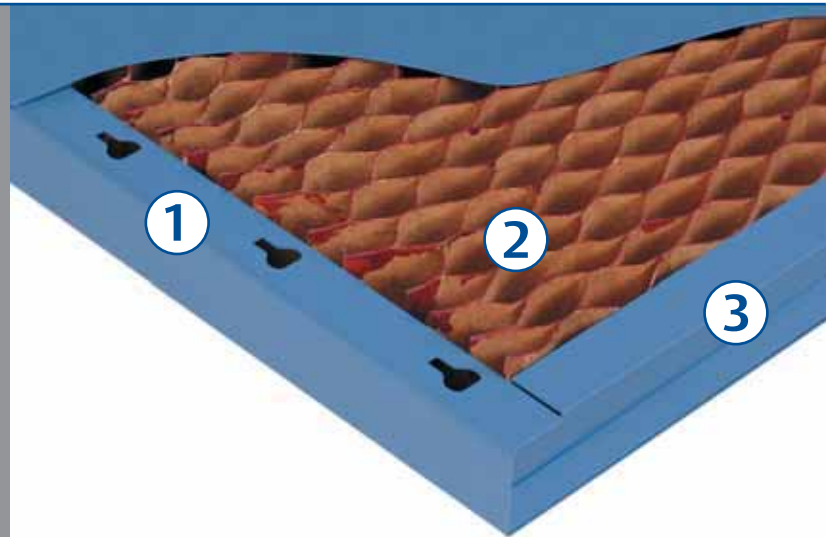
- 14 gauge (1.7mm) closer reinforcement
- Galvannealed, galvanized, or textured pattern steel
- Steel end channel filler cap
- Seamless Design by application of epoxy filler or continuous welding
- Applied or flush-welded steel glass kits
- Embossed 6 panel designs
- Factory installed, insulated glazing
- Colorstyle factory finish (see page 46)
- ElectroLynx® pre-wired quick connect cable (see page 36)

Regent™

- Handed as specified
- Lock edge beveled 1/8" in 2" (1:16)
- For any standard commercial template hardware

Omega™

- Non-handed
- Square lock edge
- For any standard commercial template hardware



1. Mechanically interlocked, hemmed vertical edge seam for added strength and rigidity.
2. Honeycomb core provides structural strength.
3. Inverted end channels welded to both face sheets.

DOOR LEVEL AVAILABILITY				
MODEL	TYPE	Gauge	DEC	MM
LEVEL 1 LIGHT COMMERCIAL				
1	Flush	20	0.032	0.8
2	Seamless	20	0.032	0.8
LEVEL 2 HEAVY-DUTY COMMERCIAL				
1	Flush	18	0.042	1.0
2	Seamless	18	0.042	1.0
LEVEL 3 EXTRA HEAVY-DUTY COMMERCIAL				
1	Flush	16	0.053	1.3
2	Seamless	16	0.053	1.3

Performance

- Core Material: Honeycomb
- Sound Transmission: STC 32 (18 gauge operable)
- Designs Available: see page 51 for designs



Physical Endurance (Cycle Testing)

20 gauge	Level C	250,000 cycles
18 gauge	Level B	1,000,000 cycles
16 gauge	Level A	1,000,000 cycles

Fire Label (Rating): see page 43 for additional information on fire doors

T	20 minute
C	3/4 hour
O	1 hour
B	1-1/2 hour
A	3 hour

Maximum Size

Single	40 x 90 (1219mm x 2743mm)
Pair	80 x 90 (2438mm x 2743mm)

Legion™ / Ultrador™

Polystyrene Core

Features

- 1-3/4" (44.4 mm) insulated full flush design - rated for light to extra-heavy-duty use
- Polystyrene core provides insulation characteristics and resistance to impact
- Core is chemically bonded to face sheets providing total surface support
- Mechanically interlocked, hemmed vertical edge seams (as shown) or center edge seam for added strength and rigidity.
- 7 gauge (4.2 mm) steel hinge reinforcement
- Inverted end channels welded to both face sheets
- Rust inhibitive prime paint base coat meets ANSI A250.10

Available Options

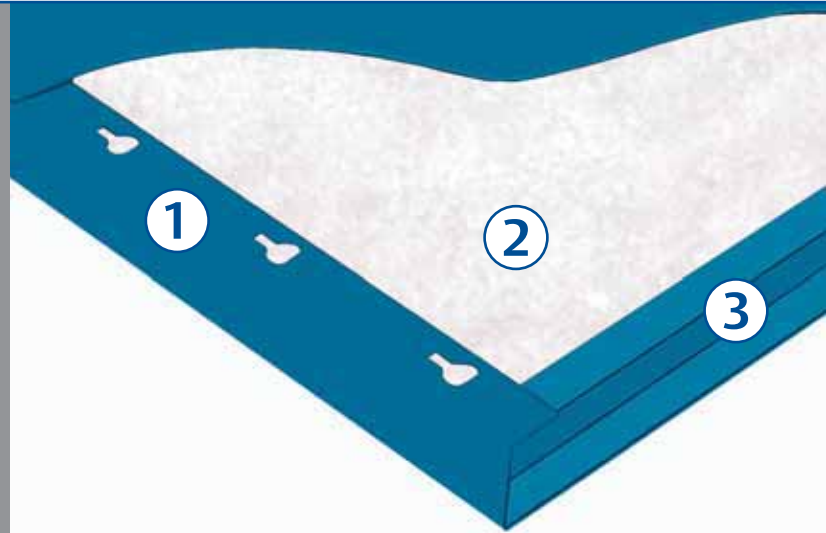
- 14 gauge (1.7mm) closer reinforcement
- Galvannealed, galvanized, or textured pattern steel
- Steel end channel filler cap
- Seamless design by application of epoxy filler or continuous welding
- Applied or flush-welded steel glass kits
- Factory installed insulated glazing
- Colorstyle factory finish (see page 46)
- ElectroLynx® pre-wired quick connect cable (see page 36)

Legion™

- Handed as specified
- Lock edge beveled 1/8" in 2" (1:16)
- For any standard commercial template hardware

UltraDor™

- Non-handed
- Square lock edge
- For any standard commercial template hardware



1. Mechanically interlocked, hemmed vertical edge seam for strength and rigidity.
2. Polystyrene core provides insulation characteristics and resistance to impact.
3. Core is chemically bonded providing total surface support.

DOOR LEVEL AVAILABILITY				
MODEL	TYPE	GAUGE	DEC	MM
LEVEL 1 LIGHT COMMERCIAL				
1	Flush	20	0.032	0.8
2	Seamless	20	0.032	0.8
LEVEL 2 HEAVY-DUTY COMMERCIAL				
1	Flush	18	0.042	1.0
2	Seamless	18	0.042	1.0
LEVEL 3 EXTRA HEAVY-DUTY COMMERCIAL				
1	Flush	16	0.053	1.3
2	Seamless	16	0.053	1.3
LEVEL 4 MAXIM DUTY COMMERCIAL				
1	Flush	1.4	0.067	1.7
2	Seamless	1.4	0.067	1.7

Performance

- Core Material: Polystyrene
- Thermal Characteristics: R Factor 6.35 (ASTM C518)
- Sound Transmission: STC 23 (18 gauge operable)
- Physical Endurance (Cycle Testing)



Physical Endurance (Cycle Testing)

20 gauge	Level C	250,000 cycles
18 gauge	Level B	500,000 cycles
16 gauge	Level A	1,000,000 cycles
14 gauge	Level A	1,000,000 cycles

Fire Label (Rating): see page 43 for additional information on fire doors

T	20 minute
C	3/4 hour
O	1 hour
B	1-1/2 hour
A	3 hour

Maximum Size

Single	40 x 100 (1219mm x 3048mm)
Pair	80 x 100 (1219mm x 3048mm)

Imperial™/Versadoor™

Polyurethane Core

Features

- 1-3/4" (44.4 mm) insulated full flush design - rated for light to maximum-duty use
- Foamed-in-place polyurethane core provides total surface support, impact resistance and exceptional thermal resistance
- Mechanically interlocked, hemmed vertical edge seams for added strength and rigidity
- Inverted end channels welded to both face sheets
- 7 gauge (4.2 mm) steel hinge reinforcement
- Electrostatically applied prime base coat

Available Options

- 14 gauge (1.7mm) closer reinforcement
- Seamless design by application of epoxy filler or continuous welding
- Galvannealed, galvanized, or textured pattern steel
- Steel end channel filler cap
- Applied steel glass kits
- Embossed 6 panel, 8 panel, crossbuck and 2 panel designs
- Factory installed, insulated glazing
- Colorstyle factory finish (see page 46)
- ElectroLynx® pre-wired quick connect cable (see page 36)

Imperial™

- Handed as specified
- Lock edge beveled 1/8" in 2" (1:16)
- For any standard commercial template hardware

VersaDoor™

- Non-handed
- Square lock edge
- For any standard commercial template hardware



1. Mechanically interlocked, hemmed vertical edge seam for strength and rigidity.
2. Foamed in-place polyurethane core provides total surface support, impact resistance and exceptional thermal resistance.
3. Inverted end channels welded to both face sheets for added strength.

Imperial™/Versadoor™

Polyurethane Core

DOOR LEVEL AVAILABILITY				
MODEL	TYPE	GAUGE	DEC	MM
LEVEL 1 LIGHT COMMERCIAL				
1	Flush	20	0.032	0.8
2	Seamless	20	0.032	0.8
LEVEL 2 HEAVY-DUTY COMMERCIAL				
1	Flush	18	0.042	1.0
2	Seamless	18	0.042	1.0
LEVEL 3 EXTRA HEAVY-DUTY COMMERCIAL				
1	Flush	16	0.053	1.3
2	Seamless	16	0.053	1.3
LEVEL 3 EXTRA HEAVY-DUTY COMMERCIAL				
2	Seamless	14	0.067	1.7

Performance

- Core Material: Foamed-in-Place Polyurethane
- R Factor 11.01 (ASTM C518)
- Sound Transmission: STC 26 (18 gauge operable)
- Designs Available: see page 51 for designs



Physical Endurance (Cycle Testing)

20 gauge	Level C	250,000 cycles
18 gauge	Level B	1,000,000 cycles
16 gauge	Level A	1,000,000 cycles
14 gauge	Level A	1,000,000 cycles

Fire Label (Rating): see page 43 for additional information on fire doors

Note: Imperial and Versadoor are labeled in compliance with UL10C, Positive Pressure Fire Tests of Door Assemblies

T	20 minute
C	3/4 hour
O	1 hour
B	1-1/2 hour
A	3 hour

Maximum Size

Single	40 x 90 (1219mm x 2743mm)
Pair	80 x 90 (2438mm x 2743mm)

 **Ceco Door**
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Medallion™

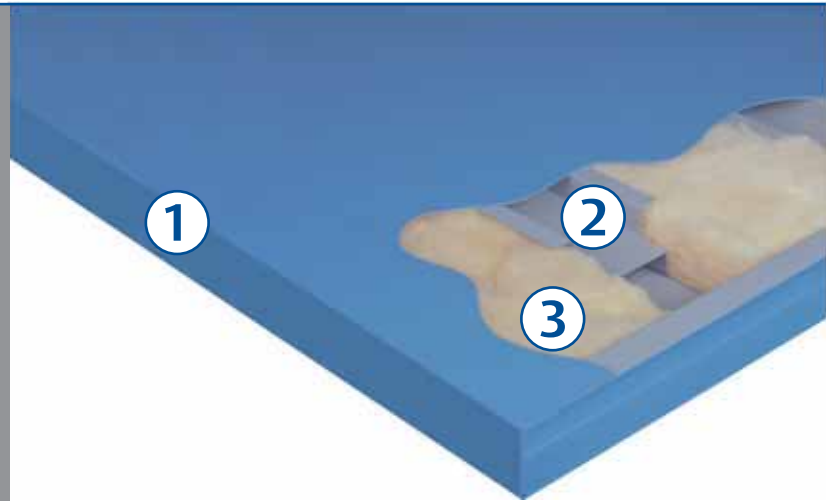
Steel Stiffened Core

Features

- 1-3/4" (44.4mm) custom construction seam/seamless design - rated for heavy duty to maximum-duty use
- 22 gauge vertical steel stiffeners spaced 6" apart, welded to face sheets every 5"
- Fiberglass insulation to limit thermal and sound transmission
- Lock edge beveled 1/8" in 2" (1:16)
- Inverted end channels welded to both face sheets
- 7 gauge (4.2 mm) steel hinge reinforcement
- Rust inhibitive prime paint base coat meets ANSI A250.10

Available Options

- 20 gauge (.08mm) or 18 gauge (1.0mm) vertical steel stiffeners
- 14 gauge (1.7mm) or 12 gauge (2.3mm) closer reinforcement
- Galvannealed or galvanized steel
- Steel end channel filler cap
- Applied or flush-welded steel glass kits
- Colorstyle factory finish (see page 46)
- ElectroLynx® prewired quick connect cable (see page 36)
- Fully welded edge seams enhance strength and appearance



1. Custom construction seam/seamless design-rated for heavy duty to maximum-duty use.
2. Standard 22 gauge vertical steel stiffeners for added strength.
3. Fiberglass insulation for thermal and sound transmission reduction.

